



1
00:00:07,259 --> 00:00:03,869
hello and welcome to the show I'm Martin

2
00:00:10,589 --> 00:00:07,269
Willis your host and I am on location in

3
00:00:13,529 --> 00:00:10,599
Connecticut somewhere at mark D

4
00:00:16,020 --> 00:00:13,539
Antonio's house he's got an observatory

5
00:00:18,450 --> 00:00:16,030
on the lawn it's pretty exciting on just

6
00:00:21,029 --> 00:00:18,460
a second we have Alejandro Rojas coming

7
00:00:24,089 --> 00:00:21,039
alive all the way from Phoenix with the

8
00:00:27,179 --> 00:00:24,099
UFO updates a couple things I want to

9
00:00:29,790 --> 00:00:27,189
thank those who support the show and all

10
00:00:32,750 --> 00:00:29,800
it takes is two dollars or more a month

11
00:00:36,000 --> 00:00:32,760
you can see that on podcast UFO calm um

12
00:00:37,680 --> 00:00:36,010
and if you can't support the show and

13
00:00:39,750 --> 00:00:37,690

you want to listen to the full show all

14

00:00:43,110 --> 00:00:39,760

you have to do is you can actually watch

15

00:00:45,840 --> 00:00:43,120

it on YouTube live livestream as it is

16

00:00:48,510 --> 00:00:45,850

right now and that you can get there

17

00:00:51,120 --> 00:00:48,520

right from podcast UFO com every

18

00:00:53,220 --> 00:00:51,130

Wednesday at 8 to 10 p.m. Eastern

19

00:00:54,840 --> 00:00:53,230

Standard Time and if you want to listen

20

00:00:56,790 --> 00:00:54,850

to the whole show for free also you can

21

00:01:00,360 --> 00:00:56,800

go over to the Dark Matter digital

22

00:01:04,350 --> 00:01:00,370

network and listen Thursdays from 10 to

23

00:01:08,789 --> 00:01:04,360

midnight and so that is how that works

24

00:01:10,889 --> 00:01:08,799

now chat up Melanie who listens to the

25

00:01:12,270 --> 00:01:10,899

show gave me a great tip the other day

26
00:01:14,370 --> 00:01:12,280
and she said you know you should have

27
00:01:15,719 --> 00:01:14,380
someone monitor your chat and not even

28
00:01:17,819 --> 00:01:15,729
worry about it and have them send you

29
00:01:18,539 --> 00:01:17,829
texts of questions and you know I do get

30
00:01:21,709 --> 00:01:18,549
distracted

31
00:01:24,690 --> 00:01:21,719
I always come in and say hi to everyone

32
00:01:26,849 --> 00:01:24,700
but starting next week I'm going to have

33
00:01:28,649 --> 00:01:26,859
someone in the chat room monitoring it

34
00:01:31,200 --> 00:01:28,659
and sending me questions that way I can

35
00:01:32,910 --> 00:01:31,210
focus totally on the interview and I

36
00:01:34,709 --> 00:01:32,920
should have thought that a long time ago

37
00:01:36,510 --> 00:01:34,719
and I want to thank Melanie for that we

38
00:01:39,660 --> 00:01:36,520

also have some blogs up on our website

39

00:01:41,789 --> 00:01:39,670

and that is from gentlemen that's

40

00:01:43,200 --> 00:01:41,799

writing blogs from India for us it does

41

00:01:45,389 --> 00:01:43,210

a great job hope you check that out

42

00:01:49,739 --> 00:01:45,399

there's a couple of them I think he does

43

00:01:53,879 --> 00:01:49,749

a an excellent job and I think that is

44

00:01:56,419 --> 00:01:53,889

about it we are ready for the UFO

45

00:01:59,699 --> 00:01:56,429

updates with Alejandro

46

00:02:00,510 --> 00:01:59,709

how are you alejandro I am well how are

47

00:02:03,239 --> 00:02:00,520

you my friend

48

00:02:06,359 --> 00:02:03,249

doing good so what's happening I'll look

49

00:02:08,969 --> 00:02:06,369

at your background I actually do get to

50

00:02:11,640 --> 00:02:08,979

see this on YouTube can people see me

51
00:02:13,180 --> 00:02:11,650
right now they can don't do anything so

52
00:02:14,650 --> 00:02:13,190
I'm close on Oh

53
00:02:16,780 --> 00:02:14,660
thank goodness idea well I'm at the

54
00:02:19,300 --> 00:02:16,790
office I typically do in the office

55
00:02:21,700 --> 00:02:19,310
yeah the Emperor's clothes new have new

56
00:02:23,530 --> 00:02:21,710
suit yes but I kind of feel like I'm

57
00:02:27,670 --> 00:02:23,540
being watched I always feel like

58
00:02:28,930 --> 00:02:27,680
somebody's watching me can um is there

59
00:02:30,910 --> 00:02:28,940
something behind me I might being

60
00:02:34,330 --> 00:02:30,920
watched right now a lot you two have

61
00:02:37,870 --> 00:02:34,340
some aliens behind you oh my god yes up

62
00:02:40,870 --> 00:02:37,880
the gray kind a whole slew of them on

63
00:02:42,940 --> 00:02:40,880

with the necktie oh my god holy that

64

00:02:45,280 --> 00:02:42,950

guy's probably coming to town for an

65

00:02:49,270 --> 00:02:45,290

interview some sort we actually hired

66

00:02:51,700 --> 00:02:49,280

him because he wore the tie I see yeah

67

00:02:53,200 --> 00:02:51,710

it's very important what you wearing

68

00:02:56,050 --> 00:02:53,210

that you dress up when you go for an

69

00:02:58,600 --> 00:02:56,060

interview yeah I've heard that heard

70

00:03:00,910 --> 00:02:58,610

that least he has a tie anyway so what's

71

00:03:02,770 --> 00:03:00,920

going on with the UFO news of their

72

00:03:06,040 --> 00:03:02,780

house oh he's got nothing else on I

73

00:03:07,630 --> 00:03:06,050

don't recommend that yeah usually wear

74

00:03:09,400 --> 00:03:07,640

something else with the tie but anyway

75

00:03:11,410 --> 00:03:09,410

I would sorry about that so I have an

76
00:03:14,800 --> 00:03:11,420
interesting story here this is a good

77
00:03:16,960 --> 00:03:14,810
one we just posted today this is posted

78
00:03:19,630 --> 00:03:16,970
by Roger Marsh of course the director of

79
00:03:24,160 --> 00:03:19,640
communications for MUFON a MUFON case

80
00:03:25,900 --> 00:03:24,170
this happened on a what he didn't put

81
00:03:28,300 --> 00:03:25,910
the date actually so I'm guessing it

82
00:03:31,060 --> 00:03:28,310
happened pretty recently but it was in

83
00:03:33,900 --> 00:03:31,070
California the headlines fun so here's

84
00:03:37,630 --> 00:03:33,910
the headline ready for it oh yeah

85
00:03:41,470 --> 00:03:37,640
witness says dear noticed two hovering

86
00:03:43,390 --> 00:03:41,480
objects nearby a deer that's right not

87
00:03:46,030 --> 00:03:43,400
his do you later

88
00:03:48,640 --> 00:03:46,040

no idea just a deer I'm not sure if it's

89

00:03:50,350 --> 00:03:48,650

H or anything like that but um so this

90

00:03:52,600 --> 00:03:50,360

is a lady who said she was in her living

91

00:03:55,930 --> 00:03:52,610

room doing housework when she noticed a

92

00:03:59,979 --> 00:03:55,940

pulsing light down the hill from where

93

00:04:02,130 --> 00:03:59,989

she was she looked and was staring at it

94

00:04:05,830 --> 00:04:02,140

and she was like what the heck is that

95

00:04:08,410 --> 00:04:05,840

it was this pulsing pencil like thing

96

00:04:11,290 --> 00:04:08,420

she said it was ten feet off of the

97

00:04:14,860 --> 00:04:11,300

ground and then she noticed that there

98

00:04:16,960 --> 00:04:14,870

was a wild deer looking up at the object

99

00:04:19,510 --> 00:04:16,970

and it's kind of funny because it

100

00:04:21,010 --> 00:04:19,520

grabbed a mouthful of food she said it

101
00:04:23,200 --> 00:04:21,020
would it was eating it would grab a

102
00:04:25,150 --> 00:04:23,210
mouthful of food and then just look up

103
00:04:26,170 --> 00:04:25,160
at the thing like who you know eating

104
00:04:28,480 --> 00:04:26,180
food and looking

105
00:04:30,999 --> 00:04:28,490
up there she said she couldn't tell what

106
00:04:33,870 --> 00:04:31,009
the heck the thing is she said the

107
00:04:37,990 --> 00:04:33,880
second object was moving around a tree

108
00:04:40,330 --> 00:04:38,000
which is pretty weird of course um she

109
00:04:42,400 --> 00:04:40,340
couldn't figure out she she thought that

110
00:04:44,740 --> 00:04:42,410
maybe these things were observing the

111
00:04:47,409 --> 00:04:44,750
deer and the deer didn't seem to really

112
00:04:50,320 --> 00:04:47,419
care at all it was just like oh dude you

113
00:04:51,909 --> 00:04:50,330

know and she went inside to tell her

114

00:04:53,909 --> 00:04:51,919

family about it and then when she came

115

00:04:57,100 --> 00:04:53,919

out she said the objects were gone she

116

00:05:00,279 --> 00:04:57,110

watched them for about five to seven

117

00:05:03,310 --> 00:05:00,289

minutes this was an Amador County

118

00:05:06,370 --> 00:05:03,320

California so kind of a rural area but

119

00:05:09,129 --> 00:05:06,380

what a funny one huh I've never heard of

120

00:05:12,700 --> 00:05:09,139

anything never heard tell as they say

121

00:05:16,570 --> 00:05:12,710

wow that is yeah it is really crazy so

122

00:05:18,279 --> 00:05:16,580

weird and a bit humorous as well at

123

00:05:20,740 --> 00:05:18,289

least I find that just picturing that

124

00:05:23,710 --> 00:05:20,750

deer kind of eating in yeah

125

00:05:27,159 --> 00:05:23,720

watching the UFO okie oh dear yeah yeah

126

00:05:29,650 --> 00:05:27,169

they just deer are must be used to the

127

00:05:31,390 --> 00:05:29,660

UFO you know yeah they're in the woods

128

00:05:33,219 --> 00:05:31,400

all the time I don't they're not

129

00:05:34,930 --> 00:05:33,229

nocturnal I know that they do sleep at

130

00:05:36,730 --> 00:05:34,940

night but you know but they probably

131

00:05:38,290 --> 00:05:36,740

stay up late looking up the sky what

132

00:05:40,570 --> 00:05:38,300

else what else you do when you're a deer

133

00:05:42,670 --> 00:05:40,580

you don't have you know smartphone or

134

00:05:43,529 --> 00:05:42,680

tablet or anything you know you got to

135

00:05:48,310 --> 00:05:43,539

do nicely

136

00:05:50,140 --> 00:05:48,320

exactly exactly so they're also in the

137

00:05:51,670 --> 00:05:50,150

news as far as headlines I wanted to

138

00:05:53,890 --> 00:05:51,680

talk about headlines because there's

139

00:05:56,110 --> 00:05:53,900

some I think some cool headlines lately

140

00:05:58,270 --> 00:05:56,120

and remember you know you can we have

141

00:06:01,240 --> 00:05:58,280

the you up the headlines posted on the

142

00:06:04,180 --> 00:06:01,250

front page of open minds TV but you can

143

00:06:05,920 --> 00:06:04,190

also go to the articles and go look at

144

00:06:07,390 --> 00:06:05,930

the daily headlines which is a great

145

00:06:10,050 --> 00:06:07,400

resource because you'll see you know

146

00:06:13,089 --> 00:06:10,060

headlines from every day for four years

147

00:06:15,010 --> 00:06:13,099

but some of the headlines lately one of

148

00:06:16,510 --> 00:06:15,020

them being Ridley Scott so we've talked

149

00:06:19,210 --> 00:06:16,520

about this before I'm sure you and I

150

00:06:21,129 --> 00:06:19,220

have I know I've mentioned it on my show

151

00:06:24,219 --> 00:06:21,139

I think I've maybe even written about it

152

00:06:25,960 --> 00:06:24,229

he's really into ancient aliens and we

153

00:06:27,909 --> 00:06:25,970

know you know he's talked about this in

154

00:06:29,740 --> 00:06:27,919

the past and especially when Prometheus

155

00:06:32,320 --> 00:06:29,750

came up because it kind of had that

156

00:06:34,269 --> 00:06:32,330

ancient alien sting to it there was a

157

00:06:37,060 --> 00:06:34,279

little bit more information but now that

158

00:06:38,740 --> 00:06:37,070

the new aliens movie is coming out he's

159

00:06:39,999 --> 00:06:38,750

gotten a little bit further to talk

160

00:06:42,790 --> 00:06:40,009

about how not only

161

00:06:46,049 --> 00:06:42,800

does he believe aliens are real he

162

00:06:49,149 --> 00:06:46,059

believes they are going to take us down

163

00:06:52,149 --> 00:06:49,159

aliens are coming and they are gonna

164

00:06:54,279 --> 00:06:52,159

wipe the floor with us and it's probably

165

00:06:57,730 --> 00:06:54,289

because and I we talked about this

166

00:07:01,869 --> 00:06:57,740

before humans are kind of a holy SH and

167

00:07:03,879 --> 00:07:01,879

I think that's what um he is his theory

168

00:07:06,159 --> 00:07:03,889

is that there may you know come here and

169

00:07:07,839 --> 00:07:06,169

be like alright but you know if you want

170

00:07:10,809 --> 00:07:07,849

to go all the way back to ancient time

171

00:07:14,019 --> 00:07:10,819

we've always had the what did you say a

172

00:07:16,179 --> 00:07:14,029

holy SH a holy SH yeah you know like

173

00:07:18,179 --> 00:07:16,189

Stan Friedman always says you know we're

174

00:07:21,610 --> 00:07:18,189

very tribal we've always been tribal and

175

00:07:25,119 --> 00:07:21,620

you know always gained uh you know it's

176

00:07:29,309 --> 00:07:25,129

a it's part of it is evolutionary you

177

00:07:32,589 --> 00:07:29,319

know that whole need to be tribal and

178

00:07:34,659 --> 00:07:32,599

aggressive and all that so I don't think

179

00:07:37,360 --> 00:07:34,669

I mean if they had so many opportunities

180

00:07:40,420 --> 00:07:37,370

and you can make as many excuses for the

181

00:07:42,100 --> 00:07:40,430

human race as you want but humans are

182

00:07:44,799 --> 00:07:42,110

not just going to keep eating their

183

00:07:46,809 --> 00:07:44,809

cereal you know and look at the UFO like

184

00:07:49,360 --> 00:07:46,819

the deer and be peaceful and be like hey

185

00:07:51,459 --> 00:07:49,370

how you doing we're coexisting humans

186

00:07:54,070 --> 00:07:51,469

are going to get their weapons and large

187

00:07:59,079 --> 00:07:54,080

missiles and things and try to destroy

188

00:08:01,719 --> 00:07:59,089

the UFO and so yeah you know I I have to

189

00:08:03,759 --> 00:08:01,729

have actually been you know what I was

190

00:08:04,989 --> 00:08:03,769

certain through that book of shouldn't

191

00:08:06,279 --> 00:08:04,999

shoot them down or something like that

192

00:08:08,499 --> 00:08:06,289

right yeah

193

00:08:11,459 --> 00:08:08,509

yeah so that's kind of a neat story

194

00:08:14,889 --> 00:08:11,469

something interesting there's a lot of

195

00:08:17,469 --> 00:08:14,899

astrobiological stories too so you know

196

00:08:20,019 --> 00:08:17,479

finding exoplanets these different types

197

00:08:24,670 --> 00:08:20,029

of exoplanets out there however I'll

198

00:08:26,679 --> 00:08:24,680

leave that discussion to your guest Mark

199

00:08:29,079 --> 00:08:26,689

Dantonio who's pretty much a specialist

200

00:08:31,239 --> 00:08:29,089

in that area so he can tell you more

201
00:08:34,509 --> 00:08:31,249
about that but other than that you know

202
00:08:36,819 --> 00:08:34,519
I do want to say I guess to to wrap it

203
00:08:40,659 --> 00:08:36,829
up what's kind of this is still really

204
00:08:43,870 --> 00:08:40,669
cool is that um Cheryl Kosta her book

205
00:08:47,319 --> 00:08:43,880
about you know UFO sightings is still

206
00:08:49,329 --> 00:08:47,329
getting news out there so a paper that's

207
00:08:52,030 --> 00:08:49,339
more local to the where she's from

208
00:08:53,319 --> 00:08:52,040
actually to the story today but I think

209
00:08:56,889 --> 00:08:53,329
that's really really cool

210
00:08:58,809 --> 00:08:56,899
I you know it it's not just that her

211
00:09:00,369 --> 00:08:58,819
book is interesting in that you know

212
00:09:02,139 --> 00:09:00,379
it's a kind of a dry read because it's

213
00:09:04,299 --> 00:09:02,149

all statistics and stuff but it's good

214

00:09:06,850 --> 00:09:04,309

for people like you and I people who

215

00:09:08,079 --> 00:09:06,860

research or write stories and so it's

216

00:09:09,400 --> 00:09:08,089

important for the media because then

217

00:09:12,369 --> 00:09:09,410

they can go in there and say hey you

218

00:09:14,289 --> 00:09:12,379

know I'm in this rural area in

219

00:09:17,289 --> 00:09:14,299

California and this dealer was watching

220

00:09:19,569 --> 00:09:17,299

UFO how many UFOs have humans reported

221

00:09:22,479 --> 00:09:19,579

in the area so it's useful that way but

222

00:09:23,889 --> 00:09:22,489

she did was proactive about getting out

223

00:09:25,629 --> 00:09:23,899

there and getting to the media making

224

00:09:29,710 --> 00:09:25,639

them aware of her book and it's paying

225

00:09:32,109 --> 00:09:29,720

off in spades as they say well that's

226

00:09:35,309 --> 00:09:32,119

great I know it's been anything so it

227

00:09:38,319 --> 00:09:35,319

really gets a lot of traction mm-hmm

228

00:09:41,470 --> 00:09:38,329

excellent so there's some news for you

229

00:09:42,999 --> 00:09:41,480

that at the exact was that okay uh you

230

00:09:46,979 --> 00:09:43,009

know as always

231

00:09:49,090 --> 00:09:46,989

Alejandro it was fantastical and I

232

00:09:52,600 --> 00:09:49,100

wanted to just tell everyone out there I

233

00:09:53,549 --> 00:09:52,610

listened to your show blast someone that

234

00:09:56,289 --> 00:09:53,559

was on my show

235

00:09:58,090 --> 00:09:56,299

George Gaines now I think your show in

236

00:10:00,249 --> 00:09:58,100

my show the only two that he's done but

237

00:10:01,869 --> 00:10:00,259

I want to tell you you did an awesome

238

00:10:05,409 --> 00:10:01,879

job it was a really really good

239

00:10:08,259 --> 00:10:05,419

interview so I I recommend to any of my

240

00:10:10,689 --> 00:10:08,269

listeners please check out

241

00:10:13,840 --> 00:10:10,699

Alejandro's last week interview it is

242

00:10:15,970 --> 00:10:13,850

really really good like things came up

243

00:10:18,970 --> 00:10:15,980

between you two that didn't come up on

244

00:10:20,409 --> 00:10:18,980

my show that I thought was great you're

245

00:10:22,090 --> 00:10:20,419

just looking for so we could Pat each

246

00:10:24,100 --> 00:10:22,100

other on the back which is which is nice

247

00:10:26,859 --> 00:10:24,110

it's that's good that's good human

248

00:10:28,689 --> 00:10:26,869

behavior if we act like this aliens

249

00:10:30,789 --> 00:10:28,699

might not want to destroy us but of

250

00:10:31,840 --> 00:10:30,799

course I owe it all to you because

251
00:10:35,019 --> 00:10:31,850
you're the one who got me in contact

252
00:10:37,389 --> 00:10:35,029
with this great interesting gentleman

253
00:10:38,979 --> 00:10:37,399
dr. George Gaines he very interesting

254
00:10:41,169 --> 00:10:38,989
person so thank you so much for getting

255
00:10:43,509 --> 00:10:41,179
me in contact with him all that was yeah

256
00:10:45,970 --> 00:10:43,519
that was fine of anyway

257
00:10:47,710 --> 00:10:45,980
I want to thank you sir and you know

258
00:10:51,879 --> 00:10:47,720
we're going to talk about tonight what

259
00:10:53,859 --> 00:10:51,889
the heck would aliens be like in general

260
00:10:56,499 --> 00:10:53,869
with a whole bunch of ideas I want to

261
00:10:59,350 --> 00:10:56,509
throw it mark to see just what his

262
00:11:00,509 --> 00:10:59,360
thoughts are on that and you know I

263
00:11:02,999 --> 00:11:00,519

think it'll be great

264

00:11:04,269 --> 00:11:03,009

alright that that does sound fabulous

265

00:11:06,639 --> 00:11:04,279

yeah

266

00:11:09,519 --> 00:11:06,649

all right Alejandro thanks a lot

267

00:11:12,879 --> 00:11:09,529

right thank you have fun guys okay take

268

00:11:16,359 --> 00:11:12,889

care all right you can have to sign out

269

00:11:20,049 --> 00:11:16,369

Alejandra all right take care bye bye

270

00:11:22,449 --> 00:11:20,059

okay all right so here we are we're in

271

00:11:23,650 --> 00:11:22,459

studio mark how you doing I'm doing

272

00:11:24,759 --> 00:11:23,660

great how you doing mark I know it's

273

00:11:25,509 --> 00:11:24,769

hard to tell which way to look at the

274

00:11:27,850 --> 00:11:25,519

camera isn't it

275

00:11:29,350 --> 00:11:27,860

well I I know that the cameras here so

276

00:11:32,230 --> 00:11:29,360

if I'm talking to an audience I would do

277

00:11:34,869 --> 00:11:32,240

this gesture if necessary but you're

278

00:11:37,179 --> 00:11:34,879

here yeah and if I just think well the

279

00:11:39,369 --> 00:11:37,189

cameras inside your eye then that works

280

00:11:41,470 --> 00:11:39,379

you know I can that helps but I can I

281

00:11:43,749 --> 00:11:41,480

can manage okay so I did I did want to

282

00:11:46,540 --> 00:11:43,759

tell the audience that we have a okay

283

00:11:49,030 --> 00:11:46,550

has is volunteered to help in the chat

284

00:11:50,889 --> 00:11:49,040

room tonight thank you so much okay so I

285

00:11:52,299 --> 00:11:50,899

am going to turn away from the chat room

286

00:11:54,280 --> 00:11:52,309

tonight and try to focus on this

287

00:11:57,129 --> 00:11:54,290

interview and if any really good

288

00:12:00,329 --> 00:11:57,139

questions come up on chat please do post

289

00:12:03,069 --> 00:12:00,339

them and Kay will get them in to us also

290

00:12:05,470 --> 00:12:03,079

we actually have an availability to take

291

00:12:08,379 --> 00:12:05,480

up anyone that wants to join us later on

292

00:12:09,910 --> 00:12:08,389

in Google Hangouts um so that's a

293

00:12:12,460 --> 00:12:09,920

possibility - all you need is a gmail

294

00:12:13,960 --> 00:12:12,470

address and you have to know how to do

295

00:12:18,249 --> 00:12:13,970

it actually that's the best way to go

296

00:12:20,199 --> 00:12:18,259

around it uh so mark um thanks thanks

297

00:12:21,999 --> 00:12:20,209

for inviting me into your studio once

298

00:12:24,369 --> 00:12:22,009

again that's fine we did it once before

299

00:12:26,470 --> 00:12:24,379

and it worked out well so yeah when you

300

00:12:28,090 --> 00:12:26,480

said let's do it again I I said no but

301

00:12:30,999 --> 00:12:28,100

you insisted and I run the door and

302

00:12:32,799 --> 00:12:31,009

there you were it was no it's very nice

303

00:12:35,679 --> 00:12:32,809

showed up like I always do right it's

304

00:12:37,119 --> 00:12:35,689

fine yeah uh so you can see around in

305

00:12:39,610 --> 00:12:37,129

the room there's these rivets you have

306

00:12:42,280 --> 00:12:39,620

this this is replicated from inside a

307

00:12:44,739 --> 00:12:42,290

submarine no actually the destroyer of a

308

00:12:46,119 --> 00:12:44,749

story it's a my since I do a lot of work

309

00:12:48,309 --> 00:12:46,129

for the Navy one of the things I did was

310

00:12:50,169 --> 00:12:48,319

I I figured well if I have to work

311

00:12:53,619 --> 00:12:50,179

you're doing this stuff all the time

312

00:12:56,829 --> 00:12:53,629

I want my office to look the part yeah

313

00:12:58,689 --> 00:12:56,839

so I have rivets I have real portholes

314

00:13:00,009 --> 00:12:58,699

for windows I mean I kind of went the

315

00:13:02,949 --> 00:13:00,019

whole nine yards

316

00:13:04,989 --> 00:13:02,959

that's it's pretty cool yeah a little

317

00:13:08,109 --> 00:13:04,999

overboard the battle fun and Reagan yeah

318

00:13:10,179 --> 00:13:08,119

guys over here we go already

319

00:13:12,069 --> 00:13:10,189

yeah simulated eye beams you know in the

320

00:13:14,579 --> 00:13:12,079

ceiling it's a man I know when to quit

321

00:13:16,960 --> 00:13:14,589

yeah speaking of that your observatory

322

00:13:18,759 --> 00:13:16,970

I'm going to pull up all Google pictures

323

00:13:20,580 --> 00:13:18,769

as we're talking right here okay of your

324

00:13:23,940 --> 00:13:20,590

new observatory tell me how

325

00:13:25,740 --> 00:13:23,950

how that all came about well the John

326

00:13:29,370 --> 00:13:25,750

Zack Memorial Observatory started when

327

00:13:31,140 --> 00:13:29,380

my friend John and I and the reason I

328

00:13:33,420 --> 00:13:31,150

reason that the Memorial Observatory is

329

00:13:36,930 --> 00:13:33,430

sad but but he he passed away due to

330

00:13:38,880 --> 00:13:36,940

cancer about four years ago maybe five

331

00:13:41,340 --> 00:13:38,890

and and John and I were going to create

332

00:13:42,590 --> 00:13:41,350

a remote observatory available through

333

00:13:45,480 --> 00:13:42,600

the internet where you could go and

334

00:13:47,790 --> 00:13:45,490

basically log in and take photos and

335

00:13:51,150 --> 00:13:47,800

then take pictures down that were really

336

00:13:53,160 --> 00:13:51,160

high quality so we had decided this is

337

00:13:55,440 --> 00:13:53,170

what we were going to do so we're

338

00:13:57,600 --> 00:13:55,450

working actively at that we bought all

339

00:14:00,230 --> 00:13:57,610

this telescope equipment and I said okay

340

00:14:02,940 --> 00:14:00,240

I'll get the observatory building and

341

00:14:05,910 --> 00:14:02,950

provide the land for it and then what we

342

00:14:08,160 --> 00:14:05,920

would do is have this telescope

343

00:14:09,450 --> 00:14:08,170

available that we could log into the

344

00:14:11,700 --> 00:14:09,460

other people could log into and then

345

00:14:13,380 --> 00:14:11,710

actually you know look at the sky in a

346

00:14:16,230 --> 00:14:13,390

whole new way

347

00:14:18,510 --> 00:14:16,240

now unfortunately he passed away as I

348

00:14:20,040 --> 00:14:18,520

said and and that was about four years

349

00:14:23,820 --> 00:14:20,050

ago and the telescope's been sitting in

350

00:14:25,710 --> 00:14:23,830

a box and and just a few months ago I

351

00:14:27,660 --> 00:14:25,720

decided that's it I can't stand that

352

00:14:30,900 --> 00:14:27,670

it's gonna have to get done he would

353

00:14:32,670 --> 00:14:30,910

wanted it to be done so I got the

354

00:14:36,480 --> 00:14:32,680

observatory building from a place in

355

00:14:38,700 --> 00:14:36,490

Canada I got the telescope out of its

356

00:14:40,860 --> 00:14:38,710

box I had two purrmaids'

357

00:14:42,360 --> 00:14:40,870

at a you know the telescopes have to be

358

00:14:45,510 --> 00:14:42,370

very stable so I had to put it on a

359

00:14:48,090 --> 00:14:45,520

stable steel pier which was on top of a

360

00:14:50,840 --> 00:14:48,100

very deep concrete pillar that I had to

361

00:14:54,990 --> 00:14:50,850

dig into the ground so I did all that

362

00:14:57,960 --> 00:14:55,000

and now we have the makings of the

363

00:15:01,130 --> 00:14:57,970

automated observatory the nice part is

364

00:15:03,900 --> 00:15:01,140

that I'm going to use that building as a

365

00:15:08,610 --> 00:15:03,910

foundation to in a jumping-off point for

366

00:15:11,490 --> 00:15:08,620

our you photography project where we

367

00:15:14,570 --> 00:15:11,500

want to try and find evidence of alien

368

00:15:17,190 --> 00:15:14,580

incursion into our airspace through

369

00:15:20,550 --> 00:15:17,200

special sensory systems that will be

370

00:15:22,019 --> 00:15:20,560

looking for special certain radiations

371

00:15:24,780 --> 00:15:22,029

or whatever that they might be giving

372

00:15:29,430 --> 00:15:24,790

off that we can call like a smoking gun

373

00:15:31,290 --> 00:15:29,440

well that said we're going to be taking

374

00:15:32,910 --> 00:15:31,300

that to the next level there we're going

375

00:15:34,200 --> 00:15:32,920

to use that that Observatory with the

376

00:15:36,570 --> 00:15:34,210

telescope in there it's going to

377

00:15:39,570 --> 00:15:36,580

platform to actually mount our little

378

00:15:40,980 --> 00:15:39,580

units to test them individually and

379

00:15:42,389 --> 00:15:40,990

that'll be a controlled environment in

380

00:15:43,710 --> 00:15:42,399

which we could test them and that's

381

00:15:45,210 --> 00:15:43,720

better than trying to test it out in the

382

00:15:47,940 --> 00:15:45,220

middle of desert where you have to

383

00:15:49,920 --> 00:15:47,950

contend with sand and and coyotes

384

00:15:52,710 --> 00:15:49,930

possibly relieving themselves on the

385

00:15:54,630 --> 00:15:52,720

thing or whatever so it's good it's a

386

00:15:57,720 --> 00:15:54,640

it's a good jumping-off point for that

387

00:15:58,800 --> 00:15:57,730

you know and then but the telescope

388

00:16:01,860 --> 00:15:58,810

itself is going to serve another purpose

389

00:16:04,769 --> 00:16:01,870

it's going to be a jump off point for

390

00:16:06,930 --> 00:16:04,779

people to come and join me on a sky tour

391

00:16:09,990 --> 00:16:06,940

and we're going to be doing live sky

392

00:16:11,190 --> 00:16:10,000

tours with a special camera that can is

393

00:16:13,650 --> 00:16:11,200

very sensitive that will allow you to

394

00:16:15,810 --> 00:16:13,660

see the faint galaxies right there live

395

00:16:17,579 --> 00:16:15,820

on the screen and then we're going to

396

00:16:20,760 --> 00:16:17,589

take them on a journey around the United

397

00:16:23,310 --> 00:16:20,770

the universe now is this up so this is

398

00:16:26,040 --> 00:16:23,320

something that how would someone get

399

00:16:28,620 --> 00:16:26,050

involved in something like that you got

400

00:16:30,360 --> 00:16:28,630

to be crazy you know I mean because it

401

00:16:32,910 --> 00:16:30,370

can be a money pit I mean that the

402

00:16:35,820 --> 00:16:32,920

telescope of course was not cheap but

403

00:16:39,449 --> 00:16:35,830

the observatory also was not cheap but

404

00:16:41,280 --> 00:16:39,459

the outcome at the end is and I get to

405

00:16:43,590 --> 00:16:41,290

do and it would have been John and I but

406

00:16:46,380 --> 00:16:43,600

that's fine okay and the outcome is I

407

00:16:50,340 --> 00:16:46,390

get to do this neat public outreach and

408

00:16:52,949 --> 00:16:50,350

education in astronomy by doing what I

409

00:16:55,320 --> 00:16:52,959

love my degree with astronomy exoplanets

410

00:16:56,610 --> 00:16:55,330

or my bag I love them we're not going

411

00:16:58,380 --> 00:16:56,620

able to see exoplanets with this

412

00:17:00,269 --> 00:16:58,390

telescope of course but we can actually

413

00:17:03,750 --> 00:17:00,279

do research with this telescope that

414

00:17:05,790 --> 00:17:03,760

will actually show that a certain star

415

00:17:07,049 --> 00:17:05,800

may have extra planets around it we can

416

00:17:09,000 --> 00:17:07,059

do that research with this with this

417

00:17:13,350 --> 00:17:09,010

scope that's the nice thing see it's got

418

00:17:15,150 --> 00:17:13,360

that availability and it's it's not it's

419

00:17:16,590 --> 00:17:15,160

not the Kepler space telescope and it's

420

00:17:18,179 --> 00:17:16,600

not going to perform anywhere near the

421

00:17:20,240 --> 00:17:18,189

James Webb telescope which is going up

422

00:17:22,410 --> 00:17:20,250

next year yeah and it certainly won't

423

00:17:24,510 --> 00:17:22,420

perform like tests which will be the new

424

00:17:28,710 --> 00:17:24,520

one going up to the transiting exoplanet

425

00:17:31,250 --> 00:17:28,720

survey satellite but it will be a earth

426

00:17:33,720 --> 00:17:31,260

base just like other earth-based systems

427

00:17:35,430 --> 00:17:33,730

system to actually look for that as a

428

00:17:38,640 --> 00:17:35,440

possibility that's that's down the line

429

00:17:40,440 --> 00:17:38,650

but it's here right now where I live in

430

00:17:42,360 --> 00:17:40,450

Connecticut and I'm setting it up I'm

431

00:17:44,820 --> 00:17:42,370

automating it in here it'll have

432

00:17:46,919 --> 00:17:44,830

automation gear so that it will just be

433

00:17:48,230 --> 00:17:46,929

totally automatic it will open the dome

434

00:17:50,629 --> 00:17:48,240

by itself

435

00:17:52,249 --> 00:17:50,639

if it starts to rain it already gets too

436

00:17:55,489 --> 00:17:52,259

high and humidity Oh close the dome by

437

00:17:57,470 --> 00:17:55,499

itself that stuff already exists I don't

438

00:17:59,330 --> 00:17:57,480

have to build that it's just a matter of

439

00:18:01,669 --> 00:17:59,340

integrating it and and I like to do that

440

00:18:03,139 --> 00:18:01,679

I can do that and then once it's all

441

00:18:06,950 --> 00:18:03,149

worked out here my goal is to actually

442

00:18:09,680 --> 00:18:06,960

move the whole thing entirely to a spot

443

00:18:12,109 --> 00:18:09,690

in Arizona and the spot in Arizona would

444

00:18:14,299 --> 00:18:12,119

be one that's totally totally dark sky

445

00:18:17,149 --> 00:18:14,309

yeah beautiful therefore sky watching

446

00:18:19,279 --> 00:18:17,159

yeah dark dark sky yeah yeah

447

00:18:21,799 --> 00:18:19,289

I know of what I was getting at is how

448

00:18:24,049 --> 00:18:21,809

can someone actually connect with you to

449

00:18:27,980 --> 00:18:24,059

actually participate in and watching

450

00:18:29,810 --> 00:18:27,990

this thing live well um I'm going to be

451

00:18:32,869 --> 00:18:29,820

running what we're going to call this

452

00:18:36,649 --> 00:18:32,879

the sky stream a live stream and we're

453

00:18:38,389 --> 00:18:36,659

going to be doing live tours through

454

00:18:40,639 --> 00:18:38,399

YouTube you know through a streaming

455

00:18:42,680 --> 00:18:40,649

online and people will be able to

456

00:18:46,369 --> 00:18:42,690

communicate with me that way and and

457

00:18:47,749 --> 00:18:46,379

then some I mean I'll hopefully build up

458

00:18:50,509 --> 00:18:47,759

a good the following I've got a lot of

459

00:18:53,119 --> 00:18:50,519

other heavy-duty streamers that I am

460

00:18:54,529 --> 00:18:53,129

already guests on their streams and and

461

00:18:57,470 --> 00:18:54,539

they have tens of thousands of people

462

00:18:59,659 --> 00:18:57,480

following them so tens of thousands of

463

00:19:02,480 --> 00:18:59,669

people follow them and they hear me on

464

00:19:05,389 --> 00:19:02,490

these streams and you know that's

465

00:19:07,669 --> 00:19:05,399

something that starts that serves as the

466

00:19:09,440 --> 00:19:07,679

backdrop and is a foundational element

467

00:19:11,840 --> 00:19:09,450

to getting more people though you know

468

00:19:14,690 --> 00:19:11,850

come watch me I did a test stream today

469

00:19:17,180 --> 00:19:14,700

and I watched my chat room filling up

470

00:19:18,769 --> 00:19:17,190

and even announced it anybody you know I

471

00:19:20,690 --> 00:19:18,779

mean it was just because you know the

472

00:19:21,649 --> 00:19:20,700

the subscriptions the people that

473

00:19:24,649 --> 00:19:21,659

subscribe or getting these little

474

00:19:27,470 --> 00:19:24,659

notices yeah and on my Facebook page I

475

00:19:30,680 --> 00:19:27,480

saw that one person said oh he's going

476

00:19:32,600 --> 00:19:30,690

live he's live you know like I am you

477

00:19:33,680 --> 00:19:32,610

know yeah you know you really got to be

478

00:19:35,180 --> 00:19:33,690

ready for this you know because I just

479

00:19:37,700 --> 00:19:35,190

happen it's immediately in it's like wow

480

00:19:39,950 --> 00:19:37,710

I remember when I was up setting up the

481

00:19:42,950 --> 00:19:39,960

YouTube live stream for the first time I

482

00:19:47,389 --> 00:19:42,960

did a test you know and there was like

483

00:19:49,609 --> 00:19:47,399

20 people and for a test there's really

484

00:19:53,450 --> 00:19:49,619

nothing testing and then they say yeah

485

00:19:56,119 --> 00:19:53,460

we hear you but yeah so that's great no

486

00:19:57,560 --> 00:19:56,129

there I love it I think that's really

487

00:19:59,119 --> 00:19:57,570

great because it really gets it out

488

00:20:01,159 --> 00:19:59,129

there and then it's up there afterwards

489

00:20:02,030 --> 00:20:01,169

you know that's right and the whole

490

00:20:04,850 --> 00:20:02,040

point is to

491

00:20:06,740 --> 00:20:04,860

to take this back to astronomy and take

492

00:20:09,740 --> 00:20:06,750

this back to the study of planets around

493

00:20:12,700 --> 00:20:09,750

other stars and contribute to the

494

00:20:15,170 --> 00:20:12,710

science in those ways you know using

495

00:20:17,690 --> 00:20:15,180

equipment that is available to everybody

496

00:20:18,800 --> 00:20:17,700

you know and then in just because I have

497

00:20:21,230 --> 00:20:18,810

an observatory that doesn't mean that

498

00:20:22,460 --> 00:20:21,240

that equipments not available there's

499

00:20:24,800 --> 00:20:22,470

over a thousand of these particular

500

00:20:26,330 --> 00:20:24,810

observatories out there already all

501

00:20:28,460 --> 00:20:26,340

right so it's not like it's not

502

00:20:29,750 --> 00:20:28,470

available this stuff is commercially

503

00:20:32,060 --> 00:20:29,760

available stuff if this is where you

504

00:20:32,240 --> 00:20:32,070

want to go you'll find your way all

505

00:20:34,160 --> 00:20:32,250

right

506

00:20:35,780 --> 00:20:34,170

I want it before we move on I wanted to

507

00:20:38,870 --> 00:20:35,790

talk a little bit about UFO talk and

508

00:20:41,570 --> 00:20:38,880

just you started to talk about that just

509

00:20:43,570 --> 00:20:41,580

where is it in we've talked about this a

510

00:20:48,880 --> 00:20:43,580

number of times where is it in

511

00:20:50,750 --> 00:20:48,890

development these days well right now I

512

00:20:52,580 --> 00:20:50,760

purpose right now is to actually find

513

00:20:55,220 --> 00:20:52,590

the right camera chip that we want to

514

00:20:56,870 --> 00:20:55,230

use so another purpose for this

515

00:20:59,600 --> 00:20:56,880

Observatory and I've already tested this

516

00:21:02,900 --> 00:20:59,610

camera chip I've got this this Sony chip

517

00:21:05,630 --> 00:21:02,910

and it's called the X more e^x mor and

518

00:21:08,270 --> 00:21:05,640

and the X more series is really

519

00:21:12,310 --> 00:21:08,280

sensitive has tremendous sensitivity up

520

00:21:17,060 --> 00:21:12,320

and down and it also has the ability to

521

00:21:19,790 --> 00:21:17,070

vary the exposure hugely and you can get

522

00:21:22,940 --> 00:21:19,800

full 4k which is very high resolution

523

00:21:25,820 --> 00:21:22,950

video 4k video out of the camera at any

524

00:21:28,790 --> 00:21:25,830

of those sensitivities and so for

525

00:21:30,290 --> 00:21:28,800

instance if we have a u photonic system

526

00:21:33,260 --> 00:21:30,300

and that's why I'm testing this chip

527

00:21:36,110 --> 00:21:33,270

I mean madly when you look at the sky if

528

00:21:37,730 --> 00:21:36,120

you see a faint light in the sky no

529

00:21:39,650 --> 00:21:37,740

camera that's just an ordinary camera

530

00:21:41,510 --> 00:21:39,660

that you can buy anywhere will really do

531

00:21:45,020 --> 00:21:41,520

they have the ability to look at that

532

00:21:47,930 --> 00:21:45,030

thing and then zoom in on it and see it

533

00:21:49,790 --> 00:21:47,940

you know is a nice bright light this

534

00:21:51,500 --> 00:21:49,800

camera can do that and you can turn

535

00:21:53,300 --> 00:21:51,510

around use it to shoot a birthday party

536

00:21:55,760 --> 00:21:53,310

if you want you know I mean it has all

537

00:21:59,030 --> 00:21:55,770

those available availability that

538

00:22:01,910 --> 00:21:59,040

availability to it in capability and so

539

00:22:04,310 --> 00:22:01,920

this camera chip is very versatile and

540

00:22:06,350 --> 00:22:04,320

that's why I'm testing it now and so

541

00:22:08,390 --> 00:22:06,360

where we are as I'm testing this Sony

542

00:22:10,910 --> 00:22:08,400

chip and if it works like I think it

543

00:22:14,030 --> 00:22:10,920

will we'd like to make it the basis of

544

00:22:15,500 --> 00:22:14,040

our cameras for the you photography

545

00:22:17,030 --> 00:22:15,510

before

546

00:22:19,430 --> 00:22:17,040

cameras already designed and the

547

00:22:22,040 --> 00:22:19,440

prototype is already working but the

548

00:22:23,770 --> 00:22:22,050

camera chip that the core chip is

549

00:22:26,240 --> 00:22:23,780

something that we actually have to

550

00:22:29,270 --> 00:22:26,250

really be careful with and be and think

551
00:22:30,800 --> 00:22:29,280
very hard about so in Cameron chips all

552
00:22:33,440 --> 00:22:30,810
do the same kind of thing in the same

553
00:22:35,450 --> 00:22:33,450
sort of way so we just have to we just

554
00:22:36,680 --> 00:22:35,460
have to do that we just have to put that

555
00:22:40,010 --> 00:22:36,690
in to bring up the provision

556
00:22:41,900 --> 00:22:40,020
um someone just asked if you could they

557
00:22:43,670 --> 00:22:41,910
want to know how to get to your channel

558
00:22:47,210 --> 00:22:43,680
are you able to say that or would it

559
00:22:49,220 --> 00:22:47,220
have to be typed in actually my youtube

560
00:22:52,400 --> 00:22:49,230
channel is just my name Mark Dantonio

561
00:22:54,080 --> 00:22:52,410
are two words or one more to go it is

562
00:22:55,970 --> 00:22:54,090
two words two separate words and it's

563
00:22:57,680 --> 00:22:55,980

all it's all for me it's just I just

564

00:22:59,750 --> 00:22:57,690

made it all lowercase because it's just

565

00:23:00,140 --> 00:22:59,760

I was too lazy to put the caps in what

566

00:23:04,460 --> 00:23:00,150

can they say

567

00:23:07,550 --> 00:23:04,470

so that's ma RC yes and it's d and no

568

00:23:10,220 --> 00:23:07,560

apostrophe no apostrophe D a and T I oh

569

00:23:12,980 --> 00:23:10,230

no you got it wrong tell you even he

570

00:23:13,460 --> 00:23:12,990

spelled it wrong yeah yeah yeah so it's

571

00:23:19,100 --> 00:23:13,470

correct

572

00:23:21,470 --> 00:23:19,110

it's ma RC space da NT o n io so it's

573

00:23:23,000 --> 00:23:21,480

Antonio with a D in front of it I said I

574

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

think of Antonio I said it backwards

575

00:23:27,560 --> 00:23:25,500

well you should DND and T Neverland

576

00:23:27,980 --> 00:23:27,570

listen are its Antonio what a D in front

577

00:23:29,780 --> 00:23:27,990

of it

578

00:23:31,970 --> 00:23:29,790

I think that's what it is am i right no

579

00:23:32,960 --> 00:23:31,980

you're wrong oh I got it right alright

580

00:23:36,560 --> 00:23:32,970

no I was right

581

00:23:38,660 --> 00:23:36,570

don't listen to Martin alright so a so

582

00:23:40,610 --> 00:23:38,670

the basis of the show tonight that you

583

00:23:45,260 --> 00:23:40,620

and I had a chat on the phone a while

584

00:23:48,530 --> 00:23:45,270

back and that is if you know there's all

585

00:23:50,660 --> 00:23:48,540

these planets out you know I don't know

586

00:23:55,040 --> 00:23:50,670

if you I'm sure you heard this the

587

00:23:58,280 --> 00:23:55,050

recent NASA quote that they think that

588

00:24:00,260 --> 00:23:58,290

every single star most likely as is part

589

00:24:03,410 --> 00:24:00,270

of the solar system has plans which

590

00:24:06,260 --> 00:24:03,420

makes sense total sense really right why

591

00:24:09,830 --> 00:24:06,270

should we be unique yeah yeah myself I

592

00:24:15,170 --> 00:24:09,840

started to ask these questions and and I

593

00:24:17,150 --> 00:24:15,180

wondered how aliens would develop it

594

00:24:19,100 --> 00:24:17,160

doesn't have to be intelligent aliens

595

00:24:22,520 --> 00:24:19,110

but you know I mean there's so many

596

00:24:24,650 --> 00:24:22,530

variables in my thinking that I just

597

00:24:26,930 --> 00:24:24,660

wanted to ask you like for instance say

598

00:24:28,680 --> 00:24:26,940

a planets in the Goldilocks zone it's

599

00:24:31,740 --> 00:24:28,690

going to support life

600

00:24:33,240 --> 00:24:31,750

life somehow comes sparks I don't even

601
00:24:35,880 --> 00:24:33,250
know I mean that's the biggest question

602
00:24:40,260 --> 00:24:35,890
how does it begin to begin with but

603
00:24:46,230 --> 00:24:40,270
anyway um say it has twice a gravity as

604
00:24:47,760 --> 00:24:46,240
earth what is different about a being is

605
00:24:53,400 --> 00:24:47,770
it lower to the ground

606
00:24:56,820 --> 00:24:53,410
Azam I mean the basic the basic premise

607
00:25:00,060 --> 00:24:56,830
is that we have to try to speculate

608
00:25:02,190 --> 00:25:00,070
based on one and only one template that

609
00:25:03,300 --> 00:25:02,200
we have and that's life on earth right

610
00:25:06,600 --> 00:25:03,310
intelligent life on Earth

611
00:25:09,660 --> 00:25:06,610
we're the only template now we have a

612
00:25:13,320 --> 00:25:09,670
skeleton we came from the ocean so

613
00:25:17,040 --> 00:25:13,330

that's why we have skin the skin seals

614

00:25:18,390 --> 00:25:17,050

in the salty water the vestigial ocean

615

00:25:21,390 --> 00:25:18,400

that we carry around with us all the

616

00:25:23,070 --> 00:25:21,400

time that's why you have salty skin it's

617

00:25:26,760 --> 00:25:23,080

because we originated in the ocean

618

00:25:30,120 --> 00:25:26,770

that's the reason so you know if life

619

00:25:32,940 --> 00:25:30,130

elsewhere on another planet for instance

620

00:25:34,950 --> 00:25:32,950

was did not arise are actually out of an

621

00:25:38,280 --> 00:25:34,960

ocean well then they might not have a

622

00:25:40,110 --> 00:25:38,290

skin trapping in the moisture that they

623

00:25:43,890 --> 00:25:40,120

needed from the salt environment they

624

00:25:46,980 --> 00:25:43,900

evolved from we evolved that right and

625

00:25:48,330 --> 00:25:46,990

if there was a planet for instance and

626
00:25:50,160 --> 00:25:48,340
that's just an aside from what you asked

627
00:25:54,480 --> 00:25:50,170
but if there was a planet with higher

628
00:25:58,860 --> 00:25:54,490
gravity um to the inhabitants on that

629
00:26:02,010 --> 00:25:58,870
planet that might not change their their

630
00:26:04,170 --> 00:26:02,020
evolutionary past per se it would just

631
00:26:06,960 --> 00:26:04,180
change the way they developed because

632
00:26:08,670 --> 00:26:06,970
they would develop structures that can

633
00:26:11,730 --> 00:26:08,680
withstand that and to them it would be

634
00:26:15,330 --> 00:26:11,740
perfectly natural for instance in deep

635
00:26:17,700 --> 00:26:15,340
ocean we find at pressures of seven to

636
00:26:20,580 --> 00:26:17,710
ten thousand pounds per square inch of

637
00:26:22,260 --> 00:26:20,590
pressure in the deep ocean we find life

638
00:26:23,700 --> 00:26:22,270

swimming around like nothing but if we

639

00:26:24,420 --> 00:26:23,710

went out there we'd be you know we die

640

00:26:27,270 --> 00:26:24,430

yeah

641

00:26:29,520 --> 00:26:27,280

why because well first of all we have

642

00:26:30,720 --> 00:26:29,530

water and most of our tissues right the

643

00:26:33,240 --> 00:26:30,730

only places we don't have water in our

644

00:26:36,300 --> 00:26:33,250

body are where the lungs and the sinuses

645

00:26:38,370 --> 00:26:36,310

right okay and a little bit in the inner

646

00:26:40,920 --> 00:26:38,380

ear behind the eardrum but behind that

647

00:26:42,600 --> 00:26:40,930

behind beyond that if we were in the

648

00:26:44,970 --> 00:26:42,610

deep ocean we would immediately

649

00:26:46,919 --> 00:26:44,980

our lungs compressed our sinuses would

650

00:26:50,280 --> 00:26:46,929

be pressure pressurized and filled with

651
00:26:53,430 --> 00:26:50,290
water and that would be that that'd be

652
00:26:55,320 --> 00:26:53,440
the end for us obviously but otherwise

653
00:26:58,470 --> 00:26:55,330
we could handle the deep ocean if we

654
00:27:00,799 --> 00:26:58,480
could breathe liquid that was saturated

655
00:27:04,710 --> 00:27:00,809
as the Navy actually did tests with this

656
00:27:07,200 --> 00:27:04,720
liquid and you saw you know a story line

657
00:27:08,340 --> 00:27:07,210
in the abyss of this remember yeah the

658
00:27:10,380 --> 00:27:08,350
story line in the abyss where they

659
00:27:12,419 --> 00:27:10,390
actually breathed this this hyper

660
00:27:15,180 --> 00:27:12,429
saturated oxygen solution and that's

661
00:27:18,530 --> 00:27:15,190
real that was real there was a test done

662
00:27:21,810 --> 00:27:18,540
with Navy people on Navy divers and uh

663
00:27:24,990 --> 00:27:21,820

it was terminated because the it was

664

00:27:27,060 --> 00:27:25,000

hard to get them back I mean they could

665

00:27:28,799 --> 00:27:27,070

end up breathing this liquid saturated

666

00:27:30,900 --> 00:27:28,809

liquid but the problem was getting that

667

00:27:32,370 --> 00:27:30,910

out of your lungs after and they all

668

00:27:33,990 --> 00:27:32,380

ended up with pneumonia you know and it

669

00:27:36,930 --> 00:27:34,000

was a long long recovery so it really

670

00:27:39,450 --> 00:27:36,940

wasn't worth it but the benefit is once

671

00:27:41,700 --> 00:27:39,460

they were in that mode they could drop

672

00:27:43,200 --> 00:27:41,710

right to the bottom of the ocean and it

673

00:27:44,640 --> 00:27:43,210

wouldn't affect them because when you

674

00:27:45,510 --> 00:27:44,650

dive underwater you feel that pressure

675

00:27:47,490 --> 00:27:45,520

yeah

676

00:27:49,830 --> 00:27:47,500

lot of pressures in your ears and in

677

00:27:51,810 --> 00:27:49,840

your sinuses yeah well if you had the

678

00:27:52,770 --> 00:27:51,820

liquid already in there you wouldn't

679

00:27:54,360 --> 00:27:52,780

feel any pressure at all

680

00:27:55,230 --> 00:27:54,370

would you Wow you'd be able to go all

681

00:27:56,820 --> 00:27:55,240

the way to the bottom and it wouldn't

682

00:27:57,180 --> 00:27:56,830

matter if your lungs were full full of

683

00:28:01,890 --> 00:27:57,190

liquid

684

00:28:03,480 --> 00:28:01,900

you wouldn't have any problem and that's

685

00:28:06,810 --> 00:28:03,490

that's what was that that was the

686

00:28:10,169 --> 00:28:06,820

principle behind that but so if I if

687

00:28:12,720 --> 00:28:10,179

alien beings on such a planet were in

688

00:28:16,350 --> 00:28:12,730

say it was an ocean planet and say they

689

00:28:20,030 --> 00:28:16,360

developed some type of ability to do

690

00:28:22,560 --> 00:28:20,040

both land and water transition as we did

691

00:28:27,270 --> 00:28:22,570

we left the ocean and we never went back

692

00:28:29,280 --> 00:28:27,280

as a species but maybe being there and

693

00:28:31,380 --> 00:28:29,290

another planet maybe they actually go

694

00:28:33,330 --> 00:28:31,390

back and forth if they go back and forth

695

00:28:36,240 --> 00:28:33,340

and they would actually develop a way to

696

00:28:38,669 --> 00:28:36,250

be able to you know transition between

697

00:28:40,980 --> 00:28:38,679

say water breather and an air breather

698

00:28:43,500 --> 00:28:40,990

you know maybe their atmospheres thicker

699

00:28:44,820 --> 00:28:43,510

maybe the planet has a bigger atmosphere

700

00:28:47,640 --> 00:28:44,830

because maybe the planet has more

701
00:28:50,370 --> 00:28:47,650
gravity with more gravity bigger

702
00:28:51,380 --> 00:28:50,380
atmosphere would mean more pressure more

703
00:28:54,210 --> 00:28:51,390
pressure means the air is more dense

704
00:28:57,180 --> 00:28:54,220
perhaps at the ground level where they

705
00:29:00,120 --> 00:28:57,190
are and so that dense air might be akin

706
00:29:01,770 --> 00:29:00,130
to the dense water and so maybe that

707
00:29:04,860 --> 00:29:01,780
transition wouldn't be such a big deal

708
00:29:06,660 --> 00:29:04,870
for them whereas for us our air pressure

709
00:29:10,470 --> 00:29:06,670
is fourteen point seven pounds per

710
00:29:12,870 --> 00:29:10,480
square inch that's not terribly crushing

711
00:29:14,190 --> 00:29:12,880
for us because we developed in it but

712
00:29:15,810 --> 00:29:14,200
that's per square inch if you just hold

713
00:29:19,140 --> 00:29:15,820

your fingers into a square inch shape

714

00:29:21,390 --> 00:29:19,150

say Wow fourteen and almost 15 pounds on

715

00:29:23,010 --> 00:29:21,400

every inch of your body's being is being

716

00:29:25,800 --> 00:29:23,020

pressed down by the the weight of the

717

00:29:27,960 --> 00:29:25,810

air will be your head and you got a

718

00:29:30,240 --> 00:29:27,970

wonder you know how could we develop at

719

00:29:31,740 --> 00:29:30,250

all can you think of those pressures if

720

00:29:35,490 --> 00:29:31,750

you put for fifteen pounds of pressure

721

00:29:38,160 --> 00:29:35,500

on on anything you know it's gonna feel

722

00:29:39,300 --> 00:29:38,170

it well but that's in addition to the

723

00:29:41,640 --> 00:29:39,310

fifteen pounds had already developed

724

00:29:43,110 --> 00:29:41,650

with C so we developed in this

725

00:29:44,760 --> 00:29:43,120

environment deep ocean creatures

726

00:29:47,190 --> 00:29:44,770

developed in that environment so the

727

00:29:50,850 --> 00:29:47,200

pressure means nothing to them ya see uh

728

00:29:53,220 --> 00:29:50,860

ya know okay so I guess I will word up

729

00:29:58,590 --> 00:29:53,230

questions like to say there was a

730

00:30:02,160 --> 00:29:58,600

similar have a you know evolution to our

731

00:30:06,780 --> 00:30:02,170

planets a species began very similar to

732

00:30:08,790 --> 00:30:06,790

the way we begin but uh that let's just

733

00:30:13,800 --> 00:30:08,800

throw a couple of variables like how

734

00:30:17,070 --> 00:30:13,810

much did the moon pitch into where we

735

00:30:18,810 --> 00:30:17,080

are as humans the moon played a

736

00:30:22,620 --> 00:30:18,820

tremendous role in what we are but don't

737

00:30:25,320 --> 00:30:22,630

forget that if the moon didn't exist we

738

00:30:26,840 --> 00:30:25,330

might still exist but it would be

739

00:30:31,560 --> 00:30:26,850

different I'll tell you why

740

00:30:35,310 --> 00:30:31,570

the moon gives us those huge tides that

741

00:30:36,660 --> 00:30:35,320

we see now it you know as the moon goes

742

00:30:38,730 --> 00:30:36,670

around the earth you hear there's a

743

00:30:40,410 --> 00:30:38,740

there's a tidal bulge that occurs from

744

00:30:42,390 --> 00:30:40,420

the action just the spinning of the

745

00:30:44,160 --> 00:30:42,400

earth but because the water is also

746

00:30:47,010 --> 00:30:44,170

being tugged on by the moon you get that

747

00:30:49,020 --> 00:30:47,020

that ocean oceanic bulge that's what

748

00:30:50,820 --> 00:30:49,030

causes the tides we see that very

749

00:30:53,280 --> 00:30:50,830

dramatically in the Bay of Fundy where

750

00:30:56,150 --> 00:30:53,290

the tides can vary by 20-something feet

751
00:31:00,050 --> 00:30:56,160
or more you know at every time there's a

752
00:31:03,180 --> 00:31:00,060
tidal shift now that that effect okay

753
00:31:04,330 --> 00:31:03,190
has the following heavy falling effect

754
00:31:07,630 --> 00:31:04,340
on any life

755
00:31:10,470 --> 00:31:07,640
in those shallows when the moon is in

756
00:31:13,300 --> 00:31:10,480
the right place and the tide goes out

757
00:31:17,590 --> 00:31:13,310
life-forms that are normally Gill

758
00:31:20,680 --> 00:31:17,600
breathing fish might be left behind in a

759
00:31:24,340 --> 00:31:20,690
small tidal pool and over millions of

760
00:31:26,590 --> 00:31:24,350
years they might develop a way to

761
00:31:28,770 --> 00:31:26,600
contend with that should the pool dry

762
00:31:31,030 --> 00:31:28,780
out before the tide came back in and

763
00:31:36,820 --> 00:31:31,040

that's exactly what happened

764

00:31:38,710 --> 00:31:36,830

so the moon allowed us to evolve out of

765

00:31:42,780 --> 00:31:38,720

the ocean because it created these

766

00:31:45,900 --> 00:31:42,790

expansive areas of partially dry land

767

00:31:48,070 --> 00:31:45,910

which still had living creatures in it

768

00:31:49,750 --> 00:31:48,080

and certain creatures when you look in

769

00:31:51,880 --> 00:31:49,760

the tidal pool now you say well those

770

00:31:54,250 --> 00:31:51,890

things couldn't survive without water or

771

00:31:57,310 --> 00:31:54,260

not of course right but that because

772

00:31:59,440 --> 00:31:57,320

that's that species but you have to look

773

00:32:00,400 --> 00:31:59,450

at the fact that that wasn't the species

774

00:32:03,070 --> 00:32:00,410

that came out of the water

775

00:32:04,540 --> 00:32:03,080

why cause it's still there you know it

776
00:32:07,450 --> 00:32:04,550
has to have to go beyond it you have to

777
00:32:09,670 --> 00:32:07,460
take into account that the tidal pools

778
00:32:13,420 --> 00:32:09,680
that were created by the moon exposed

779
00:32:18,250 --> 00:32:13,430
other life-forms that are no longer here

780
00:32:19,780 --> 00:32:18,260
in the same way to the air and it made

781
00:32:22,000 --> 00:32:19,790
it easier for that transition to occur

782
00:32:25,060 --> 00:32:22,010
but let's look at what happens if the

783
00:32:28,930 --> 00:32:25,070
moon's gone if the moon was gone we

784
00:32:34,030 --> 00:32:28,940
would still get tides and we're you know

785
00:32:36,880 --> 00:32:34,040
uh yes from either from the earth

786
00:32:39,310 --> 00:32:36,890
rotating or from the Sun possibly both

787
00:32:43,000 --> 00:32:39,320
you're right the rotation of the earth

788
00:32:45,070 --> 00:32:43,010

causes a lag behind of water and that

789

00:32:47,800 --> 00:32:45,080

actually would cause a small tidal

790

00:32:50,080 --> 00:32:47,810

change but there would be an equilibrium

791

00:32:52,390 --> 00:32:50,090

reached you know as that rotation occurs

792

00:32:56,550 --> 00:32:52,400

at some point but the Sun is there and

793

00:33:00,130 --> 00:32:56,560

the Sun cause smaller but still

794

00:33:02,170 --> 00:33:00,140

effective tides is it actually cause any

795

00:33:04,450 --> 00:33:02,180

type of tidal change now yes it does

796

00:33:07,090 --> 00:33:04,460

uh-huh the Sun causes the Sun and the

797

00:33:10,780 --> 00:33:07,100

moon together cause the tides they sum

798

00:33:13,840 --> 00:33:10,790

their components together now the Sun is

799

00:33:16,900 --> 00:33:13,850

400 times farther away than the moon so

800

00:33:17,950 --> 00:33:16,910

obviously it's going to have a lesser

801
00:33:21,130 --> 00:33:17,960
effect but it's

802
00:33:24,310 --> 00:33:21,140
also almost a million miles across and

803
00:33:27,340 --> 00:33:24,320
it's very very massive comparatively to

804
00:33:30,789 --> 00:33:27,350
the moon so its effect is not equal to

805
00:33:35,680 --> 00:33:30,799
the moon at all but it's far less but we

806
00:33:38,289 --> 00:33:35,690
will see a tide that is due to the moon

807
00:33:41,860 --> 00:33:38,299
immense or due to the Sun and that would

808
00:33:44,460 --> 00:33:41,870
also promote tidal flats smaller ones

809
00:33:46,389 --> 00:33:44,470
but it's possible that it be enough to

810
00:33:49,029 --> 00:33:46,399
allow us to have come out of the water

811
00:33:50,470 --> 00:33:49,039
so without a moon it's possible that we

812
00:33:52,840 --> 00:33:50,480
could have still developed both that

813
00:33:54,519 --> 00:33:52,850

might have taken us longer and so we

814

00:33:55,750 --> 00:33:54,529

have to say well if it took us longer

815

00:33:58,810 --> 00:33:55,760

what would that mean for us it would

816

00:34:00,250 --> 00:33:58,820

mean that we wouldn't have gotten out of

817

00:34:04,779 --> 00:34:00,260

the water wouldn't have left the ocean

818

00:34:06,519 --> 00:34:04,789

uh for perhaps another half a million a

819

00:34:08,169 --> 00:34:06,529

million years maybe two minutes to mean

820

00:34:10,149 --> 00:34:08,179

two million or three million years and

821

00:34:12,280 --> 00:34:10,159

that would change everything about how

822

00:34:15,339 --> 00:34:12,290

we develop perhaps we may still have a

823

00:34:17,560 --> 00:34:15,349

skin but with with a vestigial ocean

824

00:34:20,260 --> 00:34:17,570

inside but we might have changed we

825

00:34:21,820 --> 00:34:20,270

might be it might be different now what

826
00:34:23,800 --> 00:34:21,830
is that different watch any science

827
00:34:25,899 --> 00:34:23,810
fiction movie okay and this the

828
00:34:27,490 --> 00:34:25,909
speculation is there you can see that

829
00:34:31,300 --> 00:34:27,500
that that you know there's a million

830
00:34:33,550 --> 00:34:31,310
different answers but the I just think

831
00:34:36,220 --> 00:34:33,560
that without the moon we would still see

832
00:34:39,250 --> 00:34:36,230
the tides but not nearly as much and the

833
00:34:42,389 --> 00:34:39,260
possibility to achieve that exit from

834
00:34:44,619 --> 00:34:42,399
the water is still present now what

835
00:34:48,010 --> 00:34:44,629
there are different types of Suns

836
00:34:50,710 --> 00:34:48,020
different types of stars yes and what

837
00:34:55,780 --> 00:34:50,720
difference would a different type of

838
00:34:58,329 --> 00:34:55,790

star make on evolution very good

839

00:35:01,540 --> 00:34:58,339

question and and again we only have

840

00:35:04,839 --> 00:35:01,550

ourselves as templates to speculate but

841

00:35:07,630 --> 00:35:04,849

it's okay we can speculate our Sun is a

842

00:35:09,280 --> 00:35:07,640

type G star it puts out you know a

843

00:35:11,829 --> 00:35:09,290

certain amount of energy energy that

844

00:35:14,620 --> 00:35:11,839

we've come to live with it has solar

845

00:35:16,839 --> 00:35:14,630

flares that come out sometimes and you

846

00:35:18,550 --> 00:35:16,849

know hit us in in the polar regions and

847

00:35:20,349 --> 00:35:18,560

spiral down through the North Pole the

848

00:35:23,020 --> 00:35:20,359

reason it does that is because we have a

849

00:35:24,849 --> 00:35:23,030

magnetic field now a magnetic field on

850

00:35:27,609 --> 00:35:24,859

our planet is very very important

851
00:35:30,400 --> 00:35:27,619
without a magnetic field we would not be

852
00:35:32,170 --> 00:35:30,410
here because a magnetic field traps out

853
00:35:36,040 --> 00:35:32,180
all the dangerous part of

854
00:35:38,700 --> 00:35:36,050
and different types of Suns have

855
00:35:43,320 --> 00:35:38,710
different amounts of radiative

856
00:35:46,270 --> 00:35:43,330
explosions and outbursts now the most

857
00:35:49,930 --> 00:35:46,280
the most prolific star in the universe

858
00:35:53,220 --> 00:35:49,940
okay in our galaxy and in the universe

859
00:35:55,930 --> 00:35:53,230
are these what are called m-type stars

860
00:35:57,970 --> 00:35:55,940
you heard about one recently with the

861
00:36:00,550 --> 00:35:57,980
Trappist one discovery right Trappist

862
00:36:02,440 --> 00:36:00,560
one right seven planets all of them

863
00:36:05,520 --> 00:36:02,450

closer to their Sun than mercury is to

864

00:36:07,660 --> 00:36:05,530

the Sun to our Sun now that sounds like

865

00:36:10,840 --> 00:36:07,670

not a whole you know not a lot of

866

00:36:14,530 --> 00:36:10,850

possibilities except that star puts out

867

00:36:18,310 --> 00:36:14,540

point zero eight percent okay eight 100

868

00:36:20,140 --> 00:36:18,320

of the energy that our Sun puts out it's

869

00:36:21,700 --> 00:36:20,150

a much smaller star it's called an ultra

870

00:36:23,740 --> 00:36:21,710

cool red dwarf

871

00:36:25,660 --> 00:36:23,750

now it's ultra cool as in whoa that's

872

00:36:28,750 --> 00:36:25,670

cool but it's also ultra cool as in

873

00:36:30,340 --> 00:36:28,760

temperature all right so that ultra cool

874

00:36:31,990 --> 00:36:30,350

temperature means that the habitable

875

00:36:33,550 --> 00:36:32,000

zone that zone where liquid water could

876

00:36:36,630 --> 00:36:33,560

be present on the surface of the planets

877

00:36:40,950 --> 00:36:36,640

is that much closer to its star and

878

00:36:44,380 --> 00:36:40,960

three of those seven planets are in that

879

00:36:48,040 --> 00:36:44,390

Goldilocks zone around that star now it

880

00:36:49,570 --> 00:36:48,050

has to be said that there's caveats and

881

00:36:51,400 --> 00:36:49,580

this is another thing that you would

882

00:36:52,840 --> 00:36:51,410

have to ask about how could life develop

883

00:36:54,730 --> 00:36:52,850

if this was going to happen certain

884

00:36:58,960 --> 00:36:54,740

things and this there's one certain

885

00:37:01,090 --> 00:36:58,970

thing that is part and parcel with

886

00:37:04,030 --> 00:37:01,100

having planets very close to their star

887

00:37:06,790 --> 00:37:04,040

like this their title II locked to the

888

00:37:09,370 --> 00:37:06,800

planet so they don't turn that they do

889

00:37:11,260 --> 00:37:09,380

but only once per orbit around this

890

00:37:13,390 --> 00:37:11,270

letter so that effectively means that

891

00:37:16,750 --> 00:37:13,400

they have the same face facing the star

892

00:37:19,090 --> 00:37:16,760

the whole time now like our moon is

893

00:37:22,000 --> 00:37:19,100

gonna say just exactly like I move but

894

00:37:25,810 --> 00:37:22,010

here's the neat thing about that if life

895

00:37:28,030 --> 00:37:25,820

could exist on that permanent that that

896

00:37:31,000 --> 00:37:28,040

permanent Sun and permanent dark type

897

00:37:34,270 --> 00:37:31,010

planet just imagine a vacation you could

898

00:37:37,060 --> 00:37:34,280

have tropical paradise you can go to a

899

00:37:38,680 --> 00:37:37,070

beautiful sunset all the time every

900

00:37:39,730 --> 00:37:38,690

single day day and day out you have

901
00:37:42,580 --> 00:37:39,740
beautiful sunsets

902
00:37:43,690 --> 00:37:42,590
alright because the Sun is always there

903
00:37:45,400 --> 00:37:43,700
on the edge it's always there it's

904
00:37:47,320 --> 00:37:45,410
always a beautiful sunset you

905
00:37:48,940 --> 00:37:47,330
take pictures forever and then you say

906
00:37:50,860 --> 00:37:48,950
want to go to do a star to where you

907
00:37:52,440 --> 00:37:50,870
want to go to a Observatory well you can

908
00:37:55,240 --> 00:37:52,450
just go on the dark side of the planet

909
00:37:57,430 --> 00:37:55,250
okay and you could go to an observatory

910
00:38:00,550 --> 00:37:57,440
there and just observe the Stars the

911
00:38:02,110 --> 00:38:00,560
issue though is that these stars because

912
00:38:04,600 --> 00:38:02,120
they're so low output in the planets are

913
00:38:07,180 --> 00:38:04,610

so close the planets go around them in a

914

00:38:09,850 --> 00:38:07,190

period of a couple days the longest for

915

00:38:12,040 --> 00:38:09,860

Trappist one is something like 120 22 or

916

00:38:13,480 --> 00:38:12,050

23 days I think the outermost planet it

917

00:38:17,140 --> 00:38:13,490

takes to go around and start so it's

918

00:38:18,520 --> 00:38:17,150

year right is only a few days long right

919

00:38:21,040 --> 00:38:18,530

the time it takes to go around the Sun

920

00:38:22,600 --> 00:38:21,050

once there's their star so if you're

921

00:38:24,310 --> 00:38:22,610

looking at a telescope and you're

922

00:38:25,930 --> 00:38:24,320

watching say well one of the other

923

00:38:28,120 --> 00:38:25,940

planets where it goes around like and

924

00:38:30,370 --> 00:38:28,130

just say nine days your telescope would

925

00:38:31,780 --> 00:38:30,380

visibly be moving as its tracking the

926
00:38:33,550 --> 00:38:31,790
Stars because you'll be looking overhead

927
00:38:35,920 --> 00:38:33,560
and you'd see the Stars changing their

928
00:38:37,840 --> 00:38:35,930
position constantly well that the star

929
00:38:40,540 --> 00:38:37,850
is moving against themselves but you

930
00:38:42,010 --> 00:38:40,550
know your sky would be moving because

931
00:38:46,450 --> 00:38:42,020
your year is progressing right before

932
00:38:49,270 --> 00:38:46,460
your eyes that's really cool yeah now in

933
00:38:53,200 --> 00:38:49,280
this particular case say something's

934
00:38:55,690 --> 00:38:53,210
locked like that would it possibly have

935
00:38:59,980 --> 00:38:55,700
just a small strip of an area that would

936
00:39:02,920 --> 00:38:59,990
actually be habitable for certain beings

937
00:39:06,820 --> 00:39:02,930
that that's it that's a good point in

938
00:39:09,160 --> 00:39:06,830

the tropical zone say the perpetual

939

00:39:11,620 --> 00:39:09,170

noontime there might be a certain type

940

00:39:14,070 --> 00:39:11,630

of life that's always present there if

941

00:39:17,800 --> 00:39:14,080

life could form at all perhaps it's

942

00:39:21,100 --> 00:39:17,810

deserted and air in arid because of

943

00:39:22,780 --> 00:39:21,110

billions of years of arid you know or

944

00:39:25,510 --> 00:39:22,790

millions of years over 100 million years

945

00:39:29,440 --> 00:39:25,520

of arid sunlight you know and then

946

00:39:32,740 --> 00:39:29,450

tropical effect but then in a temperate

947

00:39:34,150 --> 00:39:32,750

zone near the sunset side there might be

948

00:39:36,880 --> 00:39:34,160

a narrow band all the way around the

949

00:39:39,100 --> 00:39:36,890

planet in that area where the Sun is

950

00:39:41,230 --> 00:39:39,110

always about 20 degrees above the

951
00:39:45,010 --> 00:39:41,240
horizon or 30 degrees above the horizon

952
00:39:47,050 --> 00:39:45,020
and it might be that zone where from

953
00:39:49,990 --> 00:39:47,060
there to the near the dark side to the

954
00:39:53,410 --> 00:39:50,000
sunset side there might be that narrow

955
00:39:56,500 --> 00:39:53,420
band of prolific life of a certain kind

956
00:39:57,940 --> 00:39:56,510
uh-huh I just remembered that a lot of

957
00:39:58,480 --> 00:39:57,950
times we get some questions up in our

958
00:40:02,859 --> 00:39:58,490
forum and

959
00:40:07,990 --> 00:40:02,869
going to go into that in a minute oh now

960
00:40:11,650 --> 00:40:08,000
if the one question that I think

961
00:40:14,230 --> 00:40:11,660
scientists always tried to answer is how

962
00:40:16,900 --> 00:40:14,240
does life begin you know because we're

963
00:40:19,480 --> 00:40:16,910

talking about alien life so we again we

964

00:40:23,440 --> 00:40:19,490

can only go by what happened here but

965

00:40:26,830 --> 00:40:23,450

still we have no idea how how it begins

966

00:40:30,370 --> 00:40:26,840

yeah I mean the closest we can come to

967

00:40:32,700 --> 00:40:30,380

figuring that out comes with looking at

968

00:40:35,010 --> 00:40:32,710

the experiment that was done in the

969

00:40:40,270 --> 00:40:35,020

early 50s called the miller-urey

970

00:40:42,730 --> 00:40:40,280

experiment these two scientists put in a

971

00:40:45,310 --> 00:40:42,740

glass flask that contained gases that

972

00:40:49,630 --> 00:40:45,320

were considered to be the components of

973

00:40:51,220 --> 00:40:49,640

the primordial atmosphere they had

974

00:40:53,230 --> 00:40:51,230

moisture and water in the in the bottom

975

00:40:55,390 --> 00:40:53,240

of the flask like a primordial like a

976

00:40:58,300 --> 00:40:55,400

primordial ocean and they had a

977

00:41:00,730 --> 00:40:58,310

electrode constantly doing a flash you

978

00:41:02,859 --> 00:41:00,740

know like lightning and they just let

979

00:41:04,240 --> 00:41:02,869

that go at the end of a week when they

980

00:41:06,490 --> 00:41:04,250

looked at it they found that they had

981

00:41:08,070 --> 00:41:06,500

created amino acids and a meal amino

982

00:41:13,270 --> 00:41:08,080

acids are the building blocks of life

983

00:41:15,670 --> 00:41:13,280

now that happened by itself now in

984

00:41:17,620 --> 00:41:15,680

addition to those building blocks of

985

00:41:19,450 --> 00:41:17,630

life being created by the earth itself

986

00:41:20,890 --> 00:41:19,460

that shows that the earth itself could

987

00:41:24,220 --> 00:41:20,900

with lightning striking the ocean

988

00:41:27,310 --> 00:41:24,230

lightning striking on the land um in

989

00:41:30,070 --> 00:41:27,320

addition we had comets bringing tons and

990

00:41:33,190 --> 00:41:30,080

tons of water lots of amino acids as

991

00:41:35,590 --> 00:41:33,200

well as meteorites bringing lots of

992

00:41:37,720 --> 00:41:35,600

amino acids we know this for a fact the

993

00:41:40,540 --> 00:41:37,730

Murchison meteorite they that came to

994

00:41:42,790 --> 00:41:40,550

earth was full of amino acids and the

995

00:41:45,310 --> 00:41:42,800

miller-urey experiment was deemed a

996

00:41:48,310 --> 00:41:45,320

success because they found a few amino

997

00:41:50,230 --> 00:41:48,320

acids at the end of that week but 50

998

00:41:52,450 --> 00:41:50,240

years later those vials were pulled out

999

00:41:54,490 --> 00:41:52,460

again and examined they found 22

1000

00:41:56,380 --> 00:41:54,500

additional amino acids that they hadn't

1001
00:41:59,730 --> 00:41:56,390
been able to detect at the time so this

1002
00:42:04,359 --> 00:41:59,740
shows that these building blocks of life

1003
00:42:06,670 --> 00:42:04,369
really can form by themselves now the

1004
00:42:09,280 --> 00:42:06,680
question about what gives the spark of

1005
00:42:11,080 --> 00:42:09,290
life I mean well there you go I mean

1006
00:42:12,460 --> 00:42:11,090
that's a question for theologians and

1007
00:42:15,780 --> 00:42:12,470
scholars that goes

1008
00:42:18,700 --> 00:42:15,790
far beyond this show and no one knows

1009
00:42:21,190 --> 00:42:18,710
and I'm content with that because as a

1010
00:42:24,460 --> 00:42:21,200
science person I tend to think that it's

1011
00:42:25,960 --> 00:42:24,470
important to examine everything we can

1012
00:42:28,300 --> 00:42:25,970
put our hands on it and talk about

1013
00:42:30,280 --> 00:42:28,310

directly like for instance the iridium

1014

00:42:32,380 --> 00:42:30,290

layer on the planet Earth

1015

00:42:35,620 --> 00:42:32,390

iridium is an element in the periodic

1016

00:42:39,070 --> 00:42:35,630

table obviously and it's it's a very

1017

00:42:42,280 --> 00:42:39,080

rare it's heavier than iron right by a

1018

00:42:44,920 --> 00:42:42,290

longshot and you know iron constitutes a

1019

00:42:47,230 --> 00:42:44,930

lot of the Earth's crust right so when

1020

00:42:49,750 --> 00:42:47,240

the earth was molten any iridium that

1021

00:42:52,720 --> 00:42:49,760

was on the earth would with it but it's

1022

00:42:54,460 --> 00:42:52,730

called differentiation the iron would be

1023

00:42:56,260 --> 00:42:54,470

all molten sitting there and then this

1024

00:42:58,960 --> 00:42:56,270

iridium would basically sink to the

1025

00:43:01,780 --> 00:42:58,970

bottom and go farther down deeper down

1026
00:43:04,180 --> 00:43:01,790
so during differentiation that time when

1027
00:43:06,190 --> 00:43:04,190
the earth was cooling all the iridium

1028
00:43:07,960 --> 00:43:06,200
that was present would have gone far out

1029
00:43:11,980 --> 00:43:07,970
of sight so to speak we wouldn't have

1030
00:43:14,020 --> 00:43:11,990
seen it but in a certain layer of

1031
00:43:17,950 --> 00:43:14,030
sediments found all over the world they

1032
00:43:20,980 --> 00:43:17,960
found a trace layer of this iridium why

1033
00:43:22,780 --> 00:43:20,990
were to come from that was the cue that

1034
00:43:27,190 --> 00:43:22,790
was the that was the the coolest little

1035
00:43:30,070 --> 00:43:27,200
clue all right that Luis Alvarez and and

1036
00:43:33,130 --> 00:43:30,080
his son actually used to figure out that

1037
00:43:35,680 --> 00:43:33,140
and two other people actually - but they

1038
00:43:38,760 --> 00:43:35,690

figured out that that was probably from

1039

00:43:41,470 --> 00:43:38,770

an interstellar interloper okay or a

1040

00:43:44,160 --> 00:43:41,480

interloper like an asteroid that hit the

1041

00:43:46,180 --> 00:43:44,170

earth and that could explain the

1042

00:43:49,660 --> 00:43:46,190

eliminations of dinosaurs because that

1043

00:43:52,150 --> 00:43:49,670

happened at the Cretaceous and they used

1044

00:43:55,359 --> 00:43:52,160

to call tertiary not paleo gene the

1045

00:43:57,670 --> 00:43:55,369

Cretaceous Paleogene boundary 65 million

1046

00:44:00,120 --> 00:43:57,680

years ago that's when the asteroid hit

1047

00:44:02,440 --> 00:44:00,130

and destroyed the dinosaurs now

1048

00:44:04,030 --> 00:44:02,450

everybody has this illusion that the

1049

00:44:06,070 --> 00:44:04,040

dinosaurs were killed instantly by this

1050

00:44:06,540 --> 00:44:06,080

gigantic fireball that's not what

1051
00:44:09,280 --> 00:44:06,550
happened

1052
00:44:11,230 --> 00:44:09,290
in fact most of the dinosaurs that were

1053
00:44:12,700 --> 00:44:11,240
alive on the earth never even saw hit

1054
00:44:14,920 --> 00:44:12,710
and never even knew what happened all

1055
00:44:16,930 --> 00:44:14,930
they knew was that the sky just kept was

1056
00:44:19,599 --> 00:44:16,940
getting darker there was not a lot of

1057
00:44:22,210 --> 00:44:19,609
Sun and the plants are dying and then

1058
00:44:24,609 --> 00:44:22,220
those that ate plants a mio star and

1059
00:44:26,309 --> 00:44:24,619
those that ate the plant eaters starve

1060
00:44:28,109 --> 00:44:26,319
and that's what changed

1061
00:44:30,870 --> 00:44:28,119
took thousands of years for that effect

1062
00:44:33,449 --> 00:44:30,880
to occur so it was an instant yeah there

1063
00:44:34,650 --> 00:44:33,459

wasn't instant all the years yeah so I

1064

00:44:37,349 --> 00:44:34,660

was one of those people that thought it

1065

00:44:39,239 --> 00:44:37,359

was more along the instant yeah okay but

1066

00:44:42,660 --> 00:44:39,249

you're not alone and that's not nothing

1067

00:44:45,089 --> 00:44:42,670

to be you know to feel you know

1068

00:44:46,829 --> 00:44:45,099

uneducated about because it was actually

1069

00:44:47,969 --> 00:44:46,839

drummed into our heads the asteroid

1070

00:44:50,059 --> 00:44:47,979

killed the dinosaurs

1071

00:44:52,349 --> 00:44:50,069

yeah and so you think wow that was quick

1072

00:44:55,459 --> 00:44:52,359

you know but it wasn't I mean it was a

1073

00:44:56,640 --> 00:44:55,469

long time that was a long long you know

1074

00:44:59,459 --> 00:44:56,650

event

1075

00:45:02,069 --> 00:44:59,469

so would you speculate then with our

1076

00:45:04,380 --> 00:45:02,079

five or six extinction massive

1077

00:45:08,609 --> 00:45:04,390

extinction events is it five or five

1078

00:45:11,309 --> 00:45:08,619

yeah 5 would you expect that an alien

1079

00:45:12,660 --> 00:45:11,319

planet would have extinct extinction

1080

00:45:13,799 --> 00:45:12,670

events interesting you should ask that

1081

00:45:16,079 --> 00:45:13,809

because that's where I was going with

1082

00:45:17,489 --> 00:45:16,089

this and we talked about it you know

1083

00:45:20,130 --> 00:45:17,499

extinctions like that you know

1084

00:45:22,019 --> 00:45:20,140

Cretaceous Paleogene extinction than 65

1085

00:45:23,370 --> 00:45:22,029

million years asteroid hit basically

1086

00:45:27,989 --> 00:45:23,380

though that's the one they found off the

1087

00:45:30,660 --> 00:45:27,999

Yucatan you know Peninsula that that

1088

00:45:33,509 --> 00:45:30,670

event kindness is a recent one that we

1089

00:45:35,579 --> 00:45:33,519

could tell but it's one of four others

1090

00:45:37,859 --> 00:45:35,589

that occurred on the planet and there's

1091

00:45:39,870 --> 00:45:37,869

also another period of time on this

1092

00:45:42,239 --> 00:45:39,880

planet when the earth was a frozen

1093

00:45:44,789 --> 00:45:42,249

snowball it was called the snowball

1094

00:45:48,329 --> 00:45:44,799

earth and it actually was fully

1095

00:45:50,400 --> 00:45:48,339

glaciated everywhere everywhere 100% and

1096

00:45:53,729 --> 00:45:50,410

that you know how do we get out of that

1097

00:45:55,199 --> 00:45:53,739

well again the earth is very dynamic the

1098

00:45:57,689 --> 00:45:55,209

Sun is very dynamic this is when the Sun

1099

00:45:59,640 --> 00:45:57,699

was younger so there was a lot a lot of

1100

00:46:02,069 --> 00:45:59,650

changes going on and so the earth went

1101

00:46:03,539 --> 00:46:02,079

through this evolution of its own you

1102

00:46:07,789 --> 00:46:03,549

know and this is this what happened now

1103

00:46:10,499 --> 00:46:07,799

if we look at what would happen if say

1104

00:46:13,769 --> 00:46:10,509

all five of these extinctions did not

1105

00:46:16,949 --> 00:46:13,779

occur what if the great Permian dying in

1106

00:46:20,549 --> 00:46:16,959

the Permian era uh you know ninety-eight

1107

00:46:23,339 --> 00:46:20,559

percent of all organisms were killed

1108

00:46:28,170 --> 00:46:23,349

species and we have to care about saying

1109

00:46:31,049 --> 00:46:28,180

animals or just species and then that

1110

00:46:33,689 --> 00:46:31,059

left a hole in the evolutionary record

1111

00:46:35,640 --> 00:46:33,699

right the evolutionary possibilities now

1112

00:46:38,189 --> 00:46:35,650

opened up for more animals to fill in

1113

00:46:40,140 --> 00:46:38,199

and evolved from there when the

1114

00:46:42,510 --> 00:46:40,150

Cretaceous Paleogene event occurred and

1115

00:46:44,730 --> 00:46:42,520

asteroid hit you know way up there in

1116

00:46:48,260 --> 00:46:44,740

recent history which is 65 million years

1117

00:46:51,109 --> 00:46:48,270

ago to us that left a gigantic hole and

1118

00:46:55,260 --> 00:46:51,119

little tiny mammals the size of a shrew

1119

00:46:57,870 --> 00:46:55,270

were selected for success and they

1120

00:46:59,940 --> 00:46:57,880

blossom and that's it that that started

1121

00:47:03,079 --> 00:46:59,950

the whole next phase and then from all

1122

00:47:05,789 --> 00:47:03,089

those various animals that did survive

1123

00:47:08,549 --> 00:47:05,799

here come us now and we look this way

1124

00:47:10,109 --> 00:47:08,559

but if any one of those extinction

1125

00:47:13,289 --> 00:47:10,119

events on our planet didn't occur

1126
00:47:14,730 --> 00:47:13,299
exactly as it had we wouldn't be here

1127
00:47:17,010 --> 00:47:14,740
like this we would have been different

1128
00:47:18,720 --> 00:47:17,020
something would have been different it's

1129
00:47:22,319 --> 00:47:18,730
fun as heck to speculate about what that

1130
00:47:26,670 --> 00:47:22,329
might be okay and I say in my book which

1131
00:47:28,410 --> 00:47:26,680
I where I talk about this I say if if if

1132
00:47:29,519 --> 00:47:28,420
dinosaurs didn't die then perhaps we'd

1133
00:47:31,799 --> 00:47:29,529
be sitting here with yellow eyes

1134
00:47:34,349 --> 00:47:31,809
admiring our reptilian scales or

1135
00:47:36,089 --> 00:47:34,359
something I don't know you know but you

1136
00:47:38,190 --> 00:47:36,099
know and I mean there were a couple

1137
00:47:40,380 --> 00:47:38,200
dinosaurs that actually we're increasing

1138
00:47:43,970 --> 00:47:40,390

their brain capacity at a fairly high

1139

00:47:46,650 --> 00:47:43,980

rate right a lot of those you know those

1140

00:47:49,769 --> 00:47:46,660

dinosaurs was a couple that we're

1141

00:47:51,359 --> 00:47:49,779

actually really accelerating their their

1142

00:47:54,150 --> 00:47:51,369

brain capacity and that's how we measure

1143

00:47:56,099 --> 00:47:54,160

intelligence for us but you know it's

1144

00:47:57,539 --> 00:47:56,109

cranial capacity and the ability to you

1145

00:47:59,210 --> 00:47:57,549

know that the folds and convolutions in

1146

00:48:02,599 --> 00:47:59,220

the brain are thought to actually

1147

00:48:05,519 --> 00:48:02,609

contribute to intelligence and so forth

1148

00:48:07,140 --> 00:48:05,529

but you know dinosaur brains are very

1149

00:48:10,200 --> 00:48:07,150

small so the likelihood of them ever

1150

00:48:10,980 --> 00:48:10,210

becoming truly intelligent may not have

1151

00:48:15,480 --> 00:48:10,990

been there and you gotta remember

1152

00:48:18,960 --> 00:48:15,490

intelligence is not a destination it's

1153

00:48:20,849 --> 00:48:18,970

not an endpoint okay it's a journey and

1154

00:48:22,349 --> 00:48:20,859

you may never get there okay there's a

1155

00:48:24,690 --> 00:48:22,359

lot of branches that take you down dead

1156

00:48:27,210 --> 00:48:24,700

ends and what about dolphins for one

1157

00:48:30,329 --> 00:48:27,220

dolphins are very intelligent we're the

1158

00:48:32,339 --> 00:48:30,339

second most intelligent a mammal right

1159

00:48:34,200 --> 00:48:32,349

yeah and they have brains nearly our

1160

00:48:35,039 --> 00:48:34,210

size if not bigger actually but they

1161

00:48:37,740 --> 00:48:35,049

don't have thumbs

1162

00:48:39,750 --> 00:48:37,750

they don't have opposing alright now

1163

00:48:43,440 --> 00:48:39,760

let's think about that does that mean

1164

00:48:45,990 --> 00:48:43,450

that dolphins can't reason you know

1165

00:48:47,670 --> 00:48:46,000

because they don't have say I'm not talk

1166

00:48:50,370 --> 00:48:47,680

about the thumbs okay you don't need

1167

00:48:52,319 --> 00:48:50,380

thumbs to reason okay any thumbs go yay

1168

00:48:52,890 --> 00:48:52,329

you know but but you do need thumbs for

1169

00:48:55,049 --> 00:48:52,900

for grab

1170

00:48:57,359 --> 00:48:55,059

okay that's what primates do that's what

1171

00:49:00,440 --> 00:48:57,369

we do we're primates and so if you think

1172

00:49:04,319 --> 00:49:00,450

about the dolphin the dolphin is a sleek

1173

00:49:07,470 --> 00:49:04,329

creature that has nothing but flippers

1174

00:49:09,690 --> 00:49:07,480

those flippers on other animals other

1175

00:49:11,609 --> 00:49:09,700

species that develop differently onto

1176

00:49:15,809 --> 00:49:11,619

the land those flippers became stubs

1177

00:49:17,819 --> 00:49:15,819

those stubs became forearms okay and the

1178

00:49:22,049 --> 00:49:17,829

flippers evolved into tails and learnt

1179

00:49:24,450 --> 00:49:22,059

into legs you know and so in the other

1180

00:49:26,400 --> 00:49:24,460

the other fins so there's there's a lot

1181

00:49:29,190 --> 00:49:26,410

of ways that you see life can develop

1182

00:49:30,450 --> 00:49:29,200

and dolphins right now they're at

1183

00:49:32,970 --> 00:49:30,460

whatever point they are in their

1184

00:49:35,220 --> 00:49:32,980

evolution they're very intelligent

1185

00:49:36,980 --> 00:49:35,230

comparatively when you look at them with

1186

00:49:39,690 --> 00:49:36,990

other animals compared to other animals

1187

00:49:41,700 --> 00:49:39,700

but where they are is where they are

1188

00:49:43,470 --> 00:49:41,710

where will they be in a million years I

1189

00:49:46,829 --> 00:49:43,480

don't know will they be intelligent

1190

00:49:48,809 --> 00:49:46,839

maybe maybe not we don't know but again

1191

00:49:51,690 --> 00:49:48,819

you have to look at where they've been

1192

00:49:53,819 --> 00:49:51,700

and how they've increased there or how

1193

00:49:54,150 --> 00:49:53,829

they've changed over the years right

1194

00:49:56,730 --> 00:49:54,160

right

1195

00:50:00,120 --> 00:49:56,740

ah there's a there's a question in the

1196

00:50:04,229 --> 00:50:00,130

forum end let's see as astronomers are

1197

00:50:06,989 --> 00:50:04,239

discovering more and more exoplanets do

1198

00:50:09,180 --> 00:50:06,999

you think this will motivate scientists

1199

00:50:13,109 --> 00:50:09,190

to worry about re-evaluate methods of

1200

00:50:16,620 --> 00:50:13,119

searching for et life towards these

1201
00:50:18,450 --> 00:50:16,630
planets actually you know I think I

1202
00:50:22,829 --> 00:50:18,460
understand that question and I'll answer

1203
00:50:25,319 --> 00:50:22,839
it this way I used to be kind of

1204
00:50:27,749 --> 00:50:25,329
negative against the SETI program you

1205
00:50:30,839 --> 00:50:27,759
know now I saw stacks great easy

1206
00:50:33,630 --> 00:50:30,849
tremendous guy yeah and I thought the

1207
00:50:37,109 --> 00:50:33,640
program was a great program but I felt

1208
00:50:38,819 --> 00:50:37,119
like it was originally I felt like it

1209
00:50:40,019 --> 00:50:38,829
was short-sighted because you know

1210
00:50:41,759 --> 00:50:40,029
you're here you're looking at the

1211
00:50:44,130 --> 00:50:41,769
neutral hydrogen band in this 21

1212
00:50:45,989 --> 00:50:44,140
centimeter band okay and you're trying

1213
00:50:47,609 --> 00:50:45,999

to find somebody else that sees that

1214

00:50:49,289 --> 00:50:47,619

there's very little on that as well and

1215

00:50:52,170 --> 00:50:49,299

maybe a species somewhere in the

1216

00:50:55,769 --> 00:50:52,180

universe is using that to send messages

1217

00:50:56,940 --> 00:50:55,779

and to me I was like well those messages

1218

00:51:00,120 --> 00:50:56,950

would be coming at the speed of light

1219

00:51:03,479 --> 00:51:00,130

and it would take 21 years to go 21

1220

00:51:04,739 --> 00:51:03,489

light-years from a star and many stars

1221

00:51:06,810 --> 00:51:04,749

are tens of thousands of light years

1222

00:51:08,460 --> 00:51:06,820

away so

1223

00:51:10,860 --> 00:51:08,470

I didn't see the value until I started

1224

00:51:12,510 --> 00:51:10,870

to think about it and and and and this

1225

00:51:15,930 --> 00:51:12,520

is to the credit of Shah stack and the

1226
00:51:19,650 --> 00:51:15,940
team and other folks you know what we're

1227
00:51:23,340 --> 00:51:19,660
doing with you photography is doing with

1228
00:51:25,890 --> 00:51:23,350
CubeSat and what other people are doing

1229
00:51:28,500 --> 00:51:25,900
individually and seth shostack is doing

1230
00:51:30,720 --> 00:51:28,510
with SETI we need all those together

1231
00:51:34,560 --> 00:51:30,730
because we're trying to find a needle in

1232
00:51:37,170 --> 00:51:34,570
a haystack and that haystack might come

1233
00:51:39,390 --> 00:51:37,180
from somebody utilizing that 21

1234
00:51:42,270 --> 00:51:39,400
centimeter line and 21 centimeter band

1235
00:51:45,350 --> 00:51:42,280
we don't know so it would it's it's sort

1236
00:51:48,540 --> 00:51:45,360
of it was arrogant of me to even suggest

1237
00:51:51,300 --> 00:51:48,550
the people that szostak you know was

1238
00:51:53,040 --> 00:51:51,310

barking up the wrong tree because i've

1239

00:51:55,910 --> 00:51:53,050

actually in this is on my own i came to

1240

00:51:59,370 --> 00:51:55,920

this conclusion and happy to admit it i

1241

00:52:01,320 --> 00:51:59,380

felt over time that i was really too

1242

00:52:01,710 --> 00:52:01,330

hard on that program because we need it

1243

00:52:03,960 --> 00:52:01,720

all

1244

00:52:06,480 --> 00:52:03,970

we everyone has to be looking for life

1245

00:52:09,030 --> 00:52:06,490

in a variety of different ways and think

1246

00:52:12,030 --> 00:52:09,040

about it the variations in the

1247

00:52:16,140 --> 00:52:12,040

methodologies for how somebody might

1248

00:52:20,460 --> 00:52:16,150

communicate from another star by using

1249

00:52:24,270 --> 00:52:20,470

that that relatively empty band of

1250

00:52:26,850 --> 00:52:24,280

neutral hydrogen or by using

1251
00:52:28,860 --> 00:52:26,860
interdimensional travel and releasing

1252
00:52:32,580 --> 00:52:28,870
radiation that might be something we can

1253
00:52:34,080 --> 00:52:32,590
pick up with our system or seeing an

1254
00:52:36,030 --> 00:52:34,090
interloper into the atmosphere from

1255
00:52:39,420 --> 00:52:36,040
space on a space camera like paying

1256
00:52:41,850 --> 00:52:39,430
shocks in CubeSat so I think that we

1257
00:52:45,900 --> 00:52:41,860
need all of it together you know and and

1258
00:52:47,910 --> 00:52:45,910
most likely it'll be a little old lady

1259
00:52:50,760 --> 00:52:47,920
in Teaneck New Jersey who looks up and

1260
00:52:52,740 --> 00:52:50,770
says there he is and makes the big

1261
00:52:54,210 --> 00:52:52,750
discovery yeah but all I care about is

1262
00:52:55,890 --> 00:52:54,220
that we make the big discovery I don't

1263
00:52:57,890 --> 00:52:55,900

care who does it and I don't care how it

1264

00:53:00,090 --> 00:52:57,900

gets done I just want to see it happen

1265

00:53:02,250 --> 00:53:00,100

and I don't have any ego to bruise here

1266

00:53:05,010 --> 00:53:02,260

we just all have to work as a team yeah

1267

00:53:07,230 --> 00:53:05,020

so along though very much along those

1268

00:53:09,450 --> 00:53:07,240

lines so the second question from that

1269

00:53:12,080 --> 00:53:09,460

same person was what scientific

1270

00:53:16,260 --> 00:53:12,090

alternatives do you think are possible

1271

00:53:18,000 --> 00:53:16,270

to search for UT along the lines of what

1272

00:53:20,670 --> 00:53:18,010

said he does

1273

00:53:23,700 --> 00:53:20,680

oh well along the lines of a said he's

1274

00:53:25,140 --> 00:53:23,710

doing I I don't know but I cuz you know

1275

00:53:26,640 --> 00:53:25,150

there's there's really one band of

1276

00:53:28,920 --> 00:53:26,650

neutral hydrogen that's actually fairly

1277

00:53:33,020 --> 00:53:28,930

empty so there's not much more you can

1278

00:53:35,370 --> 00:53:33,030

do with that but I can tell you this

1279

00:53:37,200 --> 00:53:35,380

when the James Webb telescope goes up

1280

00:53:39,300 --> 00:53:37,210

next year we're going to have the

1281

00:53:41,730 --> 00:53:39,310

ability now to actually look at the

1282

00:53:44,000 --> 00:53:41,740

atmospheres of these exoplanets and

1283

00:53:46,530 --> 00:53:44,010

that's going to help us detect

1284

00:53:49,410 --> 00:53:46,540

components in those atmospheres so say

1285

00:53:50,790 --> 00:53:49,420

we want to Orsino atmosphere so say we

1286

00:53:53,160 --> 00:53:50,800

want to look at what the Trappist stars

1287

00:53:55,980 --> 00:53:53,170

trap is one the planets rather and we go

1288

00:54:00,690 --> 00:53:55,990

to the Trappist one star system and we

1289

00:54:03,000 --> 00:54:00,700

look at component F which is in the

1290

00:54:04,170 --> 00:54:03,010

smack dab in the middle of the habitable

1291

00:54:06,960 --> 00:54:04,180

zone according to the current

1292

00:54:10,170 --> 00:54:06,970

understanding and we see that it doesn't

1293

00:54:12,020 --> 00:54:10,180

even have an atmosphere should we look

1294

00:54:15,120 --> 00:54:12,030

at e the one that's closer to the star

1295

00:54:16,349 --> 00:54:15,130

or how about G it's just outside it but

1296

00:54:18,570 --> 00:54:16,359

all three are still in the habitable

1297

00:54:22,050 --> 00:54:18,580

zone you see it gives us clues not the

1298

00:54:25,200 --> 00:54:22,060

reason is the those types of stars also

1299

00:54:28,560 --> 00:54:25,210

have high amounts of ultraviolet

1300

00:54:29,940 --> 00:54:28,570

radiation and so and and stellar flares

1301

00:54:33,660 --> 00:54:29,950

that they give off then they're very

1302

00:54:34,410 --> 00:54:33,670

very powerful these stars are very

1303

00:54:36,150 --> 00:54:34,420

long-lived

1304

00:54:38,130 --> 00:54:36,160

they live trillions of years compared to

1305

00:54:39,330 --> 00:54:38,140

our billions of years for our star you

1306

00:54:40,859 --> 00:54:39,340

know five billion years compared to

1307

00:54:43,859 --> 00:54:40,869

thirty trillion that's kind of a long

1308

00:54:45,810 --> 00:54:43,869

time and it can sit out there and burn

1309

00:54:48,660 --> 00:54:45,820

very slowly over all those years these

1310

00:54:50,490 --> 00:54:48,670

m-type stars but they also have these

1311

00:54:52,980 --> 00:54:50,500

radiative radiative outbursts these

1312

00:54:54,840 --> 00:54:52,990

flares and if they don't have a magnetic

1313

00:54:56,340 --> 00:54:54,850

field they can trap them that they don't

1314

00:54:58,500 --> 00:54:56,350

have a strong magnetic field they can

1315

00:55:01,320 --> 00:54:58,510

trap those bursts and allow life to have

1316

00:55:03,240 --> 00:55:01,330

a chance to flourish then they little

1317

00:55:05,640 --> 00:55:03,250

render the surface sterile and will

1318

00:55:08,010 --> 00:55:05,650

strip the atmosphere away over time and

1319

00:55:10,620 --> 00:55:08,020

by overtime I don't mean 20 years I mean

1320

00:55:12,270 --> 00:55:10,630

you know 40 50 hundred million 200

1321

00:55:14,250 --> 00:55:12,280

million a billion then I kind of we're

1322

00:55:16,500 --> 00:55:14,260

talking a long term yeah so you know

1323

00:55:18,030 --> 00:55:16,510

there's there's there's the possibility

1324

00:55:20,160 --> 00:55:18,040

that the James Webb telescope is going

1325

00:55:22,740 --> 00:55:20,170

to allow us to have some or find some

1326

00:55:26,099 --> 00:55:22,750

targets that we think are really viable

1327

00:55:28,200 --> 00:55:26,109

you know and as you know as much as we

1328

00:55:29,280 --> 00:55:28,210

think they might be viable now we're

1329

00:55:30,390 --> 00:55:29,290

really not going to know until we can

1330

00:55:31,650 --> 00:55:30,400

tell whether they actually have an

1331

00:55:34,890 --> 00:55:31,660

atmosphere that's got ox

1332

00:55:36,690 --> 00:55:34,900

June water vapor industrial pollutants

1333

00:55:38,760 --> 00:55:36,700

from someone who's there or in their

1334

00:55:40,380 --> 00:55:38,770

Renaissance Age coal burning or whatever

1335

00:55:45,569 --> 00:55:40,390

I mean there's all kinds of stuff we can

1336

00:55:47,750 --> 00:55:45,579

look for so if we're at that point now

1337

00:55:50,430 --> 00:55:47,760

let's just say there's an advanced

1338

00:55:53,339 --> 00:55:50,440

civilization out there intelligent

1339

00:55:55,829 --> 00:55:53,349

civilization that could have been spying

1340

00:55:59,010 --> 00:55:55,839

on our planet millions of years ago

1341

00:56:00,630 --> 00:55:59,020

possibly right that's right because one

1342

00:56:02,430 --> 00:56:00,640

thing we found in there in the universe

1343

00:56:05,670 --> 00:56:02,440

is that there's a sliding window of

1344

00:56:09,539 --> 00:56:05,680

planetary formation now think about this

1345

00:56:16,319 --> 00:56:09,549

earth is 4.6 billion years old and the

1346

00:56:19,049 --> 00:56:16,329

universe is 14 billion years old Earth

1347

00:56:20,839 --> 00:56:19,059

came along fairly recently yeah okay the

1348

00:56:23,460 --> 00:56:20,849

universe has been kicking around for

1349

00:56:25,950 --> 00:56:23,470

what you know two-thirds beyond us you

1350

00:56:28,380 --> 00:56:25,960

know in its past so you know we only

1351

00:56:32,130 --> 00:56:28,390

came along relatively recently in terms

1352

00:56:33,660 --> 00:56:32,140

of the universe this means that any life

1353

00:56:36,240 --> 00:56:33,670

that's in the universe that could have

1354

00:56:37,950 --> 00:56:36,250

been advanced could have developed on a

1355

00:56:41,519 --> 00:56:37,960

planet that's long since been destroyed

1356

00:56:45,569 --> 00:56:41,529

and they moved on to other star systems

1357

00:56:47,579 --> 00:56:45,579

maybe were seedlings from those folks we

1358

00:56:49,079 --> 00:56:47,589

don't know it seems very much like we

1359

00:56:52,170 --> 00:56:49,089

evolved here though I mean we have a

1360

00:56:54,660 --> 00:56:52,180

pretty pretty good history a pretty good

1361

00:56:59,069 --> 00:56:54,670

understanding of where we came from in

1362

00:57:02,339 --> 00:56:59,079

terms of origins and I think it's

1363

00:57:05,670 --> 00:57:02,349

possible that you know we were seated

1364

00:57:08,609 --> 00:57:05,680

but very very distant for me but if you

1365

00:57:11,279 --> 00:57:08,619

think about it you know our our place in

1366

00:57:13,710 --> 00:57:11,289

the universe is not really all that

1367

00:57:15,599 --> 00:57:13,720

unique there's a lot of planets out

1368

00:57:20,700 --> 00:57:15,609

there there's a lot of planets in the

1369

00:57:22,980 --> 00:57:20,710

habitable zone now some of the early

1370

00:57:24,329 --> 00:57:22,990

work indicated that it was kind of a

1371

00:57:26,279 --> 00:57:24,339

bleak outlook and that you to remember

1372

00:57:29,039 --> 00:57:26,289

the Drake Equation with Frank when Frank

1373

00:57:31,769 --> 00:57:29,049

drafted this equation he found that

1374

00:57:34,470 --> 00:57:31,779

there might only be a tiny handful zero

1375

00:57:37,019 --> 00:57:34,480

the one even of intelligent species in

1376

00:57:41,010 --> 00:57:37,029

the universe but then again he was going

1377

00:57:44,370 --> 00:57:41,020

at the time with what he knew one viable

1378

00:57:45,300 --> 00:57:44,380

planet it's us right and that's that's

1379

00:57:47,160 --> 00:57:45,310

um you know

1380

00:57:50,250 --> 00:57:47,170

Sciences hallmark you know it it's

1381

00:57:52,950 --> 00:57:50,260

really you know it's really kind of

1382

00:57:54,960 --> 00:57:52,960

pessimistic a lot of times but and I

1383

00:57:56,970 --> 00:57:54,970

never was and and when I was getting my

1384

00:57:58,200 --> 00:57:56,980

astronomy degree I remember saying to

1385

00:57:59,940 --> 00:57:58,210

one that I said to the head of the

1386

00:58:04,440 --> 00:57:59,950

department in astronomy at my university

1387

00:58:06,960 --> 00:58:04,450

I said to him I said you know I really

1388

00:58:09,000 --> 00:58:06,970

believe that the universe is full of

1389

00:58:09,270 --> 00:58:09,010

life I think there's a lot of life out

1390

00:58:10,980 --> 00:58:09,280

there

1391

00:58:14,550 --> 00:58:10,990

I said maybe that necessarily

1392

00:58:16,260 --> 00:58:14,560

intelligent life but you know I also

1393

00:58:17,820 --> 00:58:16,270

here yeah right right right

1394

00:58:21,120 --> 00:58:17,830

beam me up Scotty - no intelligent life

1395

00:58:23,010 --> 00:58:21,130

here but yeah and but I said I don't I

1396

00:58:24,150 --> 00:58:23,020

don't think the universe is there's a

1397

00:58:27,000 --> 00:58:24,160

dearth of life I think it's very

1398

00:58:28,710 --> 00:58:27,010

populous I think it's a real populated

1399

00:58:30,420 --> 00:58:28,720

universe and that eventually became the

1400

00:58:33,030 --> 00:58:30,430

title my book the populated universe and

1401

00:58:36,090 --> 00:58:33,040

I said it because I really felt that and

1402

00:58:38,070 --> 00:58:36,100

he looked at me in typical typical

1403

00:58:40,800 --> 00:58:38,080

science right he just pulled up his

1404

00:58:42,720 --> 00:58:40,810

suspenders he said uh mr. Dantonio get

1405

00:58:45,240 --> 00:58:42,730

back in the observatory leave Captain

1406

00:58:46,890 --> 00:58:45,250

Kirk to us and that was that I've said

1407

00:58:49,140 --> 00:58:46,900

that a million times I know but but

1408

00:58:52,560 --> 00:58:49,150

that's what happened and so you know I

1409

00:58:53,880 --> 00:58:52,570

think that seeing seeing what's

1410

00:58:57,510 --> 00:58:53,890

happening in our evolution of

1411

00:59:01,740 --> 00:58:57,520

understanding of exoplanets we have as

1412

00:59:02,910 --> 00:59:01,750

many as or well the high number the high

1413

00:59:05,670 --> 00:59:02,920

end if there's four hundred billion

1414

00:59:07,560 --> 00:59:05,680

stars in our galaxy there's between 100

1415

00:59:08,610 --> 00:59:07,570

and 400 billion stars in our galaxy we

1416

00:59:11,490 --> 00:59:08,620

can't even count them yet

1417

00:59:12,480 --> 00:59:11,500

I mean how far along are we right we

1418

00:59:16,170 --> 00:59:12,490

can't even count the stars in our galaxy

1419

00:59:19,380 --> 00:59:16,180

really reliably but it looks like 10% of

1420

00:59:22,590 --> 00:59:19,390

a galaxy's population has habitable

1421

00:59:24,920 --> 00:59:22,600

planets earth habitable planets and that

1422

00:59:28,950 --> 00:59:24,930

doesn't even talk about life not like us

1423

00:59:31,500 --> 00:59:28,960

okay so but 10% so maybe 10 to 40

1424

00:59:33,510 --> 00:59:31,510

billion I mean that's you know so I want

1425

00:59:35,610 --> 00:59:33,520

to point out that we always forget about

1426

00:59:38,790 --> 00:59:35,620

moons you know and moons could be

1427

00:59:41,240 --> 00:59:38,800

habitable - yes exactly and in our own

1428

00:59:43,730 --> 00:59:41,250

solar system you know you saw the latest

1429

00:59:45,750 --> 00:59:43,740

information on Saturn's moon Enceladus

1430

00:59:48,450 --> 00:59:45,760

that's only three hundred miles across

1431

00:59:50,690 --> 00:59:48,460

that moon however it looks like it has

1432

00:59:53,010 --> 00:59:50,700

hydrothermal vents beneath its surface

1433

00:59:54,750 --> 00:59:53,020

where you heard those before you heard

1434

00:59:56,190 --> 00:59:54,760

them before here on earth they're off

1435

00:59:59,190 --> 00:59:56,200

the Juan de Fuca Ridge off Oregon's

1436

01:00:00,960 --> 00:59:59,200

coast 3,000 meters down in the ocean

1437

01:00:03,120 --> 01:00:00,970

there are these harder for hydrothermal

1438

01:00:06,780 --> 01:00:03,130

vents there they're spewing hydrogen

1439

01:00:09,359 --> 01:00:06,790

sulfide and there's these sulfide eating

1440

01:00:12,480 --> 01:00:09,369

bacteria that were there now where do

1441

01:00:14,789 --> 01:00:12,490

they come from we don't know but they're

1442

01:00:17,549 --> 01:00:14,799

a food source and they start a food

1443

01:00:21,299 --> 01:00:17,559

source for Allah endless chain of other

1444

01:00:23,609 --> 01:00:21,309

animals shrimp clams - worms all these

1445

01:00:25,349 --> 01:00:23,619

other creatures okay microscopic

1446

01:00:27,450 --> 01:00:25,359

plankton guys are not plankton of

1447

01:00:30,539 --> 01:00:27,460

microscopic organisms that eat this

1448

01:00:33,630 --> 01:00:30,549

sulfide all right and these bacteria are

1449

01:00:35,910 --> 01:00:33,640

very prolific they're very the bounty is

1450

01:00:37,829 --> 01:00:35,920

huge and it's a harvest for these

1451

01:00:39,089 --> 01:00:37,839

creatures living around the vents

1452

01:00:41,010 --> 01:00:39,099

many of them are filter feeders

1453

01:00:44,339 --> 01:00:41,020

filtering out these bacteria and they

1454

01:00:46,799 --> 01:00:44,349

they're sustained now on Enceladus we

1455

01:00:49,140 --> 01:00:46,809

have the same thing we see hydrogen and

1456

01:00:51,180 --> 01:00:49,150

carbon dioxide in the geyser streams

1457

01:00:53,039 --> 01:00:51,190

that are coming off of and selleth all

1458

01:00:56,670 --> 01:00:53,049

right what does that mean that means

1459

01:00:58,740 --> 01:00:56,680

that methane might be able to be made in

1460

01:01:01,140 --> 01:00:58,750

the bottom of those hydrothermal vent

1461

01:01:04,440 --> 01:01:01,150

oceans under Enceladus if methane is

1462

01:01:06,839 --> 01:01:04,450

available then methane means that we

1463

01:01:08,520 --> 01:01:06,849

might have methanogens bacteria that

1464

01:01:10,920 --> 01:01:08,530

love methane and they might be eating

1465

01:01:13,020 --> 01:01:10,930

this so that's why it's so exciting

1466

01:01:15,270 --> 01:01:13,030

Europa's the same way you know we don't

1467

01:01:18,030 --> 01:01:15,280

have we never probe fly through a geyser

1468

01:01:21,299 --> 01:01:18,040

stream on Europa yet but uh you know

1469

01:01:22,680 --> 01:01:21,309

we're looking yeah yeah this came to the

1470

01:01:23,780 --> 01:01:22,690

chat room and I addressed it earlier

1471

01:01:26,640 --> 01:01:23,790

when we talked a little bit about

1472

01:01:28,559 --> 01:01:26,650

gravity I the question I had asked you

1473

01:01:31,500 --> 01:01:28,569

was sub what difference would it make in

1474

01:01:33,690 --> 01:01:31,510

evolution if a planet had much more

1475

01:01:35,430 --> 01:01:33,700

gravity but Belinda in the chat room

1476

01:01:38,099 --> 01:01:35,440

asked what are your thoughts of the

1477

01:01:42,089 --> 01:01:38,109

impact of gravity on life evolution of

1478

01:01:43,680 --> 01:01:42,099

the species in the universe well gravity

1479

01:01:46,349 --> 01:01:43,690

is a fundamental force in the universe

1480

01:01:47,789 --> 01:01:46,359

now we call it a weak force but you

1481

01:01:49,890 --> 01:01:47,799

gotta say well wait it's weak you mean

1482

01:01:51,359 --> 01:01:49,900

the Sun has gravity is holding Pluto all

1483

01:01:54,599 --> 01:01:51,369

those billions of miles away it's like

1484

01:01:59,900 --> 01:01:54,609

true but gravity is considered a weak

1485

01:02:03,270 --> 01:01:59,910

force right and but it's everywhere

1486

01:02:04,799 --> 01:02:03,280

anything with mass will have a specific

1487

01:02:05,370 --> 01:02:04,809

amount of gravity you have gravity

1488

01:02:08,130 --> 01:02:05,380

Belinda

1489

01:02:12,690 --> 01:02:08,140

okay you actually have gravity all right

1490

01:02:13,470 --> 01:02:12,700

and some people have more gravity than

1491

01:02:16,290 --> 01:02:13,480

others

1492

01:02:19,130 --> 01:02:16,300

okay depending on their mass but every

1493

01:02:20,880 --> 01:02:19,140

object has met as gravity as well and

1494

01:02:24,390 --> 01:02:20,890

technically if you want to be accurate

1495

01:02:27,120 --> 01:02:24,400

about it when you drop say a lead weight

1496

01:02:27,920 --> 01:02:27,130

and it drops onto the ground and hits

1497

01:02:32,280 --> 01:02:27,930

the ground

1498

01:02:33,450 --> 01:02:32,290

technically the lead weight fell okay

1499

01:02:35,550 --> 01:02:33,460

because it was being pulled by Earth's

1500

01:02:37,200 --> 01:02:35,560

gravity but technically the earth has

1501

01:02:41,130 --> 01:02:37,210

also moved up to meet it just a little

1502

01:02:43,170 --> 01:02:41,140

bit because of that interaction now it's

1503

01:02:45,900 --> 01:02:43,180

not like that's something that you can

1504

01:02:48,480 --> 01:02:45,910

show in a laboratory experiment because

1505

01:02:52,770 --> 01:02:48,490

the effect is extremely small obviously

1506

01:02:58,470 --> 01:02:52,780

but classically it's it's a true

1507

01:03:00,599 --> 01:02:58,480

statement now gravity is required for

1508

01:03:03,329 --> 01:03:00,609

instance on a when a planet has mass or

1509

01:03:06,210 --> 01:03:03,339

a forming planet is being created out of

1510

01:03:08,400 --> 01:03:06,220

gas and dust it coalesce

1511

01:03:10,710 --> 01:03:08,410

into a sphere and that begins to

1512

01:03:13,620 --> 01:03:10,720

compress because of gravity that

1513

01:03:16,800 --> 01:03:13,630

compression forms the planet that planet

1514

01:03:18,620 --> 01:03:16,810

that gets formed all right can hold down

1515

01:03:21,180 --> 01:03:18,630

an atmosphere if volcanoes are on it

1516

01:03:23,910 --> 01:03:21,190

because the planet has gravity holding

1517

01:03:25,800 --> 01:03:23,920

the atoms of the atmosphere down to the

1518

01:03:27,839 --> 01:03:25,810

planet otherwise it would just fly away

1519

01:03:30,870 --> 01:03:27,849

that would be you know nothing without

1520

01:03:34,290 --> 01:03:30,880

any kind of atmosphere no life that we

1521

01:03:37,440 --> 01:03:34,300

know can evolve especially an

1522

01:03:39,870 --> 01:03:37,450

intelligent life that we know of um and

1523

01:03:41,520 --> 01:03:39,880

yes so those are you listening there

1524

01:03:43,620 --> 01:03:41,530

there were microbes found on the outside

1525

01:03:46,410 --> 01:03:43,630

of the International Space Station so we

1526

01:03:48,809 --> 01:03:46,420

know that some life can exist at least

1527

01:03:51,450 --> 01:03:48,819

for some period of time in that kind of

1528

01:03:53,069 --> 01:03:51,460

environment but no life we know that

1529

01:03:54,950 --> 01:03:53,079

reach intelligence could actually

1530

01:03:57,510 --> 01:03:54,960

develop without an atmosphere

1531

01:04:00,300 --> 01:03:57,520

atmospheres are held to the planet with

1532

01:04:03,180 --> 01:04:00,310

gravity so without gravity we wouldn't

1533

01:04:04,589 --> 01:04:03,190

have stars we wouldn't have any of the

1534

01:04:07,609 --> 01:04:04,599

objects in the universe that we're so

1535

01:04:10,200 --> 01:04:07,619

used to seeing right right now you had

1536

01:04:15,270 --> 01:04:10,210

you had some questions that you posted

1537

01:04:16,859 --> 01:04:15,280

on Facebook along this line and can you

1538

01:04:19,079 --> 01:04:16,869

just look at this real quickly and pick

1539

01:04:24,930 --> 01:04:19,089

one of those and read it out loud and

1540

01:04:26,550 --> 01:04:24,940

then address address it please yeah I'm

1541

01:04:26,940 --> 01:04:26,560

making you do all the work right now I'm

1542

01:04:32,280 --> 01:04:26,950

Annette

1543

01:04:34,890 --> 01:04:32,290

okay uh yeah no yeah here's a question

1544

01:04:36,599 --> 01:04:34,900

now I Brent I had a couple of them but I

1545

01:04:38,849 --> 01:04:36,609

I said these are some of the things we

1546

01:04:40,260 --> 01:04:38,859

would talk about we I asked you know

1547

01:04:41,819 --> 01:04:40,270

what if dinosaurs were never wiped out

1548

01:04:43,680 --> 01:04:41,829

on earth what might we just be

1549

01:04:46,890 --> 01:04:43,690

intelligent reptiles well that's

1550

01:04:48,780 --> 01:04:46,900

possible okay but we don't know how

1551

01:04:51,810 --> 01:04:48,790

intelligence works we only know that

1552

01:04:54,270 --> 01:04:51,820

we've achieved it we don't know anything

1553

01:04:55,980 --> 01:04:54,280

about we just observe we don't actually

1554

01:04:57,720 --> 01:04:55,990

know the mechanism by which until by

1555

01:04:59,190 --> 01:04:57,730

which intelligence occurs doesn't it

1556

01:05:04,859 --> 01:04:59,200

doesn't have something to do with diet

1557

01:05:06,530 --> 01:05:04,869

though diet yes I the the brain of the

1558

01:05:09,900 --> 01:05:06,540

growth of the brain had to do with

1559

01:05:11,579 --> 01:05:09,910

getting the right uh more nutrition yeah

1560

01:05:14,640 --> 01:05:11,589

okay you know what you said then I'm

1561

01:05:15,720 --> 01:05:14,650

thinking diet right that so don't say oh

1562

01:05:19,800 --> 01:05:15,730

of course duh

1563

01:05:23,069 --> 01:05:19,810

yeah that the the nurturing of the body

1564

01:05:25,140 --> 01:05:23,079

obviously makes a big difference and uh

1565

01:05:28,349 --> 01:05:25,150

at a microscopic level we live a

1566

01:05:30,660 --> 01:05:28,359

singular life that is nurtured or not

1567

01:05:33,290 --> 01:05:30,670

nurtured depending on how well or poorly

1568

01:05:38,280 --> 01:05:33,300

we take care of ourselves right but on a

1569

01:05:40,650 --> 01:05:38,290

larger scale one individual procreates

1570

01:05:43,920 --> 01:05:40,660

create creates more individuals if those

1571

01:05:47,520 --> 01:05:43,930

individuals maintain a healthy lifestyle

1572

01:05:50,450 --> 01:05:47,530

they will be naturally selected by

1573

01:05:54,089 --> 01:05:50,460

evolution to continue so that means

1574

01:05:56,069 --> 01:05:54,099

progress in all likelihood so they could

1575

01:06:01,980 --> 01:05:56,079

progress and and so you really have to

1576

01:06:05,250 --> 01:06:01,990

consider that those organisms that risk

1577

01:06:08,010 --> 01:06:05,260

their lives all the time just because

1578

01:06:10,530 --> 01:06:08,020

that's how the organism is those

1579

01:06:12,900 --> 01:06:10,540

organisms probably won't last long in

1580

01:06:14,790 --> 01:06:12,910

the evolutionary chain we see those

1581

01:06:18,059 --> 01:06:14,800

organisms every day and on earth we see

1582

01:06:20,190 --> 01:06:18,069

orgas organisms like that now okay

1583

01:06:21,510 --> 01:06:20,200

there's birds that have very very like

1584

01:06:25,349 --> 01:06:21,520

hummingbirds they have very very high

1585

01:06:28,170 --> 01:06:25,359

metabolic rates okay and they're

1586

01:06:30,420 --> 01:06:28,180

naturally selected to have these these

1587

01:06:33,569 --> 01:06:30,430

beaks which dip down into the flower and

1588

01:06:36,990 --> 01:06:33,579

pull out the sugary sugary nectar okay

1589

01:06:39,210 --> 01:06:37,000

but are they going to be a long-term

1590

01:06:40,810 --> 01:06:39,220

life form on this planet they might have

1591

01:06:43,690 --> 01:06:40,820

there might be a transitional life

1592

01:06:44,890 --> 01:06:43,700

from one thing to the next and that's

1593

01:06:47,080 --> 01:06:44,900

the problem we don't know that yet

1594

01:06:49,710 --> 01:06:47,090

because we can't see the future we don't

1595

01:06:52,480 --> 01:06:49,720

see where they're going we can suspect

1596

01:06:56,050 --> 01:06:52,490

and you know there's other animals that

1597

01:06:59,380 --> 01:06:56,060

we see that have gone extinct yet you

1598

01:07:01,720 --> 01:06:59,390

don't think they should have liked the

1599

01:07:05,050 --> 01:07:01,730

woolly mammoth it was big it was

1600

01:07:07,150 --> 01:07:05,060

ponderous but had a lot of food and it

1601

01:07:08,890 --> 01:07:07,160

seemed to be surviving why did it go

1602

01:07:10,630 --> 01:07:08,900

extinct they weren't all hunted to

1603

01:07:12,370 --> 01:07:10,640

extinction it wasn't that there weren't

1604

01:07:12,850 --> 01:07:12,380

enough human beings to hunt them to

1605

01:07:15,700 --> 01:07:12,860

extinction

1606

01:07:18,040 --> 01:07:15,710

they were very plentiful no animal so

1607

01:07:20,470 --> 01:07:18,050

why did they die why they died out we

1608

01:07:24,360 --> 01:07:20,480

don't know not really okay we have

1609

01:07:28,810 --> 01:07:24,370

theories why what will happen to humans

1610

01:07:32,260 --> 01:07:28,820

now as if our if we for instance start

1611

01:07:34,570 --> 01:07:32,270

to abuse our planet worse okay and I'm

1612

01:07:37,750 --> 01:07:34,580

not one of these ones that says that you

1613

01:07:39,580 --> 01:07:37,760

know I'm not a climate change denier I

1614

01:07:44,230 --> 01:07:39,590

mean obviously the clients climate is

1615

01:07:47,680 --> 01:07:44,240

changing okay but I also understand from

1616

01:07:49,480 --> 01:07:47,690

my background that a lot of that change

1617

01:07:52,660 --> 01:07:49,490

is occurring naturally because of the

1618

01:07:54,250 --> 01:07:52,670

Sun changing weather patterns and the

1619

01:07:56,110 --> 01:07:54,260

way the earth is changing on its own

1620

01:07:59,140 --> 01:07:56,120

because the earth you know isn't just

1621

01:08:01,990 --> 01:07:59,150

static it doesn't sit still the earth is

1622

01:08:07,600 --> 01:08:02,000

changing right before us it's changing

1623

01:08:10,210 --> 01:08:07,610

its dynamic so you know when when when

1624

01:08:12,820 --> 01:08:10,220

the when the ISS thrilled over a certain

1625

01:08:14,200 --> 01:08:12,830

part of the earth the astronauts are

1626

01:08:17,079 --> 01:08:14,210

actually subject to higher levels of

1627

01:08:22,270 --> 01:08:17,089

radiation because the changing Van Allen

1628

01:08:24,010 --> 01:08:22,280

radiation belts can be caused to dip

1629

01:08:26,530 --> 01:08:24,020

down kind of near the tops of our

1630

01:08:28,660 --> 01:08:26,540

atmosphere and then go back out into

1631

01:08:30,070 --> 01:08:28,670

space it depends on the energy of the

1632

01:08:33,300 --> 01:08:30,080

particles that are reaching them and

1633

01:08:36,460 --> 01:08:33,310

this problem is something that we face

1634

01:08:38,370 --> 01:08:36,470

now if you look at a compass there's

1635

01:08:41,380 --> 01:08:38,380

another one you look at a compass it

1636

01:08:43,180 --> 01:08:41,390

doesn't point directly to the north all

1637

01:08:45,579 --> 01:08:43,190

the time depending on where you are on

1638

01:08:47,140 --> 01:08:45,589

the earth your compass can actually

1639

01:08:50,020 --> 01:08:47,150

point due west when it thinks it's

1640

01:08:53,289 --> 01:08:50,030

pointing north and that's because the

1641

01:08:54,810 --> 01:08:53,299

magnetic field lines are distorted by

1642

01:08:56,490 --> 01:08:54,820

the local geology

1643

01:08:59,280 --> 01:08:56,500

and by other things that going on so

1644

01:09:02,460 --> 01:08:59,290

what that means is the earth is changing

1645

01:09:04,620 --> 01:09:02,470

now people say well you know we're

1646

01:09:05,790 --> 01:09:04,630

waiting for this big pole shift and you

1647

01:09:07,850 --> 01:09:05,800

know birds are going to drop out of the

1648

01:09:12,030 --> 01:09:07,860

sky planes are going to lose their GPS

1649

01:09:13,770 --> 01:09:12,040

it would if that happened overnight but

1650

01:09:15,750 --> 01:09:13,780

I put it to you that perhaps we're in

1651
01:09:17,220 --> 01:09:15,760
the middle of a pole shift and have been

1652
01:09:19,980 --> 01:09:17,230
for thousands of years because that's

1653
01:09:23,040 --> 01:09:19,990
how long it takes you know so maybe

1654
01:09:25,160 --> 01:09:23,050
we're seeing a change and it doesn't

1655
01:09:27,420 --> 01:09:25,170
spell catastrophe we've been through it

1656
01:09:28,650 --> 01:09:27,430
hundreds of times if you look in the

1657
01:09:30,540 --> 01:09:28,660
fossil record especially at the

1658
01:09:33,510 --> 01:09:30,550
mid-atlantic spreading Ridge you look at

1659
01:09:34,950 --> 01:09:33,520
the particles the iron and you can see

1660
01:09:37,200 --> 01:09:34,960
the magnetic structure you can see the

1661
01:09:38,670 --> 01:09:37,210
actual crystal crystalline structure you

1662
01:09:40,290 --> 01:09:38,680
see that they're going in one way and

1663
01:09:41,640 --> 01:09:40,300

then a little a little bit later they're

1664

01:09:44,340 --> 01:09:41,650

going another way then another way they

1665

01:09:46,920 --> 01:09:44,350

may flip 180 degrees hundreds of times

1666

01:09:49,560 --> 01:09:46,930

that means the poles shift at that North

1667

01:09:51,060 --> 01:09:49,570

and South Pole the the notion of a North

1668

01:09:52,470 --> 01:09:51,070

and South Pole not the whole earth

1669

01:09:55,370 --> 01:09:52,480

flipping upside down that's not what

1670

01:09:58,560 --> 01:09:55,380

this is it's the magnetic field changing

1671

01:10:01,290 --> 01:09:58,570

that's happened before and maybe it's

1672

01:10:04,050 --> 01:10:01,300

happening again well life forms survive

1673

01:10:07,290 --> 01:10:04,060

that because it's so slow life forms had

1674

01:10:11,220 --> 01:10:07,300

time to adapt and that's the key adapt

1675

01:10:13,970 --> 01:10:11,230

or perish right right uh you know it's

1676

01:10:18,780 --> 01:10:13,980

it's so hard to wrap your brain around

1677

01:10:21,240 --> 01:10:18,790

like the time things take for like say

1678

01:10:23,250 --> 01:10:21,250

for instance any type of evolution but

1679

01:10:27,030 --> 01:10:23,260

as far as you know has there ever been

1680

01:10:30,740 --> 01:10:27,040

anything recorded in human history that

1681

01:10:32,570 --> 01:10:30,750

they've seen an evolution of a species

1682

01:10:37,110 --> 01:10:32,580

happening

1683

01:10:40,680 --> 01:10:37,120

well um sort of I mean yes I mean that

1684

01:10:44,000 --> 01:10:40,690

that's not untrue I mean anytime that

1685

01:10:47,430 --> 01:10:44,010

you know you you find a species of

1686

01:10:52,700 --> 01:10:47,440

animal that or insect that becomes

1687

01:10:57,210 --> 01:10:52,710

resilient to a to a particular pesticide

1688

01:10:59,400 --> 01:10:57,220

that's a mutation and it's mutation that

1689

01:11:01,560 --> 01:10:59,410

causes you know evolution it's this

1690

01:11:03,540 --> 01:11:01,570

mutation is the core of it it's a

1691

01:11:06,450 --> 01:11:03,550

mutation followed by an adaptation if

1692

01:11:08,550 --> 01:11:06,460

that mutation that say this insect

1693

01:11:11,040 --> 01:11:08,560

develops a mosquito develops an immunity

1694

01:11:13,230 --> 01:11:11,050

or or and this has happened you know the

1695

01:11:15,840 --> 01:11:13,240

a mosquito develops an immunity to a

1696

01:11:19,260 --> 01:11:15,850

certain pesticide well that means that

1697

01:11:21,660 --> 01:11:19,270

as that as that mosquito lives its life

1698

01:11:23,190 --> 01:11:21,670

it procreates it makes more of the same

1699

01:11:27,240 --> 01:11:23,200

mosquito they're resistant to pesticides

1700

01:11:29,760 --> 01:11:27,250

I say and ones that aren't die and this

1701

01:11:31,170 --> 01:11:29,770

one becomes selected to be the species

1702

01:11:34,080 --> 01:11:31,180

that's dominant and so little by little

1703

01:11:36,360 --> 01:11:34,090

they grow down that path and it makes it

1704

01:11:39,330 --> 01:11:36,370

another path an evolutionary pathway and

1705

01:11:41,190 --> 01:11:39,340

so that's a small example but that's we

1706

01:11:42,420 --> 01:11:41,200

see that a lot yeah no I mean we see

1707

01:11:45,510 --> 01:11:42,430

that in the animal kingdom you see that

1708

01:11:50,190 --> 01:11:45,520

here in insects you know and and so and

1709

01:11:51,900 --> 01:11:50,200

again it's mutation and adaptation you

1710

01:11:54,480 --> 01:11:51,910

know and if that adaptation that the

1711

01:11:58,440 --> 01:11:54,490

creature create you know has developed

1712

01:12:02,790 --> 01:11:58,450

is beneficial to its survival and

1713

01:12:04,890 --> 01:12:02,800

promotes its survival then it is going

1714

01:12:07,380 --> 01:12:04,900

to continue and that's what natural

1715

01:12:08,820 --> 01:12:07,390

selection is and that's that's that's

1716

01:12:10,950 --> 01:12:08,830

how we came to be you know we ever

1717

01:12:12,630 --> 01:12:10,960

naturally selected to be the species I

1718

01:12:15,540 --> 01:12:12,640

don't know how okay because we're kind

1719

01:12:17,790 --> 01:12:15,550

of frail okay we can't get in a fight

1720

01:12:20,730 --> 01:12:17,800

with a chimp and win even the smallest

1721

01:12:22,560 --> 01:12:20,740

ones in a very powerful creature yeah so

1722

01:12:26,910 --> 01:12:22,570

you know but still in that that's the

1723

01:12:29,970 --> 01:12:26,920

point right now so if anyone that's in

1724

01:12:34,050 --> 01:12:29,980

the listening live would like to join in

1725

01:12:35,580 --> 01:12:34,060

the Google Hangouts just just case

1726

01:12:38,820 --> 01:12:35,590

helping out in the chatroom if you want

1727

01:12:42,540 --> 01:12:38,830

to just put your Gmail address in the

1728

01:12:44,940 --> 01:12:42,550

chat and K will forward that to me and

1729

01:12:48,030 --> 01:12:44,950

we'll connect you that's if anyone wants

1730

01:12:51,030 --> 01:12:48,040

to I would almost dare to take a phone

1731

01:12:52,650 --> 01:12:51,040

call but I'm just not sure if the skype

1732

01:12:54,780 --> 01:12:52,660

will work through the Google hangout so

1733

01:12:57,480 --> 01:12:54,790

if someone wants to join in the Hangout

1734

01:13:00,000 --> 01:12:57,490

just go ahead and post in the chatroom

1735

01:13:01,220 --> 01:13:00,010

your gmail address and we'll get you

1736

01:13:04,890 --> 01:13:01,230

connected we'll send you out a

1737

01:13:06,960 --> 01:13:04,900

invitation here there's one more

1738

01:13:10,230 --> 01:13:06,970

question in the form of that Kerry

1739

01:13:12,510 --> 01:13:10,240

Senate we're always more interested in

1740

01:13:16,380 --> 01:13:12,520

finding life with similarities to our

1741

01:13:19,860 --> 01:13:16,390

own human needs by searching for planets

1742

01:13:22,320 --> 01:13:19,870

in the so-called Goldilocks zone do you

1743

01:13:25,350 --> 01:13:22,330

consider this a mistake as

1744

01:13:28,730 --> 01:13:25,360

t life-forms probably have completely

1745

01:13:31,260 --> 01:13:28,740

different characteristics and humans

1746

01:13:34,590 --> 01:13:31,270

absolutely I don't think that we can

1747

01:13:38,820 --> 01:13:34,600

expect an alien life-form even if one

1748

01:13:43,080 --> 01:13:38,830

reaches intelligence to be remotely like

1749

01:13:47,820 --> 01:13:43,090

us but I will say this every animal on

1750

01:13:51,420 --> 01:13:47,830

earth has symmetry okay every animal on

1751

01:13:53,940 --> 01:13:51,430

earth that's a quadruped ed you know has

1752

01:13:56,790 --> 01:13:53,950

four legs and hind legs well so the week

1753

01:13:59,520 --> 01:13:56,800

we have arms and we have legs we have

1754

01:14:01,650 --> 01:13:59,530

two eyes almost every animal on earth

1755

01:14:02,910 --> 01:14:01,660

has two eyes if they have eyes except

1756

01:14:06,630 --> 01:14:02,920

for the cave dwellers in the deep ocean

1757

01:14:08,750 --> 01:14:06,640

dwellers so that symmetry that I'm

1758

01:14:12,090 --> 01:14:08,760

talking about that is something that

1759

01:14:13,620 --> 01:14:12,100

happened by itself across thousands

1760

01:14:16,590 --> 01:14:13,630

hundreds of thousands of other species

1761

01:14:18,990 --> 01:14:16,600

right here on this planet so maybe at

1762

01:14:20,490 --> 01:14:19,000

the very least that symmetry is

1763

01:14:23,150 --> 01:14:20,500

something that's propagated through the

1764

01:14:26,160 --> 01:14:23,160

universe and maybe that's sort of a

1765

01:14:28,620 --> 01:14:26,170

universal tenet of universal law that

1766

01:14:31,710 --> 01:14:28,630

occurs okay and why do I say that

1767

01:14:33,570 --> 01:14:31,720

because you look around every other

1768

01:14:36,840 --> 01:14:33,580

animal to you and every animal the size

1769

01:14:38,790 --> 01:14:36,850

a few especially specialty ones have two

1770

01:14:40,320 --> 01:14:38,800

eyes you know you know have two arms or

1771

01:14:43,140 --> 01:14:40,330

two legs you know in the front two in

1772

01:14:43,890 --> 01:14:43,150

the back they have ears you know it's

1773

01:14:45,980 --> 01:14:43,900

symmetric

1774

01:14:49,140 --> 01:14:45,990

there's no creatures that have one ear

1775

01:14:50,580 --> 01:14:49,150

okay there are but that's we're not

1776

01:14:52,050 --> 01:14:50,590

talking anything we're talking about

1777

01:14:56,700 --> 01:14:52,060

vertebrates you know like like we are

1778

01:14:58,890 --> 01:14:56,710

bones what a spine so I think that it's

1779

01:15:03,180 --> 01:14:58,900

important to look at that look at that

1780

01:15:06,810 --> 01:15:03,190

critically and say well if life on Earth

1781

01:15:10,950 --> 01:15:06,820

that developed a myriad of ways is any

1782

01:15:13,020 --> 01:15:10,960

indicator and maybe we're looking at a

1783

01:15:14,520 --> 01:15:13,030

potential for this symmetry to be

1784

01:15:16,920 --> 01:15:14,530

propagated throughout the universe in

1785

01:15:18,450 --> 01:15:16,930

other ways what I mean whether they may

1786

01:15:21,570 --> 01:15:18,460

not look at all like us they might not

1787

01:15:22,800 --> 01:15:21,580

have a skin they might not have that

1788

01:15:26,310 --> 01:15:22,810

need they maybe they didn't come from

1789

01:15:28,020 --> 01:15:26,320

the water but maybe that symmetric part

1790

01:15:29,730 --> 01:15:28,030

is important maybe that's something that

1791

01:15:33,420 --> 01:15:29,740

we would look for the other thing we

1792

01:15:34,680 --> 01:15:33,430

might look for are carbon-based life

1793

01:15:36,150 --> 01:15:34,690

forms now that's what we're doing now

1794

01:15:38,520 --> 01:15:36,160

and people have more about silicon

1795

01:15:41,430 --> 01:15:38,530

all these other things well there might

1796

01:15:44,720 --> 01:15:41,440

be life not like us out there but the

1797

01:15:47,220 --> 01:15:44,730

universe is very much providing

1798

01:15:49,170 --> 01:15:47,230

carbon-based stuff it's everywhere we

1799

01:15:51,360 --> 01:15:49,180

look in our own solar system it's all

1800

01:15:53,820 --> 01:15:51,370

carbon-based you know and you know the

1801

01:15:57,930 --> 01:15:53,830

carbon-based methane's and you know we

1802

01:16:01,380 --> 01:15:57,940

have the hydrocarbon compounds on Titan

1803

01:16:06,000 --> 01:16:01,390

we have Enceladus spewing carbon dioxide

1804

01:16:08,820 --> 01:16:06,010

and and hydrogen we have Europa with

1805

01:16:11,820 --> 01:16:08,830

water that seems to be hyper saturated

1806

01:16:13,770 --> 01:16:11,830

with oxygen beneath the surface all

1807

01:16:17,190 --> 01:16:13,780

right this is all stuff that you know

1808

01:16:21,680 --> 01:16:17,200

would promote a carbon-based life not a

1809

01:16:24,300 --> 01:16:21,690

silicon-based life so perhaps that's

1810

01:16:25,740 --> 01:16:24,310

another potential template that the

1811

01:16:27,270 --> 01:16:25,750

universe has that we don't know yet

1812

01:16:30,720 --> 01:16:27,280

because we're the only model we have is

1813

01:16:34,230 --> 01:16:30,730

you know maybe it has a carbon footprint

1814

01:16:36,870 --> 01:16:34,240

requirement right right now I'm I'm

1815

01:16:39,720 --> 01:16:36,880

gonna bring up a topic that we really

1816

01:16:43,440 --> 01:16:39,730

didn't expect to talk about tonight but

1817

01:16:46,740 --> 01:16:43,450

um hi amber this is not it this is not

1818

01:16:51,150 --> 01:16:46,750

an ambush um I wanted to you know I was

1819

01:16:54,750 --> 01:16:51,160

thinking I think the way that we're here

1820

01:16:56,550 --> 01:16:54,760

is are that life is here is that there

1821

01:17:00,320 --> 01:16:56,560

was at some point there was a supernova

1822

01:17:03,980 --> 01:17:00,330

that got all the elements out there I

1823

01:17:08,180 --> 01:17:03,990

believe that's at least partially true

1824

01:17:12,150 --> 01:17:08,190

so that yeah yeah so the question I have

1825

01:17:14,480 --> 01:17:12,160

how it's kind of a silly question but

1826

01:17:18,450 --> 01:17:14,490

how many different ways can the universe

1827

01:17:20,760 --> 01:17:18,460

eliminate us as a mass extinction oh I

1828

01:17:23,160 --> 01:17:20,770

know if the suit that Nova happened in

1829

01:17:25,980 --> 01:17:23,170

our galaxy right would be toast or we

1830

01:17:27,090 --> 01:17:25,990

could be no all right so no all right so

1831

01:17:30,540 --> 01:17:27,100

shed some light on that

1832

01:17:32,100 --> 01:17:30,550

all right let's let's start with

1833

01:17:35,220 --> 01:17:32,110

supernova supernovas give off a high

1834

01:17:40,170 --> 01:17:35,230

high dosages of very dangerous rays they

1835

01:17:42,690 --> 01:17:40,180

can kill us okay and they leave behind

1836

01:17:44,880 --> 01:17:42,700

things called pulsars that you know

1837

01:17:47,340 --> 01:17:44,890

flash and high rates of speed they're

1838

01:17:50,280 --> 01:17:47,350

like spinning lighthouse beacons things

1839

01:17:52,560 --> 01:17:50,290

up to you know 800 times per second

1840

01:17:55,170 --> 01:17:52,570

the star core is spinning that's how

1841

01:17:59,930 --> 01:17:55,180

much energies you know pumped into that

1842

01:18:03,690 --> 01:17:59,940

as as a star blows up and that said a

1843

01:18:05,670 --> 01:18:03,700

supernova nearby to us would have

1844

01:18:07,950 --> 01:18:05,680

consequences like if the star Sirius the

1845

01:18:09,510 --> 01:18:07,960

brightest star on a night sky I forget

1846

01:18:11,610 --> 01:18:09,520

how far to think of 8.9 light years or

1847

01:18:14,010 --> 01:18:11,620

something like that but that star if

1848

01:18:16,229 --> 01:18:14,020

that blew up and it can it's not big

1849

01:18:19,290 --> 01:18:16,239

enough but if it did we'd have

1850

01:18:20,720 --> 01:18:19,300

consequences and we'd see it blow up you

1851

01:18:23,430 --> 01:18:20,730

know and by the time we saw it

1852

01:18:24,540 --> 01:18:23,440

you know the deadly particles were

1853

01:18:27,810 --> 01:18:24,550

already on their way to us and we would

1854

01:18:29,280 --> 01:18:27,820

have only a set number of years left

1855

01:18:32,010 --> 01:18:29,290

depending on how fast those particles

1856

01:18:33,750 --> 01:18:32,020

are moving away from the star because it

1857

01:18:36,270 --> 01:18:33,760

would probably be gamma rays and and

1858

01:18:37,740 --> 01:18:36,280

potential x-rays and you just hope

1859

01:18:39,090 --> 01:18:37,750

you're on the dark side or the light

1860

01:18:41,040 --> 01:18:39,100

side of the planet when they hit so that

1861

01:18:46,110 --> 01:18:41,050

you don't have to it's sterilized by

1862

01:18:47,610 --> 01:18:46,120

them kind of thing but you know the the

1863

01:18:51,450 --> 01:18:47,620

universe has ways of killing us there's

1864

01:18:53,760 --> 01:18:51,460

no doubt a dangerous solar flare already

1865

01:18:55,260 --> 01:18:53,770

we have problems solar flares and I'm

1866

01:18:58,860 --> 01:18:55,270

part of a show called the Connecticut

1867

01:19:00,990 --> 01:18:58,870

UFO show and it's a bi-weekly television

1868

01:19:03,090 --> 01:19:01,000

show that we do and one of our episodes

1869

01:19:07,890 --> 01:19:03,100

was about the great blackout that

1870

01:19:12,990 --> 01:19:07,900

occurred and and that great blackout was

1871

01:19:14,760 --> 01:19:13,000

the result of a human error okay but the

1872

01:19:17,940 --> 01:19:14,770

other one that happened in like 1988 or

1873

01:19:22,830 --> 01:19:17,950

89 okay that one was due to the Sun and

1874

01:19:25,440 --> 01:19:22,840

the Sun overloaded systems up in Canada

1875

01:19:28,140 --> 01:19:25,450

and right I remember that right and

1876

01:19:31,470 --> 01:19:28,150

there were Aurora's being seen as far

1877

01:19:33,479 --> 01:19:31,480

south as Cuba never in human history

1878

01:19:35,550 --> 01:19:33,489

that we have been alive okay

1879

01:19:37,440 --> 01:19:35,560

have Aurora's been as far south as Cuba

1880

01:19:39,090 --> 01:19:37,450

that's how much energy was hitting our

1881

01:19:40,740 --> 01:19:39,100

atmosphere and overloading in the

1882

01:19:43,650 --> 01:19:40,750

atmosphere and when it does that the

1883

01:19:45,630 --> 01:19:43,660

atmosphere expands it gets charged up

1884

01:19:47,850 --> 01:19:45,640

and what does that do well that hits the

1885

01:19:49,350 --> 01:19:47,860

low Earth orbiting satellites and when

1886

01:19:51,030 --> 01:19:49,360

it hits that those satellites begin to

1887

01:19:52,040 --> 01:19:51,040

decay in their orbits and unless

1888

01:19:53,910 --> 01:19:52,050

something's done they're going to

1889

01:19:55,920 --> 01:19:53,920

re-enter the Earth's atmosphere and burn

1890

01:19:57,510 --> 01:19:55,930

up so they have to be rebooted the

1891

01:19:59,850 --> 01:19:57,520

orbits it's very expensive

1892

01:20:02,830 --> 01:19:59,860

it would cost up I think the estimate

1893

01:20:06,160 --> 01:20:02,840

was thirty billion dollars a day

1894

01:20:08,040 --> 01:20:06,170

to repair that Wow the damage that could

1895

01:20:12,070 --> 01:20:08,050

be caused by such a such an attack so

1896

01:20:14,170 --> 01:20:12,080

that's just the Sun doing minimal damage

1897

01:20:16,660 --> 01:20:14,180

to our planet that's a minor thing the

1898

01:20:18,130 --> 01:20:16,670

Sun goes up that was a burp yeah you

1899

01:20:20,470 --> 01:20:18,140

know don't make me don't make me really

1900

01:20:22,870 --> 01:20:20,480

burp you know that kind of thing and so

1901

01:20:25,720 --> 01:20:22,880

I can do and then sons of stable star if

1902

01:20:28,270 --> 01:20:25,730

it in Cades others unstable stars too

1903

01:20:31,570 --> 01:20:28,280

and they shoot off bursts of x-rays that

1904

01:20:35,740 --> 01:20:31,580

could be fatal gamma-ray burster czar

1905

01:20:37,660 --> 01:20:35,750

they're really kind of a enigma because

1906

01:20:39,220 --> 01:20:37,670

we see these gamma rays come from some

1907

01:20:42,460 --> 01:20:39,230

places in the universe and when they

1908

01:20:46,030 --> 01:20:42,470

they hit the earth they're very powerful

1909

01:20:47,560 --> 01:20:46,040

not enough to kill us but a gamma-ray

1910

01:20:49,720 --> 01:20:47,570

burst of these magnitudes some of these

1911

01:20:51,580 --> 01:20:49,730

gamma-ray bursts are you know thousands

1912

01:20:54,640 --> 01:20:51,590

light years away and they hit the earth

1913

01:20:56,440 --> 01:20:54,650

with some magnitude no well what if it

1914

01:20:57,640 --> 01:20:56,450

was not a thousand light years away what

1915

01:20:59,350 --> 01:20:57,650

if the same thing was only a hundred

1916

01:21:01,330 --> 01:20:59,360

light years away she's a little dim star

1917

01:21:02,770 --> 01:21:01,340

in the sky you might not even see it the

1918

01:21:05,890 --> 01:21:02,780

gamma-ray burst would kill us

1919

01:21:07,600 --> 01:21:05,900

so you see yes the universe can kill you

1920

01:21:12,460 --> 01:21:07,610

if you if you're if you're really really

1921

01:21:15,100 --> 01:21:12,470

really uh you know concerned then you

1922

01:21:16,660 --> 01:21:15,110

can build a bunker and line it with a

1923

01:21:18,520 --> 01:21:16,670

Faraday cage and hopefully not only

1924

01:21:21,070 --> 01:21:18,530

charge particles will get into you and

1925

01:21:23,140 --> 01:21:21,080

hurt your computers okay you just might

1926

01:21:27,010 --> 01:21:23,150

never know the earth died but you know

1927

01:21:28,810 --> 01:21:27,020

it is interesting yeah uh yeah so I mean

1928

01:21:32,170 --> 01:21:28,820

we could lose our power grid pretty

1929

01:21:35,260 --> 01:21:32,180

easily I mean I know back when there was

1930

01:21:38,200 --> 01:21:35,270

Telegraph's lines were melted and rail

1931

01:21:41,170 --> 01:21:38,210

rate railroad tracks were heated up and

1932

01:21:44,260 --> 01:21:41,180

twisted and everything else from from

1933

01:21:45,550 --> 01:21:44,270

what is it a super mess what's that

1934

01:21:48,160 --> 01:21:45,560

called they're called coronal mass

1935

01:21:52,720 --> 01:21:48,170

ejections they're gonna CME's coronal

1936

01:21:55,060 --> 01:21:52,730

mass ejections are solar plasma which is

1937

01:21:57,370 --> 01:21:55,070

highly charged particles and material

1938

01:21:59,560 --> 01:21:57,380

coming from the Sun and if we get hit

1939

01:22:02,200 --> 01:21:59,570

head-on with a coronal mass ejection of

1940

01:22:04,770 --> 01:22:02,210

a good magnitude it will do serious

1941

01:22:08,800 --> 01:22:04,780

damage to the power it will take it down

1942

01:22:11,620 --> 01:22:08,810

fairly quickly short order and it would

1943

01:22:15,070 --> 01:22:11,630

affect GPS satellites it would affect

1944

01:22:16,540 --> 01:22:15,080

any kind of navigation and that effect

1945

01:22:18,459 --> 01:22:16,550

could go on for weeks

1946

01:22:19,569 --> 01:22:18,469

not because the coronal mass ejection

1947

01:22:21,819 --> 01:22:19,579

would go on for weeks but because the

1948

01:22:24,430 --> 01:22:21,829

damage would be so hard to repair right

1949

01:22:28,299 --> 01:22:24,440

and remember we're running our power on

1950

01:22:29,799 --> 01:22:28,309

the surface of this planet you know it's

1951

01:22:31,149 --> 01:22:29,809

like you know yet any thought you

1952

01:22:33,549 --> 01:22:31,159

wouldn't do that that's as you know

1953

01:22:34,660 --> 01:22:33,559

we're crazy to do that and in people say

1954

01:22:36,370 --> 01:22:34,670

well I have on the ground wiring in my

1955

01:22:38,379 --> 01:22:36,380

neighborhood yeah but it's all surface

1956

01:22:40,419 --> 01:22:38,389

to get to you and so you know it doesn't

1957

01:22:42,160 --> 01:22:40,429

matter or holes the whole the whole

1958

01:22:45,069 --> 01:22:42,170

place has to be underground and shielded

1959

01:22:48,160 --> 01:22:45,079

everything and you know we have more

1960

01:22:49,660 --> 01:22:48,170

wire in the US on the surface then nor

1961

01:22:52,890 --> 01:22:49,670

the moon in back with it I mean it's a

1962

01:22:55,270 --> 01:22:52,900

lot of surface wire right right now uh

1963

01:22:58,390 --> 01:22:55,280

okay since we're talking the doomsday

1964

01:23:06,819 --> 01:22:58,400

type of stuff say fun yeah say an

1965

01:23:08,890 --> 01:23:06,829

asteroid hit let's just say the Oceana

1966

01:23:12,990 --> 01:23:08,900

um you know South Pacific or something

1967

01:23:15,129 --> 01:23:13,000

like that uh and it was going to

1968

01:23:16,209 --> 01:23:15,139

vulcanized the entire planet or

1969

01:23:19,750 --> 01:23:16,219

something you know something was

1970

01:23:21,700 --> 01:23:19,760

happening um how long would it take to

1971

01:23:23,649 --> 01:23:21,710

get around the whole entire plane I mean

1972

01:23:25,780 --> 01:23:23,659

and would there be any way anybody would

1973

01:23:27,069 --> 01:23:25,790

know from if they were on the other side

1974

01:23:29,770 --> 01:23:27,079

of the planet from when the whole thing

1975

01:23:32,020 --> 01:23:29,780

crashed now they would know as soon as

1976

01:23:35,589 --> 01:23:32,030

the shock wave went through the planet

1977

01:23:38,049 --> 01:23:35,599

and reached them because the way it

1978

01:23:41,229 --> 01:23:38,059

works is if something hits that side of

1979

01:23:42,580 --> 01:23:41,239

the planet okay what will happen is the

1980

01:23:44,310 --> 01:23:42,590

shock wave will get transmitted through

1981

01:23:47,379 --> 01:23:44,320

the core and right to the other side

1982

01:23:48,760 --> 01:23:47,389

like a croquet ball when you put your

1983

01:23:50,169 --> 01:23:48,770

foot down on top of a croquet ball you

1984

01:23:52,359 --> 01:23:50,179

have another one on the right side and

1985

01:23:54,160 --> 01:23:52,369

you know the lawn okay and you you hit

1986

01:23:57,310 --> 01:23:54,170

the ball and you hit the hit that one

1987

01:23:59,169 --> 01:23:57,320

ball with your with a mallet the ball

1988

01:24:00,129 --> 01:23:59,179

that's you know that's on the left side

1989

01:24:02,439 --> 01:24:00,139

here foot the ball it's on the right

1990

01:24:04,000 --> 01:24:02,449

side if it's going sailing yeah right

1991

01:24:06,490 --> 01:24:04,010

that's because of the conduction of the

1992

01:24:09,819 --> 01:24:06,500

sound and that impact threw the ball

1993

01:24:12,430 --> 01:24:09,829

well the ball and sound conducts the

1994

01:24:13,780 --> 01:24:12,440

same way so if an impactor hit on the

1995

01:24:16,450 --> 01:24:13,790

other side of the planet from us right

1996

01:24:19,149 --> 01:24:16,460

now it was really substantial you might

1997

01:24:20,859 --> 01:24:19,159

think ooh we dodged the bullet nonsense

1998

01:24:22,060 --> 01:24:20,869

you're gonna get the full brunt of it

1999

01:24:23,530 --> 01:24:22,070

because it's going to transmit through

2000

01:24:24,819 --> 01:24:23,540

the planet and just blow you right off

2001

01:24:27,189 --> 01:24:24,829

the planet when it comes through the

2002

01:24:29,560 --> 01:24:27,199

side from below you you know and people

2003

01:24:30,520 --> 01:24:29,570

don't realize that's very possible those

2004

01:24:33,190 --> 01:24:30,530

things can happen

2005

01:24:35,010 --> 01:24:33,200

not like tomorrow I think that's

2006

01:24:37,510 --> 01:24:35,020

scheduled for next Tuesday at 3:00

2007

01:24:43,240 --> 01:24:37,520

speaking of that um how do you feel

2008

01:24:46,930 --> 01:24:43,250

about the as you know joining nations

2009

01:24:49,120 --> 01:24:46,940

together to figure out something to do

2010

01:24:52,210 --> 01:24:49,130

about asteroids near-earth asteroids or

2011

01:24:54,400 --> 01:24:52,220

asteroid hits it doesn't see it seems

2012

01:24:56,290 --> 01:24:54,410

like something that could be solved yet

2013

01:24:59,710 --> 01:24:56,300

there's no real money being put into it

2014

01:25:02,730 --> 01:24:59,720

and it could wipe us all out well yeah

2015

01:25:04,690 --> 01:25:02,740

the human race is short-sighted I mean

2016

01:25:07,090 --> 01:25:04,700

people are really short-sighted they're

2017

01:25:08,890 --> 01:25:07,100

thinking about next week next month

2018

01:25:11,440 --> 01:25:08,900

they're not thinking 12 years 20 years

2019

01:25:12,910 --> 01:25:11,450

down the line I mean did to see what I

2020

01:25:14,920 --> 01:25:12,920

mean you just compare the number of

2021

01:25:18,640 --> 01:25:14,930

people that have set up their retirement

2022

01:25:21,670 --> 01:25:18,650

accounts with substantial nest eggs okay

2023

01:25:23,530 --> 01:25:21,680

it's it's pitifully few unless they're

2024

01:25:26,680 --> 01:25:23,540

just doing it through a corporate thing

2025

01:25:30,340 --> 01:25:26,690

right it's forced upon you well if it's

2026

01:25:32,020 --> 01:25:30,350

forced upon you many times in an IRA you

2027

01:25:34,540 --> 01:25:32,030

know retirement account situation that's

2028

01:25:35,650 --> 01:25:34,550

okay cuz you can handle it but if it's

2029

01:25:36,730 --> 01:25:35,660

forced upon you because there's an

2030

01:25:38,230 --> 01:25:36,740

asteroid hitting the earth you want oh

2031

01:25:40,660 --> 01:25:38,240

look at that asteroids coming in you

2032

01:25:42,190 --> 01:25:40,670

have it's like as bright as a star you

2033

01:25:44,950 --> 01:25:42,200

know well then it's too late

2034

01:25:46,270 --> 01:25:44,960

so you know you have to first get the

2035

01:25:47,980 --> 01:25:46,280

cooperation of everybody and say look

2036

01:25:50,590 --> 01:25:47,990

this could happen and you're gonna

2037

01:25:51,700 --> 01:25:50,600

always get a group that says yeah but

2038

01:25:53,380 --> 01:25:51,710

then we don't see anything out there's

2039

01:25:55,510 --> 01:25:53,390

not going to happen anytime soon so I'd

2040

01:25:58,120 --> 01:25:55,520

much rather you know try and work out

2041

01:26:00,670 --> 01:25:58,130

ways to feed my starving population and

2042

01:26:02,230 --> 01:26:00,680

to create this new car or whatever you

2043

01:26:04,570 --> 01:26:02,240

know so you're not going to see people

2044

01:26:07,030 --> 01:26:04,580

doing that unless they see a threat but

2045

01:26:09,850 --> 01:26:07,040

unfortunately in astronomical and cosmic

2046

01:26:12,460 --> 01:26:09,860

terms once we see the threat it's too

2047

01:26:14,620 --> 01:26:12,470

late yeah we have to plan for it so if

2048

01:26:16,750 --> 01:26:14,630

we can all come together and do that

2049

01:26:18,760 --> 01:26:16,760

let's say we could what would we do

2050

01:26:21,220 --> 01:26:18,770

there's a number of ways that you can

2051

01:26:22,150 --> 01:26:21,230

divert an asteroid people say well you

2052

01:26:26,320 --> 01:26:22,160

can just blow it up

2053

01:26:28,980 --> 01:26:26,330

we have nukes yeah well you know what if

2054

01:26:32,170 --> 01:26:28,990

you've seen a 10-mile diameter asteroid

2055

01:26:34,510 --> 01:26:32,180

it's that small okay there's a lot of

2056

01:26:36,310 --> 01:26:34,520

mass there and it takes a lot to blow

2057

01:26:38,500 --> 01:26:36,320

that apart and if you did blow it apart

2058

01:26:41,110 --> 01:26:38,510

guess what you've done some of those

2059

01:26:42,520 --> 01:26:41,120

particles we'll go around go away and

2060

01:26:44,340 --> 01:26:42,530

probably enter an orbit around the earth

2061

01:26:46,950 --> 01:26:44,350

before they come crashing down months

2062

01:26:48,300 --> 01:26:46,960

later okay somewhere else but then

2063

01:26:50,430 --> 01:26:48,310

you've got thousands of particles now

2064

01:26:52,530 --> 01:26:50,440

thousands of meteors and asteroids

2065

01:26:54,660 --> 01:26:52,540

little mini asteroids coming to your

2066

01:26:56,790 --> 01:26:54,670

plan and they're gonna do the same kind

2067

01:26:58,860 --> 01:26:56,800

of damage see it's like through

2068

01:27:01,380 --> 01:26:58,870

conservation of energy okay you know

2069

01:27:03,690 --> 01:27:01,390

whether it's a hundred little asteroids

2070

01:27:04,980 --> 01:27:03,700

or one big asteroid you notice the

2071

01:27:07,530 --> 01:27:04,990

energy is still going to be relatively

2072

01:27:08,910 --> 01:27:07,540

near the same but wouldn't but wouldn't

2073

01:27:10,980 --> 01:27:08,920

the smaller ones have more of a chance

2074

01:27:13,800 --> 01:27:10,990

of burning up in the upper atmosphere

2075

01:27:15,600 --> 01:27:13,810

well if they're really small sure okay

2076

01:27:17,490 --> 01:27:15,610

and but you would have to try and

2077

01:27:19,580 --> 01:27:17,500

guarantee that if you had a ten-mile

2078

01:27:23,810 --> 01:27:19,590

asteroid and you broke it up into five

2079

01:27:26,460 --> 01:27:23,820

you know two-mile chunks or whatever a

2080

01:27:28,800 --> 01:27:26,470

two mile diameter asteroid you know

2081

01:27:31,440 --> 01:27:28,810

isn't gonna isn't going to burn up like

2082

01:27:32,910 --> 01:27:31,450

you think a 10 mile asteroid a 10 mile

2083

01:27:37,080 --> 01:27:32,920

diameter asked for it would burn up

2084

01:27:38,340 --> 01:27:37,090

partially as well but it's still going

2085

01:27:40,260 --> 01:27:38,350

to explode once it gets into the

2086

01:27:42,330 --> 01:27:40,270

stratosphere you know it's still gonna

2087

01:27:45,450 --> 01:27:42,340

explode in that energy release was like

2088

01:27:48,510 --> 01:27:45,460

Tunguska 10 Gasca it was probably either

2089

01:27:51,000 --> 01:27:48,520

a small comet or a small asteroid and

2090

01:27:53,460 --> 01:27:51,010

there was no remnants ever found of it

2091

01:27:54,780 --> 01:27:53,470

but it happened so long ago that you

2092

01:27:57,510 --> 01:27:54,790

know maybe there is a remnant that

2093

01:27:59,610 --> 01:27:57,520

hasn't been ever found but that

2094

01:28:02,370 --> 01:27:59,620

explosion released so much energy that

2095

01:28:05,880 --> 01:28:02,380

people 40 miles from where that entered

2096

01:28:07,830 --> 01:28:05,890

the atmosphere 40 miles away had their

2097

01:28:09,420 --> 01:28:07,840

clothes catch on fire Wow you know I

2098

01:28:11,430 --> 01:28:09,430

mean that's a lot of thermal energy

2099

01:28:13,470 --> 01:28:11,440

never mind you know radiation from that

2100

01:28:15,870 --> 01:28:13,480

but just thermal energy and of course

2101

01:28:17,190 --> 01:28:15,880

that brings up the conspiracy theorists

2102

01:28:19,260 --> 01:28:17,200

who say oh it was a new curve

2103

01:28:21,960 --> 01:28:19,270

yeah no aliens weren't exploding nukes

2104

01:28:24,270 --> 01:28:21,970

it was a comet or an asteroid yeah that

2105

01:28:26,460 --> 01:28:24,280

does that very well I know we're

2106

01:28:29,730 --> 01:28:26,470

bouncing around a lot here and we're off

2107

01:28:32,430 --> 01:28:29,740

the alien track but what about these

2108

01:28:32,940 --> 01:28:32,440

people that are claiming to talk about

2109

01:28:34,350 --> 01:28:32,950

nukes

2110

01:28:36,780 --> 01:28:34,360

that are claiming that there was some

2111

01:28:39,450 --> 01:28:36,790

type of a nuclear explosion on Mars what

2112

01:28:43,530 --> 01:28:39,460

do you have to say about that one I just

2113

01:28:45,840 --> 01:28:43,540

have to say that I don't buy it okay and

2114

01:28:47,640 --> 01:28:45,850

the reason I don't buy it is because I

2115

01:28:49,200 --> 01:28:47,650

look at Mars

2116

01:28:51,060 --> 01:28:49,210

I've studied Mars rather extensively

2117

01:28:53,730 --> 01:28:51,070

actually because you know when you're

2118

01:28:55,170 --> 01:28:53,740

doing planetary science you you you you

2119

01:28:58,229 --> 01:28:55,180

have to consider what other planets are

2120

01:28:59,940 --> 01:28:58,239

doing and how they're there

2121

01:29:01,680 --> 01:28:59,950

their own evolution is occurring you

2122

01:29:03,270 --> 01:29:01,690

know of their and then more of their

2123

01:29:06,870 --> 01:29:03,280

morphology and their changing the rock

2124

01:29:10,290 --> 01:29:06,880

structure and so forth and Mars doesn't

2125

01:29:14,880 --> 01:29:10,300

have anything to indicate to me that a

2126
01:29:17,550 --> 01:29:14,890
nuclear weapon was ever detonated there

2127
01:29:21,630 --> 01:29:17,560
it seems that what people don't

2128
01:29:24,690 --> 01:29:21,640
understand is that a meteor of

2129
01:29:27,570 --> 01:29:24,700
sufficient size will act exactly like a

2130
01:29:32,670 --> 01:29:27,580
nuclear weapon in its effect and it's in

2131
01:29:34,500 --> 01:29:32,680
its reach well yeah so that that that

2132
01:29:37,470 --> 01:29:34,510
was one of the things I was wondering

2133
01:29:40,800 --> 01:29:37,480
about now Bobby wanted to know if you

2134
01:29:43,320 --> 01:29:40,810
ever viewed the SpaceX explosion video

2135
01:29:44,970 --> 01:29:43,330
and if so what were your thoughts on

2136
01:29:46,500 --> 01:29:44,980
that I did actually I analyzed that

2137
01:29:47,880 --> 01:29:46,510
really thoroughly in fact they were sent

2138
01:29:50,610 --> 01:29:47,890

to me the high-res one was sent to me

2139

01:29:54,740 --> 01:29:50,620

and I reviewed it frame by frame good

2140

01:29:57,180 --> 01:29:54,750

question Bobby and what I found was that

2141

01:29:59,970 --> 01:29:57,190

the object that seemed to fly through

2142

01:30:01,770 --> 01:29:59,980

when the rocket blew up right was

2143

01:30:04,050 --> 01:30:01,780

actually in the extreme foreground the

2144

01:30:05,970 --> 01:30:04,060

rocket was like two or three miles away

2145

01:30:07,470 --> 01:30:05,980

I actually I don't remember the exact

2146

01:30:09,930 --> 01:30:07,480

number but I calculated the actual

2147

01:30:12,120 --> 01:30:09,940

distance of the rocket based on the

2148

01:30:13,650 --> 01:30:12,130

sound all right from the sound I could

2149

01:30:16,200 --> 01:30:13,660

calculate the exact distance of the

2150

01:30:17,520 --> 01:30:16,210

rocket the camera and that black dot

2151
01:30:19,560 --> 01:30:17,530
that seemed to come through and seemed

2152
01:30:22,560 --> 01:30:19,570
to cross right in front of rocket when

2153
01:30:23,760 --> 01:30:22,570
it blew up didn't actually it would exit

2154
01:30:27,090 --> 01:30:23,770
the rocket blew up before it actually

2155
01:30:30,479 --> 01:30:27,100
got there and because it was only 60

2156
01:30:32,700 --> 01:30:30,489
frames per second video sixtieth of a

2157
01:30:34,950 --> 01:30:32,710
second later that thing was you know a

2158
01:30:36,530 --> 01:30:34,960
good distance away further away you know

2159
01:30:38,580 --> 01:30:36,540
to the left as it moved across the frame

2160
01:30:40,350 --> 01:30:38,590
the reason for that is because it was

2161
01:30:43,560 --> 01:30:40,360
moving fast and the reason was moving

2162
01:30:45,030 --> 01:30:43,570
fast because it was in the foreground it

2163
01:30:48,420 --> 01:30:45,040

was something like a bug flank of the

2164

01:30:50,910 --> 01:30:48,430

field at first I thought that then when

2165

01:30:52,830 --> 01:30:50,920

I looked at it again I realized it was

2166

01:30:55,020 --> 01:30:52,840

just a fairy it was actually just a bird

2167

01:30:58,020 --> 01:30:55,030

flying very very close to the camera

2168

01:31:00,330 --> 01:30:58,030

closer to the camera then the other

2169

01:31:02,280 --> 01:31:00,340

insects you could see and the other

2170

01:31:04,770 --> 01:31:02,290

seagulls that did appear on that frame

2171

01:31:06,450 --> 01:31:04,780

why no one said my gosh there's gigantic

2172

01:31:09,270 --> 01:31:06,460

seagulls attacking this rocket launch

2173

01:31:11,490 --> 01:31:09,280

because the seagulls would have had to

2174

01:31:12,190 --> 01:31:11,500

have been 30 feet across if they were at

2175

01:31:13,600 --> 01:31:12,200

the same

2176
01:31:17,230 --> 01:31:13,610
and says there is the rocket when it

2177
01:31:18,850 --> 01:31:17,240
blew up so there was a huge compression

2178
01:31:21,310 --> 01:31:18,860
of distance between the camera and the

2179
01:31:22,470 --> 01:31:21,320
launch pad everything between you and

2180
01:31:24,760 --> 01:31:22,480
the launch pad is going to show up

2181
01:31:26,530 --> 01:31:24,770
alright and that's how that works with a

2182
01:31:27,970 --> 01:31:26,540
telephoto and that's part of the problem

2183
01:31:30,250 --> 01:31:27,980
you know people don't understand how

2184
01:31:34,210 --> 01:31:30,260
cameras work and so that compression of

2185
01:31:38,050 --> 01:31:34,220
distance is in effect so I calculated uh

2186
01:31:40,090 --> 01:31:38,060
that you know this this rocket launch

2187
01:31:42,160 --> 01:31:40,100
failed and when I actually looked at the

2188
01:31:44,020 --> 01:31:42,170

rocket launch in particular I was able

2189

01:31:45,160 --> 01:31:44,030

to offer up a possibility for what

2190

01:31:48,880 --> 01:31:45,170

actually happened I thought it was a

2191

01:31:52,630 --> 01:31:48,890

static static discharge it on the the

2192

01:31:55,360 --> 01:31:52,640

the upper umbilical and I saw the flash

2193

01:31:57,460 --> 01:31:55,370

in an in an instant before the rocket

2194

01:31:59,950 --> 01:31:57,470

went off but that black dot everyone

2195

01:32:02,350 --> 01:31:59,960

says was the UFO that caused it was

2196

01:32:04,210 --> 01:32:02,360

still way far to the right and had not

2197

01:32:07,900 --> 01:32:04,220

crossed from the rocket it looks like it

2198

01:32:10,870 --> 01:32:07,910

does okay and you can grab a frame just

2199

01:32:14,170 --> 01:32:10,880

after it's just to the left of the

2200

01:32:16,150 --> 01:32:14,180

rocket after the explosion starts so the

2201

01:32:21,190 --> 01:32:16,160

illusion is that it actually caused the

2202

01:32:23,290 --> 01:32:21,200

explosion but in my analysis I I found

2203

01:32:25,180 --> 01:32:23,300

that it was just a foreground object and

2204

01:32:27,250 --> 01:32:25,190

nothing you know it was actually a

2205

01:32:29,830 --> 01:32:27,260

catastrophe based on I think static

2206

01:32:32,020 --> 01:32:29,840

discharge well well

2207

01:32:33,420 --> 01:32:32,030

well you're a real conspiracy crusher

2208

01:32:37,540 --> 01:32:33,430

I'm sorry

2209

01:32:41,080 --> 01:32:37,550

hey a Belinda and a number of people

2210

01:32:42,970 --> 01:32:41,090

have asked in chat and also in the forum

2211

01:32:46,270 --> 01:32:42,980

as well they want to hear about your own

2212

01:32:49,540 --> 01:32:46,280

personal UFO story now I know you've

2213

01:32:51,310 --> 01:32:49,550

talked about your use experience uh I

2214

01:32:52,600 --> 01:32:51,320

think we've talked about it almost every

2215

01:32:55,360 --> 01:32:52,610

time you've been on the show which has

2216

01:32:57,010 --> 01:32:55,370

been many times now yeah but uh is

2217

01:32:59,740 --> 01:32:57,020

another one I mean there is another

2218

01:33:01,480 --> 01:32:59,750

experience I had which actually caused

2219

01:33:05,680 --> 01:33:01,490

me to move out of the old house that's

2220

01:33:09,220 --> 01:33:05,690

why we're here and that one that had to

2221

01:33:11,110 --> 01:33:09,230

do with I was awakened over and again uh

2222

01:33:12,790 --> 01:33:11,120

I'm a science guy this doesn't happen to

2223

01:33:15,490 --> 01:33:12,800

me you have to understand okay this just

2224

01:33:17,230 --> 01:33:15,500

does not happen to me okay until it does

2225

01:33:20,140 --> 01:33:17,240

and then you got to try and figure out

2226

01:33:22,810 --> 01:33:20,150

what's going on so I was awakened over

2227

01:33:24,880 --> 01:33:22,820

three nights with this knocking well two

2228

01:33:26,589 --> 01:33:24,890

nights knocking at the peak of my roof

2229

01:33:28,990 --> 01:33:26,599

bang bang bang bang bang

2230

01:33:31,450 --> 01:33:29,000

banging banging series of threes I don't

2231

01:33:32,709 --> 01:33:31,460

know what that significance was first

2232

01:33:33,430 --> 01:33:32,719

night I just thought it was curious I

2233

01:33:36,490 --> 01:33:33,440

went back to sleep

2234

01:33:38,620 --> 01:33:36,500

second night it was irritating and if I

2235

01:33:40,149 --> 01:33:38,630

there's a there's a woodpecker

2236

01:33:42,819 --> 01:33:40,159

I might work rough and it's just like

2237

01:33:44,890 --> 01:33:42,829

you know it's it's it's a pecking at the

2238

01:33:46,959 --> 01:33:44,900

vinyl siding what the heck's it doing so

2239

01:33:48,910 --> 01:33:46,969

i got up and i had two greyhounds at the

2240

01:33:50,830 --> 01:33:48,920

time and i stepped over them and then

2241

01:33:52,479 --> 01:33:50,840

leaned over them to actually peek out

2242

01:33:54,430 --> 01:33:52,489

the window i pushed my face against the

2243

01:33:56,500 --> 01:33:54,440

screen i'm craning my neck to look up

2244

01:33:58,439 --> 01:33:56,510

when all of a sudden i got hit in the

2245

01:34:02,350 --> 01:33:58,449

face with a bright flash of white light

2246

01:34:03,580 --> 01:34:02,360

as oh and my first thought was i've no

2247

01:34:05,560 --> 01:34:03,590

idea what just happened i think i just

2248

01:34:07,060 --> 01:34:05,570

had a stroke or maybe there's some kind

2249

01:34:08,890 --> 01:34:07,070

of medical event I don't know I'm just

2250

01:34:11,379 --> 01:34:08,900

gonna sit here and yell and do anything

2251
01:34:11,800 --> 01:34:11,389
to stay there then my vision came back

2252
01:34:14,080 --> 01:34:11,810
slowly

2253
01:34:16,180 --> 01:34:14,090
I was flash blinded by something like a

2254
01:34:17,770 --> 01:34:16,190
flash bulb went off the second story my

2255
01:34:20,169 --> 01:34:17,780
house is a roof above me it's nothing

2256
01:34:22,540 --> 01:34:20,179
else and I went down the dogs are gone

2257
01:34:23,919 --> 01:34:22,550
and they were one was in the closet

2258
01:34:26,350 --> 01:34:23,929
hiding in the laundry and one was

2259
01:34:27,970 --> 01:34:26,360
outside the room and sitting out there

2260
01:34:31,169 --> 01:34:27,980
they got spooked by whatever this was

2261
01:34:35,589 --> 01:34:31,179
and they ran out of the room I guess and

2262
01:34:40,359 --> 01:34:35,599
then I went over and went back to bed

2263
01:34:43,810 --> 01:34:40,369

and the next night was the third night

2264

01:34:45,760 --> 01:34:43,820

and again I woke up and I'm like why am

2265

01:34:47,770 --> 01:34:45,770

i waking up again in the middle of night

2266

01:34:50,589 --> 01:34:47,780

and I'm thinking wait a minute I can't

2267

01:34:53,080 --> 01:34:50,599

move I can't move I can't turn my head

2268

01:34:55,390 --> 01:34:53,090

I'm like totally paralyzed and I thought

2269

01:34:57,160 --> 01:34:55,400

oh no this was a medical event I'm

2270

01:34:58,419 --> 01:34:57,170

paralyzed with a stroke I should have

2271

01:35:01,569 --> 01:34:58,429

gone to the hospital I mean thinking

2272

01:35:03,280 --> 01:35:01,579

that way then I realized that Nelse I

2273

01:35:05,410 --> 01:35:03,290

couldn't even move my eyes because I had

2274

01:35:07,479 --> 01:35:05,420

the out of my peripheral vision to the

2275

01:35:09,580 --> 01:35:07,489

right side I could see the frame of the

2276

01:35:12,459 --> 01:35:09,590

window being illuminated by a distant

2277

01:35:13,780 --> 01:35:12,469

streetlight and I I went to look at it

2278

01:35:16,240 --> 01:35:13,790

and I realized I couldn't even move my

2279

01:35:17,430 --> 01:35:16,250

eyes to look at it and that actually

2280

01:35:19,510 --> 01:35:17,440

that that's when I became terrified

2281

01:35:23,470 --> 01:35:19,520

because I thought it was a medical event

2282

01:35:26,550 --> 01:35:23,480

then I saw something walking to me and I

2283

01:35:29,740 --> 01:35:26,560

thought or what is that who is that and

2284

01:35:32,050 --> 01:35:29,750

it had us outstretched hand and it had

2285

01:35:33,939 --> 01:35:32,060

like oh I look like a magician's magic

2286

01:35:36,700 --> 01:35:33,949

wand I cause I I've done magic shows

2287

01:35:38,649 --> 01:35:36,710

since I was 12 and I saw this magic wand

2288

01:35:39,790 --> 01:35:38,659

the thing but it was translucent and

2289

01:35:42,250 --> 01:35:39,800

glowing why

2290

01:35:43,810 --> 01:35:42,260

soft glow and that passed in front of my

2291

01:35:45,130 --> 01:35:43,820

nose back and forth I couldn't look at

2292

01:35:46,840 --> 01:35:45,140

it because it was right out of my vision

2293

01:35:48,520 --> 01:35:46,850

was in my vision but in my peripheral

2294

01:35:51,100 --> 01:35:48,530

vision I couldn't move my eyes down to

2295

01:35:53,260 --> 01:35:51,110

look at it so I was like frozen looking

2296

01:35:55,930 --> 01:35:53,270

forward forward just couldn't move and

2297

01:35:57,760 --> 01:35:55,940

I'm trying to fighting what is this

2298

01:35:59,680 --> 01:35:57,770

what's going on and then BAM it was

2299

01:36:01,960 --> 01:35:59,690

morning and I couldn't breathe

2300

01:36:04,150 --> 01:36:01,970

I was on my belly and the bed and I

2301
01:36:06,640 --> 01:36:04,160
couldn't breathe because I pushed myself

2302
01:36:09,370 --> 01:36:06,650
off the pillow I noticed that the pillow

2303
01:36:11,920 --> 01:36:09,380
was literally saturated in blood and I

2304
01:36:13,210 --> 01:36:11,930
was like wow what the heck happened and

2305
01:36:15,130 --> 01:36:13,220
I felt like I had been punched in the

2306
01:36:16,840 --> 01:36:15,140
face I got my left side as my felt like

2307
01:36:18,610 --> 01:36:16,850
I'd get hit in the face and really was

2308
01:36:23,080 --> 01:36:18,620
hurting and I didn't know what happened

2309
01:36:24,910 --> 01:36:23,090
so anyway long story longer um I took it

2310
01:36:27,610 --> 01:36:24,920
took me two years to go to one ear nose

2311
01:36:28,930 --> 01:36:27,620
and throat guy and I did and when he

2312
01:36:31,000 --> 01:36:28,940
looked up there he said yeah you got

2313
01:36:32,440 --> 01:36:31,010

something up there and he pulled it out

2314

01:36:35,590 --> 01:36:32,450

he got really took it out in a procedure

2315

01:36:38,680 --> 01:36:35,600

in the office and you know I asked him

2316

01:36:40,690 --> 01:36:38,690

to check it and you notice and I asked

2317

01:36:42,910 --> 01:36:40,700

him I said you just check the center see

2318

01:36:44,890 --> 01:36:42,920

if there's an object in there and he

2319

01:36:46,540 --> 01:36:44,900

says you mean like a metal splinter that

2320

01:36:49,420 --> 01:36:46,550

you might get like a machinist my kid oh

2321

01:36:52,060 --> 01:36:49,430

yeah yeah okay I'll do that

2322

01:36:54,310 --> 01:36:52,070

why and I made a mistake of telling the

2323

01:36:57,070 --> 01:36:54,320

story I just told all of you and he said

2324

01:36:58,990 --> 01:36:57,080

oh he goes I'm sure it isn't aliens okay

2325

01:37:01,180 --> 01:36:59,000

he says call me the week I'll give you

2326

01:37:04,120 --> 01:37:01,190

the result of the pathology okay thanks

2327

01:37:06,460 --> 01:37:04,130

doctor I leave Hartford Hospital I come

2328

01:37:07,960 --> 01:37:06,470

home a week later my column I call a

2329

01:37:10,240 --> 01:37:07,970

secretary and the secretary says and

2330

01:37:12,400 --> 01:37:10,250

well I get the woman and I see yeah this

2331

01:37:14,080 --> 01:37:12,410

is Mark Dantonio I'm calling because and

2332

01:37:14,890 --> 01:37:14,090

she's oh yeah yeah hold on the doctor

2333

01:37:18,340 --> 01:37:14,900

wants to talk to you

2334

01:37:20,050 --> 01:37:18,350

oh no it's bad news I know I don't know

2335

01:37:22,090 --> 01:37:20,060

and he gets on the phone he says I just

2336

01:37:22,690 --> 01:37:22,100

want let you know it's nothing to worry

2337

01:37:25,600 --> 01:37:22,700

about

2338

01:37:27,450 --> 01:37:25,610

I'm sure it was benign and I go well oh

2339

01:37:30,610 --> 01:37:27,460

you don't have a report yet he was

2340

01:37:33,790 --> 01:37:30,620

actually this has never happened in our

2341

01:37:38,530 --> 01:37:33,800

office but the pathology people lost it

2342

01:37:40,240 --> 01:37:38,540

I went they lost it ah so I never found

2343

01:37:42,790 --> 01:37:40,250

out what it was I never got it and of

2344

01:37:45,010 --> 01:37:42,800

course you in the audience you can think

2345

01:37:46,540 --> 01:37:45,020

what I did and that is that I shouldn't

2346

01:37:48,280 --> 01:37:46,550

have told him that darn alien story

2347

01:37:49,960 --> 01:37:48,290

because if I hadn't he probably wouldn't

2348

01:37:51,460 --> 01:37:49,970

call the people that he probably called

2349

01:37:53,950 --> 01:37:51,470

and they weren't probably when they come

2350

01:37:55,030 --> 01:37:53,960

to pick it up just in case I was telling

2351

01:37:56,590 --> 01:37:55,040

the truth or something

2352

01:37:58,510 --> 01:37:56,600

I mean I'm telling you just what

2353

01:38:00,370 --> 01:37:58,520

happened but it was so terrifying that I

2354

01:38:02,680 --> 01:38:00,380

couldn't sleep in that house anymore and

2355

01:38:04,360 --> 01:38:02,690

they shortly thereafter we put the house

2356

01:38:07,390 --> 01:38:04,370

in the market and I moved into this

2357

01:38:09,820 --> 01:38:07,400

house you know so that's that's that

2358

01:38:12,850 --> 01:38:09,830

story I mean wow now you've never had

2359

01:38:17,860 --> 01:38:12,860

any more experiences after that just

2360

01:38:21,970 --> 01:38:17,870

that well I haven't but my oldest son

2361

01:38:24,550 --> 01:38:21,980

did and not in the house but here in

2362

01:38:26,880 --> 01:38:24,560

Connecticut he was with his a girl he

2363

01:38:30,190 --> 01:38:26,890

was with and he had a weird experience

2364

01:38:31,750 --> 01:38:30,200

my youngest son had another experience

2365

01:38:34,390 --> 01:38:31,760

which was really frightening here in

2366

01:38:36,730 --> 01:38:34,400

this house he started sleeping in my bed

2367

01:38:38,290 --> 01:38:36,740

for months at a time and then what are

2368

01:38:40,540 --> 01:38:38,300

you doing you can't sleep here you can't

2369

01:38:43,030 --> 01:38:40,550

sleep here and you got out of our bed

2370

01:38:45,040 --> 01:38:43,040

and you know I should sleep in your room

2371

01:38:46,510 --> 01:38:45,050

because I don't wanna I'm afraid okay

2372

01:38:50,230 --> 01:38:46,520

he's just maybe it's night terrors he

2373

01:38:51,790 --> 01:38:50,240

was 9 or whatever so I finally pressed

2374

01:38:53,920 --> 01:38:51,800

him I said what's wrong with you what's

2375

01:38:55,780 --> 01:38:53,930

matter why don't you want to sleep in

2376

01:38:58,420 --> 01:38:55,790

your own bed look it's so nice it's got

2377

01:39:00,760 --> 01:38:58,430

the it's got that memory foam topper on

2378

01:39:03,010 --> 01:39:00,770

it it's wonderful I can take a nap on

2379

01:39:05,530 --> 01:39:03,020

you knows I don't want to sleep in that

2380

01:39:07,120 --> 01:39:05,540

bed and I finally pushed hard enough and

2381

01:39:09,370 --> 01:39:07,130

he started to cry and I just course felt

2382

01:39:11,260 --> 01:39:09,380

like an idiot you know making my son cry

2383

01:39:13,570 --> 01:39:11,270

and I said what's the matter

2384

01:39:15,130 --> 01:39:13,580

and he says I'm afraid that aliens are

2385

01:39:17,050 --> 01:39:15,140

gonna take me out through the window

2386

01:39:20,950 --> 01:39:17,060

again I come through the window and take

2387

01:39:21,130 --> 01:39:20,960

me again he said I mean what how old was

2388

01:39:25,000 --> 01:39:21,140

he

2389

01:39:28,120 --> 01:39:25,010

aliens are gonna come through my window

2390

01:39:31,090 --> 01:39:28,130

and take me again well yeah and now I

2391

01:39:35,230 --> 01:39:31,100

mean you have to understand that at that

2392

01:39:37,570 --> 01:39:35,240

time I wasn't doing muffins

2393

01:39:40,180 --> 01:39:37,580

I wasn't their chief photo video analyst

2394

01:39:42,690 --> 01:39:40,190

I was interested in extraterrestrial

2395

01:39:48,490 --> 01:39:42,700

life but I I wasn't

2396

01:39:50,770 --> 01:39:48,500

fixated on UFOs in that regard I didn't

2397

01:39:53,080 --> 01:39:50,780

have books on him I still don't actually

2398

01:39:55,180 --> 01:39:53,090

I don't keep any that stuff out I don't

2399

01:39:56,040 --> 01:39:55,190

want to be you know tainted by other

2400

01:39:59,140 --> 01:39:56,050

people's

2401
01:40:01,690 --> 01:39:59,150
concepts ok I have to formulate my own

2402
01:40:04,960 --> 01:40:01,700
as someone who does this analysis and

2403
01:40:07,720 --> 01:40:04,970
but it's really kind of strange

2404
01:40:12,490 --> 01:40:07,730
so that was here you know and you know

2405
01:40:16,420 --> 01:40:12,500
that that is really bizarre this bizarre

2406
01:40:18,690 --> 01:40:16,430
yeah um okay now there's a really long

2407
01:40:22,690 --> 01:40:18,700
question here you'll have to bear with

2408
01:40:25,840 --> 01:40:22,700
us here it came in on the form and that

2409
01:40:29,110 --> 01:40:25,850
is a we think of beings capable of

2410
01:40:31,810 --> 01:40:29,120
getting here as necessarily smarter than

2411
01:40:34,300 --> 01:40:31,820
us but could some ETS be more

2412
01:40:39,190 --> 01:40:34,310
knowledgeable without necessarily being

2413
01:40:41,800 --> 01:40:39,200

smarter more intelligent would we

2414

01:40:43,930 --> 01:40:41,810

probably all known families with younger

2415

01:40:46,030 --> 01:40:43,940

siblings buh-buh-bah this is a real long

2416

01:40:50,560 --> 01:40:46,040

question but that's kind of the gist of

2417

01:40:52,690 --> 01:40:50,570

it do you think that if beings were

2418

01:40:55,810 --> 01:40:52,700

actually able to come here and visit

2419

01:40:57,880 --> 01:40:55,820

that they would actually have to be more

2420

01:40:59,290 --> 01:40:57,890

intelligent all the way around I guess

2421

01:41:00,220 --> 01:40:59,300

that's kind of the question well

2422

01:41:03,730 --> 01:41:00,230

certainly they have to be more

2423

01:41:07,330 --> 01:41:03,740

technically apt they have to be more

2424

01:41:10,810 --> 01:41:07,340

technically capable because you have to

2425

01:41:14,410 --> 01:41:10,820

use much higher technology to apply the

2426

01:41:16,210 --> 01:41:14,420

distance between the stars you need to

2427

01:41:17,890 --> 01:41:16,220

be able to harness huge amounts of

2428

01:41:19,270 --> 01:41:17,900

energy and the harness huge amounts of

2429

01:41:23,290 --> 01:41:19,280

energy you have to have a technology

2430

01:41:25,360 --> 01:41:23,300

that can do it um and so I think they

2431

01:41:27,190 --> 01:41:25,370

have to have a higher tech tech level

2432

01:41:32,470 --> 01:41:27,200

for sure they have to be more

2433

01:41:34,300 --> 01:41:32,480

intelligent I think that one necessarily

2434

01:41:36,880 --> 01:41:34,310

begets the other I think you have to be

2435

01:41:39,910 --> 01:41:36,890

intelligent to be able to develop these

2436

01:41:43,570 --> 01:41:39,920

technologies now that said I will now

2437

01:41:45,940 --> 01:41:43,580

call myself a liar it's possible that a

2438

01:41:50,080 --> 01:41:45,950

civilization out there develop

2439

01:41:52,270 --> 01:41:50,090

technology then evolved away from

2440

01:41:54,670 --> 01:41:52,280

intellect but the technology remained

2441

01:41:56,890 --> 01:41:54,680

and they just began using it dumb you

2442

01:41:58,540 --> 01:41:56,900

know in a dumb manner that's possible

2443

01:42:02,530 --> 01:41:58,550

and then that technology could have

2444

01:42:05,710 --> 01:42:02,540

brought them here I also think that the

2445

01:42:07,600 --> 01:42:05,720

gray aliens in particular when people

2446

01:42:09,790 --> 01:42:07,610

have said they actually you know for

2447

01:42:12,730 --> 01:42:09,800

those that say they experienced the gray

2448

01:42:14,590 --> 01:42:12,740

abduction or being abducted they've said

2449

01:42:16,570 --> 01:42:14,600

that the gray alien seemed so

2450

01:42:20,440 --> 01:42:16,580

indifferent

2451
01:42:23,410 --> 01:42:20,450
machines and I basically have said and

2452
01:42:26,050 --> 01:42:23,420
so many others I think that I think

2453
01:42:29,020 --> 01:42:26,060
they're biological robots I think that

2454
01:42:32,410 --> 01:42:29,030
they're just they have a certain program

2455
01:42:34,930 --> 01:42:32,420
mission and that's what they do whether

2456
01:42:36,760 --> 01:42:34,940
that mission is to go interstellar find

2457
01:42:39,310 --> 01:42:36,770
us and do the experiments here which

2458
01:42:42,280 --> 01:42:39,320
would make them not necessarily as

2459
01:42:46,840 --> 01:42:42,290
intelligent as us if they're robotic or

2460
01:42:48,820 --> 01:42:46,850
bio robots but it would make them have

2461
01:42:51,070 --> 01:42:48,830
the ability to utilize a higher

2462
01:42:55,510 --> 01:42:51,080
technology without necessarily having to

2463
01:42:57,900 --> 01:42:55,520

understand it so that's a possibility so

2464

01:43:00,700 --> 01:42:57,910

I don't I don't necessarily believe that

2465

01:43:03,970 --> 01:43:00,710

visiting species has to be more

2466

01:43:07,210 --> 01:43:03,980

intelligent than us but I do think that

2467

01:43:09,040 --> 01:43:07,220

the origination of that technology has

2468

01:43:12,190 --> 01:43:09,050

to come from a far higher intelligence

2469

01:43:15,880 --> 01:43:12,200

than we have yeah okay it kind of makes

2470

01:43:17,710 --> 01:43:15,890

sense now this is a you Fatah race

2471

01:43:21,400 --> 01:43:17,720

stanford has collected UFO evidence

2472

01:43:25,230 --> 01:43:21,410

using a variety of instruments such as a

2473

01:43:27,190 --> 01:43:25,240

recording gravimeter a recording

2474

01:43:30,490 --> 01:43:27,200

magnetometer i'm not even saying that

2475

01:43:33,760 --> 01:43:30,500

spectrograph camera etc audio recorder

2476
01:43:35,710 --> 01:43:33,770
all that and other cameras yet somehow

2477
01:43:38,680 --> 01:43:35,720
this evidence still seems largely

2478
01:43:42,970 --> 01:43:38,690
ignored by the scientific community do

2479
01:43:47,620 --> 01:43:42,980
you fear that you photog evidence might

2480
01:43:50,860 --> 01:43:47,630
have a similar simile be ignored it is I

2481
01:43:53,530 --> 01:43:50,870
mean we've actually you know uh Doug

2482
01:43:56,730 --> 01:43:53,540
Trumbull with whom I'm doing this has

2483
01:43:59,530 --> 01:43:56,740
talked to some very important people and

2484
01:44:02,290 --> 01:43:59,540
they've you know when you hear the word

2485
01:44:04,750 --> 01:44:02,300
UFO they start to snicker and they're

2486
01:44:08,440 --> 01:44:04,760
not sure they want to get involved but I

2487
01:44:11,680 --> 01:44:08,450
think those those those winds are

2488
01:44:14,080 --> 01:44:11,690

changing because there are other

2489

01:44:17,310 --> 01:44:14,090

companies doing things related to UFOs

2490

01:44:19,900 --> 01:44:17,320

they're starting to get funding and

2491

01:44:21,900 --> 01:44:19,910

funding from big sources and I think

2492

01:44:25,260 --> 01:44:21,910

that's important and that will lead to

2493

01:44:27,730 --> 01:44:25,270

you Fatah getting funded for instance um

2494

01:44:30,490 --> 01:44:27,740

ray Stanford I actually owe him a visit

2495

01:44:32,440 --> 01:44:30,500

I mean he's several times he

2496

01:44:36,310 --> 01:44:32,450

had told people that work with him that

2497

01:44:39,160 --> 01:44:36,320

you know he would like to see me come

2498

01:44:41,230 --> 01:44:39,170

down and talk to him and I would so you

2499

01:44:43,360 --> 01:44:41,240

know I still owe him that that time so

2500

01:44:44,830 --> 01:44:43,370

thanks for reminding me give me a kick

2501

01:44:50,680 --> 01:44:44,840

in the backside there because I I do

2502

01:44:53,260 --> 01:44:50,690

have to call him yeah yeah let's see Tom

2503

01:44:55,510 --> 01:44:53,270

wanted to know if you are planning on

2504

01:44:58,990 --> 01:44:55,520

being at the UFO I mean I'm sorry at the

2505

01:45:00,580 --> 01:44:59,000

MUFON symposium this year I'm not sure

2506

01:45:05,160 --> 01:45:00,590

I'm going to make it this year because I

2507

01:45:09,370 --> 01:45:05,170

think I have a conflict I will be in

2508

01:45:12,190 --> 01:45:09,380

Roswell at the Roswell festival they

2509

01:45:14,710 --> 01:45:12,200

call it I think that's June 29th to July

2510

01:45:16,360 --> 01:45:14,720

1st and then I'll be at the Devil's

2511

01:45:18,190 --> 01:45:16,370

Tower 40th anniversary of Close

2512

01:45:20,230 --> 01:45:18,200

Encounters of the Third Kind that's

2513

01:45:23,320 --> 01:45:20,240

right in September right yeah September

2514

01:45:25,240 --> 01:45:23,330

14 through 16 anything yeah yeah I had

2515

01:45:27,910 --> 01:45:25,250

to do talks at both of those venues and

2516

01:45:30,040 --> 01:45:27,920

then just a few weeks from now on the

2517

01:45:33,610 --> 01:45:30,050

20th of May I'll be in Pine Bush New

2518

01:45:35,530 --> 01:45:33,620

York doing a really nice little festival

2519

01:45:38,910 --> 01:45:35,540

up there first time I've done that I

2520

01:45:42,910 --> 01:45:38,920

spoke at an expo down in New York City

2521

01:45:44,470 --> 01:45:42,920

good like a month ago or so that was a

2522

01:45:46,660 --> 01:45:44,480

nightmare because knew it's New York

2523

01:45:48,460 --> 01:45:46,670

whatever you know it's a gone hustle and

2524

01:45:51,130 --> 01:45:48,470

bustle is too much for me yeah you need

2525

01:45:54,670 --> 01:45:51,140

my mom yeah oh yeah I just went through

2526

01:45:56,170 --> 01:45:54,680

there today this is another kind of a

2527

01:45:58,390 --> 01:45:56,180

long question it's kind of an

2528

01:46:00,910 --> 01:45:58,400

interesting one though if you are able

2529

01:46:04,330 --> 01:46:00,920

to artificially recreate an image that

2530

01:46:07,030 --> 01:46:04,340

is being touted as an image of a UFO it

2531

01:46:09,640 --> 01:46:07,040

shows that the touted image on its own

2532

01:46:13,360 --> 01:46:09,650

merit cannot be taken as a conclusive

2533

01:46:15,160 --> 01:46:13,370

proof as something anomalous but does

2534

01:46:17,860 --> 01:46:15,170

that lead us to the conclusion that no

2535

01:46:21,010 --> 01:46:17,870

photographic image can ever be taken on

2536

01:46:24,400 --> 01:46:21,020

its own as conclusive proof that's

2537

01:46:26,110 --> 01:46:24,410

actually a very good question and I'm

2538

01:46:27,670 --> 01:46:26,120

not sure but the person who wrote that I

2539

01:46:30,880 --> 01:46:27,680

don't know who did but it's probably

2540

01:46:34,950 --> 01:46:30,890

someone who knows my my style I try to

2541

01:46:39,880 --> 01:46:34,960

recreate sightings I try to recreate

2542

01:46:41,560 --> 01:46:39,890

what people see using known objects that

2543

01:46:43,410 --> 01:46:41,570

could be mistaken not because I'm trying

2544

01:46:47,640 --> 01:46:43,420

to debunk I'll be

2545

01:46:50,280 --> 01:46:47,650

I'm trying to remove the the variables

2546

01:46:52,380 --> 01:46:50,290

and I would very much like to be proven

2547

01:46:54,450 --> 01:46:52,390

wrong I want to be shown that I'm not

2548

01:46:57,959 --> 01:46:54,460

correct I want to be proven wrong I want

2549

01:47:02,189 --> 01:46:57,969

to not find a solution but it's possible

2550

01:47:05,010 --> 01:47:02,199

that you know when when I recreate

2551
01:47:07,380 --> 01:47:05,020
something all that does is it shows how

2552
01:47:09,300 --> 01:47:07,390
it could have happened it doesn't mean

2553
01:47:10,830 --> 01:47:09,310
what they saw didn't actually occur the

2554
01:47:13,740 --> 01:47:10,840
way they saw it the way they feel it did

2555
01:47:14,880 --> 01:47:13,750
it just means that we have to take it

2556
01:47:16,830 --> 01:47:14,890
with a grain of salt it doesn't mean

2557
01:47:20,510 --> 01:47:16,840
that all photo or video proof is just

2558
01:47:23,939 --> 01:47:20,520
thrown out it doesn't mean that at all

2559
01:47:26,490 --> 01:47:23,949
because what if you know I thought you

2560
01:47:28,979 --> 01:47:26,500
have to look at other things you have to

2561
01:47:30,419 --> 01:47:28,989
look at you have to consider the person

2562
01:47:33,030 --> 01:47:30,429
that actually took the photo you look in

2563
01:47:35,880 --> 01:47:33,040

their background are they capable of

2564

01:47:38,610 --> 01:47:35,890

doing the advanced engineering that I

2565

01:47:40,200 --> 01:47:38,620

might do to recreate the the photo I

2566

01:47:42,780 --> 01:47:40,210

might be able to recreate it but what if

2567

01:47:45,990 --> 01:47:42,790

I'm using this advanced concept to do it

2568

01:47:47,340 --> 01:47:46,000

and they're not they didn't and they

2569

01:47:50,270 --> 01:47:47,350

couldn't do it say they weren't that

2570

01:47:52,740 --> 01:47:50,280

person they didn't have that capability

2571

01:47:55,410 --> 01:47:52,750

well then it becomes less likely that

2572

01:47:58,760 --> 01:47:55,420

they faked it right because the issue is

2573

01:48:01,740 --> 01:47:58,770

the instrument hand is that most people

2574

01:48:03,959 --> 01:48:01,750

don't have access to the same type of

2575

01:48:05,610 --> 01:48:03,969

tools that I might have access to that

2576

01:48:07,560 --> 01:48:05,620

doesn't mean and I'm any better than

2577

01:48:09,840 --> 01:48:07,570

anybody it just means that I'm a weirdo

2578

01:48:11,220 --> 01:48:09,850

it means that I have done these crazy

2579

01:48:16,380 --> 01:48:11,230

things and spent my life doing

2580

01:48:21,240 --> 01:48:16,390

absolutely wacky things and you know I

2581

01:48:22,830 --> 01:48:21,250

have amassed a knowledge base of how

2582

01:48:25,650 --> 01:48:22,840

certain things act on their certain

2583

01:48:27,600 --> 01:48:25,660

conditions and you know in other it's

2584

01:48:29,400 --> 01:48:27,610

like I'll be great at Trivial Pursuit if

2585

01:48:31,080 --> 01:48:29,410

we ever talk about the weird engineering

2586

01:48:33,000 --> 01:48:31,090

things but I won't be good at it if it

2587

01:48:35,010 --> 01:48:33,010

were we're talking about you know

2588

01:48:36,959 --> 01:48:35,020

history or some well no history maybe

2589

01:48:39,330 --> 01:48:36,969

but you know some topics I'm not going

2590

01:48:42,090 --> 01:48:39,340

to be good at at all but I think that it

2591

01:48:43,410 --> 01:48:42,100

matters without it what comes down to is

2592

01:48:46,740 --> 01:48:43,420

how much effort did it take me to

2593

01:48:48,750 --> 01:48:46,750

recreate it or would it take someone to

2594

01:48:50,729 --> 01:48:48,760

recreate it and that is something that

2595

01:48:52,950 --> 01:48:50,739

you put up against the actual sighting

2596

01:48:54,270 --> 01:48:52,960

the conditions of the sighting and then

2597

01:48:55,700 --> 01:48:54,280

the person who took the pictures or

2598

01:48:57,890 --> 01:48:55,710

images

2599

01:48:59,630 --> 01:48:57,900

so you know you compare the two and say

2600

01:49:02,709 --> 01:48:59,640

this person would have had to have done

2601

01:49:04,550 --> 01:49:02,719

all this to get this result and that

2602

01:49:06,500 --> 01:49:04,560

becomes something you say well that

2603

01:49:08,750 --> 01:49:06,510

doesn't seem very likely I might have

2604

01:49:12,470 --> 01:49:08,760

been able to recreate it but it doesn't

2605

01:49:12,890 --> 01:49:12,480

seem very likely that they would right

2606

01:49:15,290 --> 01:49:12,900

right

2607

01:49:16,850 --> 01:49:15,300

now I'm going to share this up but this

2608

01:49:18,770 --> 01:49:16,860

is only for people that are watching

2609

01:49:23,720 --> 01:49:18,780

live on YouTube

2610

01:49:26,750 --> 01:49:23,730

if you're watching now and you can see

2611

01:49:28,820 --> 01:49:26,760

this mark this is the turkey UFO I'm

2612

01:49:31,520 --> 01:49:28,830

sure you're very familiar with that I

2613

01:49:33,800 --> 01:49:31,530

get a number of emails about this

2614

01:49:37,550 --> 01:49:33,810

because in this particular case it looks

2615

01:49:39,560 --> 01:49:37,560

like you know there's a aliens I mean it

2616

01:49:41,680 --> 01:49:39,570

does look like two heads in the front

2617

01:49:43,940 --> 01:49:41,690

now some people are saying that this is

2618

01:49:46,070 --> 01:49:43,950

or some people have speculated this has

2619

01:49:49,070 --> 01:49:46,080

to do with the inside of a video camera

2620

01:49:50,300 --> 01:49:49,080

yeah the edge that there was some people

2621

01:49:53,440 --> 01:49:50,310

saying that was an edge reflection

2622

01:49:56,380 --> 01:49:53,450

let's see those when you see those black

2623

01:50:00,530 --> 01:49:56,390

suppose it figures inside there that

2624

01:50:02,120 --> 01:50:00,540

absence of light indicates a shape that

2625

01:50:05,030 --> 01:50:02,130

your brain tries to make into a familiar

2626
01:50:07,280 --> 01:50:05,040
pattern such as such as would be what's

2627
01:50:09,650 --> 01:50:07,290
called pareidolia and that that is why

2628
01:50:12,110 --> 01:50:09,660
you might see bodies or or heads

2629
01:50:13,430 --> 01:50:12,120
sticking up however if you look at them

2630
01:50:15,620 --> 01:50:13,440
just as lights then maybe they're a

2631
01:50:17,930 --> 01:50:15,630
string of lights on something you know

2632
01:50:19,970 --> 01:50:17,940
and the black areas aren't necessarily

2633
01:50:23,180 --> 01:50:19,980
anything in particular

2634
01:50:25,610 --> 01:50:23,190
no so that's that case but I don't I

2635
01:50:29,780 --> 01:50:25,620
don't find that you know the objects in

2636
01:50:31,880 --> 01:50:29,790
the quote-unquote window why why would

2637
01:50:33,590 --> 01:50:31,890
they be standing there and then you also

2638
01:50:35,450 --> 01:50:33,600

have people that create these imagery

2639

01:50:37,400 --> 01:50:35,460

this imagery and they add to it and they

2640

01:50:39,560 --> 01:50:37,410

make it look like well this really

2641

01:50:41,300 --> 01:50:39,570

wasn't alien see you know here's the

2642

01:50:43,270 --> 01:50:41,310

eyes here's the head you can see them

2643

01:50:46,490 --> 01:50:43,280

very clearly and they actually get a

2644

01:50:48,500 --> 01:50:46,500

resolution out of the original image

2645

01:50:49,910 --> 01:50:48,510

that would just never existed and I

2646

01:50:50,900 --> 01:50:49,920

don't know how that's possible you know

2647

01:50:53,870 --> 01:50:50,910

I mean I don't know how they could make

2648

01:50:56,150 --> 01:50:53,880

an image that had no poor resolution at

2649

01:50:58,040 --> 01:50:56,160

best and they they made it into

2650

01:51:01,220 --> 01:50:58,050

something with super resolution and that

2651
01:51:02,120 --> 01:51:01,230
that's always a very suggestive of

2652
01:51:04,820 --> 01:51:02,130
deception to me

2653
01:51:08,990 --> 01:51:04,830
there's been a lot of people that you

2654
01:51:09,470 --> 01:51:09,000
know like for instance Roger Leir I was

2655
01:51:11,720 --> 01:51:09,480
there

2656
01:51:13,190 --> 01:51:11,730
or when this was being filmed and a

2657
01:51:16,160 --> 01:51:13,200
number of people that say they actually

2658
01:51:17,990 --> 01:51:16,170
saw this saying if so it was really

2659
01:51:20,630 --> 01:51:18,000
strange it just sat out in the middle of

2660
01:51:23,120 --> 01:51:20,640
the ocean some speculate that it could

2661
01:51:26,150 --> 01:51:23,130
be something to do with an actual boat

2662
01:51:28,510 --> 01:51:26,160
out on the water and all that but is

2663
01:51:33,040 --> 01:51:28,520

this something you looked into pretty

2664

01:51:36,290 --> 01:51:33,050

anslee at one point at one point the NIA

2665

01:51:38,090 --> 01:51:36,300

the guy who actually had some of the

2666

01:51:43,610 --> 01:51:38,100

original footage was going to give it to

2667

01:51:45,770 --> 01:51:43,620

me to look at and he backed out didn't

2668

01:51:47,360 --> 01:51:45,780

want to give it to me I don't know maybe

2669

01:51:49,400 --> 01:51:47,370

he didn't think I was gonna give the

2670

01:51:50,630 --> 01:51:49,410

right answer he wanted I don't know but

2671

01:51:52,729 --> 01:51:50,640

I was able to give it a fair shake I

2672

01:51:54,140 --> 01:51:52,739

always give everything a fair shake you

2673

01:51:57,080 --> 01:51:54,150

know I mean I know I've seen a lot of

2674

01:52:00,500 --> 01:51:57,090

things I know if I come across sometimes

2675

01:52:02,870 --> 01:52:00,510

a debunker by I'm more of an explainer

2676

01:52:04,760 --> 01:52:02,880

in and remember my goal is to not be

2677

01:52:07,040 --> 01:52:04,770

able to explain something I want to crow

2678

01:52:08,930 --> 01:52:07,050

from the rooftops I can't explain this

2679

01:52:10,190 --> 01:52:08,940

this is great I mean you have to

2680

01:52:11,750 --> 01:52:10,200

understand I don't have an ego too

2681

01:52:14,120 --> 01:52:11,760

bruised I'm not trying to be a debunker

2682

01:52:16,580 --> 01:52:14,130

you know I just want to be able to

2683

01:52:19,040 --> 01:52:16,590

explain it if I can because I'm doing

2684

01:52:21,979 --> 01:52:19,050

that I'd be doing a disservice anyone

2685

01:52:24,200 --> 01:52:21,989

that follows me if I know said oh I

2686

01:52:25,729 --> 01:52:24,210

think that's a UFO when of course I had

2687

01:52:28,160 --> 01:52:25,739

reservations about whether it really was

2688

01:52:32,090 --> 01:52:28,170

you know and I don't want to do the

2689

01:52:34,640 --> 01:52:32,100

service to people about do you find that

2690

01:52:38,240 --> 01:52:34,650

because of this this way that you're

2691

01:52:40,010 --> 01:52:38,250

doing this that do you get attacked by

2692

01:52:42,350 --> 01:52:40,020

people when they we need they don't

2693

01:52:43,880 --> 01:52:42,360

listen to it yeah I actually had a guy

2694

01:52:48,260 --> 01:52:43,890

trying to throw a punch at me in Las

2695

01:52:50,570 --> 01:52:48,270

Vegas oh yeah I was um um he since

2696

01:52:53,870 --> 01:52:50,580

passed away actually but uh I did not

2697

01:52:58,010 --> 01:52:53,880

kill um nobody can prove it but um I did

2698

01:53:00,380 --> 01:52:58,020

not I'm kidding yeah I had I had talked

2699

01:53:04,120 --> 01:53:00,390

about footage that was shot from the

2700

01:53:07,160 --> 01:53:04,130

space shuttle that I considered to be

2701

01:53:08,720 --> 01:53:07,170

clearly to me as someone who's extremely

2702

01:53:10,850 --> 01:53:08,730

familiar with many different kinds of

2703

01:53:12,260 --> 01:53:10,860

cameras very familiar with on-orbit

2704

01:53:15,560 --> 01:53:12,270

activities what they do up there how

2705

01:53:16,970 --> 01:53:15,570

things act in space how the thruster

2706

01:53:19,850 --> 01:53:16,980

systems on the shuttle work and how

2707

01:53:22,669 --> 01:53:19,860

particles work around the shuttle and

2708

01:53:25,969 --> 01:53:22,679

when I saw this imagery where the

2709

01:53:29,660 --> 01:53:25,979

order to be ufos swarming a you know an

2710

01:53:31,910 --> 01:53:29,670

object at distance I said now that

2711

01:53:34,189 --> 01:53:31,920

that's that's actually just a camera

2712

01:53:36,399 --> 01:53:34,199

artifact and I can prove it and actually

2713

01:53:39,949 --> 01:53:36,409

as part of a National Geographic show

2714

01:53:42,500 --> 01:53:39,959

they brought me out to Dallas and I in

2715

01:53:44,390 --> 01:53:42,510

the studio I built a shuttle window I

2716

01:53:45,830 --> 01:53:44,400

built these particles outside the window

2717

01:53:49,009 --> 01:53:45,840

and I built this thing in the distance

2718

01:53:52,069 --> 01:53:49,019

today I actually recreated the event and

2719

01:53:52,549 --> 01:53:52,079

I had the cameraman for the Discovery

2720

01:53:56,089 --> 01:53:52,559

Channel

2721

01:53:59,959 --> 01:53:56,099

I had him focus on the particles and

2722

01:54:01,459 --> 01:53:59,969

then go focus on the it was a tether the

2723

01:54:04,399 --> 01:54:01,469

tether incident this tether in the

2724

01:54:06,140 --> 01:54:04,409

distance and I said now watch the

2725

01:54:07,549 --> 01:54:06,150

particles they're going to seem to move

2726
01:54:10,040 --> 01:54:07,559
right behind the tether because they're

2727
01:54:12,770 --> 01:54:10,050
out of focus and the tether is as bright

2728
01:54:14,449 --> 01:54:12,780
as it can be anything passing in front

2729
01:54:16,870 --> 01:54:14,459
of it would look like it's going behind

2730
01:54:20,689 --> 01:54:16,880
it and I demonstrated that very clearly

2731
01:54:23,239 --> 01:54:20,699
and and I said so you have to understand

2732
01:54:26,209 --> 01:54:23,249
this is the situation that there was up

2733
01:54:29,089 --> 01:54:26,219
and out you know at the shuttle so why

2734
01:54:32,060 --> 01:54:29,099
is it that you know we say that where

2735
01:54:34,100 --> 01:54:32,070
people say that these are obviously two

2736
01:54:36,259 --> 01:54:34,110
mile UFOs you know two mile diameter

2737
01:54:38,660 --> 01:54:36,269
UFOs they weren't they were out-of-focus

2738
01:54:41,060 --> 01:54:38,670

particles but they're blinking regularly

2739

01:54:43,100 --> 01:54:41,070

yes they're spinning but they're out of

2740

01:54:44,750 --> 01:54:43,110

focus and in the telescope like that I

2741

01:54:46,969 --> 01:54:44,760

can prove it with my Observatory right

2742

01:54:49,399 --> 01:54:46,979

here a spinning object in that

2743

01:54:51,500 --> 01:54:49,409

Observatory telescope which is the same

2744

01:54:54,319 --> 01:54:51,510

kind as on the shuttle

2745

01:54:55,879 --> 01:54:54,329

except shuttle ones are much smaller all

2746

01:54:58,910 --> 01:54:55,889

right they're called catadioptric they

2747

01:55:01,609 --> 01:54:58,920

have a small little secondary mirror up

2748

01:55:03,919 --> 01:55:01,619

in the end you know and it's a it's like

2749

01:55:06,229 --> 01:55:03,929

a glass plate in the front and light

2750

01:55:08,209 --> 01:55:06,239

goes down it's a main mirror comes up

2751

01:55:09,890 --> 01:55:08,219

it's the little tiny mirror in the

2752

01:55:12,080 --> 01:55:09,900

center the end thing goes back down

2753

01:55:14,029 --> 01:55:12,090

through a hole in the mirror it's a they

2754

01:55:17,629 --> 01:55:14,039

also call them folded optical path

2755

01:55:20,899 --> 01:55:17,639

telescopes those kinds of telescopes or

2756

01:55:24,529 --> 01:55:20,909

telephotos even are used because they

2757

01:55:26,719 --> 01:55:24,539

they give you a big punch you know for

2758

01:55:28,969 --> 01:55:26,729

the buck they give you good focal

2759

01:55:32,239 --> 01:55:28,979

lengths a good way to get a nice sharp

2760

01:55:36,080 --> 01:55:32,249

distant shot when you can't carry a very

2761

01:55:37,490 --> 01:55:36,090

long telescopic telephoto into space so

2762

01:55:40,550 --> 01:55:37,500

I recreated it and showed all the

2763

01:55:42,410 --> 01:55:40,560

effects how that happens and you know I

2764

01:55:47,090 --> 01:55:42,420

just let it lie at that you know that's

2765

01:55:50,570 --> 01:55:47,100

how it was all right um I think we're

2766

01:55:52,610 --> 01:55:50,580

going to end this show with something a

2767

01:55:55,460 --> 01:55:52,620

kind of fun that Amanda wanted to know

2768

01:55:57,350 --> 01:55:55,470

in the chat room about stepping on an

2769

01:56:01,880 --> 01:55:57,360

invisible dog now I don't think I've

2770

01:56:03,950 --> 01:56:01,890

heard about this yeah that was um okay

2771

01:56:10,100 --> 01:56:03,960

thanks Amanda you're gonna hear it for

2772

01:56:13,450 --> 01:56:10,110

me okay um this has to do with potential

2773

01:56:16,250 --> 01:56:13,460

parallel universes and medical science

2774

01:56:18,350 --> 01:56:16,260

you know some years ago about about

2775

01:56:21,230 --> 01:56:18,360

thirty years ago I had had brain surgery

2776
01:56:22,610 --> 01:56:21,240
in to fix something that was going

2777
01:56:25,460 --> 01:56:22,620
otherwise kill me

2778
01:56:29,300 --> 01:56:25,470
and it was successful I survived

2779
01:56:31,190 --> 01:56:29,310
otherwise you wouldn't hear me and in

2780
01:56:34,580 --> 01:56:31,200
the later years like in the last three

2781
01:56:35,930 --> 01:56:34,590
years for years I started to hear people

2782
01:56:38,330 --> 01:56:35,940
talking that weren't there and I started

2783
01:56:40,760 --> 01:56:38,340
to see people walking by that weren't

2784
01:56:42,770 --> 01:56:40,770
there at least there were

2785
01:56:44,900 --> 01:56:42,780
semi-transparent so I figured it was the

2786
01:56:47,960 --> 01:56:44,910
injury in my brain and what they did you

2787
01:56:51,080 --> 01:56:47,970
know the maturity of that injury but it

2788
01:56:53,240 --> 01:56:51,090

turns out that um you know I was working

2789

01:56:56,360 --> 01:56:53,250

on a prop for a movie I was working on

2790

01:56:58,550 --> 01:56:56,370

in my shop and I saw this little dog

2791

01:57:00,170 --> 01:56:58,560

walk in it was semi-transparent and it

2792

01:57:01,370 --> 01:57:00,180

wasn't going away I wasn't seeing it out

2793

01:57:03,470 --> 01:57:01,380

of the corner of my eye it was right in

2794

01:57:08,000 --> 01:57:03,480

front of me so I went over and I stepped

2795

01:57:10,720 --> 01:57:08,010

on it and when I did that um it took off

2796

01:57:13,670 --> 01:57:10,730

and it left my shop like in a hurry and

2797

01:57:15,530 --> 01:57:13,680

but the problem was it took my foot with

2798

01:57:17,440 --> 01:57:15,540

it and it yanked my leg right out from

2799

01:57:21,830 --> 01:57:17,450

under me like I was being yanked by a

2800

01:57:24,050 --> 01:57:21,840

freaking cannon um and I landed in the

2801

01:57:25,100 --> 01:57:24,060

back of my head on the floor my feet

2802

01:57:27,140 --> 01:57:25,110

went both feet on right up in the air

2803

01:57:29,450 --> 01:57:27,150

wood and I went down right on my back on

2804

01:57:30,950 --> 01:57:29,460

the back of my head the wind got knocked

2805

01:57:32,690 --> 01:57:30,960

out of me and I hit my shoulder on the

2806

01:57:35,150 --> 01:57:32,700

table going down which is why to this

2807

01:57:36,560 --> 01:57:35,160

day I have a frozen shoulder problem

2808

01:57:41,080 --> 01:57:36,570

that I've been nursing to get rid of and

2809

01:57:46,040 --> 01:57:41,090

so to me that's it's a long story I know

2810

01:57:47,870 --> 01:57:46,050

to me that was um in a sense it you know

2811

01:57:50,070 --> 01:57:47,880

people say oh it was a ghost it was this

2812

01:57:52,560 --> 01:57:50,080

no I think was actually

2813

01:57:55,410 --> 01:57:52,570

uh what I call a bleed through from a

2814

01:57:56,640 --> 01:57:55,420

parallel universe and now you're

2815

01:57:58,680 --> 01:57:56,650

probably scratching your head going

2816

01:58:01,470 --> 01:57:58,690

money talking about parallel universe as

2817

01:58:03,660 --> 01:58:01,480

well the Big Bang when it took on when

2818

01:58:06,720 --> 01:58:03,670

it blew up there wasn't enough mass to

2819

01:58:09,450 --> 01:58:06,730

cause what we see so with that said the

2820

01:58:11,370 --> 01:58:09,460

Big Bang might have spawned multiple

2821

01:58:13,560 --> 01:58:11,380

universes that's been a thought on

2822

01:58:14,910 --> 01:58:13,570

people's minds research papers that

2823

01:58:17,580 --> 01:58:14,920

appeared in the Astrophysical Journal

2824

01:58:21,000 --> 01:58:17,590

actually confirmed that now so now

2825

01:58:23,070 --> 01:58:21,010

parallel universes or the multiverse our

2826

01:58:25,200 --> 01:58:23,080

potential reality and what I experienced

2827

01:58:27,570 --> 01:58:25,210

could very well have been what a term I

2828

01:58:29,730 --> 01:58:27,580

coined is a parallel universe intersect

2829

01:58:32,130 --> 01:58:29,740

ooh ah that's cool

2830

01:58:35,330 --> 01:58:32,140

hey Marv thanks so much Martin it was

2831

01:58:38,160 --> 01:58:35,340

great thank you

2832

01:58:41,640 --> 01:58:38,170

all right everyone thanks so much for

2833

01:58:44,010 --> 01:58:41,650

listening and next week we have Mary

2834

01:58:47,340 --> 01:58:44,020

Rodwell from Australia she's going to be

2835

01:58:49,950 --> 01:58:47,350

on our show and thanks so much for

2836

01:58:54,080 --> 01:58:49,960

joining in and kay I also want to thank

2837

01:58:57,450 --> 01:58:54,090

you for monitoring the chat and everyone

2838

01:58:59,310 --> 01:58:57,460

thanks so much for tuning in and we'll