

MARC D'ANTONIO

#506



1
00:00:39,030 --> 00:00:10,830

[Music]

2
00:00:42,869 --> 00:00:40,630

hello and welcome to the show of martin

3
00:00:45,270 --> 00:00:42,879

willis your host and you can see uh for

4
00:00:48,709 --> 00:00:45,280

those of you watching this on video um

5
00:00:50,630 --> 00:00:48,719

right out on a deck over the ocean right

6
00:00:52,950 --> 00:00:50,640

where uh mark right in the area where

7
00:00:55,990 --> 00:00:52,960

mark d'antonio used to spend time as a

8
00:00:58,150 --> 00:00:56,000

child um up here on the coast of maine

9
00:01:01,110 --> 00:00:58,160

i'll be bringing him in in just a minute

10
00:01:03,510 --> 00:01:01,120

so this is sort of a last minute

11
00:01:05,429 --> 00:01:03,520

special type show the show i had earl

12
00:01:08,469 --> 00:01:05,439

earlier this week did not go well i did

13
00:01:10,870 --> 00:01:08,479

not uh put it out uh there so this is a

14

00:01:14,390 --> 00:01:10,880

one hour show i i'd like to do a show

15

00:01:17,190 --> 00:01:14,400

every week and uh so i contacted my good

16

00:01:19,910 --> 00:01:17,200

friend mark d'antonio and said hey what

17

00:01:20,630 --> 00:01:19,920

about doing a show in a couple of hours

18

00:01:22,710 --> 00:01:20,640

and

19

00:01:25,270 --> 00:01:22,720

he said fine about what i don't know

20

00:01:27,590 --> 00:01:25,280

let's just talk so we are going to touch

21

00:01:29,109 --> 00:01:27,600

on or at least i'll try to there's

22

00:01:30,469 --> 00:01:29,119

really not a whole lot to say but we'll

23

00:01:33,350 --> 00:01:30,479

touch on the

24

00:01:35,030 --> 00:01:33,360

uh congressional uh public hearing

25

00:01:36,789 --> 00:01:35,040

uh that's gonna happen next tuesday

26

00:01:37,910 --> 00:01:36,799

maybe i'll know a lot more about it on

27

00:01:39,910 --> 00:01:37,920

tuesday

28

00:01:42,230 --> 00:01:39,920

after it happens trying to find

29

00:01:43,749 --> 00:01:42,240

information about it it's not real easy

30

00:01:45,270 --> 00:01:43,759

so i want to thank everyone out there

31

00:01:47,910 --> 00:01:45,280

that listens to the show i want to thank

32

00:01:51,030 --> 00:01:47,920

all the supporters and anyone can do

33

00:01:54,389 --> 00:01:51,040

that the uh support link is right on our

34

00:01:57,910 --> 00:01:54,399

website podcast ufo.com

35

00:01:59,590 --> 00:01:57,920

and let me announce the uh

36

00:02:03,830 --> 00:01:59,600

charles lear did

37

00:02:06,389 --> 00:02:03,840

the virginia uh blog the week before

38

00:02:08,389 --> 00:02:06,399

so he did he got interested in this

39

00:02:09,350 --> 00:02:08,399

whole thing that's been happening down

40

00:02:11,990 --> 00:02:09,360

in

41

00:02:14,229 --> 00:02:12,000

brazil so he wrote this one uh it's

42

00:02:16,309 --> 00:02:14,239

violent ufo encounters in brazil and

43

00:02:18,710 --> 00:02:16,319

it's a fascinating one i i am familiar

44

00:02:20,949 --> 00:02:18,720

with this one i had heard about it um

45

00:02:23,430 --> 00:02:20,959

years ago never really looked really

46

00:02:26,550 --> 00:02:23,440

deeply into it but it's it's a good one

47

00:02:28,710 --> 00:02:26,560

and by the way charles o'lear has who's

48

00:02:29,510 --> 00:02:28,720

been writing these blogs all all these

49

00:02:32,309 --> 00:02:29,520

years

50

00:02:33,509 --> 00:02:32,319

has written a book and it's going to be

51

00:02:36,150 --> 00:02:33,519

published

52

00:02:38,710 --> 00:02:36,160

on june 1st so he's going to be a guest

53

00:02:40,229 --> 00:02:38,720

in mid-june sometime and before i forget

54

00:02:42,309 --> 00:02:40,239

next week we have

55

00:02:43,589 --> 00:02:42,319

sean cahill from the

56

00:02:45,990 --> 00:02:43,599

princeton

57

00:02:49,509 --> 00:02:46,000

he was the chief at arms

58

00:02:51,830 --> 00:02:49,519

and overseeing that whole tic tac ufo uh

59

00:02:54,150 --> 00:02:51,840

incident he'll be on next week well i

60

00:02:56,070 --> 00:02:54,160

did reach out to lu elizondo today to

61

00:02:57,750 --> 00:02:56,080

see if perhaps he could be

62

00:02:59,110 --> 00:02:57,760

um on the show for just a couple of

63

00:03:00,550 --> 00:02:59,120

minutes and talk about what he thought

64

00:03:03,190 --> 00:03:00,560

about the uap

65

00:03:05,350 --> 00:03:03,200

uh going live and hearing going live

66

00:03:06,869 --> 00:03:05,360

next weekend he's in washington dc he

67

00:03:09,670 --> 00:03:06,879

was not available today and that's

68

00:03:11,910 --> 00:03:09,680

unfortunate but next best thing we got

69

00:03:14,869 --> 00:03:11,920

mark d antonio

70

00:03:17,110 --> 00:03:14,879

how are you mark next best thing

71

00:03:19,430 --> 00:03:17,120

all right the best thing yeah oh no

72

00:03:21,910 --> 00:03:19,440

you're right yeah we we all make our we

73

00:03:23,110 --> 00:03:21,920

all um have our place right so uh it's

74

00:03:24,149 --> 00:03:23,120

it's that's right well it's nice to see

75

00:03:25,190 --> 00:03:24,159

you martin

76

00:03:28,550 --> 00:03:25,200

and i i see you're up there in

77

00:03:30,830 --> 00:03:28,560

attendance harbor i am yep and uh we

78

00:03:33,910 --> 00:03:30,840

were talking off yeah how i know it's

79

00:03:36,710 --> 00:03:33,920

really probably gonna drive people crazy

80

00:03:39,910 --> 00:03:36,720

but now there is a main accent and they

81

00:03:41,110 --> 00:03:39,920

do talk a lot like this

82

00:03:43,990 --> 00:03:41,120

right

83

00:03:46,710 --> 00:03:44,000

that's true yeah yeah yeah they do and

84

00:03:48,789 --> 00:03:46,720

uh here's my main hat right here yeah

85

00:03:50,630 --> 00:03:48,799

yeah yeah yeah i used to go lobstering

86

00:03:51,910 --> 00:03:50,640

off that coast there and

87

00:03:53,589 --> 00:03:51,920

spend a lot of time out there in the

88

00:03:55,589 --> 00:03:53,599

ocean with the boats and

89

00:03:58,309 --> 00:03:55,599

hanging out there and getting seasick

90

00:03:59,830 --> 00:03:58,319

because i'm a land living not uh

91

00:04:02,229 --> 00:03:59,840

yeah

92

00:04:04,149 --> 00:04:02,239

well you know that's a lot i got a dock

93

00:04:07,990 --> 00:04:04,159

this year for my boat and i just found

94

00:04:09,670 --> 00:04:08,000

out that the boat yard has wi-fi so you

95

00:04:11,589 --> 00:04:09,680

know what that means don't you you're

96

00:04:12,710 --> 00:04:11,599

going to be on your boat doing doing the

97

00:04:15,350 --> 00:04:12,720

show

98

00:04:18,229 --> 00:04:15,360

again last year was a disaster because

99

00:04:21,270 --> 00:04:18,239

the wi-fi was the hotspot on my phone

100

00:04:22,629 --> 00:04:21,280

and it ate up data really quick and went

101
00:04:23,990 --> 00:04:22,639
dead in the middle

102
00:04:26,310 --> 00:04:24,000
in the middle of a show

103
00:04:28,950 --> 00:04:26,320
and yeah it was interesting but yeah

104
00:04:30,790 --> 00:04:28,960
should be a great summer up here um it's

105
00:04:33,350 --> 00:04:30,800
really beautiful right now

106
00:04:35,189 --> 00:04:33,360
and uh i love it up here on the coast

107
00:04:37,990 --> 00:04:35,199
anywhere on the coast is good is that

108
00:04:39,830 --> 00:04:38,000
long even long sleeves or short sleeves

109
00:04:42,469 --> 00:04:39,840
i'm in long sleeves but it was uh it was

110
00:04:44,550 --> 00:04:42,479
actually hot out here on the deck today

111
00:04:48,070 --> 00:04:44,560
yeah i believe it i believe it yeah it's

112
00:04:50,790 --> 00:04:48,080
um it's about uh 75 here today actually

113
00:04:51,830 --> 00:04:50,800

it's uh yeah it's spring day

114

00:04:53,350 --> 00:04:51,840

that's right

115

00:04:54,950 --> 00:04:53,360

and so i want to talk about a whole

116

00:04:57,350 --> 00:04:54,960

bunch of things i know i've watched a

117

00:05:00,150 --> 00:04:57,360

couple of your streams that you do your

118

00:05:02,950 --> 00:05:00,160

sky watches out in arizona remotely

119

00:05:04,390 --> 00:05:02,960

which is fantastic but uh for right now

120

00:05:05,830 --> 00:05:04,400

i don't know if you had a chance to read

121

00:05:08,550 --> 00:05:05,840

but you know there

122

00:05:10,950 --> 00:05:08,560

there is let me pull this up there is a

123

00:05:12,710 --> 00:05:10,960

um

124

00:05:14,710 --> 00:05:12,720

a report

125

00:05:16,310 --> 00:05:14,720

that is i mean a hearing that is going

126
00:05:18,390 --> 00:05:16,320
to be public

127
00:05:20,230 --> 00:05:18,400
which is coming up

128
00:05:23,189 --> 00:05:20,240
on tuesday you know and there's not

129
00:05:25,430 --> 00:05:23,199
probably not really a lot to know right

130
00:05:27,830 --> 00:05:25,440
now um you know and i really have to

131
00:05:30,070 --> 00:05:27,840
caution people this is probably

132
00:05:31,670 --> 00:05:30,080
uh going to be disappointing to a lot of

133
00:05:32,870 --> 00:05:31,680
people out there that are thinking wow

134
00:05:34,790 --> 00:05:32,880
you know we're going to be talking we're

135
00:05:37,590 --> 00:05:34,800
going to hear be hearing about aliens

136
00:05:39,590 --> 00:05:37,600
and you know the encounters are from

137
00:05:42,950 --> 00:05:39,600
another planet or something like that

138
00:05:45,189 --> 00:05:42,960

and i'm i think that um they're probably

139

00:05:47,670 --> 00:05:45,199

more or less going to

140

00:05:49,350 --> 00:05:47,680

focus on in this public hearing you know

141

00:05:50,310 --> 00:05:49,360

what are the safety

142

00:05:51,510 --> 00:05:50,320

um

143

00:05:53,189 --> 00:05:51,520

you know

144

00:05:55,270 --> 00:05:53,199

what are the safety issues that these

145

00:05:57,189 --> 00:05:55,280

things may be causing first i think

146

00:06:00,070 --> 00:05:57,199

that's probably

147

00:06:02,550 --> 00:06:00,080

what they're going to get in there and

148

00:06:03,590 --> 00:06:02,560

uh here's a uh this is a quote i'm just

149

00:06:05,270 --> 00:06:03,600

going to read right here the federal

150

00:06:07,430 --> 00:06:05,280

government and intelligence community

151

00:06:10,230 --> 00:06:07,440

have a critical role to play in

152

00:06:12,150 --> 00:06:10,240

contextualizing and analyzing reports

153

00:06:14,230 --> 00:06:12,160

said representative adam schiff of

154

00:06:16,070 --> 00:06:14,240

california a democrat who is the

155

00:06:17,909 --> 00:06:16,080

chairman of the house intelligence

156

00:06:20,230 --> 00:06:17,919

committee he said the purpose of the

157

00:06:22,550 --> 00:06:20,240

hearing was to illuminate one of the

158

00:06:25,110 --> 00:06:22,560

great mysteries of our time and break

159

00:06:28,790 --> 00:06:25,120

the cycle of excessive secrecy and

160

00:06:31,029 --> 00:06:28,800

speculation with truth and transparency

161

00:06:33,029 --> 00:06:31,039

uh i think that's a pretty good

162

00:06:35,189 --> 00:06:33,039

a statement right there and you know

163

00:06:38,230 --> 00:06:35,199

what what what this will

164

00:06:39,830 --> 00:06:38,240

the openness if there is indeed openness

165

00:06:41,590 --> 00:06:39,840

you know that it's better for them

166

00:06:42,870 --> 00:06:41,600

because it's going to eliminate a lot of

167

00:06:45,590 --> 00:06:42,880

conspiracy

168

00:06:47,909 --> 00:06:45,600

theories and you know that aliens are

169

00:06:50,550 --> 00:06:47,919

bottled in the basement of the pentagon

170

00:06:51,350 --> 00:06:50,560

or something you know

171

00:06:52,469 --> 00:06:51,360

well

172

00:06:55,350 --> 00:06:52,479

um

173

00:06:57,110 --> 00:06:55,360

i uh never put much credence in the fact

174

00:06:59,350 --> 00:06:57,120

that the aliens were

175

00:07:01,350 --> 00:06:59,360

being penned in down in the

176
00:07:03,350 --> 00:07:01,360
pentagon or any black site whatsoever i

177
00:07:05,350 --> 00:07:03,360
don't yeah

178
00:07:06,629 --> 00:07:05,360
i think those are all stories born out

179
00:07:07,749 --> 00:07:06,639
of

180
00:07:10,469 --> 00:07:07,759
um

181
00:07:12,870 --> 00:07:10,479
fantasy if you will i mean i'm not sure

182
00:07:15,189 --> 00:07:12,880
uh and i can't say for sure

183
00:07:19,029 --> 00:07:15,199
but the odds are really really stacked

184
00:07:20,870 --> 00:07:19,039
against it right but let's be clear um

185
00:07:22,550 --> 00:07:20,880
i'm an astronomer i believe that life

186
00:07:25,350 --> 00:07:22,560
exists out there and i actually think it

187
00:07:27,749 --> 00:07:25,360
may have made its way here so is it

188
00:07:30,390 --> 00:07:27,759

illogical to think that they wouldn't

189

00:07:31,749 --> 00:07:30,400

be here wouldn't be

190

00:07:34,070 --> 00:07:31,759

in our space

191

00:07:35,350 --> 00:07:34,080

occupying our space no it's not

192

00:07:37,670 --> 00:07:35,360

illogical

193

00:07:39,589 --> 00:07:37,680

but we do have to use the rigorous

194

00:07:41,990 --> 00:07:39,599

application of science in order to find

195

00:07:43,670 --> 00:07:42,000

it because let's be honest it's the

196

00:07:45,589 --> 00:07:43,680

rigorous application of science that

197

00:07:46,790 --> 00:07:45,599

makes any of the great strides on the

198

00:07:47,749 --> 00:07:46,800

planet right

199

00:07:48,629 --> 00:07:47,759

um

200

00:07:50,070 --> 00:07:48,639

i mean

201
00:07:52,230 --> 00:07:50,080
it is true

202
00:07:55,670 --> 00:07:52,240
you can't think your way

203
00:07:57,510 --> 00:07:55,680
um and and and summon aliens and and

204
00:07:59,270 --> 00:07:57,520
just expect them to

205
00:08:01,510 --> 00:07:59,280
have a kumbaya moment with you just

206
00:08:03,670 --> 00:08:01,520
because you think it's so i mean

207
00:08:06,869 --> 00:08:03,680
we need to do more than that and you

208
00:08:09,110 --> 00:08:06,879
know whether that process works or not

209
00:08:11,110 --> 00:08:09,120
it isn't a process that at this point in

210
00:08:13,350 --> 00:08:11,120
our science and our understanding

211
00:08:16,070 --> 00:08:13,360
is an acceptable manner

212
00:08:18,390 --> 00:08:16,080
to prove the existence or the

213
00:08:20,550 --> 00:08:18,400

intelligence that might be among us

214

00:08:23,029 --> 00:08:20,560

so

215

00:08:24,309 --> 00:08:23,039

yes whereas i like science and i adhere

216

00:08:26,790 --> 00:08:24,319

to it

217

00:08:29,350 --> 00:08:26,800

i am open to the other things but

218

00:08:30,230 --> 00:08:29,360

again if they're really far-reaching uh

219

00:08:31,749 --> 00:08:30,240

then

220

00:08:33,509 --> 00:08:31,759

you know i

221

00:08:34,469 --> 00:08:33,519

i don't know what that means i've seen

222

00:08:36,149 --> 00:08:34,479

so many

223

00:08:37,110 --> 00:08:36,159

ce5

224

00:08:37,990 --> 00:08:37,120

uh

225

00:08:39,269 --> 00:08:38,000

um

226

00:08:41,269 --> 00:08:39,279

sessions

227

00:08:42,709 --> 00:08:41,279

where people are marveling over

228

00:08:44,070 --> 00:08:42,719

satellites that are tumbling and they're

229

00:08:45,829 --> 00:08:44,080

blinking and they shine a laser and

230

00:08:47,910 --> 00:08:45,839

think that they're shining back at them

231

00:08:50,550 --> 00:08:47,920

yes and i take pictures of these things

232

00:08:52,389 --> 00:08:50,560

and show them a dashed line on my camera

233

00:08:54,389 --> 00:08:52,399

going across the sky as a tumbling

234

00:08:56,630 --> 00:08:54,399

satellite have you actually gone to one

235

00:08:58,630 --> 00:08:56,640

of those and and did this yeah actually

236

00:09:00,870 --> 00:08:58,640

i i've yeah this one i

237

00:09:02,870 --> 00:09:00,880

my my friend donna was at one and was

238

00:09:05,910 --> 00:09:02,880

telling me basically the same thing

239

00:09:08,310 --> 00:09:05,920

and then um one of the nights she went

240

00:09:10,949 --> 00:09:08,320

it was foggy and rainy and they said the

241

00:09:12,949 --> 00:09:10,959

invisible uh craft had landed in the

242

00:09:14,230 --> 00:09:12,959

yard

243

00:09:15,509 --> 00:09:14,240

so

244

00:09:17,030 --> 00:09:15,519

what are you going to say about that

245

00:09:18,949 --> 00:09:17,040

people that are paying big money to see

246

00:09:21,590 --> 00:09:18,959

these things right i mean

247

00:09:24,550 --> 00:09:21,600

yeah see so here's where i get here i

248

00:09:27,110 --> 00:09:24,560

really really have a problem okay

249

00:09:29,750 --> 00:09:27,120

if it's a protocol that works

250

00:09:30,870 --> 00:09:29,760

um then it should be for all humanity it

251

00:09:32,230 --> 00:09:30,880

shouldn't be for only those who can

252

00:09:35,190 --> 00:09:32,240

afford it

253

00:09:37,990 --> 00:09:35,200

yeah okay and so i get really bent out

254

00:09:40,070 --> 00:09:38,000

of shape when charlatans come along and

255

00:09:41,509 --> 00:09:40,080

claim that they're the conduit through

256

00:09:43,750 --> 00:09:41,519

which these

257

00:09:46,310 --> 00:09:43,760

beings talk billy meyer for instance

258

00:09:48,790 --> 00:09:46,320

that's baloney billy meyer is a faker

259

00:09:50,310 --> 00:09:48,800

and a liar okay sorry but that's true

260

00:09:52,949 --> 00:09:50,320

that's well there's so much evidence for

261

00:09:56,550 --> 00:09:52,959

that um mark is not just throwing this

262

00:09:59,190 --> 00:09:56,560

out there there is tons of evidence um

263

00:10:00,630 --> 00:09:59,200

that he is faking many many things i

264

00:10:01,990 --> 00:10:00,640

don't make flipping statements you know

265

00:10:03,509 --> 00:10:02,000

but i will say

266

00:10:06,389 --> 00:10:03,519

that um

267

00:10:09,670 --> 00:10:06,399

you know for the ce5 protocols

268

00:10:11,509 --> 00:10:09,680

i've watched charlatans calling in ufos

269

00:10:13,829 --> 00:10:11,519

that were actually flares

270

00:10:15,590 --> 00:10:13,839

off the coast proven flares

271

00:10:17,430 --> 00:10:15,600

and everybody left thinking wow that was

272

00:10:19,030 --> 00:10:17,440

a good i spent two thousand dollars and

273

00:10:21,110 --> 00:10:19,040

i got my money's worth no you do you

274

00:10:22,470 --> 00:10:21,120

mean are you mark are you trying to tell

275

00:10:24,389 --> 00:10:22,480

me that someone set off the flares

276

00:10:27,590 --> 00:10:24,399

purposely like

277

00:10:29,990 --> 00:10:27,600

in concert with this situation

278

00:10:32,470 --> 00:10:30,000

no one knows for sure i just know that

279

00:10:34,310 --> 00:10:32,480

in this particular location

280

00:10:35,350 --> 00:10:34,320

there was a flare exercise going on off

281

00:10:36,949 --> 00:10:35,360

the coast

282

00:10:39,190 --> 00:10:36,959

it was kind of coincidental that they

283

00:10:41,590 --> 00:10:39,200

were also doing the ce5

284

00:10:42,870 --> 00:10:41,600

knowing maybe knowing that the flares

285

00:10:44,389 --> 00:10:42,880

were going to go off and thus those

286

00:10:46,949 --> 00:10:44,399

flares would become the object of

287

00:10:49,190 --> 00:10:46,959

attention let's be clear if you ever saw

288

00:10:51,190 --> 00:10:49,200

one i've seen flare drops many of them

289

00:10:53,430 --> 00:10:51,200

okay right over my head actually

290

00:10:54,630 --> 00:10:53,440

um fighters from luke air force base

291

00:10:56,550 --> 00:10:54,640

were flying over my head and i was in

292

00:10:57,910 --> 00:10:56,560

the arizona desert and dropping flares

293

00:11:00,870 --> 00:10:57,920

right over my head

294

00:11:03,350 --> 00:11:00,880

you know and they are an unearthly

295

00:11:04,870 --> 00:11:03,360

orange they look really really

296

00:11:07,829 --> 00:11:04,880

unbelievably

297

00:11:09,910 --> 00:11:07,839

unreal this looks surreal and it's a

298

00:11:10,949 --> 00:11:09,920

beautiful it's a beautiful color it's a

299

00:11:15,350 --> 00:11:10,959

beautiful

300

00:11:18,310 --> 00:11:15,360

uh and i can understand why people would

301
00:11:19,110 --> 00:11:18,320
would feel that way right yeah um

302
00:11:20,790 --> 00:11:19,120
so

303
00:11:22,949 --> 00:11:20,800
but i do know that this particular one

304
00:11:25,910 --> 00:11:22,959
that was done off florida that was a

305
00:11:29,269 --> 00:11:25,920
well-known documented flare drop and and

306
00:11:33,110 --> 00:11:29,279
it ended up becoming uh

307
00:11:35,910 --> 00:11:33,120
you know absconded with as a ce5 success

308
00:11:37,750 --> 00:11:35,920
and i thought that was a blatant lie and

309
00:11:39,590 --> 00:11:37,760
the worst thing they could do to people

310
00:11:42,230 --> 00:11:39,600
so right people liked it all the time

311
00:11:43,190 --> 00:11:42,240
right that try to you know play off

312
00:11:46,069 --> 00:11:43,200
things that

313
00:11:48,230 --> 00:11:46,079

may not be true so this is why

314

00:11:50,150 --> 00:11:48,240

people need to remain skeptical

315

00:11:52,310 --> 00:11:50,160

they need to remain skeptical that's why

316

00:11:54,470 --> 00:11:52,320

you know knowing your facts knowing your

317

00:11:55,269 --> 00:11:54,480

science can help you

318

00:11:57,350 --> 00:11:55,279

um

319

00:11:59,350 --> 00:11:57,360

well i will i will talk a little bit you

320

00:12:01,030 --> 00:11:59,360

and i had talked briefly um why you're

321

00:12:02,069 --> 00:12:01,040

here one of the reasons you're here is

322

00:12:05,190 --> 00:12:02,079

because i

323

00:12:08,790 --> 00:12:05,200

decided i made um a tough choice

324

00:12:13,350 --> 00:12:08,800

um and decided to not post the podcast

325

00:12:15,670 --> 00:12:13,360

that i had earlier um on tuesday now i'm

326

00:12:18,550 --> 00:12:15,680

i've been in touch with both people uh

327

00:12:20,550 --> 00:12:18,560

preston dennett i really uh i almost

328

00:12:21,750 --> 00:12:20,560

consider him a friend i mean he's a very

329

00:12:23,590 --> 00:12:21,760

very nice guy

330

00:12:25,269 --> 00:12:23,600

um and uh

331

00:12:28,150 --> 00:12:25,279

so we're we're good

332

00:12:30,550 --> 00:12:28,160

um but his guest that was with him was

333

00:12:32,949 --> 00:12:30,560

making outrageous claims

334

00:12:34,389 --> 00:12:32,959

and uh when they got to the point where

335

00:12:36,870 --> 00:12:34,399

i thought they were a little bit

336

00:12:39,750 --> 00:12:36,880

dangerous then i decided to end the show

337

00:12:43,590 --> 00:12:39,760

early and i decided to

338

00:12:46,150 --> 00:12:43,600

eliminate the show and so anyway uh

339

00:12:48,870 --> 00:12:46,160

i'm not going to get into the details

340

00:12:50,389 --> 00:12:48,880

too much but it just

341

00:12:51,910 --> 00:12:50,399

is just you know

342

00:12:54,150 --> 00:12:51,920

right off the bat one of the first

343

00:12:55,350 --> 00:12:54,160

things she said was she was basically

344

00:12:57,829 --> 00:12:55,360

piloting

345

00:12:59,509 --> 00:12:57,839

the ufos and going through the rings of

346

00:13:02,389 --> 00:12:59,519

saturn and you know all these type of

347

00:13:04,389 --> 00:13:02,399

things and you know what i stopped her

348

00:13:06,550 --> 00:13:04,399

and said

349

00:13:07,509 --> 00:13:06,560

uh you realize what you're saying here

350

00:13:09,910 --> 00:13:07,519

and

351

00:13:12,150 --> 00:13:09,920

how you know how do you expect a

352

00:13:14,310 --> 00:13:12,160

listener to believe that well you know i

353

00:13:16,470 --> 00:13:14,320

did get some email from people that were

354

00:13:19,509 --> 00:13:16,480

very upset that i took it down that were

355

00:13:22,389 --> 00:13:19,519

listening um that were you know involved

356

00:13:24,310 --> 00:13:22,399

in the whole situation someone kind of

357

00:13:26,150 --> 00:13:24,320

has told me that i have something

358

00:13:29,110 --> 00:13:26,160

against experiencers and what's wrong

359

00:13:31,590 --> 00:13:29,120

with me almost like pulling a card on me

360

00:13:33,910 --> 00:13:31,600

so it has nothing to do with that i just

361

00:13:36,870 --> 00:13:33,920

if you have to be skeptical i like to

362

00:13:37,990 --> 00:13:36,880

keep this show clean as much as i can

363

00:13:40,629 --> 00:13:38,000

and uh

364

00:13:42,069 --> 00:13:40,639

it's very simple it it really comes down

365

00:13:44,710 --> 00:13:42,079

to this

366

00:13:46,790 --> 00:13:44,720

people make these extraordinary claims

367

00:13:48,470 --> 00:13:46,800

but they don't provide the necessary

368

00:13:49,350 --> 00:13:48,480

extraordinary proof

369

00:13:50,389 --> 00:13:49,360

yeah

370

00:13:52,790 --> 00:13:50,399

and

371

00:13:55,110 --> 00:13:52,800

when people say trust me

372

00:13:57,910 --> 00:13:55,120

all right or when people say you know

373

00:14:00,470 --> 00:13:57,920

no honestly okay those are preparatory

374

00:14:01,269 --> 00:14:00,480

words for something that's to come

375

00:14:03,509 --> 00:14:01,279

and

376

00:14:05,509 --> 00:14:03,519

they're they're trying to

377

00:14:07,189 --> 00:14:05,519

possibly you know pull something off on

378

00:14:08,790 --> 00:14:07,199

you not even if they they may not even

379

00:14:10,949 --> 00:14:08,800

realize it there are people that

380

00:14:12,629 --> 00:14:10,959

actually do believe that they do these

381

00:14:14,310 --> 00:14:12,639

things and so they would pass a

382

00:14:18,870 --> 00:14:14,320

polygraph

383

00:14:20,550 --> 00:14:18,880

life for my work and i can tell you

384

00:14:23,590 --> 00:14:20,560

they're not hard to i mean they're

385

00:14:25,990 --> 00:14:23,600

they're hard to uh to to uh

386

00:14:26,870 --> 00:14:26,000

they're hard to fake they're hard to to

387

00:14:29,189 --> 00:14:26,880

uh

388

00:14:31,670 --> 00:14:29,199

pass with flying colors if you try to

389

00:14:33,110 --> 00:14:31,680

lie um so

390

00:14:35,670 --> 00:14:33,120

i know that it can be done people have

391

00:14:36,949 --> 00:14:35,680

done it right but i can tell you that

392

00:14:38,949 --> 00:14:36,959

um

393

00:14:42,150 --> 00:14:38,959

you know listening to someone say those

394

00:14:45,189 --> 00:14:42,160

things the next thing you want to say is

395

00:14:47,910 --> 00:14:45,199

fantastic that sounds fantastic

396

00:14:49,750 --> 00:14:47,920

let me see the proof

397

00:14:51,750 --> 00:14:49,760

let me see the videos

398

00:14:53,829 --> 00:14:51,760

on your ship uh let me meet the aliens

399

00:14:55,750 --> 00:14:53,839

who are they and yeah talk to them

400

00:15:00,629 --> 00:14:55,760

i more or less said something

401
00:15:03,189 --> 00:15:00,639
those lines um when she was

402
00:15:04,870 --> 00:15:03,199
she said well i have science to back

403
00:15:06,230 --> 00:15:04,880
this up and i said

404
00:15:08,069 --> 00:15:06,240
i stopped her right there i said well

405
00:15:10,389 --> 00:15:08,079
let's hear about the science and she

406
00:15:11,990 --> 00:15:10,399
shifted and shifted in her seat and she

407
00:15:13,110 --> 00:15:12,000
said well this guy's not actually a

408
00:15:15,590 --> 00:15:13,120
scientist

409
00:15:17,590 --> 00:15:15,600
but he's got a youtube channel and

410
00:15:20,310 --> 00:15:17,600
that was kind of uh that was kind of

411
00:15:22,710 --> 00:15:20,320
enough you know enough uh anyway

412
00:15:25,829 --> 00:15:22,720
that that goes to whenever someone says

413
00:15:26,629 --> 00:15:25,839

their proof is a youtube video

414

00:15:29,910 --> 00:15:26,639

yeah

415

00:15:31,670 --> 00:15:29,920

that becomes problematic

416

00:15:33,430 --> 00:15:31,680

well you know like i said i said that i

417

00:15:35,189 --> 00:15:33,440

have said that many times not that

418

00:15:36,870 --> 00:15:35,199

everyone is not that not that every

419

00:15:39,030 --> 00:15:36,880

youtube video is a lie because they're

420

00:15:40,949 --> 00:15:39,040

not yeah that's right there are some

421

00:15:43,829 --> 00:15:40,959

youtube videos that tell wonderful

422

00:15:47,829 --> 00:15:43,839

truths scientific accuracy uh not so

423

00:15:49,990 --> 00:15:47,839

scientific but accurate and so um

424

00:15:52,069 --> 00:15:50,000

you you just have to

425

00:15:53,430 --> 00:15:52,079

well you have to do what's missing with

426

00:15:54,870 --> 00:15:53,440

a lot of people these days and that's

427

00:15:55,829 --> 00:15:54,880

critically think

428

00:15:58,870 --> 00:15:55,839

yeah

429

00:16:00,230 --> 00:15:58,880

be

430

00:16:01,269 --> 00:16:00,240

aware

431

00:16:02,790 --> 00:16:01,279

of

432

00:16:04,870 --> 00:16:02,800

you have to ask questions

433

00:16:06,550 --> 00:16:04,880

yeah and when it comes to youtube videos

434

00:16:10,069 --> 00:16:06,560

you know you're

435

00:16:11,509 --> 00:16:10,079

it's so tough because there are such

436

00:16:14,150 --> 00:16:11,519

good

437

00:16:15,990 --> 00:16:14,160

fakes out there too and

438

00:16:17,189 --> 00:16:16,000

you know i mean the cgi is only going to

439

00:16:21,670 --> 00:16:17,199

get

440

00:16:22,470 --> 00:16:21,680

if you want to ask questions please post

441

00:16:24,710 --> 00:16:22,480

them

442

00:16:27,269 --> 00:16:24,720

like this gentleman did right here uh i

443

00:16:30,790 --> 00:16:27,279

don't know if mark would like to comment

444

00:16:31,910 --> 00:16:30,800

on this or not what's your opinion on

445

00:16:33,749 --> 00:16:31,920

bledsoe

446

00:16:35,350 --> 00:16:33,759

chris paletso

447

00:16:37,829 --> 00:16:35,360

yeah i don't actually have an opinion on

448

00:16:40,230 --> 00:16:37,839

blood so i have uh stayed a little bit

449

00:16:42,550 --> 00:16:40,240

away from that because

450

00:16:43,269 --> 00:16:42,560

i want to remain focused on the science

451
00:16:44,550 --> 00:16:43,279
of

452
00:16:46,310 --> 00:16:44,560
image

453
00:16:47,509 --> 00:16:46,320
analysis and video analysis and i

454
00:16:50,629 --> 00:16:47,519
haven't done

455
00:16:52,310 --> 00:16:50,639
anything with let's sew for blood so

456
00:16:54,629 --> 00:16:52,320
and have no opinion on

457
00:16:56,069 --> 00:16:54,639
on chris bledsoe at the moment but

458
00:16:59,269 --> 00:16:56,079
uh that may change

459
00:17:01,990 --> 00:16:59,279
yeah now uh mark i sent you a picture

460
00:17:03,590 --> 00:17:02,000
the other day did you happen to do you

461
00:17:04,789 --> 00:17:03,600
know that picture are you familiar with

462
00:17:07,510 --> 00:17:04,799
that picture

463
00:17:09,990 --> 00:17:07,520

yeah was that the one from costa rica

464

00:17:12,949 --> 00:17:10,000

or i believe i believe it's

465

00:17:14,470 --> 00:17:12,959

costa rica somewhere in south america

466

00:17:15,990 --> 00:17:14,480

there was

467

00:17:18,150 --> 00:17:16,000

yeah um

468

00:17:19,990 --> 00:17:18,160

and i'm gonna pull that up here and uh

469

00:17:22,390 --> 00:17:20,000

so people will understand what we're

470

00:17:24,870 --> 00:17:22,400

talking about here but you know i mean i

471

00:17:27,029 --> 00:17:24,880

remember seeing this years ago uh when i

472

00:17:29,270 --> 00:17:27,039

first was starting to look into the ufo

473

00:17:33,510 --> 00:17:29,280

topic and i wondered about i said that

474

00:17:36,150 --> 00:17:33,520

that's just too good to be true um and

475

00:17:38,710 --> 00:17:36,160

when something's too good to be true

476

00:17:41,190 --> 00:17:38,720

that's usually what it is um so

477

00:17:42,070 --> 00:17:41,200

sometimes yeah you're right and but you

478

00:17:46,789 --> 00:17:42,080

can't

479

00:17:49,350 --> 00:17:46,799

blinders on either you know and

480

00:17:52,150 --> 00:17:49,360

and and just say this is a ufo

481

00:17:54,470 --> 00:17:52,160

absolutely but you also can't say it's

482

00:17:56,230 --> 00:17:54,480

not a ufo absolutely you've got to give

483

00:17:58,870 --> 00:17:56,240

it a chance right

484

00:18:00,870 --> 00:17:58,880

every piece of evidence i see

485

00:18:02,150 --> 00:18:00,880

i don't make a determination by looking

486

00:18:03,909 --> 00:18:02,160

at it and just saying oh well just you

487

00:18:05,510 --> 00:18:03,919

know making a pronouncement

488

00:18:07,029 --> 00:18:05,520

that's ignorance and that doesn't do it

489

00:18:08,630 --> 00:18:07,039

that does everybody a disservice who's

490

00:18:10,470 --> 00:18:08,640

who yeah didn't know it there's

491

00:18:11,830 --> 00:18:10,480

definitely enough of that out there yeah

492

00:18:12,630 --> 00:18:11,840

there's plenty of that out there you

493

00:18:14,470 --> 00:18:12,640

know

494

00:18:16,230 --> 00:18:14,480

but um

495

00:18:17,990 --> 00:18:16,240

um yeah if you bring up the picture

496

00:18:20,630 --> 00:18:18,000

again yeah i had to convert the file so

497

00:18:23,750 --> 00:18:20,640

i'm just working on as we go anyway um

498

00:18:26,070 --> 00:18:23,760

this photo purports to show a a disc ufo

499

00:18:28,870 --> 00:18:26,080

in a photograph an aerial photograph

500

00:18:30,630 --> 00:18:28,880

uh and um i

501
00:18:32,310 --> 00:18:30,640
can't remember they were doing aerial

502
00:18:34,150 --> 00:18:32,320
photography yes

503
00:18:36,710 --> 00:18:34,160
they were it was a topic no it was a

504
00:18:39,909 --> 00:18:36,720
topographical topographic uh they were

505
00:18:42,470 --> 00:18:39,919
looking at a lake the some type of

506
00:18:43,750 --> 00:18:42,480
condition of a lake okay and uh here it

507
00:18:45,909 --> 00:18:43,760
is right here

508
00:18:47,990 --> 00:18:45,919
and there it is um i will post this for

509
00:18:50,549 --> 00:18:48,000
those of you who are listening just to

510
00:18:53,350 --> 00:18:50,559
just audio i'll post this in the show

511
00:18:55,110 --> 00:18:53,360
notes or somewhere uh i'm not sure if we

512
00:18:56,950 --> 00:18:55,120
can have a lot of show notes but anyway

513
00:18:58,470 --> 00:18:56,960

here it is now for those of you seeing

514

00:18:59,909 --> 00:18:58,480

this visually

515

00:19:03,110 --> 00:18:59,919

and it's

516

00:19:05,830 --> 00:19:03,120

you know i mean it's perfect angle this

517

00:19:08,549 --> 00:19:05,840

is from overhead about 10 000 feet now

518

00:19:10,950 --> 00:19:08,559

this is zoomed it appears to be zoomed

519

00:19:13,909 --> 00:19:10,960

but um so the the plane was flying about

520

00:19:16,310 --> 00:19:13,919

ten thousand feet and it was uh

521

00:19:18,310 --> 00:19:16,320

shooting directly down to get the layout

522

00:19:20,630 --> 00:19:18,320

of the topographical

523

00:19:23,430 --> 00:19:20,640

um conditions of the lake

524

00:19:26,070 --> 00:19:23,440

and so that disc is i don't know i mean

525

00:19:28,470 --> 00:19:26,080

can you do you see anything in it that

526

00:19:30,070 --> 00:19:28,480

makes it look like it was really there

527

00:19:32,470 --> 00:19:30,080

according to

528

00:19:35,110 --> 00:19:32,480

what came out is that um this is

529

00:19:37,110 --> 00:19:35,120

directly from an original negative and

530

00:19:37,830 --> 00:19:37,120

it had not been toyed with i don't know

531

00:19:44,950 --> 00:19:37,840

i

532

00:19:46,870 --> 00:19:44,960

um

533

00:19:48,950 --> 00:19:46,880

i ask all kinds of questions uh could it

534

00:19:52,710 --> 00:19:48,960

be what's called a conoidal fracture in

535

00:19:55,430 --> 00:19:52,720

the cover on the camera could it be um

536

00:19:57,590 --> 00:19:55,440

some type of oil droplet inside the

537

00:19:59,510 --> 00:19:57,600

housing perhaps could it be something

538

00:20:01,270 --> 00:19:59,520

else i mean you see that

539

00:20:03,350 --> 00:20:01,280

to the upper right of the of that thing

540

00:20:04,630 --> 00:20:03,360

you actually see this stark black line

541

00:20:06,950 --> 00:20:04,640

right

542

00:20:09,110 --> 00:20:06,960

um oh yes i see it

543

00:20:09,990 --> 00:20:09,120

is that actually a

544

00:20:11,350 --> 00:20:10,000

um

545

00:20:13,350 --> 00:20:11,360

reflection

546

00:20:16,149 --> 00:20:13,360

of the horizon

547

00:20:18,630 --> 00:20:16,159

uh reflected in this

548

00:20:21,590 --> 00:20:18,640

object whatever it is um

549

00:20:23,590 --> 00:20:21,600

you know so there's a lot of

550

00:20:24,470 --> 00:20:23,600

a lot of questions i have

551

00:20:27,190 --> 00:20:24,480

but

552

00:20:30,070 --> 00:20:27,200

none of the questions end with

553

00:20:32,470 --> 00:20:30,080

it's definitely a ufo no no no with a

554

00:20:33,270 --> 00:20:32,480

statement that says it's definitely ufo

555

00:20:35,029 --> 00:20:33,280

um

556

00:20:36,870 --> 00:20:35,039

they all they all just ask more

557

00:20:39,029 --> 00:20:36,880

questions and i've seen this thing many

558

00:20:41,029 --> 00:20:39,039

many years ago it's got to be

559

00:20:42,830 --> 00:20:41,039

what 25 years old or something i think

560

00:20:45,590 --> 00:20:42,840

it was from that i think it was from

561

00:20:49,750 --> 00:20:45,600

1975 but don't quote me on that i'm not

562

00:20:51,669 --> 00:20:49,760

100 sure yeah so i'm not sure what i

563

00:20:53,909 --> 00:20:51,679

would like to know is

564

00:20:57,750 --> 00:20:53,919

um from the same camera i want to see

565

00:20:59,430 --> 00:20:57,760

the next frame and the previous exactly

566

00:21:00,470 --> 00:20:59,440

so where are those

567

00:21:02,390 --> 00:21:00,480

yeah

568

00:21:03,990 --> 00:21:02,400

and you know if you look at it really

569

00:21:06,230 --> 00:21:04,000

carefully

570

00:21:09,029 --> 00:21:06,240

you can see that it has what looks like

571

00:21:10,549 --> 00:21:09,039

a distinctive shape the only problem i

572

00:21:12,789 --> 00:21:10,559

have with it is

573

00:21:14,390 --> 00:21:12,799

um if you look

574

00:21:16,870 --> 00:21:14,400

if you look at it

575

00:21:18,230 --> 00:21:16,880

uh there's an issue with it and that is

576
00:21:20,070 --> 00:21:18,240
that

577
00:21:20,789 --> 00:21:20,080
on the right side of it it's illuminated

578
00:21:22,390 --> 00:21:20,799
by

579
00:21:23,669 --> 00:21:22,400
what you would call the sun and if you

580
00:21:25,830 --> 00:21:23,679
look on the ground you can see that the

581
00:21:27,510 --> 00:21:25,840
sun is coming from the

582
00:21:32,470 --> 00:21:27,520
the lower

583
00:21:35,350 --> 00:21:32,480
below center right

584
00:21:37,029 --> 00:21:35,360
and it's heading to upper left right

585
00:21:38,630 --> 00:21:37,039
okay kind of thing at least that's how

586
00:21:39,510 --> 00:21:38,640
it looks i'm trying to see it might be

587
00:21:41,110 --> 00:21:39,520
uh

588
00:21:42,870 --> 00:21:41,120

but if you look at the the brightness on

589

00:21:44,950 --> 00:21:42,880

the ground okay and the shadows of the

590

00:21:46,710 --> 00:21:44,960

trees it kind of shows you

591

00:21:49,190 --> 00:21:46,720

where the light is coming from so you'd

592

00:21:51,430 --> 00:21:49,200

expect a shadow on that or an

593

00:21:52,549 --> 00:21:51,440

illuminated side and that on that lower

594

00:21:54,630 --> 00:21:52,559

right side

595

00:21:57,029 --> 00:21:54,640

what you would not expect is for it to

596

00:21:59,510 --> 00:21:57,039

be illuminated on the upper left side

597

00:22:01,990 --> 00:21:59,520

hmm you wouldn't expect that

598

00:22:05,029 --> 00:22:02,000

uh that would be in

599

00:22:07,350 --> 00:22:05,039

either shadow or much reduced brightness

600

00:22:11,029 --> 00:22:07,360

so i'm not sure

601
00:22:14,390 --> 00:22:11,039
uh you know what would actually work

602
00:22:17,110 --> 00:22:14,400
in fact is if that's not a disc you're

603
00:22:18,950 --> 00:22:17,120
looking at but a depression

604
00:22:20,630 --> 00:22:18,960
if that was a depression into say the

605
00:22:21,830 --> 00:22:20,640
glass or the housing then maybe this

606
00:22:24,310 --> 00:22:21,840
would work

607
00:22:25,990 --> 00:22:24,320
so but again the next frame would have

608
00:22:27,669 --> 00:22:26,000
it as well as with the previous frame

609
00:22:29,669 --> 00:22:27,679
and i don't think they would spend time

610
00:22:31,669 --> 00:22:29,679
doing aerial photography

611
00:22:33,350 --> 00:22:31,679
uh with the camera

612
00:22:35,750 --> 00:22:33,360
if it's in a fixed

613
00:22:38,470 --> 00:22:35,760

housing that has some kind of damage to

614

00:22:40,710 --> 00:22:38,480

it they would fix that housing

615

00:22:43,750 --> 00:22:40,720

but if the camera was able to move

616

00:22:45,669 --> 00:22:43,760

uh shot the shot in some way then maybe

617

00:22:48,230 --> 00:22:45,679

uh they would move it over for the next

618

00:22:50,390 --> 00:22:48,240

shot i don't know but either way uh the

619

00:22:52,390 --> 00:22:50,400

lighting is wrong on it for the lighting

620

00:22:54,470 --> 00:22:52,400

that's on the ground

621

00:22:55,750 --> 00:22:54,480

well that makes sense and as someone

622

00:22:57,190 --> 00:22:55,760

that does a little bit of painting you

623

00:22:58,390 --> 00:22:57,200

always have to look at you know the

624

00:22:59,669 --> 00:22:58,400

direction of

625

00:23:02,870 --> 00:22:59,679

the sunlight

626

00:23:05,270 --> 00:23:02,880

um you know to make the shadowing work

627

00:23:06,950 --> 00:23:05,280

that's kind of what leads me

628

00:23:08,470 --> 00:23:06,960

you know that's where that leads me in

629

00:23:10,390 --> 00:23:08,480

fact that's where it led me years ago

630

00:23:14,310 --> 00:23:10,400

when i looked at it for the first time

631

00:23:16,149 --> 00:23:14,320

yeah no and i basically had to say well

632

00:23:18,310 --> 00:23:16,159

geez i was hoping it'd be a smoking gun

633

00:23:20,470 --> 00:23:18,320

but you know you can't you can't really

634

00:23:23,270 --> 00:23:20,480

say it with any kind of definition and

635

00:23:25,510 --> 00:23:23,280

that it's the the smoking gun the

636

00:23:28,710 --> 00:23:25,520

quintessential ufo photograph because it

637

00:23:30,950 --> 00:23:28,720

just isn't unfortunately yeah and is

638

00:23:33,590 --> 00:23:30,960

there one

639

00:23:36,630 --> 00:23:33,600

i think you and i had a conversation um

640

00:23:39,990 --> 00:23:36,640

in phoenix or somewhere and

641

00:23:41,669 --> 00:23:40,000

i asked you that question do you mark

642

00:23:44,710 --> 00:23:41,679

everything you've looked at

643

00:23:47,269 --> 00:23:44,720

have you seen like a smoking gun

644

00:23:49,750 --> 00:23:47,279

photograph and you said there was one

645

00:23:51,830 --> 00:23:49,760

that really

646

00:23:54,230 --> 00:23:51,840

i'm waiting for the smoking gun but

647

00:23:56,230 --> 00:23:54,240

you've seen one that was really good i

648

00:23:57,830 --> 00:23:56,240

think you said something like that right

649

00:23:59,750 --> 00:23:57,840

there was one

650

00:24:02,230 --> 00:23:59,760

video that i have yeah once a little

651
00:24:04,789 --> 00:24:02,240
video clip it's three seconds long

652
00:24:06,789 --> 00:24:04,799
but it is probably the one

653
00:24:07,990 --> 00:24:06,799
which i think is

654
00:24:10,950 --> 00:24:08,000
um

655
00:24:11,830 --> 00:24:10,960
as close to a smoking gun possibility as

656
00:24:14,710 --> 00:24:11,840
any

657
00:24:17,430 --> 00:24:14,720
and that's the nick mariana footage

658
00:24:18,430 --> 00:24:17,440
uh and i believe that was montana in

659
00:24:20,549 --> 00:24:18,440
oh yeah

660
00:24:22,630 --> 00:24:20,559
1953 or something like that is that the

661
00:24:23,590 --> 00:24:22,640
one near the towers or am i

662
00:24:28,070 --> 00:24:23,600
yeah

663
00:24:30,230 --> 00:24:28,080

that is quite

664

00:24:32,070 --> 00:24:30,240

quite amazing if i remember right isn't

665

00:24:33,029 --> 00:24:32,080

there three of them or something like

666

00:24:34,470 --> 00:24:33,039

that

667

00:24:36,070 --> 00:24:34,480

um

668

00:24:37,990 --> 00:24:36,080

imagine this okay

669

00:24:39,350 --> 00:24:38,000

you're there he was looking at a stadium

670

00:24:40,710 --> 00:24:39,360

i forget what he was doing maybe a

671

00:24:42,390 --> 00:24:40,720

sports writer or something i don't

672

00:24:43,430 --> 00:24:42,400

remember the details yeah that's right

673

00:24:47,350 --> 00:24:43,440

here

674

00:24:48,630 --> 00:24:47,360

you remember i i think he had he was uh

675

00:24:50,789 --> 00:24:48,640

i think

676

00:24:52,549 --> 00:24:50,799

i thought it was navy

677

00:24:54,070 --> 00:24:52,559

but maybe it was

678

00:24:55,590 --> 00:24:54,080

there was one that would had something

679

00:24:56,710 --> 00:24:55,600

to do with sports

680

00:24:57,590 --> 00:24:56,720

um

681

00:24:58,950 --> 00:24:57,600

yeah

682

00:25:00,549 --> 00:24:58,960

so

683

00:25:02,230 --> 00:25:00,559

this could be the one

684

00:25:03,029 --> 00:25:02,240

i could be messing this up with details

685

00:25:05,350 --> 00:25:03,039

but

686

00:25:08,310 --> 00:25:05,360

one thing i'm not messing up is uh he

687

00:25:10,070 --> 00:25:08,320

filmed this with a movie camera and he

688

00:25:11,669 --> 00:25:10,080

managed to get three frames of these two

689

00:25:14,789 --> 00:25:11,679

objects moving side by side through the

690

00:25:15,990 --> 00:25:14,799

sky yeah and formation yes they went

691

00:25:19,590 --> 00:25:16,000

behind

692

00:25:21,590 --> 00:25:19,600

uh towers uh light towers whatever

693

00:25:22,870 --> 00:25:21,600

they were in this location

694

00:25:24,230 --> 00:25:22,880

and

695

00:25:26,470 --> 00:25:24,240

so

696

00:25:27,990 --> 00:25:26,480

when i looked at that

697

00:25:30,470 --> 00:25:28,000

my first thought was okay what was

698

00:25:31,669 --> 00:25:30,480

flying in the sky at that time

699

00:25:32,870 --> 00:25:31,679

and

700

00:25:36,310 --> 00:25:32,880

unless

701
00:25:38,230 --> 00:25:36,320
we're being lied to uh there was nobody

702
00:25:41,269 --> 00:25:38,240
in the air at that time uh

703
00:25:42,710 --> 00:25:41,279
nothing in that direction at all

704
00:25:45,029 --> 00:25:42,720
now

705
00:25:45,909 --> 00:25:45,039
could that be wrong maybe right and you

706
00:25:47,590 --> 00:25:45,919
gotta

707
00:25:49,909 --> 00:25:47,600
reserve the right to think that maybe

708
00:25:51,909 --> 00:25:49,919
they were wrong about it but

709
00:25:54,230 --> 00:25:51,919
it was at a time when

710
00:25:56,710 --> 00:25:54,240
we didn't have the best uh radar systems

711
00:25:58,149 --> 00:25:56,720
like we do now but these two objects are

712
00:25:59,990 --> 00:25:58,159
moving through the sky together and

713
00:26:01,590 --> 00:26:00,000

they're really really bright

714

00:26:03,430 --> 00:26:01,600

now

715

00:26:04,710 --> 00:26:03,440

um

716

00:26:07,430 --> 00:26:04,720

let me see if i can find that while

717

00:26:08,549 --> 00:26:07,440

we're talking about it and yeah yeah

718

00:26:10,789 --> 00:26:08,559

you have to understand that these

719

00:26:12,390 --> 00:26:10,799

objects might have

720

00:26:14,470 --> 00:26:12,400

been in formation

721

00:26:16,230 --> 00:26:14,480

flying together in the sky

722

00:26:18,710 --> 00:26:16,240

and the thing that i like about this

723

00:26:21,190 --> 00:26:18,720

case is that it doesn't

724

00:26:23,990 --> 00:26:21,200

it does not have any kind of signature

725

00:26:26,149 --> 00:26:24,000

of an astronomical object of any kind

726
00:26:27,909 --> 00:26:26,159
okay when we see things in the sky that

727
00:26:30,310 --> 00:26:27,919
seem to be moving through the sky

728
00:26:31,430 --> 00:26:30,320
they're either satellites or they're

729
00:26:32,310 --> 00:26:31,440
meteors

730
00:26:35,510 --> 00:26:32,320
right

731
00:26:37,269 --> 00:26:35,520
and these objects will do one of two

732
00:26:40,149 --> 00:26:37,279
things they'll either move to the sky

733
00:26:42,549 --> 00:26:40,159
and move relatively slowly

734
00:26:44,470 --> 00:26:42,559
satellites or they'll move very quickly

735
00:26:47,269 --> 00:26:44,480
to the sky

736
00:26:49,430 --> 00:26:47,279
meteors but

737
00:26:50,710 --> 00:26:49,440
satellites don't move as slow as these

738
00:26:52,470 --> 00:26:50,720

things

739

00:26:53,830 --> 00:26:52,480

don't move they don't move as fast as

740

00:26:55,590 --> 00:26:53,840

these things did

741

00:26:57,510 --> 00:26:55,600

and a meteor

742

00:26:59,350 --> 00:26:57,520

that low in the atmosphere to be seen

743

00:27:01,269 --> 00:26:59,360

during the day

744

00:27:04,070 --> 00:27:01,279

would be something burning up in the

745

00:27:05,510 --> 00:27:04,080

atmosphere being sunlit you'd see smoke

746

00:27:06,390 --> 00:27:05,520

trailing behind it it would leave a

747

00:27:08,310 --> 00:27:06,400

trail

748

00:27:10,630 --> 00:27:08,320

and we didn't see that at all

749

00:27:12,070 --> 00:27:10,640

right right and

750

00:27:13,430 --> 00:27:12,080

at the time there wasn't a whole lot of

751
00:27:15,590 --> 00:27:13,440
space junk to re-enter the earth's

752
00:27:18,230 --> 00:27:15,600
atmosphere so and that also would have

753
00:27:20,630 --> 00:27:18,240
left the trail behind of smoke

754
00:27:23,510 --> 00:27:20,640
do you think that was like in the 1950s

755
00:27:28,549 --> 00:27:23,520
yes it was yeah nick mariano

756
00:27:29,590 --> 00:27:28,559
ariano okay m-a-r-i-a-n-o i believe

757
00:27:31,590 --> 00:27:29,600
maria

758
00:27:32,630 --> 00:27:31,600
no

759
00:27:38,710 --> 00:27:32,640
try that

760
00:27:43,029 --> 00:27:40,789
yeah oh well i thought i could find it

761
00:27:45,510 --> 00:27:43,039
but i mean i have watched it a number of

762
00:27:48,149 --> 00:27:45,520
times and unfortunately it's not easy to

763
00:27:49,590 --> 00:27:48,159

get a hold of so if uh if you want to

764

00:27:51,590 --> 00:27:49,600

check back anyone wants to check back

765

00:27:52,710 --> 00:27:51,600

i'll try to put them in in the notes if

766

00:27:55,350 --> 00:27:52,720

i find it

767

00:27:59,350 --> 00:27:55,360

but yeah um i do remember that and there

768

00:28:01,510 --> 00:27:59,360

was a similar one too off of uh

769

00:28:03,510 --> 00:28:01,520

the island of catalin catalina island

770

00:28:05,110 --> 00:28:03,520

off of california a very similar one do

771

00:28:06,549 --> 00:28:05,120

you remember that

772

00:28:08,470 --> 00:28:06,559

um

773

00:28:13,110 --> 00:28:08,480

filming of i think it was another

774

00:28:17,830 --> 00:28:14,830

a long time ago

775

00:28:19,909 --> 00:28:17,840

also i i don't anyway i'm not gonna

776

00:28:22,549 --> 00:28:19,919

bother to try to look for that because i

777

00:28:23,750 --> 00:28:22,559

can't find this all right mourinho won

778

00:28:25,350 --> 00:28:23,760

um

779

00:28:26,950 --> 00:28:25,360

mariano yeah no

780

00:28:29,190 --> 00:28:26,960

mariano i mean yeah i'm trying to find

781

00:28:30,870 --> 00:28:29,200

it too i can't find it um which is odd

782

00:28:33,269 --> 00:28:30,880

because

783

00:28:35,269 --> 00:28:33,279

i uh found it like immediately when i

784

00:28:37,029 --> 00:28:35,279

was looking for it you know

785

00:28:38,710 --> 00:28:37,039

well you know the government erased it

786

00:28:41,669 --> 00:28:38,720

right yeah that's what this oh yeah here

787

00:28:45,029 --> 00:28:43,430

so yeah affect your mind up there your

788

00:28:47,190 --> 00:28:45,039

intentions harbor

789

00:28:48,230 --> 00:28:47,200

that's right sure

790

00:28:48,950 --> 00:28:48,240

yeah

791

00:28:50,870 --> 00:28:48,960

but

792

00:28:52,470 --> 00:28:50,880

well um

793

00:28:54,789 --> 00:28:52,480

yeah you were talking about that you can

794

00:28:59,350 --> 00:28:54,799

say yup when you're breathing in and

795

00:29:03,669 --> 00:29:02,389

yeah it's pretty funny yeah now are you

796

00:29:05,029 --> 00:29:03,679

familiar with my cousins we're from

797

00:29:07,590 --> 00:29:05,039

maine so i mean

798

00:29:09,190 --> 00:29:07,600

uh anytime you went up there it was just

799

00:29:11,269 --> 00:29:09,200

an argument about whose boat i was gonna

800

00:29:13,269 --> 00:29:11,279

use when i was there for the month okay

801

00:29:14,950 --> 00:29:13,279

because you didn't use your car you

802

00:29:16,950 --> 00:29:14,960

parked it and you left it and we would

803

00:29:18,710 --> 00:29:16,960

take the boat to go from port clyde over

804

00:29:21,430 --> 00:29:18,720

to friendship main

805

00:29:23,510 --> 00:29:21,440

and we would go the friendship for

806

00:29:25,909 --> 00:29:23,520

dinner or get stuff

807

00:29:28,950 --> 00:29:25,919

uh we'd go to my cousin's

808

00:29:33,750 --> 00:29:28,960

general store in downtown port clyde

809

00:29:37,669 --> 00:29:35,110

yeah um

810

00:29:41,750 --> 00:29:37,679

linda owns everything up here yeah yeah

811

00:29:43,110 --> 00:29:41,760

llb yeah yeah and thank you my cousin's

812

00:29:45,909 --> 00:29:43,120

my cousin's

813

00:29:47,510 --> 00:29:45,919

house was right there on the uh jetty

814

00:29:49,350 --> 00:29:47,520

it's the house that's uh right across

815

00:29:51,909 --> 00:29:49,360

the street from the jetty going on that

816

00:29:54,789 --> 00:29:51,919

beautiful dark and park clyde there

817

00:29:56,549 --> 00:29:54,799

you go poor cloud there yeah

818

00:29:59,110 --> 00:29:56,559

yeah yeah there's right behind me is a

819

00:30:00,310 --> 00:29:59,120

scallop boat i've been looking at that

820

00:30:03,510 --> 00:30:00,320

all winter

821

00:30:05,029 --> 00:30:03,520

yeah uh here's a question um

822

00:30:07,590 --> 00:30:05,039

for sure wants me to ask you about the

823

00:30:09,350 --> 00:30:07,600

swedish winter clip from 2012 are you

824

00:30:13,029 --> 00:30:09,360

familiar with that one

825

00:30:15,830 --> 00:30:13,039

uh swedish winter clip um

826

00:30:17,510 --> 00:30:15,840

no let me look that up because so um i'm

827

00:30:20,549 --> 00:30:17,520

gonna ask this if anyone wants to do

828

00:30:23,510 --> 00:30:20,559

something like uh ask a question

829

00:30:25,669 --> 00:30:23,520

about that um if you can find a link and

830

00:30:27,590 --> 00:30:25,679

post a link at the same time i'd be able

831

00:30:31,830 --> 00:30:27,600

to pull it up and look at it

832

00:30:34,549 --> 00:30:31,840

um so uh jay allen you are asking if the

833

00:30:36,549 --> 00:30:34,559

virginia uh video is out it will be out

834

00:30:38,870 --> 00:30:36,559

within a couple of months um i did see

835

00:30:41,669 --> 00:30:38,880

the screener talking about the norwegian

836

00:30:43,830 --> 00:30:41,679

spiral video wasn't he oh the norwegian

837

00:30:45,909 --> 00:30:43,840

spiral video that's a failed launch

838

00:30:46,630 --> 00:30:45,919

right is that yeah actually i called

839

00:30:48,310 --> 00:30:46,640

that

840

00:30:50,149 --> 00:30:48,320

upon seeing it i called it as a failed

841

00:30:51,430 --> 00:30:50,159

rocket launch probably

842

00:30:53,909 --> 00:30:51,440

a ballistic missile launch from a

843

00:30:55,669 --> 00:30:53,919

submarine based on where it was

844

00:30:57,590 --> 00:30:55,679

and everybody just just

845

00:30:59,830 --> 00:30:57,600

roundly criticized me and called me an

846

00:31:02,710 --> 00:30:59,840

idiot and all these famous choice words

847

00:31:05,110 --> 00:31:02,720

which i laughed at and two days later it

848

00:31:06,870 --> 00:31:05,120

was announced that indeed it was a a

849

00:31:08,710 --> 00:31:06,880

rocket that had to get blown up uh

850

00:31:10,549 --> 00:31:08,720

launched from a submarine

851
00:31:12,630 --> 00:31:10,559
yeah and um

852
00:31:14,310 --> 00:31:12,640
guess what i never heard anyone say gee

853
00:31:15,669 --> 00:31:14,320
i'm sorry for all those bad things i

854
00:31:17,110 --> 00:31:15,679
said about you and i had to laugh

855
00:31:18,789 --> 00:31:17,120
because

856
00:31:20,630 --> 00:31:18,799
are always quick to criticize but then

857
00:31:23,509 --> 00:31:20,640
they go and hide in the dark when it's

858
00:31:25,590 --> 00:31:23,519
time to apologize right yeah yeah that's

859
00:31:26,710 --> 00:31:25,600
okay well

860
00:31:29,269 --> 00:31:26,720
you're doing

861
00:31:32,470 --> 00:31:29,279
uh the good work of

862
00:31:34,950 --> 00:31:32,480
someone that is really you know keeping

863
00:31:37,350 --> 00:31:34,960

uh everything clean in a way you know i

864

00:31:39,509 --> 00:31:37,360

mean there are so many times when you

865

00:31:40,470 --> 00:31:39,519

could certainly jump to conclusion about

866

00:31:42,149 --> 00:31:40,480

something

867

00:31:45,750 --> 00:31:42,159

you know i

868

00:31:46,950 --> 00:31:45,760

i always appreciate it uh i just got to

869

00:31:49,549 --> 00:31:46,960

tell

870

00:31:52,230 --> 00:31:49,559

everyone this i think it was a

871

00:31:53,669 --> 00:31:52,240

2017 or something like that when we were

872

00:31:55,110 --> 00:31:53,679

both out in

873

00:31:57,029 --> 00:31:55,120

phoenix

874

00:31:59,430 --> 00:31:57,039

was that the year

875

00:32:02,070 --> 00:31:59,440

i had uh yes i had

876

00:32:05,190 --> 00:32:02,080

drove all the way to

877

00:32:08,549 --> 00:32:05,200

phoenix from maine

878

00:32:10,710 --> 00:32:08,559

and uh somewhere out in the desert

879

00:32:12,310 --> 00:32:10,720

i was taking a picture of the desert and

880

00:32:15,430 --> 00:32:12,320

i got the picture

881

00:32:16,549 --> 00:32:15,440

and i'm looking and there's a disc in

882

00:32:18,310 --> 00:32:16,559

the picture

883

00:32:19,909 --> 00:32:18,320

and so i showed it to you on we were

884

00:32:21,269 --> 00:32:19,919

just sitting around in phoenix and it

885

00:32:22,630 --> 00:32:21,279

showed it's what do you think of this

886

00:32:23,590 --> 00:32:22,640

picture right here

887

00:32:25,990 --> 00:32:23,600

and you're looking at it and you're

888

00:32:28,789 --> 00:32:26,000

looking at it really close and you say

889

00:32:30,389 --> 00:32:28,799

it almost looks like you have something

890

00:32:32,389 --> 00:32:30,399

on the window

891

00:32:33,909 --> 00:32:32,399

so i went to the car like a little bit

892

00:32:35,909 --> 00:32:33,919

later on i went to the car and sure

893

00:32:37,029 --> 00:32:35,919

enough there was a little piece of

894

00:32:40,310 --> 00:32:37,039

grass

895

00:32:42,389 --> 00:32:40,320

on the window on that was stuck to it at

896

00:32:43,590 --> 00:32:42,399

an at an angle that yeah

897

00:32:45,590 --> 00:32:43,600

very much

898

00:32:48,710 --> 00:32:45,600

pretty good

899

00:32:51,669 --> 00:32:48,720

i'd rather know and i i think

900

00:32:54,789 --> 00:32:51,679

you know uh i think most people would

901
00:32:56,630 --> 00:32:54,799
rather know i i would hope so

902
00:32:57,990 --> 00:32:56,640
in in general i think that's right

903
00:32:59,830 --> 00:32:58,000
martin because

904
00:33:02,070 --> 00:32:59,840
um

905
00:33:04,070 --> 00:33:02,080
you know again i don't know everything i

906
00:33:05,669 --> 00:33:04,080
don't know all and i don't ever

907
00:33:07,350 --> 00:33:05,679
really try to say

908
00:33:09,190 --> 00:33:07,360
uh this was definitely this unless i

909
00:33:11,190 --> 00:33:09,200
really know it was definitely something

910
00:33:12,789 --> 00:33:11,200
okay um

911
00:33:15,269 --> 00:33:12,799
or unless it's so obvious that it's

912
00:33:18,310 --> 00:33:15,279
something we've seen many many times

913
00:33:20,470 --> 00:33:18,320

that we know is a certain something

914

00:33:22,149 --> 00:33:20,480

so i don't often make definitive

915

00:33:24,870 --> 00:33:22,159

pronouncements about something because

916

00:33:26,549 --> 00:33:24,880

that's you know i don't want to be

917

00:33:28,789 --> 00:33:26,559

accused of being arrogant about this

918

00:33:32,230 --> 00:33:28,799

stuff it you know

919

00:33:36,070 --> 00:33:34,389

typically i'm already fighting against

920

00:33:36,789 --> 00:33:36,080

the nature to

921

00:33:39,110 --> 00:33:36,799

to

922

00:33:41,430 --> 00:33:39,120

not be arrogant about it right i mean

923

00:33:43,430 --> 00:33:41,440

science can be arrogant at times

924

00:33:45,590 --> 00:33:43,440

and um there's a lot of people that say

925

00:33:47,669 --> 00:33:45,600

well if it doesn't exist if i don't see

926

00:33:49,750 --> 00:33:47,679

the evidence it doesn't exist

927

00:33:51,669 --> 00:33:49,760

well i'm not one of those guys i mean

928

00:33:54,870 --> 00:33:51,679

i've had things happen to me i cannot

929

00:33:56,230 --> 00:33:54,880

explain right and they don't fit science

930

00:34:00,389 --> 00:33:56,240

so

931

00:34:01,269 --> 00:34:00,399

up here well maybe

932

00:34:02,710 --> 00:34:01,279

okay

933

00:34:05,269 --> 00:34:02,720

but it could also mean that i

934

00:34:08,310 --> 00:34:05,279

experienced something that is not in our

935

00:34:10,149 --> 00:34:08,320

current understanding and

936

00:34:11,909 --> 00:34:10,159

that's the way it is that's the way life

937

00:34:13,669 --> 00:34:11,919

is you know we have to be willing to

938

00:34:16,869 --> 00:34:13,679

accept those possibilities and that's

939

00:34:19,510 --> 00:34:16,879

exactly what i think i i do

940

00:34:20,550 --> 00:34:19,520

um yeah you know and do you think

941

00:34:21,990 --> 00:34:20,560

all right

942

00:34:23,750 --> 00:34:22,000

guy by the way

943

00:34:26,230 --> 00:34:23,760

let's just let's just

944

00:34:27,829 --> 00:34:26,240

throw this out there sure neil degrasse

945

00:34:30,710 --> 00:34:27,839

tyson

946

00:34:33,030 --> 00:34:30,720

sees a dog on the floor

947

00:34:36,470 --> 00:34:33,040

it's from another dimension he steps

948

00:34:40,710 --> 00:34:38,950

your really weird situation you had yeah

949

00:34:43,430 --> 00:34:40,720

that if something like that happened to

950

00:34:45,750 --> 00:34:43,440

someone like him

951
00:34:47,589 --> 00:34:45,760
if some of the things happen

952
00:34:49,589 --> 00:34:47,599
that have happened to you and i know

953
00:34:50,629 --> 00:34:49,599
these things have happened to you

954
00:34:52,950 --> 00:34:50,639
um

955
00:34:53,990 --> 00:34:52,960
very strange things

956
00:34:56,230 --> 00:34:54,000
um

957
00:34:58,550 --> 00:34:56,240
how do you think someone like him that

958
00:35:03,270 --> 00:34:58,560
has an affront to

959
00:35:05,349 --> 00:35:03,280
he's uh you know mr i'm the ufos mean

960
00:35:06,230 --> 00:35:05,359
nothing and you know all this type of

961
00:35:07,589 --> 00:35:06,240
thing

962
00:35:09,990 --> 00:35:07,599
let me uh let me

963
00:35:11,589 --> 00:35:10,000

correct a little something there i mean

964

00:35:13,829 --> 00:35:11,599

you're right about that of course but

965

00:35:14,710 --> 00:35:13,839

one of the things i want to mention was

966

00:35:18,150 --> 00:35:14,720

um

967

00:35:19,589 --> 00:35:18,160

if neil degrasse tyson was so

968

00:35:20,710 --> 00:35:19,599

against or

969

00:35:23,190 --> 00:35:20,720

uh so

970

00:35:27,589 --> 00:35:26,069

taking offense by ufos say or taking

971

00:35:30,710 --> 00:35:27,599

offense by the lack of scientific

972

00:35:33,750 --> 00:35:30,720

evidence for ufos then why did he ask me

973

00:35:34,630 --> 00:35:33,760

for a linkedin connection okay

974

00:35:36,069 --> 00:35:34,640

um

975

00:35:37,910 --> 00:35:36,079

clearly

976

00:35:38,950 --> 00:35:37,920

i do what i do

977

00:35:40,870 --> 00:35:38,960

clearly

978

00:35:42,550 --> 00:35:40,880

he's keeping his pulse on it without

979

00:35:44,150 --> 00:35:42,560

actually saying anything he's lurking

980

00:35:46,710 --> 00:35:44,160

right obviously who wouldn't it's the

981

00:35:48,230 --> 00:35:46,720

right thing to do so i know that

982

00:35:49,430 --> 00:35:48,240

you know i know that that's something

983

00:35:51,910 --> 00:35:49,440

that

984

00:35:55,109 --> 00:35:51,920

is a very

985

00:35:57,109 --> 00:35:55,119

important thing in academia is to not

986

00:35:59,829 --> 00:35:57,119

allow yourself to be blinded by your own

987

00:36:01,430 --> 00:35:59,839

science and i think that in the past i

988

00:36:03,270 --> 00:36:01,440

think people have accused him of being

989

00:36:05,109 --> 00:36:03,280

blinded by that science

990

00:36:06,790 --> 00:36:05,119

but i think that he's he's

991

00:36:09,190 --> 00:36:06,800

understanding there might be more things

992

00:36:11,829 --> 00:36:09,200

out there that we don't understand

993

00:36:13,670 --> 00:36:11,839

and that's as much as we can expect

994

00:36:14,710 --> 00:36:13,680

right right so i want to i would want to

995

00:36:16,390 --> 00:36:14,720

just

996

00:36:17,510 --> 00:36:16,400

pull this up here because i think it's

997

00:36:20,310 --> 00:36:17,520

interesting

998

00:36:23,589 --> 00:36:20,320

the australian melbourne ufo photo from

999

00:36:26,550 --> 00:36:23,599

1966 is compelling and i believe i have

1000

00:36:29,670 --> 00:36:26,560

that image was that in uh was that in

1001

00:36:31,430 --> 00:36:29,680

james fox yeah uh and i've i think this

1002

00:36:34,230 --> 00:36:31,440

is one heck of a photo and i want to

1003

00:36:35,750 --> 00:36:34,240

know your opinion of that

1004

00:36:37,589 --> 00:36:35,760

right away the first thing i would say

1005

00:36:40,710 --> 00:36:37,599

is where's the rest of the photo because

1006

00:36:41,990 --> 00:36:40,720

that it was just a one-off polaroid yeah

1007

00:36:43,670 --> 00:36:42,000

and that's the

1008

00:36:46,230 --> 00:36:43,680

photo from the polaroid

1009

00:36:48,390 --> 00:36:46,240

that that photo is is from

1010

00:36:49,990 --> 00:36:48,400

the pulp that is a polaroid and james

1011

00:36:52,829 --> 00:36:50,000

fox in the phenomenon showed the

1012

00:36:54,470 --> 00:36:52,839

original polaroid

1013

00:36:56,790 --> 00:36:54,480

okay

1014

00:37:00,390 --> 00:36:56,800

um

1015

00:37:02,230 --> 00:37:00,400

right off the bat what i would do is uh

1016

00:37:04,470 --> 00:37:02,240

you know i would analyze the reflections

1017

00:37:07,430 --> 00:37:04,480

in that object

1018

00:37:08,710 --> 00:37:07,440

and try to figure out what colors well i

1019

00:37:10,950 --> 00:37:08,720

could easily figure out the colors i

1020

00:37:12,710 --> 00:37:10,960

guess that are in that reflection and

1021

00:37:13,910 --> 00:37:12,720

then look at the ground objects and see

1022

00:37:17,030 --> 00:37:13,920

if there's anything in the ground

1023

00:37:19,589 --> 00:37:17,040

objects that could uh irresponsible and

1024

00:37:20,630 --> 00:37:19,599

try to if possible get a scale for

1025

00:37:22,470 --> 00:37:20,640

anything that might be in that

1026
00:37:24,230 --> 00:37:22,480
reflection and that would tell us how

1027
00:37:25,589 --> 00:37:24,240
far away it is because that could be

1028
00:37:27,349 --> 00:37:25,599
something

1029
00:37:29,750 --> 00:37:27,359
somewhat large that's farther away or

1030
00:37:32,069 --> 00:37:29,760
something very small that's up close

1031
00:37:34,310 --> 00:37:32,079
um that's true the entire photo is a

1032
00:37:36,710 --> 00:37:34,320
little bit blurry and it looks like the

1033
00:37:38,790 --> 00:37:36,720
object and the house and in the photo

1034
00:37:39,589 --> 00:37:38,800
are about as blurred

1035
00:37:40,470 --> 00:37:39,599
so

1036
00:37:42,470 --> 00:37:40,480
uh

1037
00:37:45,030 --> 00:37:42,480
it could not have been moving too fast

1038
00:37:47,510 --> 00:37:45,040

especially if it's a polaroid

1039

00:37:50,710 --> 00:37:47,520

now my son collects polaroid cameras and

1040

00:37:51,990 --> 00:37:50,720

i have them upstairs several kinds

1041

00:37:54,950 --> 00:37:52,000

and there's someone that actually

1042

00:37:57,349 --> 00:37:54,960

collects polaroid cameras yeah my son he

1043

00:37:59,270 --> 00:37:57,359

actually collects a lot of cameras okay

1044

00:38:01,109 --> 00:37:59,280

yeah and he's uh

1045

00:38:02,870 --> 00:38:01,119

a film film uh

1046

00:38:05,510 --> 00:38:02,880

oh that's right that's right yeah and

1047

00:38:07,349 --> 00:38:05,520

knows an awful lot about them yeah and

1048

00:38:08,950 --> 00:38:07,359

he knows he would be able to look at

1049

00:38:10,069 --> 00:38:08,960

that photo and

1050

00:38:13,430 --> 00:38:10,079

tell you

1051
00:38:15,750 --> 00:38:13,440
whether a polaroid camera of whatever

1052
00:38:16,630 --> 00:38:15,760
type that is said to have taken that

1053
00:38:20,069 --> 00:38:16,640
picture

1054
00:38:22,310 --> 00:38:20,079
from an object moving fast through the

1055
00:38:24,390 --> 00:38:22,320
picture i think not

1056
00:38:27,589 --> 00:38:24,400
i think it's something was either moving

1057
00:38:30,390 --> 00:38:27,599
relatively slow or stationary

1058
00:38:31,750 --> 00:38:30,400
so i think yeah i'm trying to remember

1059
00:38:33,430 --> 00:38:31,760
james fox did

1060
00:38:35,430 --> 00:38:33,440
when he was in

1061
00:38:37,430 --> 00:38:35,440
australia he met with this gentleman

1062
00:38:40,230 --> 00:38:37,440
that held up the the picture and all

1063
00:38:41,990 --> 00:38:40,240

that and he tells the whole entire story

1064

00:38:43,510 --> 00:38:42,000

he was working in the garden and that's

1065

00:38:44,870 --> 00:38:43,520

all i remember i don't remember any

1066

00:38:46,950 --> 00:38:44,880

other details

1067

00:38:48,069 --> 00:38:46,960

but

1068

00:38:49,589 --> 00:38:48,079

i know that

1069

00:38:51,910 --> 00:38:49,599

you know your friend of mine lee spiegel

1070

00:38:52,870 --> 00:38:51,920

worked on it together with james and

1071

00:38:55,670 --> 00:38:52,880

um

1072

00:38:58,069 --> 00:38:55,680

yeah don't remember uh the details of

1073

00:39:00,230 --> 00:38:58,079

that particular case there

1074

00:39:02,230 --> 00:39:00,240

yeah you hear the you hear the crows in

1075

00:39:03,750 --> 00:39:02,240

the background i do there's it's the

1076
00:39:05,910 --> 00:39:03,760
weirdest thing you'd think this place

1077
00:39:07,750 --> 00:39:05,920
would be full of seagulls but it's

1078
00:39:10,790 --> 00:39:07,760
the crows are eating

1079
00:39:12,550 --> 00:39:10,800
crabs and i'm just unbelievable yeah

1080
00:39:13,349 --> 00:39:12,560
yeah taking over

1081
00:39:18,470 --> 00:39:13,359
yeah

1082
00:39:21,190 --> 00:39:19,510
uh

1083
00:39:22,710 --> 00:39:21,200
so you know yes there

1084
00:39:24,550 --> 00:39:22,720
i want to mention before we go a bunch

1085
00:39:27,430 --> 00:39:24,560
further

1086
00:39:28,950 --> 00:39:27,440
you know in our live observatory skyter

1087
00:39:30,390 --> 00:39:28,960
live stream oh yes i wanted to talk

1088
00:39:32,390 --> 00:39:30,400

about it on youtube

1089

00:39:33,589 --> 00:39:32,400

um that's the east coast observatory

1090

00:39:34,950 --> 00:39:33,599

there that's being rehabbed and

1091

00:39:37,829 --> 00:39:34,960

refurbished and i'm going to be putting

1092

00:39:39,589 --> 00:39:37,839

into a new building out here but out in

1093

00:39:40,390 --> 00:39:39,599

arizona we have an active building out

1094

00:39:41,270 --> 00:39:40,400

there

1095

00:39:44,150 --> 00:39:41,280

well

1096

00:39:45,670 --> 00:39:44,160

sunday after our our radio show that

1097

00:39:48,230 --> 00:39:45,680

goes from six to eight

1098

00:39:49,829 --> 00:39:48,240

we're gonna move right into a lunar

1099

00:39:52,069 --> 00:39:49,839

eclipse stream and we're gonna actually

1100

00:39:54,790 --> 00:39:52,079

stream the lunar eclipse live

1101
00:39:56,950 --> 00:39:54,800
um now it'll already be well underway by

1102
00:39:59,190 --> 00:39:56,960
the time we get in but just keep this in

1103
00:40:01,589 --> 00:39:59,200
mind last time we were looking at the

1104
00:40:03,270 --> 00:40:01,599
moon during a lunar eclipse

1105
00:40:05,030 --> 00:40:03,280
we're one of five groups on the planet

1106
00:40:06,710 --> 00:40:05,040
that actually caught a meteor strike the

1107
00:40:08,390 --> 00:40:06,720
moon during the eclipse right at the

1108
00:40:10,470 --> 00:40:08,400
height of the eclipse right in the red

1109
00:40:12,870 --> 00:40:10,480
spot you see it

1110
00:40:14,870 --> 00:40:12,880
i remember that i remember that yeah

1111
00:40:17,430 --> 00:40:14,880
yeah exactly

1112
00:40:19,109 --> 00:40:17,440
at the time we didn't know what we saw

1113
00:40:20,069 --> 00:40:19,119

so we let it go for a time because we

1114

00:40:21,910 --> 00:40:20,079

figured okay we're going to research

1115

00:40:23,910 --> 00:40:21,920

that when we're done and by the time the

1116

00:40:25,670 --> 00:40:23,920

stream was over we had already found out

1117

00:40:27,109 --> 00:40:25,680

that indeed it was a meteor that struck

1118

00:40:29,670 --> 00:40:27,119

the moon so we always have this we have

1119

00:40:31,030 --> 00:40:29,680

a phenomenal sky tour live stream family

1120

00:40:32,870 --> 00:40:31,040

and they just started researching and

1121

00:40:35,109 --> 00:40:32,880

doing things and they found out an awful

1122

00:40:36,870 --> 00:40:35,119

lot about it before we even finished the

1123

00:40:38,870 --> 00:40:36,880

stream that night so that was pretty

1124

00:40:42,309 --> 00:40:38,880

awesome you know these are good people

1125

00:40:44,710 --> 00:40:42,319

but uh so tell tell tell the listening

1126

00:40:47,670 --> 00:40:44,720

audience how they can

1127

00:40:49,670 --> 00:40:47,680

get there uh for this coming event

1128

00:40:51,829 --> 00:40:49,680

saturday you said yeah yeah yeah let's

1129

00:40:54,069 --> 00:40:51,839

see we're live on youtube on most clear

1130

00:40:55,829 --> 00:40:54,079

nights out in arizona i'm in connecticut

1131

00:40:58,870 --> 00:40:55,839

but i control it from here

1132

00:41:00,870 --> 00:40:58,880

um and i use literally almost all free

1133

00:41:02,069 --> 00:41:00,880

software to do it

1134

00:41:03,990 --> 00:41:02,079

so if anyone wants to learn how to

1135

00:41:06,390 --> 00:41:04,000

control something long distance

1136

00:41:07,910 --> 00:41:06,400

you can do it for free almost free i

1137

00:41:10,150 --> 00:41:07,920

think that's pretty cool

1138

00:41:12,550 --> 00:41:10,160

um but um

1139

00:41:15,109 --> 00:41:12,560

we're on youtube and the channel is

1140

00:41:17,030 --> 00:41:15,119

called sky tour live stream with with

1141

00:41:18,230 --> 00:41:17,040

this guy right here mark antonio right

1142

00:41:20,550 --> 00:41:18,240

there that's me

1143

00:41:22,950 --> 00:41:20,560

that's a weird name i never realized my

1144

00:41:25,270 --> 00:41:22,960

name but that's my name and so sky tour

1145

00:41:27,589 --> 00:41:25,280

sky tour one word live stream with marc

1146

00:41:28,230 --> 00:41:27,599

d'antonio skytrail live stream will find

1147

00:41:30,069 --> 00:41:28,240

it

1148

00:41:31,109 --> 00:41:30,079

and just subscribe and join and come on

1149

00:41:33,589 --> 00:41:31,119

in and

1150

00:41:35,109 --> 00:41:33,599

and just watch and we've got well over

1151

00:41:41,430 --> 00:41:35,119

500

1152

00:41:43,349 --> 00:41:41,440

uh past streams up there that we've done

1153

00:41:46,309 --> 00:41:43,359

of the night sky

1154

00:41:48,630 --> 00:41:46,319

and our sky out there is so dark

1155

00:41:50,870 --> 00:41:48,640

that literally when i first saw it and

1156

00:41:52,390 --> 00:41:50,880

i'm not i'm not too proud to say this

1157

00:41:54,069 --> 00:41:52,400

when i first saw it i literally started

1158

00:41:55,430 --> 00:41:54,079

crying it was so

1159

00:41:58,390 --> 00:41:55,440

beautiful

1160

00:42:00,950 --> 00:41:58,400

it was dead calm dead quiet and all that

1161

00:42:03,829 --> 00:42:00,960

was over me was this velvety beautiful

1162

00:42:06,710 --> 00:42:03,839

sky with beautiful pinpoints of stars

1163

00:42:07,910 --> 00:42:06,720

and milky way and i was like huh

1164

00:42:09,510 --> 00:42:07,920

it literally

1165

00:42:12,470 --> 00:42:09,520

takes your breath away

1166

00:42:14,630 --> 00:42:12,480

and we have one of the top instruments

1167

00:42:16,630 --> 00:42:14,640

in that building looking up at the sky

1168

00:42:19,030 --> 00:42:16,640

every time it's clear and getting

1169

00:42:22,150 --> 00:42:19,040

imagery and is just

1170

00:42:24,309 --> 00:42:22,160

unbelievable we get in in 10 to 15 to 20

1171

00:42:27,750 --> 00:42:24,319

seconds what it takes sometimes

1172

00:42:30,630 --> 00:42:27,760

10 to 20 to 30 minutes to get elsewhere

1173

00:42:32,630 --> 00:42:30,640

we can get really yeah yeah so most of

1174

00:42:33,910 --> 00:42:32,640

our exposures we actually will do

1175

00:42:37,589 --> 00:42:33,920

anywhere between

1176

00:42:40,550 --> 00:42:37,599

uh five and and and 15 objects a night

1177

00:42:42,790 --> 00:42:40,560

you know and taking long exposures of 20

1178

00:42:44,309 --> 00:42:42,800

seconds on them and then stacking them

1179

00:42:46,790 --> 00:42:44,319

one on top of each other like an image

1180

00:42:48,550 --> 00:42:46,800

sandwich to make them much more clear

1181

00:42:50,309 --> 00:42:48,560

and in 20 seconds i mean how long does

1182

00:42:53,829 --> 00:42:50,319

it take to get 10

1183

00:42:54,790 --> 00:42:53,839

10 images 10 stack 10 stack images 200

1184

00:42:56,630 --> 00:42:54,800

seconds

1185

00:42:59,430 --> 00:42:56,640

so in the time it takes to say what i'm

1186

00:43:01,670 --> 00:42:59,440

saying now we'd almost be done

1187

00:43:03,430 --> 00:43:01,680

so it's really cool i almost don't have

1188

00:43:06,069 --> 00:43:03,440

time to talk about the object but i do

1189

00:43:08,150 --> 00:43:06,079

every time and you know i say okay this

1190

00:43:10,150 --> 00:43:08,160

is a planetary nebula it's a remains of

1191

00:43:12,470 --> 00:43:10,160

a star that just died

1192

00:43:13,990 --> 00:43:12,480

and uh you know the green greenish blue

1193

00:43:15,030 --> 00:43:14,000

colors because of this the red colors

1194

00:43:17,109 --> 00:43:15,040

because of that you know we'll talk

1195

00:43:18,950 --> 00:43:17,119

about the elements in the periodic table

1196

00:43:20,950 --> 00:43:18,960

but you know we talk about it in a way

1197

00:43:23,190 --> 00:43:20,960

that makes people understand it right

1198

00:43:25,190 --> 00:43:23,200

and yes you do i've i've been in that

1199

00:43:26,470 --> 00:43:25,200

i've been watching a few times and

1200

00:43:28,630 --> 00:43:26,480

you've said hi to each other enough

1201
00:43:30,390 --> 00:43:28,640
times but yeah you're you're you're a

1202
00:43:31,829 --> 00:43:30,400
wonderful patron and

1203
00:43:34,790 --> 00:43:31,839
um and

1204
00:43:36,309 --> 00:43:34,800
the thing is when you know uh last

1205
00:43:37,829 --> 00:43:36,319
week or two we've been looking at a

1206
00:43:40,790 --> 00:43:37,839
supernova that occurred and it's

1207
00:43:43,270 --> 00:43:40,800
occurred in another galaxy now

1208
00:43:44,790 --> 00:43:43,280
this galaxy is tens of millions of light

1209
00:43:46,309 --> 00:43:44,800
years away which means that the

1210
00:43:47,990 --> 00:43:46,319
supernova which showed up in our

1211
00:43:50,710 --> 00:43:48,000
telescopes

1212
00:43:52,630 --> 00:43:50,720
on just one on one particular night

1213
00:43:54,870 --> 00:43:52,640

that light took millions tens of

1214

00:43:57,510 --> 00:43:54,880

millions of years to get here yeah it

1215

00:44:00,069 --> 00:43:57,520

actually left before the dinosaurs died

1216

00:44:00,870 --> 00:44:00,079

from amazing ancient and made it here

1217

00:44:03,430 --> 00:44:00,880

uh

1218

00:44:05,030 --> 00:44:03,440

so hard to fathom things like that yes

1219

00:44:06,470 --> 00:44:05,040

well the universe is a great big time

1220

00:44:08,470 --> 00:44:06,480

machine isn't it

1221

00:44:10,710 --> 00:44:08,480

you look back yeah all the time i think

1222

00:44:12,069 --> 00:44:10,720

of that all the time when yeah

1223

00:44:15,430 --> 00:44:12,079

i look out

1224

00:44:17,030 --> 00:44:15,440

yeah what we're seeing and are we

1225

00:44:18,390 --> 00:44:17,040

let me ask you a couple of astronomy

1226
00:44:21,750 --> 00:44:18,400
questions because i've always always

1227
00:44:23,030 --> 00:44:21,760
enjoy uh picking your brains on things

1228
00:44:23,910 --> 00:44:23,040
how

1229
00:44:24,790 --> 00:44:23,920
uh

1230
00:44:26,150 --> 00:44:24,800
how

1231
00:44:27,589 --> 00:44:26,160
close

1232
00:44:29,910 --> 00:44:27,599
could a

1233
00:44:32,309 --> 00:44:29,920
uh let me say it again how close would a

1234
00:44:33,430 --> 00:44:32,319
supernova uh probably depends on the

1235
00:44:34,950 --> 00:44:33,440
size of it

1236
00:44:37,750 --> 00:44:34,960
um that would

1237
00:44:40,230 --> 00:44:37,760
could happen that could affect us could

1238
00:44:42,309 --> 00:44:40,240

cause us problems okay

1239

00:44:45,109 --> 00:44:42,319

first part of your question how

1240

00:44:46,870 --> 00:44:45,119

you said depends on the size of it um

1241

00:44:48,870 --> 00:44:46,880

a star of a certain mass will go

1242

00:44:50,790 --> 00:44:48,880

supernova that's a star way more massive

1243

00:44:53,670 --> 00:44:50,800

than our sun but

1244

00:44:56,069 --> 00:44:53,680

uh if a star went supernova that was

1245

00:44:57,270 --> 00:44:56,079

within say four light years five light

1246

00:44:58,230 --> 00:44:57,280

years of us

1247

00:45:00,150 --> 00:44:58,240

then

1248

00:45:01,910 --> 00:45:00,160

uh we could be in trouble

1249

00:45:04,470 --> 00:45:01,920

and it might take four to five years for

1250

00:45:06,870 --> 00:45:04,480

that energy to get here to bathe our

1251
00:45:08,950 --> 00:45:06,880
planet in you know high-energy x-rays or

1252
00:45:11,510 --> 00:45:08,960
gamma rays and that could be

1253
00:45:13,670 --> 00:45:11,520
disastrous however

1254
00:45:15,510 --> 00:45:13,680
there is no star that can

1255
00:45:17,670 --> 00:45:15,520
do that to us none of the stars near us

1256
00:45:19,190 --> 00:45:17,680
are that massive that can cause such a

1257
00:45:21,589 --> 00:45:19,200
problem for us

1258
00:45:23,670 --> 00:45:21,599
um now we are orbiting the galaxy and we

1259
00:45:25,589 --> 00:45:23,680
do come near other stars at times and we

1260
00:45:27,829 --> 00:45:25,599
don't you know clearly we've gone around

1261
00:45:30,710 --> 00:45:27,839
the galaxy almost 20 times

1262
00:45:32,230 --> 00:45:30,720
since we formed here 4.5 billion years

1263
00:45:34,950 --> 00:45:32,240

ago

1264

00:45:37,030 --> 00:45:34,960

and in that time we've never encountered

1265

00:45:39,750 --> 00:45:37,040

anything that was a

1266

00:45:42,069 --> 00:45:39,760

earth sterilizer event

1267

00:45:44,630 --> 00:45:42,079

like that and that would be a sterilizer

1268

00:45:47,109 --> 00:45:44,640

event it would destroy us so clearly

1269

00:45:49,990 --> 00:45:47,119

we're on the plus side

1270

00:45:52,069 --> 00:45:50,000

of the uh of the problem here

1271

00:45:54,230 --> 00:45:52,079

you know right it's on the chance wheel

1272

00:45:56,230 --> 00:45:54,240

we're on the plus side so we're going to

1273

00:45:58,870 --> 00:45:56,240

i don't know if you never forget before

1274

00:46:01,030 --> 00:45:58,880

i forget sorry yeah go ahead um

1275

00:46:02,230 --> 00:46:01,040

i was starting to say that a sky tour

1276

00:46:03,190 --> 00:46:02,240

live stream

1277

00:46:05,589 --> 00:46:03,200

um

1278

00:46:07,510 --> 00:46:05,599

is going to be live this weekend sunday

1279

00:46:09,270 --> 00:46:07,520

if it's clear out in arizona which it

1280

00:46:11,990 --> 00:46:09,280

usually is we have 300 clear nights a

1281

00:46:14,390 --> 00:46:12,000

year there um we'll be live and

1282

00:46:16,230 --> 00:46:14,400

broadcasting this this uh eclipse now

1283

00:46:17,990 --> 00:46:16,240

the eclipse starts right at sunset in

1284

00:46:20,390 --> 00:46:18,000

fact out there it'll already be

1285

00:46:22,630 --> 00:46:20,400

happening when this when the moon rises

1286

00:46:24,470 --> 00:46:22,640

but we're going to catch it just after

1287

00:46:26,950 --> 00:46:24,480

our radio show which is going to be

1288

00:46:29,430 --> 00:46:26,960

around 8 o'clock so around 8

1289

00:46:30,630 --> 00:46:29,440

10 or so in the evening eastern time

1290

00:46:32,309 --> 00:46:30,640

we're going to

1291

00:46:35,510 --> 00:46:32,319

be focusing on the moon and it's going

1292

00:46:37,190 --> 00:46:35,520

to be already blood red by that point um

1293

00:46:38,630 --> 00:46:37,200

but you know what that's the exciting

1294

00:46:40,950 --> 00:46:38,640

thing and then we'll watch it you know

1295

00:46:43,190 --> 00:46:40,960

watch the earth shadow pass off of it on

1296

00:46:44,790 --> 00:46:43,200

the way out so i can't wait i'm going to

1297

00:46:46,470 --> 00:46:44,800

try to tune into that yeah we're going

1298

00:46:49,589 --> 00:46:46,480

to watch and see if we can catch any

1299

00:46:51,750 --> 00:46:49,599

meteors and i'll probably be live uh

1300

00:46:54,550 --> 00:46:51,760

before we end the radio show and i'll

1301

00:46:56,470 --> 00:46:54,560

show the live feed during the radio show

1302

00:46:58,309 --> 00:46:56,480

if it's clear and if it's cloudy it

1303

00:46:59,910 --> 00:46:58,319

doesn't it doesn't matter we can still

1304

00:47:01,030 --> 00:46:59,920

we can still do it if it's you know

1305

00:47:03,190 --> 00:47:01,040

light clouds

1306

00:47:05,030 --> 00:47:03,200

so that should be pretty cool

1307

00:47:07,430 --> 00:47:05,040

i i have i don't know if you've ever

1308

00:47:09,829 --> 00:47:07,440

heard of fraser kane yeah

1309

00:47:12,470 --> 00:47:09,839

yeah so i've listened to his show and i

1310

00:47:14,710 --> 00:47:12,480

can't remember the who his co-host is

1311

00:47:16,950 --> 00:47:14,720

she's uh professor

1312

00:47:19,430 --> 00:47:16,960

uh in chicago area i think

1313

00:47:21,510 --> 00:47:19,440

anyway um he's got a funny saying that

1314

00:47:24,390 --> 00:47:21,520

he says the universe is always trying to

1315

00:47:26,549 --> 00:47:24,400

kill us that's right

1316

00:47:28,390 --> 00:47:26,559

and so there are there are so many

1317

00:47:30,950 --> 00:47:28,400

events but one of the the reason i'm

1318

00:47:32,710 --> 00:47:30,960

bringing this up don't you think that

1319

00:47:34,470 --> 00:47:32,720

there should be

1320

00:47:37,829 --> 00:47:34,480

um more

1321

00:47:40,710 --> 00:47:37,839

um some type of protection for

1322

00:47:43,990 --> 00:47:40,720

incoming if we have something you know

1323

00:47:45,670 --> 00:47:44,000

that is in direct line and um

1324

00:47:47,349 --> 00:47:45,680

you know that you know this thing that

1325

00:47:48,630 --> 00:47:47,359

happened back in

1326

00:47:49,510 --> 00:47:48,640

celabinsk

1327

00:47:51,589 --> 00:47:49,520

um

1328

00:47:54,150 --> 00:47:51,599

it was in direct line with the sun we

1329

00:47:55,829 --> 00:47:54,160

may not have time of course

1330

00:47:57,990 --> 00:47:55,839

but don't you think there should be more

1331

00:47:59,829 --> 00:47:58,000

i mean we invest in so many things it

1332

00:48:01,430 --> 00:47:59,839

seems like you know if we had a planet

1333

00:48:04,069 --> 00:48:01,440

killer coming our way it seems like we'd

1334

00:48:06,390 --> 00:48:04,079

want to try to be able to mis you know

1335

00:48:08,549 --> 00:48:06,400

misdirect me you know redirect it

1336

00:48:10,630 --> 00:48:08,559

well you say something very interesting

1337

00:48:14,150 --> 00:48:10,640

okay and that is that we need to figure

1338

00:48:16,390 --> 00:48:14,160

out a way to survive say the big impact

1339

00:48:18,790 --> 00:48:16,400

or whatever well that's what the dart

1340

00:48:21,030 --> 00:48:18,800

project is all about dart is going to

1341

00:48:23,190 --> 00:48:21,040

see if colliding with an asteroid will

1342

00:48:24,309 --> 00:48:23,200

allow us to that's right

1343

00:48:26,309 --> 00:48:24,319

just enough

1344

00:48:28,150 --> 00:48:26,319

to change its orbit now the asteroid

1345

00:48:30,630 --> 00:48:28,160

it's going to hit is not an asteroid

1346

00:48:32,950 --> 00:48:30,640

that can hurt us in any way nor could it

1347

00:48:34,710 --> 00:48:32,960

ever but it's a it's a test candidate

1348

00:48:37,990 --> 00:48:34,720

we're going to see if colliding with

1349

00:48:40,309 --> 00:48:38,000

this object can move the asteroid enough

1350

00:48:42,069 --> 00:48:40,319

so that over time

1351

00:48:44,150 --> 00:48:42,079

given we have the time

1352

00:48:46,069 --> 00:48:44,160

we would be able to nudge a killer

1353

00:48:46,790 --> 00:48:46,079

asteroid out of our way

1354

00:48:49,589 --> 00:48:46,800

so

1355

00:48:52,309 --> 00:48:49,599

many

1356

00:48:54,069 --> 00:48:52,319

dart objects we hurl at it in order to

1357

00:48:54,870 --> 00:48:54,079

get it to move

1358

00:48:56,230 --> 00:48:54,880

so

1359

00:48:57,430 --> 00:48:56,240

this would be kind of interesting to see

1360

00:49:01,030 --> 00:48:57,440

how this works

1361

00:49:02,870 --> 00:49:01,040

right we do need more things um for sure

1362

00:49:04,549 --> 00:49:02,880

the chelyabinsk uh

1363

00:49:06,870 --> 00:49:04,559

asteroid that came in

1364

00:49:09,030 --> 00:49:06,880

keep in mind that that was fairly small

1365

00:49:10,069 --> 00:49:09,040

which is why it was hard to see size of

1366

00:49:12,069 --> 00:49:10,079

a bus

1367

00:49:13,270 --> 00:49:12,079

yeah and fairly small

1368

00:49:15,510 --> 00:49:13,280

is not

1369

00:49:17,270 --> 00:49:15,520

necessarily dangerous

1370

00:49:19,349 --> 00:49:17,280

but um

1371

00:49:22,710 --> 00:49:19,359

the chelly banks meteor did punch a

1372

00:49:24,710 --> 00:49:22,720

20-foot diameter hole in a frozen lake

1373

00:49:26,870 --> 00:49:24,720

when it finally fragment finally reached

1374

00:49:29,910 --> 00:49:26,880

the ground

1375

00:49:30,790 --> 00:49:29,920

but again keeping in mind that that that

1376

00:49:32,549 --> 00:49:30,800

hole

1377

00:49:34,790 --> 00:49:32,559

that it made was

1378

00:49:38,069 --> 00:49:34,800

just a fragment of the overall

1379

00:49:40,230 --> 00:49:38,079

larger object right right so we get hit

1380

00:49:41,670 --> 00:49:40,240

with larger objects many times per year

1381

00:49:43,030 --> 00:49:41,680

a number of times you could probably

1382

00:49:44,870 --> 00:49:43,040

count them on two hands probably like

1383

00:49:46,549 --> 00:49:44,880

ten times eight times whatever for a

1384

00:49:49,270 --> 00:49:46,559

very large object

1385

00:49:51,430 --> 00:49:49,280

and they usually hit over the ocean

1386

00:49:53,510 --> 00:49:51,440

but i think they're also responsible for

1387

00:49:54,390 --> 00:49:53,520

some of the mythical sounds that people

1388

00:49:59,030 --> 00:49:54,400

hear

1389

00:50:05,109 --> 00:50:02,309

and then in nova scotia

1390

00:50:07,750 --> 00:50:05,119

what was that these mystery booms what

1391

00:50:11,109 --> 00:50:07,760

they might be are the sonic booms or the

1392

00:50:12,950 --> 00:50:11,119

breakup booms of these giant objects

1393

00:50:15,270 --> 00:50:12,960

coming in over the ocean and the sound

1394

00:50:18,069 --> 00:50:15,280

just travels england how about that nova

1395

00:50:19,750 --> 00:50:18,079

scotia i've you've heard people have

1396

00:50:22,870 --> 00:50:19,760

been talking about those boom sounds

1397

00:50:25,270 --> 00:50:22,880

wondering what they are

1398

00:50:26,790 --> 00:50:25,280

for years i think linda molten how

1399

00:50:29,510 --> 00:50:26,800

actually does

1400

00:50:31,829 --> 00:50:29,520

some stories on that you know the people

1401
00:50:34,390 --> 00:50:31,839
that are hearing these boom sounds and

1402
00:50:36,309 --> 00:50:34,400
no explanation never thought of it being

1403
00:50:39,270 --> 00:50:36,319
carried off the ocean of course if the

1404
00:50:41,109 --> 00:50:39,280
earth is 73 water or whatever it is

1405
00:50:43,270 --> 00:50:41,119
ocean um

1406
00:50:45,109 --> 00:50:43,280
yeah most of them are you know 70 of

1407
00:50:47,109 --> 00:50:45,119
they are going to land in the ocean

1408
00:50:49,750 --> 00:50:47,119
right and keep in mind that these these

1409
00:50:50,870 --> 00:50:49,760
explosions are occurring not at 10 000

1410
00:50:53,190 --> 00:50:50,880
feet

1411
00:50:55,670 --> 00:50:53,200
these explosions are occurring at like a

1412
00:50:57,670 --> 00:50:55,680
hundred and eighty thousand or or more

1413
00:50:59,270 --> 00:50:57,680

maybe eighty miles up seventy miles so

1414

00:51:01,190 --> 00:50:59,280

they can really carry in the curvature

1415

00:51:03,750 --> 00:51:01,200

of the earth and all that right and the

1416

00:51:05,510 --> 00:51:03,760

sound waves will be a lot

1417

00:51:07,270 --> 00:51:05,520

you know lower amplitude up there

1418

00:51:08,950 --> 00:51:07,280

because there's not enough not enough

1419

00:51:10,630 --> 00:51:08,960

air to conduct the sound waves because

1420

00:51:12,630 --> 00:51:10,640

they're like a compression wave through

1421

00:51:14,710 --> 00:51:12,640

the air but if they do

1422

00:51:17,190 --> 00:51:14,720

make it they're going to be a big long

1423

00:51:19,270 --> 00:51:17,200

low boom and that's what the rumbling

1424

00:51:21,589 --> 00:51:19,280

was heard you know rumbling in england

1425

00:51:22,870 --> 00:51:21,599

rumbling in nova scotia hmm

1426

00:51:24,470 --> 00:51:22,880

depending on the timing of when they

1427

00:51:26,230 --> 00:51:24,480

were heard you could kind of pinpoint

1428

00:51:27,829 --> 00:51:26,240

where along that line

1429

00:51:29,750 --> 00:51:27,839

the meteor came in

1430

00:51:31,670 --> 00:51:29,760

so if it's heard you know because air

1431

00:51:34,470 --> 00:51:31,680

you know in the in air of a certain

1432

00:51:37,109 --> 00:51:34,480

density sound travels a certain speed

1433

00:51:38,470 --> 00:51:37,119

and if you can calculate how long it

1434

00:51:40,069 --> 00:51:38,480

takes for the sound to get to nova

1435

00:51:41,910 --> 00:51:40,079

scotia versus how long it gets to

1436

00:51:43,990 --> 00:51:41,920

england and what time they actually

1437

00:51:45,750 --> 00:51:44,000

heard it and knowing the two times the

1438

00:51:47,109 --> 00:51:45,760

two places you can figure out where

1439

00:51:48,390 --> 00:51:47,119

along the line it happened was it right

1440

00:51:50,710 --> 00:51:48,400

in between was it more toward nova

1441

00:51:52,390 --> 00:51:50,720

scotia was more toward england and for

1442

00:51:54,870 --> 00:51:52,400

instance so you can figure out a

1443

00:51:57,829 --> 00:51:54,880

substantial number of things just from

1444

00:51:58,630 --> 00:51:57,839

the the data about the sound

1445

00:52:00,230 --> 00:51:58,640

you know

1446

00:52:02,069 --> 00:52:00,240

and the other thing to keep in mind is

1447

00:52:03,670 --> 00:52:02,079

that we have underwater listening

1448

00:52:05,349 --> 00:52:03,680

hydrophones

1449

00:52:06,150 --> 00:52:05,359

in our oceans

1450

00:52:07,750 --> 00:52:06,160

and

1451
00:52:09,430 --> 00:52:07,760
these sounds

1452
00:52:11,829 --> 00:52:09,440
long low frequencies

1453
00:52:14,309 --> 00:52:11,839
if any of those hydrophones pick up that

1454
00:52:16,549 --> 00:52:14,319
sound then those are hard data points

1455
00:52:18,710 --> 00:52:16,559
that will help will have and who who

1456
00:52:19,670 --> 00:52:18,720
monitors those

1457
00:52:22,470 --> 00:52:19,680
well

1458
00:52:23,670 --> 00:52:22,480
it's a it's a us navy it's a us

1459
00:52:25,670 --> 00:52:23,680
government

1460
00:52:27,030 --> 00:52:25,680
so would we ever we would probably never

1461
00:52:29,510 --> 00:52:27,040
hear about anything

1462
00:52:30,870 --> 00:52:29,520
most likely well

1463
00:52:32,790 --> 00:52:30,880

maybe but see the thing is they would

1464

00:52:34,549 --> 00:52:32,800

overlook it they would say okay we just

1465

00:52:38,309 --> 00:52:34,559

had this one spurious sound well it's

1466

00:52:40,069 --> 00:52:38,319

either geological biological or natural

1467

00:52:42,790 --> 00:52:40,079

of some kind they only care about

1468

00:52:45,030 --> 00:52:42,800

listening for enemies

1469

00:52:47,030 --> 00:52:45,040

right they have certain signatures for

1470

00:52:49,270 --> 00:52:47,040

say certain submarines or certain

1471

00:52:51,349 --> 00:52:49,280

warships and like they can say oh yeah

1472

00:52:54,390 --> 00:52:51,359

well this this this ship just left that

1473

00:52:57,510 --> 00:52:54,400

port okay uh okay the tight well we got

1474

00:52:59,670 --> 00:52:57,520

a we got a cooler uh submarine that just

1475

00:53:02,150 --> 00:52:59,680

fired up out of mermanx and it's on its

1476

00:53:04,390 --> 00:53:02,160

way into the north sea the baron sea

1477

00:53:06,230 --> 00:53:04,400

you know so i mean you got all kinds of

1478

00:53:07,589 --> 00:53:06,240

possibilities there that's what they're

1479

00:53:10,790 --> 00:53:07,599

listening for they're not listening for

1480

00:53:12,549 --> 00:53:10,800

whale farts to be clear blunt

1481

00:53:15,829 --> 00:53:12,559

okay yeah though those would probably

1482

00:53:17,430 --> 00:53:15,839

sound pretty funny

1483

00:53:18,790 --> 00:53:17,440

just like the way they sing

1484

00:53:20,230 --> 00:53:18,800

just leave everybody sing that's right

1485

00:53:21,349 --> 00:53:20,240

yeah now

1486

00:53:23,990 --> 00:53:21,359

what about

1487

00:53:26,150 --> 00:53:24,000

let's shift gears a little bit and

1488

00:53:27,030 --> 00:53:26,160

you know you think about

1489

00:53:30,230 --> 00:53:27,040

life

1490

00:53:32,870 --> 00:53:30,240

there i have that great book that you

1491

00:53:34,950 --> 00:53:32,880

wrote right in the other room in there

1492

00:53:35,829 --> 00:53:34,960

um and what what is the title to that

1493

00:53:37,670 --> 00:53:35,839

book

1494

00:53:38,390 --> 00:53:37,680

it's called the populated universe it's

1495

00:53:41,190 --> 00:53:38,400

uh

1496

00:53:42,710 --> 00:53:41,200

yeah it's it's my

1497

00:53:44,790 --> 00:53:42,720

us on the subject that life in the

1498

00:53:46,790 --> 00:53:44,800

universe may very well be the norm not

1499

00:53:50,069 --> 00:53:46,800

the exception yeah

1500

00:53:52,470 --> 00:53:50,079

and that probably is i i agree with that

1501
00:53:54,790 --> 00:53:52,480
yeah that one statement but let me just

1502
00:53:56,630 --> 00:53:54,800
ask you your thoughts on you know we

1503
00:53:59,750 --> 00:53:56,640
think about life on

1504
00:54:01,670 --> 00:53:59,760
planets but what about moons like uh

1505
00:54:02,950 --> 00:54:01,680
jupiter's moon

1506
00:54:05,190 --> 00:54:02,960
europa

1507
00:54:06,870 --> 00:54:05,200
something like that yeah i mean it

1508
00:54:08,230 --> 00:54:06,880
doesn't have to be intelligent life but

1509
00:54:10,549 --> 00:54:08,240
just plain life

1510
00:54:13,349 --> 00:54:10,559
yeah and that's something we we will

1511
00:54:15,109 --> 00:54:13,359
probably find i think in the next 10 to

1512
00:54:16,230 --> 00:54:15,119
15 years maybe

1513
00:54:18,630 --> 00:54:16,240

um

1514

00:54:20,790 --> 00:54:18,640

we'll also notice uh because of our

1515

00:54:22,069 --> 00:54:20,800

planet hunting capability that

1516

00:54:24,630 --> 00:54:22,079

um

1517

00:54:26,150 --> 00:54:24,640

proxima proxima b the the planet that's

1518

00:54:27,750 --> 00:54:26,160

that one of the two planets around

1519

00:54:29,589 --> 00:54:27,760

proxima centauri

1520

00:54:35,030 --> 00:54:29,599

4.3 light years away

1521

00:54:38,390 --> 00:54:37,510

characteristics that could foster life

1522

00:54:39,430 --> 00:54:38,400

perhaps

1523

00:54:41,829 --> 00:54:39,440

i mean

1524

00:54:44,549 --> 00:54:41,839

clearly the star is a very

1525

00:54:46,230 --> 00:54:44,559

flare it's a flaring star so

1526

00:54:47,829 --> 00:54:46,240

we don't we see a lot of ultraviolet

1527

00:54:50,230 --> 00:54:47,839

flares

1528

00:54:53,670 --> 00:54:50,240

but the sun in its early life was also a

1529

00:54:56,630 --> 00:54:53,680

very ultraviolet prone star

1530

00:54:58,230 --> 00:54:56,640

and it would do these flares as well

1531

00:55:01,670 --> 00:54:58,240

so that said

1532

00:55:05,829 --> 00:55:01,680

um if we're looking at uh

1533

00:55:07,349 --> 00:55:05,839

say proxima b well then we know that uh

1534

00:55:09,670 --> 00:55:07,359

proxima b

1535

00:55:11,750 --> 00:55:09,680

might actually be a

1536

00:55:13,270 --> 00:55:11,760

a planet that could possibly support

1537

00:55:14,150 --> 00:55:13,280

some form of life

1538

00:55:15,030 --> 00:55:14,160

right

1539

00:55:17,829 --> 00:55:15,040

um

1540

00:55:19,030 --> 00:55:17,839

what was the rest of your question

1541

00:55:20,630 --> 00:55:19,040

because i was

1542

00:55:22,710 --> 00:55:20,640

well i was asking it doesn't have to be

1543

00:55:24,390 --> 00:55:22,720

on a planet no no i didn't that's right

1544

00:55:26,870 --> 00:55:24,400

but but okay

1545

00:55:28,950 --> 00:55:26,880

but we we know of um

1546

00:55:30,309 --> 00:55:28,960

we know that there are planets with

1547

00:55:32,230 --> 00:55:30,319

moons out there

1548

00:55:34,069 --> 00:55:32,240

other than ours within our solar system

1549

00:55:35,990 --> 00:55:34,079

we can see evidence that there are moons

1550

00:55:38,789 --> 00:55:36,000

around other planets in other star

1551

00:55:40,150 --> 00:55:38,799

systems so is it possible life could

1552

00:55:42,309 --> 00:55:40,160

form there yes

1553

00:55:43,670 --> 00:55:42,319

okay europa as you mentioned europa

1554

00:55:46,230 --> 00:55:43,680

around jupiter

1555

00:55:48,069 --> 00:55:46,240

um and we have io europa ganymede and

1556

00:55:49,990 --> 00:55:48,079

kalisto those are the four galilean

1557

00:55:52,390 --> 00:55:50,000

satellites that galileo

1558

00:55:55,990 --> 00:55:52,400

famously used to get tried for heresy

1559

00:55:58,309 --> 00:55:56,000

okay and europa is an ice-encrusted moon

1560

00:55:59,430 --> 00:55:58,319

and it has what might be

1561

00:56:01,910 --> 00:55:59,440

seems to be

1562

00:56:04,150 --> 00:56:01,920

a watery ocean beneath that icy crust

1563

00:56:06,150 --> 00:56:04,160

yeah it doesn't have like volcanic uh

1564

00:56:07,589 --> 00:56:06,160

like ice volcanoes yeah yeah water

1565

00:56:08,870 --> 00:56:07,599

volcano

1566

00:56:10,870 --> 00:56:08,880

geysers

1567

00:56:12,470 --> 00:56:10,880

yeah and and the hubble space telescope

1568

00:56:14,710 --> 00:56:12,480

was able to characterize that hydrogen

1569

00:56:17,270 --> 00:56:14,720

and oxygen coming out of those geysers

1570

00:56:18,870 --> 00:56:17,280

you could see it so what that means is

1571

00:56:19,990 --> 00:56:18,880

if we have

1572

00:56:39,270 --> 00:56:20,000

a

1573

00:56:42,230 --> 00:56:39,280

life to be existent

1574

00:56:43,750 --> 00:56:42,240

a mile beneath the ice in antarctica

1575

00:56:45,430 --> 00:56:43,760

but there's a lake

1576
00:56:48,069 --> 00:56:45,440
and some of your listeners are probably

1577
00:56:49,510 --> 00:56:48,079
saying i know the lake it's lake vostok

1578
00:56:50,870 --> 00:56:49,520
and you'd be right

1579
00:56:53,750 --> 00:56:50,880
lake vostok

1580
00:56:54,710 --> 00:56:53,760
is uh been sealed off from the world

1581
00:56:56,710 --> 00:56:54,720
above

1582
00:56:59,270 --> 00:56:56,720
for

1583
00:57:00,870 --> 00:56:59,280
thousands tens of thousands of years and

1584
00:57:01,829 --> 00:57:00,880
this particular

1585
00:57:03,589 --> 00:57:01,839
lake

1586
00:57:04,630 --> 00:57:03,599
uh when they probed it finally they went

1587
00:57:07,829 --> 00:57:04,640
down

1588
00:57:10,230 --> 00:57:07,839

it hosts well over 3 000 different

1589

00:57:14,470 --> 00:57:10,240

species of microscopic life

1590

00:57:17,510 --> 00:57:14,480

amazing and this this lake has its own

1591

00:57:19,430 --> 00:57:17,520

cycles there's the carbon cycle okay

1592

00:57:21,750 --> 00:57:19,440

that's very important for you know dead

1593

00:57:23,910 --> 00:57:21,760

things they they go down they decompose

1594

00:57:25,510 --> 00:57:23,920

the carbon goes back into the cycle and

1595

00:57:29,030 --> 00:57:25,520

then starts agnew

1596

00:57:31,589 --> 00:57:29,040

into new objects okay into new creatures

1597

00:57:32,950 --> 00:57:31,599

that that is something cycles are very

1598

00:57:34,789 --> 00:57:32,960

important we have the water cycle here

1599

00:57:36,390 --> 00:57:34,799

on earth right with the atmosphere water

1600

00:57:38,150 --> 00:57:36,400

evaporates goes up

1601
00:57:41,190 --> 00:57:38,160
falls back down as rain

1602
00:57:42,789 --> 00:57:41,200
fertilizes plants waters plants and then

1603
00:57:44,549 --> 00:57:42,799
keeps on going over and over these

1604
00:57:46,230 --> 00:57:44,559
cycles are really really important it's

1605
00:57:49,190 --> 00:57:46,240
not just water and carbon there's other

1606
00:57:50,789 --> 00:57:49,200
cycles too there's a methane cycle okay

1607
00:57:52,630 --> 00:57:50,799
waste products uh you know you have to

1608
00:57:54,630 --> 00:57:52,640
deal with them and then make them not

1609
00:57:57,829 --> 00:57:54,640
toxify the environment and that happens

1610
00:58:01,190 --> 00:57:57,839
too so if it happened here then it could

1611
00:58:02,150 --> 00:58:01,200
happen there that's my whole point

1612
00:58:04,789 --> 00:58:02,160
see

1613
00:58:06,789 --> 00:58:04,799

right and that's a very good possibility

1614

00:58:07,589 --> 00:58:06,799

yeah you know so

1615

00:58:09,349 --> 00:58:07,599

um

1616

00:58:10,230 --> 00:58:09,359

and lake vostok is a good test case

1617

00:58:13,030 --> 00:58:10,240

because

1618

00:58:14,230 --> 00:58:13,040

lake vostok is among the coldest places

1619

00:58:16,789 --> 00:58:14,240

on earth

1620

00:58:19,349 --> 00:58:16,799

if not the coolest

1621

00:58:21,430 --> 00:58:19,359

amazing they have and then there's many

1622

00:58:23,670 --> 00:58:21,440

cases where life has survived where it

1623

00:58:25,270 --> 00:58:23,680

just seems totally impossible

1624

00:58:27,030 --> 00:58:25,280

and acidic and

1625

00:58:29,990 --> 00:58:27,040

the creatures remember the creatures in

1626
00:58:31,670 --> 00:58:30,000
lake vostok don't depend on sunlight

1627
00:58:33,910 --> 00:58:31,680
there is none

1628
00:58:36,630 --> 00:58:33,920
so they don't make energy through

1629
00:58:39,190 --> 00:58:36,640
photosynthesis like the sun-loving

1630
00:58:40,309 --> 00:58:39,200
creatures do that we are and plants are

1631
00:58:42,870 --> 00:58:40,319
right

1632
00:58:46,309 --> 00:58:42,880
they use chemosynthesis

1633
00:58:48,470 --> 00:58:46,319
the chemical creation of energy and

1634
00:58:51,349 --> 00:58:48,480
that's what life on europa

1635
00:58:52,390 --> 00:58:51,359
or on saturn's moon enceladus

1636
00:58:54,470 --> 00:58:52,400
might do

1637
00:58:57,270 --> 00:58:54,480
now i've always thought that

1638
00:58:59,910 --> 00:58:57,280

all living things depended on

1639

00:59:01,030 --> 00:58:59,920

the energy originally originating from

1640

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

the sun

1641

00:59:04,150 --> 00:59:01,920

um

1642

00:59:05,670 --> 00:59:04,160

in the end they would because they they

1643

00:59:07,829 --> 00:59:05,680

would

1644

00:59:10,069 --> 00:59:07,839

the situation they're in

1645

00:59:11,829 --> 00:59:10,079

would have been brought about by a

1646

00:59:14,309 --> 00:59:11,839

flourishing of life

1647

00:59:16,150 --> 00:59:14,319

that led to these other life forms that

1648

00:59:18,390 --> 00:59:16,160

are microbial for instance

1649

00:59:20,789 --> 00:59:18,400

okay um

1650

00:59:22,630 --> 00:59:20,799

and that would mean that the life that

1651
00:59:24,950 --> 00:59:22,640
is in lake vostok

1652
00:59:27,670 --> 00:59:24,960
might have once been at the surface when

1653
00:59:28,710 --> 00:59:27,680
antarctica wasn't frozen but then over

1654
00:59:32,789 --> 00:59:28,720
time

1655
00:59:35,270 --> 00:59:32,799
evolved to a deep ice

1656
00:59:37,990 --> 00:59:35,280
land deep ice locked lake

1657
00:59:39,190 --> 00:59:38,000
and thus the life forms uh changed and

1658
00:59:41,510 --> 00:59:39,200
adapted

1659
00:59:43,589 --> 00:59:41,520
okay mutated and

1660
00:59:46,069 --> 00:59:43,599
adapted evolved to

1661
00:59:48,150 --> 00:59:46,079
accept that environment and and flourish

1662
00:59:48,950 --> 00:59:48,160
in that environment certainly many did

1663
00:59:52,630 --> 00:59:48,960

not

1664

00:59:55,109 --> 00:59:52,640

okay but many probably did and have at

1665

00:59:57,109 --> 00:59:55,119

least 3 000 species that we know of down

1666

00:59:59,510 --> 00:59:57,119

there that's a lot of species that's a

1667

01:00:01,829 --> 00:59:59,520

lot of creatures down there that have

1668

01:00:03,030 --> 01:00:01,839

figured out a way to echo some type of

1669

01:00:05,430 --> 01:00:03,040

existence

1670

01:00:06,710 --> 01:00:05,440

right amazing also keep in mind that on

1671

01:00:07,589 --> 01:00:06,720

mars

1672

01:00:09,270 --> 01:00:07,599

uh

1673

01:00:11,670 --> 01:00:09,280

mars is an interesting planet too

1674

01:00:13,589 --> 01:00:11,680

because mars has this atmosphere made

1675

01:00:16,069 --> 01:00:13,599

mostly of carbon dioxide

1676

01:00:18,630 --> 01:00:16,079

and the perseverance rover

1677

01:00:21,349 --> 01:00:18,640

has this really cool little experiment

1678

01:00:23,030 --> 01:00:21,359

the size of a car battery that is really

1679

01:00:24,789 --> 01:00:23,040

really interesting

1680

01:00:27,109 --> 01:00:24,799

and this

1681

01:00:31,670 --> 01:00:27,119

car battery size object undertook an

1682

01:00:34,710 --> 01:00:31,680

experiment by the nickname moxie moxie

1683

01:00:35,910 --> 01:00:34,720

and moxie was the mars oxygen in-situ

1684

01:00:37,990 --> 01:00:35,920

experiment

1685

01:00:40,069 --> 01:00:38,000

and what that meant was it was trying to

1686

01:00:42,789 --> 01:00:40,079

see if it could convert

1687

01:00:45,109 --> 01:00:42,799

the carbon dioxide atmosphere of mars

1688

01:00:47,670 --> 01:00:45,119

the breathable oxygen

1689

01:00:49,750 --> 01:00:47,680

and it was a wonderful success

1690

01:00:51,990 --> 01:00:49,760

what's that mean it means that sooner or

1691

01:00:53,990 --> 01:00:52,000

later when we colonize mars we don't

1692

01:00:55,270 --> 01:00:54,000

have to bring our air man

1693

01:00:59,030 --> 01:00:55,280

we're gonna

1694

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

and that is something that i think is

1695

01:01:04,069 --> 01:01:01,920

really really important because you know

1696

01:01:05,270 --> 01:01:04,079

when you breathe out carbon dioxide from

1697

01:01:06,789 --> 01:01:05,280

your lungs

1698

01:01:08,470 --> 01:01:06,799

well what does that say that says that

1699

01:01:11,510 --> 01:01:08,480

we're gonna be able to recycle the co2

1700

01:01:13,349 --> 01:01:11,520

and make oxygen from that

1701
01:01:15,030 --> 01:01:13,359
now you see

1702
01:01:16,309 --> 01:01:15,040
we're very excited

1703
01:01:17,190 --> 01:01:16,319
and that's going to be the coolest thing

1704
01:01:19,270 --> 01:01:17,200
and

1705
01:01:21,510 --> 01:01:19,280
on the south pole of mars

1706
01:01:23,270 --> 01:01:21,520
deep under under the polar ice cap the

1707
01:01:25,750 --> 01:01:23,280
south polar ice cap

1708
01:01:27,910 --> 01:01:25,760
there's actually this large reservoir of

1709
01:01:29,829 --> 01:01:27,920
liquid water why is it liquid i thought

1710
01:01:32,230 --> 01:01:29,839
we couldn't have liquid water on mars

1711
01:01:34,789 --> 01:01:32,240
well you can at depth because you have

1712
01:01:37,109 --> 01:01:34,799
the weight of the overlying strata

1713
01:01:38,950 --> 01:01:37,119

increases the pressure at depth so that

1714

01:01:39,990 --> 01:01:38,960

liquid water could exist

1715

01:01:41,990 --> 01:01:40,000

and

1716

01:01:45,750 --> 01:01:42,000

this was found with a orbital radar

1717

01:01:46,870 --> 01:01:45,760

mapping system and this water reservoir

1718

01:01:49,430 --> 01:01:46,880

could

1719

01:01:51,829 --> 01:01:49,440

potentially house microbial life

1720

01:01:53,589 --> 01:01:51,839

now that would be kind of like the final

1721

01:01:55,829 --> 01:01:53,599

vestige of where life would end up have

1722

01:01:57,910 --> 01:01:55,839

ended up on mars because mars used to

1723

01:01:59,510 --> 01:01:57,920

have a much thicker atmosphere and used

1724

01:02:00,230 --> 01:01:59,520

to have water running on its surface

1725

01:02:02,549 --> 01:02:00,240

right

1726

01:02:04,309 --> 01:02:02,559

yeah you know that

1727

01:02:06,549 --> 01:02:04,319

magnetosphere too

1728

01:02:08,870 --> 01:02:06,559

and if that's a very good point um and

1729

01:02:10,789 --> 01:02:08,880

that's the reason why mars doesn't have

1730

01:02:13,510 --> 01:02:10,799

water on the surface now

1731

01:02:15,109 --> 01:02:13,520

uh in the end because mars lost its

1732

01:02:17,510 --> 01:02:15,119

magnetic field which is what you call

1733

01:02:19,670 --> 01:02:17,520

the magnetosphere correctly and

1734

01:02:22,069 --> 01:02:19,680

the magnetosphere on earth protects us

1735

01:02:24,150 --> 01:02:22,079

from the sun's harmful radiation

1736

01:02:25,910 --> 01:02:24,160

in fact it traps the magnetic field

1737

01:02:28,230 --> 01:02:25,920

traps particles from the sun they're

1738

01:02:30,549 --> 01:02:28,240

coming to us and it could spell

1739

01:02:32,549 --> 01:02:30,559

cancerous disasters for us and rip us

1740

01:02:34,710 --> 01:02:32,559

apart with its high energy ultraviolet

1741

01:02:35,589 --> 01:02:34,720

radiation however

1742

01:02:36,710 --> 01:02:35,599

um

1743

01:02:37,910 --> 01:02:36,720

you know some of it gets through but

1744

01:02:39,349 --> 01:02:37,920

most of it gets stopped these high

1745

01:02:40,390 --> 01:02:39,359

energy particles the solar wind

1746

01:02:44,630 --> 01:02:40,400

particles

1747

01:02:45,589 --> 01:02:44,640

trapped in our magnetic field are what

1748

01:02:47,829 --> 01:02:45,599

people

1749

01:02:48,950 --> 01:02:47,839

recognize as the van allen radiation

1750

01:02:50,710 --> 01:02:48,960

belts

1751
01:02:53,029 --> 01:02:50,720
and that's where those come from there

1752
01:02:54,950 --> 01:02:53,039
actually are magnetic fields brought to

1753
01:02:58,390 --> 01:02:54,960
visibility essentially through our

1754
01:03:00,230 --> 01:02:58,400
instrumentation and because of the solar

1755
01:03:01,510 --> 01:03:00,240
wind getting trapped in the magnetic

1756
01:03:04,150 --> 01:03:01,520
field

1757
01:03:05,829 --> 01:03:04,160
do you think there's a chance of our of

1758
01:03:09,270 --> 01:03:05,839
us uh

1759
01:03:11,910 --> 01:03:09,280
the weakening of our magnetic field

1760
01:03:13,270 --> 01:03:11,920
our magnetic field changes you know and

1761
01:03:14,950 --> 01:03:13,280
um

1762
01:03:17,829 --> 01:03:14,960
you know you you're this is another one

1763
01:03:19,910 --> 01:03:17,839

of those um pseudoscientific things you

1764

01:03:21,349 --> 01:03:19,920

see online oh the earth's magnetic field

1765

01:03:24,470 --> 01:03:21,359

is going to flip

1766

01:03:27,990 --> 01:03:24,480

does that mean we're going to see the

1767

01:03:29,190 --> 01:03:28,000

south pole star the southern star no

1768

01:03:30,630 --> 01:03:29,200

it doesn't

1769

01:03:33,589 --> 01:03:30,640

what's happening is the same thing that

1770

01:03:36,069 --> 01:03:33,599

happens to the sun every 11 years okay

1771

01:03:38,390 --> 01:03:36,079

the sun's magnetic field gets twisted up

1772

01:03:40,789 --> 01:03:38,400

as it rotates the magnetic field lines

1773

01:03:42,950 --> 01:03:40,799

get twisted up and then they basically

1774

01:03:45,270 --> 01:03:42,960

pop and realign effectively and that

1775

01:03:46,789 --> 01:03:45,280

creates the sunspot cycle right where it

1776

01:03:48,150 --> 01:03:46,799

gets cut it up then it evens out for a

1777

01:03:49,910 --> 01:03:48,160

while then it gets twisted up again it

1778

01:03:52,630 --> 01:03:49,920

does the same thing well you know the

1779

01:03:54,470 --> 01:03:52,640

earth is is different only because the

1780

01:03:55,510 --> 01:03:54,480

earth is smaller its magnetic field is

1781

01:03:58,069 --> 01:03:55,520

different

1782

01:03:59,029 --> 01:03:58,079

but we do have cases where the magnetic

1783

01:04:01,670 --> 01:03:59,039

field

1784

01:04:05,270 --> 01:04:01,680

does wander the north pole that was

1785

01:04:07,510 --> 01:04:05,280

magnetic north back in 1960 for instance

1786

01:04:08,990 --> 01:04:07,520

is not in the same spot that it is in

1787

01:04:12,069 --> 01:04:09,000

2020

1788

01:04:13,029 --> 01:04:12,079

2021 okay but it's not like it's going

1789

01:04:14,710 --> 01:04:13,039

wow

1790

01:04:16,470 --> 01:04:14,720

it's flipping like and it's gonna flip

1791

01:04:20,150 --> 01:04:16,480

overnight and everybody's gonna die and

1792

01:04:25,349 --> 01:04:22,470

yeah well see the thing is

1793

01:04:27,910 --> 01:04:25,359

animals have had

1794

01:04:29,510 --> 01:04:27,920

millions of years of evolution to deal

1795

01:04:31,990 --> 01:04:29,520

with what is called

1796

01:04:33,990 --> 01:04:32,000

properly geomagnetic reversal

1797

01:04:36,470 --> 01:04:34,000

and geomagnetic reversal has happened

1798

01:04:38,870 --> 01:04:36,480

quite a few times how do we know

1799

01:04:41,029 --> 01:04:38,880

well in the mid-atlantic ocean that's

1800

01:04:42,390 --> 01:04:41,039

where these two plates collide right we

1801

01:04:44,230 --> 01:04:42,400

have these two tectonic plates that

1802

01:04:47,990 --> 01:04:44,240

collide in when new materials made and

1803

01:04:52,470 --> 01:04:48,000

comes out and oozes out as it cools

1804

01:04:55,270 --> 01:04:52,480

the iron crystals inside that rock

1805

01:04:57,029 --> 01:04:55,280

form in a certain direction effectively

1806

01:04:59,109 --> 01:04:57,039

based on what the magnetic field is at

1807

01:05:01,349 --> 01:04:59,119

the time and guess what we see when we

1808

01:05:02,150 --> 01:05:01,359

do samples along that magnetic ridge we

1809

01:05:04,150 --> 01:05:02,160

see

1810

01:05:06,950 --> 01:05:04,160

uh magnetic crystals that say are this

1811

01:05:09,029 --> 01:05:06,960

way and then this way you know

1812

01:05:10,549 --> 01:05:09,039

back and forth over a period of you know

1813

01:05:13,910 --> 01:05:10,559

thousands of years

1814

01:05:15,589 --> 01:05:13,920

the switch to occur

1815

01:05:16,950 --> 01:05:15,599

so you see times when they're muddy and

1816

01:05:18,630 --> 01:05:16,960

when they're not quite right but then

1817

01:05:20,390 --> 01:05:18,640

you have a distinctive you know

1818

01:05:22,870 --> 01:05:20,400

predominance of this direction and a

1819

01:05:25,270 --> 01:05:22,880

predominance of this direction so we see

1820

01:05:27,510 --> 01:05:25,280

this geomagnetic reversal is a thing

1821

01:05:28,870 --> 01:05:27,520

that happens it's related to how the

1822

01:05:30,309 --> 01:05:28,880

inner core of the earth and the outer

1823

01:05:31,510 --> 01:05:30,319

core of the earth are moving against

1824

01:05:33,190 --> 01:05:31,520

each other

1825

01:05:34,870 --> 01:05:33,200

and it does happen

1826

01:05:36,870 --> 01:05:34,880

but it's not one of these things that

1827

01:05:40,309 --> 01:05:36,880

happens so fast that everything is going

1828

01:05:42,870 --> 01:05:42,069

that's just another you could

1829

01:05:45,670 --> 01:05:42,880

yeah

1830

01:05:47,670 --> 01:05:45,680

can we keep up with the technology and

1831

01:05:50,470 --> 01:05:47,680

switching things over so

1832

01:05:52,309 --> 01:05:50,480

things would still work we have been

1833

01:05:54,150 --> 01:05:52,319

you know things have been changing you

1834

01:05:56,309 --> 01:05:54,160

know you get an update on your gps

1835

01:05:59,029 --> 01:05:56,319

recently

1836

01:06:01,910 --> 01:05:59,039

you don't know but it did probably right

1837

01:06:04,150 --> 01:06:01,920

you get internal updates on gps well it

1838

01:06:06,870 --> 01:06:04,160

happens you know every every few years

1839

01:06:09,589 --> 01:06:06,880

or whatever you get a major update to

1840

01:06:11,829 --> 01:06:09,599

your gps and so forth and maybe it's a

1841

01:06:13,670 --> 01:06:11,839

quiet update but you know what

1842

01:06:15,190 --> 01:06:13,680

we are we're gradually taking care of it

1843

01:06:17,349 --> 01:06:15,200

we're gradually just following the

1844

01:06:18,470 --> 01:06:17,359

magnetic field and changing accordingly

1845

01:06:21,190 --> 01:06:18,480

as we go

1846

01:06:22,470 --> 01:06:21,200

so guess what the geomagnetic reversal

1847

01:06:24,549 --> 01:06:22,480

will come

1848

01:06:25,750 --> 01:06:24,559

when it comes and we'll be there when

1849

01:06:27,750 --> 01:06:25,760

we're there and say

1850

01:06:30,230 --> 01:06:27,760

i guess we're in it now or i guess it

1851
01:06:32,390 --> 01:06:30,240
happened already uh-huh no that's not

1852
01:06:34,870 --> 01:06:32,400
true

1853
01:06:36,870 --> 01:06:34,880
yeah in fact we probably are you know

1854
01:06:38,470 --> 01:06:36,880
the the pole is shifting slightly you

1855
01:06:40,309 --> 01:06:38,480
know every so on every year it's

1856
01:06:42,630 --> 01:06:40,319
shifting a little bit and maybe that's

1857
01:06:45,029 --> 01:06:42,640
the geomagnet but not the physical pole

1858
01:06:46,870 --> 01:06:45,039
the magnetic field is shifting a little

1859
01:06:48,870 --> 01:06:46,880
bit that doesn't mean we're going to be

1860
01:06:50,630 --> 01:06:48,880
suddenly exposed to the sun's harmful

1861
01:06:53,109 --> 01:06:50,640
rays and the radiation belt's going to

1862
01:06:56,069 --> 01:06:53,119
go away and the uv radiation is going to

1863
01:06:57,910 --> 01:06:56,079

burn us all alive ah you know that

1864

01:07:01,910 --> 01:06:57,920

that's not going to happen okay that

1865

01:07:02,710 --> 01:07:01,920

can't happen earth it takes a long time

1866

01:07:06,390 --> 01:07:02,720

to

1867

01:07:09,750 --> 01:07:06,400

right are you familiar with

1868

01:07:12,870 --> 01:07:09,760

slimes no sun energy required

1869

01:07:14,950 --> 01:07:12,880

i think that that question is referring

1870

01:07:16,710 --> 01:07:14,960

to um

1871

01:07:18,470 --> 01:07:16,720

slime molds

1872

01:07:21,510 --> 01:07:18,480

all the molds uh-huh i think it's a

1873

01:07:24,150 --> 01:07:21,520

slime mold yeah yeah um

1874

01:07:25,029 --> 01:07:24,160

eukaryotic organisms are called and

1875

01:07:26,069 --> 01:07:25,039

um

1876

01:07:27,349 --> 01:07:26,079

and

1877

01:07:29,349 --> 01:07:27,359

basically

1878

01:07:32,710 --> 01:07:29,359

um

1879

01:07:34,870 --> 01:07:32,720

a slime mold think of it as like a

1880

01:07:37,589 --> 01:07:34,880

a colony sort of a

1881

01:07:40,950 --> 01:07:37,599

a group of smaller creatures

1882

01:07:45,349 --> 01:07:40,960

forming together to make a larger hole

1883

01:07:47,750 --> 01:07:45,359

um you know kind of like um

1884

01:07:49,990 --> 01:07:47,760

not quite like fungi not quite like you

1885

01:07:51,109 --> 01:07:50,000

know like a mushroom is a fungus right

1886

01:07:53,190 --> 01:07:51,119

um

1887

01:07:55,029 --> 01:07:53,200

but slime molds are interesting in their

1888

01:07:58,309 --> 01:07:55,039

own right as well and

1889

01:08:00,309 --> 01:07:58,319

are probably related to how life started

1890

01:08:02,630 --> 01:08:00,319

here actually

1891

01:08:04,549 --> 01:08:02,640

i talk about them when i do my uh

1892

01:08:05,670 --> 01:08:04,559

i do the toilet paper history of the

1893

01:08:07,910 --> 01:08:05,680

earth

1894

01:08:10,309 --> 01:08:07,920

i love that i love that that

1895

01:08:13,510 --> 01:08:10,319

that is just so helpful to someone who

1896

01:08:15,910 --> 01:08:13,520

has a hard time understanding numbers

1897

01:08:17,590 --> 01:08:15,920

and i think i think i heard it that the

1898

01:08:21,269 --> 01:08:17,600

human

1899

01:08:23,189 --> 01:08:21,279

brain but most people can understand

1900

01:08:25,349 --> 01:08:23,199

about 10 000

1901

01:08:28,870 --> 01:08:25,359

the number ten thousand yeah and then

1902

01:08:30,470 --> 01:08:28,880

when it goes above that we can't really

1903

01:08:32,709 --> 01:08:30,480

uh comprehend

1904

01:08:34,309 --> 01:08:32,719

things and just quickly if you would i

1905

01:08:37,030 --> 01:08:34,319

know we're out of time we're going over

1906

01:08:39,030 --> 01:08:37,040

time here but can you tell tell i love

1907

01:08:40,390 --> 01:08:39,040

this thing and when you and i first met

1908

01:08:42,550 --> 01:08:40,400

you were doing this

1909

01:08:43,349 --> 01:08:42,560

um tell what you do about the toilet

1910

01:08:45,349 --> 01:08:43,359

paper and i think you're going to

1911

01:08:48,149 --> 01:08:45,359

reintroduce that or something aren't you

1912

01:08:49,749 --> 01:08:48,159

i i got no new way to do it so here's

1913

01:08:52,550 --> 01:08:49,759

the thing um

1914

01:08:55,510 --> 01:08:52,560

we the earth formed 4.5 million 4.6

1915

01:08:58,149 --> 01:08:55,520

million years ago billion years ago so

1916

01:09:01,269 --> 01:08:58,159

in that time it's like what's a billion

1917

01:09:04,229 --> 01:09:01,279

what's a million and you said 10 000 but

1918

01:09:06,470 --> 01:09:04,239

i i i say people don't have the ability

1919

01:09:07,910 --> 01:09:06,480

to recognize basically more than a

1920

01:09:10,709 --> 01:09:07,920

thousand things

1921

01:09:11,910 --> 01:09:10,719

as an example when the titanic sunk 1500

1922

01:09:12,950 --> 01:09:11,920

people died

1923

01:09:14,950 --> 01:09:12,960

well

1924

01:09:16,470 --> 01:09:14,960

1500 people people couldn't really

1925

01:09:18,709 --> 01:09:16,480

imagine that so what they did was they

1926

01:09:20,950 --> 01:09:18,719

put 1500 people on the docks where the

1927

01:09:24,070 --> 01:09:20,960

titanic left from and took that picture

1928

01:09:25,110 --> 01:09:24,080

and that sunk in i see wow seeing the

1929

01:09:26,789 --> 01:09:25,120

visual

1930

01:09:28,470 --> 01:09:26,799

all right engages the eyes and the

1931

01:09:30,229 --> 01:09:28,480

visual part of the brain and the

1932

01:09:31,749 --> 01:09:30,239

intellectual part of the brain you need

1933

01:09:32,630 --> 01:09:31,759

that double stimulus

1934

01:09:37,030 --> 01:09:32,640

um

1935

01:09:38,470 --> 01:09:37,040

i did this toilet paper thing i wanted

1936

01:09:42,149 --> 01:09:38,480

to show people

1937

01:09:45,110 --> 01:09:42,159

the scale of the universe and time so i

1938

01:09:46,309 --> 01:09:45,120

had this 120 foot roll

1939

01:09:50,149 --> 01:09:46,319

um

1940

01:09:50,950 --> 01:09:50,159

of toilet paper and i ended up creating

1941

01:09:52,070 --> 01:09:50,960

the

1942

01:09:53,430 --> 01:09:52,080

um

1943

01:09:55,590 --> 01:09:53,440

history of the universe the history of

1944

01:09:57,430 --> 01:09:55,600

the earth uh on it i started with the

1945

01:09:58,950 --> 01:09:57,440

formation of the earth and led all the

1946

01:10:01,110 --> 01:09:58,960

way up to the other end of the toilet

1947

01:10:04,310 --> 01:10:01,120

paper 120 feet away

1948

01:10:07,830 --> 01:10:04,320

uh with us in that room

1949

01:10:09,110 --> 01:10:07,840

and um lucy australopithecus afarensis

1950

01:10:11,669 --> 01:10:09,120

was actually

1951

01:10:15,510 --> 01:10:13,910

a line that was about a pencil line away

1952

01:10:17,189 --> 01:10:15,520

from the present day

1953

01:10:18,870 --> 01:10:17,199

at that scale

1954

01:10:20,870 --> 01:10:18,880

you know a little more than the pencil

1955

01:10:23,510 --> 01:10:20,880

line so

1956

01:10:26,310 --> 01:10:23,520

it really was a way to show people that

1957

01:10:28,310 --> 01:10:26,320

uh you know the earth history

1958

01:10:31,110 --> 01:10:28,320

accelerated over time there was a lot of

1959

01:10:33,110 --> 01:10:31,120

nothing going on for billions of years

1960

01:10:34,470 --> 01:10:33,120

and then the dinosaurs came along and

1961

01:10:35,590 --> 01:10:34,480

people think that's ancient history but

1962

01:10:38,709 --> 01:10:35,600

it's not

1963

01:10:40,390 --> 01:10:38,719

the dinosaurs were 18 inches

1964

01:10:42,550 --> 01:10:40,400

18 inches from

1965

01:10:44,630 --> 01:10:42,560

from from where we were

1966

01:10:47,590 --> 01:10:44,640

at the end of that toilet paper

1967

01:10:48,510 --> 01:10:47,600

dinosaurs are just here 18 inches away

1968

01:10:51,189 --> 01:10:48,520

amazing

1969

01:10:52,229 --> 01:10:51,199

117 more feet to go

1970

01:10:53,510 --> 01:10:52,239

see so

1971

01:10:55,110 --> 01:10:53,520

um

1972

01:10:56,870 --> 01:10:55,120

it really puts it in perspective you

1973

01:10:58,709 --> 01:10:56,880

know dinosaurs are recent history not

1974

01:11:00,709 --> 01:10:58,719

ancient history

1975

01:11:01,990 --> 01:11:00,719

it's really something and you and i had

1976

01:11:03,189 --> 01:11:02,000

a conversation

1977

01:11:06,149 --> 01:11:03,199

recently

1978

01:11:08,229 --> 01:11:06,159

when we were out in arizona

1979

01:11:10,229 --> 01:11:08,239

and that was um

1980

01:11:12,310 --> 01:11:10,239

and we don't really have to go into much

1981

01:11:15,910 --> 01:11:12,320

but i want you to touch on a little bit

1982

01:11:18,070 --> 01:11:15,920

you said the possibility if

1983

01:11:20,550 --> 01:11:18,080

the dinosaurs didn't get wiped out their

1984

01:11:22,390 --> 01:11:20,560

brains could have been growing

1985

01:11:23,669 --> 01:11:22,400

larger and larger and they could they

1986

01:11:25,669 --> 01:11:23,679

could have been in more of an

1987

01:11:27,669 --> 01:11:25,679

intelligent species through evolution

1988

01:11:29,830 --> 01:11:27,679

eventually possibly wait we're talking

1989

01:11:33,590 --> 01:11:29,840

about the troodon

1990

01:11:36,070 --> 01:11:33,600

t-r-o-o odon okay the traudan was a

1991

01:11:37,910 --> 01:11:36,080

creature that when it died there was

1992

01:11:39,669 --> 01:11:37,920

evidence that its cranial capacity was

1993

01:11:41,110 --> 01:11:39,679

increasing does that mean it was getting

1994

01:11:42,390 --> 01:11:41,120

smarter

1995

01:11:44,630 --> 01:11:42,400

maybe

1996

01:11:46,630 --> 01:11:44,640

say from like the dumbest breed of dog

1997

01:11:48,709 --> 01:11:46,640

that the smartest breded dog

1998

01:11:50,229 --> 01:11:48,719

okay i mean so nothing like magical like

1999

01:11:51,830 --> 01:11:50,239

they're about to invent nuclear power or

2000

01:11:52,630 --> 01:11:51,840

anything like that but

2001

01:11:55,270 --> 01:11:52,640

um

2002

01:11:56,229 --> 01:11:55,280

nuclear power

2003

01:11:58,870 --> 01:11:56,239

um

2004

01:12:01,350 --> 01:11:58,880

but the fact is the trudadan ended up

2005

01:12:04,790 --> 01:12:01,360

showing some kind of change that was

2006

01:12:06,709 --> 01:12:04,800

interesting so that said

2007

01:12:08,950 --> 01:12:06,719

we speculate and that's all it is a

2008

01:12:11,750 --> 01:12:08,960

speculation of course that maybe if if

2009

01:12:14,229 --> 01:12:11,760

we if the chick syllable impactor never

2010

01:12:17,270 --> 01:12:16,149

then dinosaurs wouldn't have been wiped

2011

01:12:19,030 --> 01:12:17,280

out

2012

01:12:21,350 --> 01:12:19,040

we would never have become the dominant

2013

01:12:22,630 --> 01:12:21,360

species again potentially

2014

01:12:24,630 --> 01:12:22,640
um

2015

01:12:27,830 --> 01:12:24,640
and then what would happen

2016

01:12:29,510 --> 01:12:27,840
would we be intelligent reptilian

2017

01:12:31,270 --> 01:12:29,520
creatures

2018

01:12:33,590 --> 01:12:31,280
who knows

2019

01:12:35,510 --> 01:12:33,600
okay right no i love it yeah the thing

2020

01:12:37,030 --> 01:12:35,520
that's interesting is 252 million years

2021

01:12:38,310 --> 01:12:37,040
ago was the permian period and during

2022

01:12:40,149 --> 01:12:38,320
that period

2023

01:12:42,870 --> 01:12:40,159
uh creatures that would become mammals

2024

01:12:45,030 --> 01:12:42,880
were dominant until there was this great

2025

01:12:46,870 --> 01:12:45,040
extinction event which killed 98 of life

2026

01:12:49,350 --> 01:12:46,880

on earth probably

2027

01:12:50,870 --> 01:12:49,360

from uh large-scale volcanic eruptions

2028

01:12:55,030 --> 01:12:50,880

that raised the temperature on the earth

2029

01:12:56,310 --> 01:12:55,040

by 21 degrees celsius huge in just a few

2030

01:12:58,709 --> 01:12:56,320

months

2031

01:13:00,870 --> 01:12:58,719

that's huge and no you know that that

2032

01:13:02,790 --> 01:13:00,880

shut down all the ecosystems

2033

01:13:06,149 --> 01:13:02,800

plankton died off

2034

01:13:07,750 --> 01:13:06,159

and that killed off many many creatures

2035

01:13:09,270 --> 01:13:07,760

but some survived

2036

01:13:12,070 --> 01:13:09,280

and so the things that would become

2037

01:13:14,070 --> 01:13:12,080

mammals basically went into hiding and

2038

01:13:15,350 --> 01:13:14,080

evolved into smaller

2039

01:13:17,270 --> 01:13:15,360

objects and smaller creatures that

2040

01:13:19,830 --> 01:13:17,280

didn't require as much energy

2041

01:13:21,830 --> 01:13:19,840

and then over time when the dinosaurs

2042

01:13:23,030 --> 01:13:21,840

came along and although that was

2043

01:13:24,709 --> 01:13:23,040

actually the beginning of the age of the

2044

01:13:27,990 --> 01:13:24,719

dinosaurs actually when the permian

2045

01:13:31,110 --> 01:13:28,000

period started and er ended and then

2046

01:13:33,030 --> 01:13:31,120

after that when the dinosaurs ended well

2047

01:13:34,709 --> 01:13:33,040

now those little creatures that would

2048

01:13:35,990 --> 01:13:34,719

become mammals were still hiding in the

2049

01:13:37,350 --> 01:13:36,000

shadows

2050

01:13:38,390 --> 01:13:37,360

and there was all these niches that

2051

01:13:39,270 --> 01:13:38,400

opened up

2052

01:13:40,709 --> 01:13:39,280

ooh

2053

01:13:42,550 --> 01:13:40,719

i can go there now

2054

01:13:44,790 --> 01:13:42,560

oh that food is amazing i can have that

2055

01:13:46,950 --> 01:13:44,800

food now or i'm gonna start doing this

2056

01:13:49,830 --> 01:13:46,960

look at that and our oxygen levels our

2057

01:13:52,070 --> 01:13:49,840

oxygen levels are great again hey

2058

01:13:53,189 --> 01:13:52,080

we made the earth great again right so

2059

01:13:55,430 --> 01:13:53,199

then they're going to go and they

2060

01:13:57,750 --> 01:13:55,440

breathe this oxygen they off they go

2061

01:14:00,390 --> 01:13:57,760

and they change and they evolve and they

2062

01:14:02,790 --> 01:14:00,400

eventually become us i know i left out

2063

01:14:04,870 --> 01:14:02,800

so many things in between but that's

2064

01:14:07,030 --> 01:14:04,880

effectively how it was so what it shows

2065

01:14:08,790 --> 01:14:07,040

me is that in general

2066

01:14:11,189 --> 01:14:08,800

could we say and i can't say this is

2067

01:14:13,590 --> 01:14:11,199

true but could we say that perhaps

2068

01:14:16,149 --> 01:14:13,600

mammal like life is sort of like the

2069

01:14:17,590 --> 01:14:16,159

norm on a planet is that like a template

2070

01:14:20,709 --> 01:14:17,600

because it was sort of like on its way

2071

01:14:22,950 --> 01:14:20,719

to mammalian life back in the permian

2072

01:14:25,350 --> 01:14:22,960

and then when the dinosaurs died off it

2073

01:14:27,510 --> 01:14:25,360

became mammalian life again which is us

2074

01:14:29,350 --> 01:14:27,520

so that's that's a strong

2075

01:14:31,110 --> 01:14:29,360

thing that's a thing to think about not

2076

01:14:33,189 --> 01:14:31,120

necessarily something to say and hang

2077

01:14:35,910 --> 01:14:33,199

your hand on and say that's what it is

2078

01:14:37,030 --> 01:14:35,920

right that could be a dominant

2079

01:14:41,430 --> 01:14:37,040

maybe

2080

01:14:43,270 --> 01:14:41,440

awesome as always it's always fun

2081

01:14:45,910 --> 01:14:43,280

talking to whether we're on air or off

2082

01:14:48,070 --> 01:14:45,920

here now can you just once again throw

2083

01:14:50,790 --> 01:14:48,080

how people can watch this on sunday

2084

01:14:52,950 --> 01:14:50,800

around sunset you said uh what time

2085

01:14:54,149 --> 01:14:52,960

would that be eastern time

2086

01:14:59,110 --> 01:14:54,159

okay

2087

01:15:00,310 --> 01:14:59,120

at sunset and eastern eastern time um

2088

01:15:02,149 --> 01:15:00,320

let's see now

2089

01:15:04,390 --> 01:15:02,159

seven something yeah let me uh let me

2090

01:15:07,110 --> 01:15:04,400

just look here and give you an idea okay

2091

01:15:09,189 --> 01:15:07,120

so the the eclipse is going to begin

2092

01:15:10,709 --> 01:15:09,199

right uh

2093

01:15:15,350 --> 01:15:10,719

at uh

2094

01:15:16,950 --> 01:15:15,360

let's see 87 7 59 arizona time

2095

01:15:22,830 --> 01:15:16,960

uh

2096

01:15:25,910 --> 01:15:22,840

10

2097

01:15:29,750 --> 01:15:25,920

59 eastern time

2098

01:15:31,110 --> 01:15:29,760

the total eclipse will be at 11 30 p.m

2099

01:15:33,110 --> 01:15:31,120

eastern time

2100

01:15:35,430 --> 01:15:33,120

and then uh

2101

01:15:36,870 --> 01:15:35,440

from there it just fades off uh and and

2102

01:15:38,390 --> 01:15:36,880

goes it takes the same amount of time to

2103

01:15:40,310 --> 01:15:38,400

go on as it does to come off

2104

01:15:41,750 --> 01:15:40,320

move out from behind the sun i go come

2105

01:15:42,630 --> 01:15:41,760

out from behind the earth

2106

01:15:44,070 --> 01:15:42,640

um

2107

01:15:46,470 --> 01:15:44,080

and this is a total eclipse so we're

2108

01:15:47,750 --> 01:15:46,480

gonna see a blood a blood moon again

2109

01:15:48,630 --> 01:15:47,760

it's gonna be a blood red moon in the

2110

01:15:50,070 --> 01:15:48,640

sky

2111

01:15:51,910 --> 01:15:50,080

you're used to seeing a full moon at the

2112

01:15:53,350 --> 01:15:51,920

full moon but this is going to be a

2113

01:15:55,350 --> 01:15:53,360

blood red moon

2114

01:15:58,790 --> 01:15:55,360

you could actually

2115

01:15:59,990 --> 01:15:58,800

you could look for it in the sky and say

2116

01:16:03,350 --> 01:16:00,000

where's the moon

2117

01:16:05,030 --> 01:16:03,360

i saw one one lunar eclipse that was so

2118

01:16:07,189 --> 01:16:05,040

so blood red

2119

01:16:09,189 --> 01:16:07,199

that in mildly light polluted skies it

2120

01:16:10,310 --> 01:16:09,199

was hard to find the moon

2121

01:16:11,430 --> 01:16:10,320

pretty cool

2122

01:16:13,990 --> 01:16:11,440

but we're going to have our telescopes

2123

01:16:17,910 --> 01:16:14,000

on it that'll be uh sunday starting at

2124

01:16:20,550 --> 01:16:17,920

uh 8 uh 8 pm 805 pm that's when we'll

2125

01:16:23,030 --> 01:16:20,560

start but we have our kgra radio show

2126

01:16:26,470 --> 01:16:23,040

sky tour radio which is our astronomy

2127

01:16:27,750 --> 01:16:26,480

show from six to eight on kgra 68 pm

2128

01:16:29,590 --> 01:16:27,760

eastern time

2129

01:16:31,750 --> 01:16:29,600

and then right afterwards we're going to

2130

01:16:32,790 --> 01:16:31,760

go into the stream and join the stream

2131

01:16:35,430 --> 01:16:32,800

live

2132

01:16:38,070 --> 01:16:35,440

excellent well i will put a link in the

2133

01:16:39,669 --> 01:16:38,080

notes or a link in the text of this show

2134

01:16:41,189 --> 01:16:39,679

awesome i love

2135

01:16:43,350 --> 01:16:41,199

seeing everybody out there you know we

2136

01:16:45,669 --> 01:16:43,360

just love astronomy it's what we do

2137

01:16:48,149 --> 01:16:45,679

yes and i love what you do mark thank

2138

01:16:50,310 --> 01:16:48,159

you very much and thanks for being on

2139

01:16:51,910 --> 01:16:50,320

this show thank you so much all right

2140

01:16:53,590 --> 01:16:51,920

and talk to you soon

2141

01:16:55,750 --> 01:16:53,600

all right everyone so we have sean

2142

01:16:57,990 --> 01:16:55,760

cahill on next week thank you so much

2143

01:17:01,010 --> 01:16:58,000

for tuning in and remember to keep your

2144

01:17:10,330 --> 01:17:01,020

eyes to the sky