



1
00:00:03,189 --> 00:00:02,470
and it hits me oh my gosh this is that

2
00:00:04,309 --> 00:00:03,199
triangle

3
00:00:05,670 --> 00:00:04,319
you know there's explanation for

4
00:00:06,309 --> 00:00:05,680
everything that occurred in the rendel

5
00:00:08,470 --> 00:00:06,319
champions

6
00:00:10,790 --> 00:00:08,480
incident that doesn't involve aliens at

7
00:00:14,150 --> 00:00:10,800
all it was completely silent

8
00:00:16,470 --> 00:00:14,160
it comes right over our heads he saw a

9
00:00:18,310 --> 00:00:16,480
classic flying saucer really standing in

10
00:00:19,830 --> 00:00:18,320
the clearing he turned over to my father

11
00:00:25,269 --> 00:00:19,840
and held his hand and he looked in his

12
00:00:30,630 --> 00:00:28,630
welcome to podcast ufo for our live show

13
00:00:32,310 --> 00:00:30,640

we're live every wednesday on the dark

14

00:00:35,229 --> 00:00:32,320

matter radio network

15

00:00:36,549 --> 00:00:35,239

please remember to visit the website

16

00:00:39,750 --> 00:00:36,559

podcastufo.com

17

00:00:41,830 --> 00:00:39,760

for past episodes blogs and forums

18

00:00:43,510 --> 00:00:41,840

during the show feel free to participate

19

00:00:45,750 --> 00:00:43,520

live in our chat room

20

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

and don't forget to like us on our very

21

00:00:49,190 --> 00:00:47,120

active facebook page

22

00:00:50,310 --> 00:00:49,200

hello and welcome to the show i'm martin

23

00:00:52,069 --> 00:00:50,320

willis your host

24

00:00:54,150 --> 00:00:52,079

and we're coming at you live like we do

25

00:00:56,470 --> 00:00:54,160

every wednesday night at 9 00 pm

26
00:00:57,750 --> 00:00:56,480
eastern standard time on the dark matter

27
00:00:59,430 --> 00:00:57,760
radio network

28
00:01:01,910 --> 00:00:59,440
we have a great show for you tonight and

29
00:01:04,869 --> 00:01:01,920
our guest is the chief mufon

30
00:01:06,550 --> 00:01:04,879
video photo analyst his name is mark

31
00:01:08,469 --> 00:01:06,560
d'antonio he was on

32
00:01:10,230 --> 00:01:08,479
talking about astronomy a while back i

33
00:01:12,710 --> 00:01:10,240
should be a great show

34
00:01:13,429 --> 00:01:12,720
now you may be saying to yourself gee i

35
00:01:16,390 --> 00:01:13,439
thought uh

36
00:01:17,590 --> 00:01:16,400
noey torres and his co-author uh reuben

37
00:01:19,910 --> 00:01:17,600
were going to be on

38
00:01:21,190 --> 00:01:19,920

this evening well i have to tell you i

39

00:01:23,030 --> 00:01:21,200

made a big boo-boo

40

00:01:24,310 --> 00:01:23,040

and i thought he was in a different time

41

00:01:27,270 --> 00:01:24,320

zone so

42

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

both noe and ruben had a commitment at

43

00:01:30,149 --> 00:01:27,600

our

44

00:01:32,310 --> 00:01:30,159

show time and uh you know it really

45

00:01:35,030 --> 00:01:32,320

takes a big man to admit

46

00:01:35,429 --> 00:01:35,040

he's screwed up so i'm just gonna have

47

00:01:44,069 --> 00:01:35,439

to

48

00:01:46,630 --> 00:01:44,079

our guest in the future

49

00:01:48,230 --> 00:01:46,640

and he's traveled back in time it all

50

00:01:49,590 --> 00:01:48,240

has to do with dark matter and we're

51

00:01:51,670 --> 00:01:49,600

going to be talking about that

52

00:01:53,990 --> 00:01:51,680

with andy fleming and a clip coming up

53

00:01:55,990 --> 00:01:54,000

later you know i'm wondering why

54

00:01:57,429 --> 00:01:56,000

recently a listener wrote me and he says

55

00:01:58,709 --> 00:01:57,439

you know he doesn't get my weird sense

56

00:02:00,630 --> 00:01:58,719

of humor

57

00:02:03,350 --> 00:02:00,640

um but he also said this was his

58

00:02:05,590 --> 00:02:03,360

favorite show i think they call that

59

00:02:07,109 --> 00:02:05,600

a backhanded compliment or something

60

00:02:10,309 --> 00:02:07,119

like that whatever it is

61

00:02:13,830 --> 00:02:10,319

i'll take it so in the news recently

62

00:02:17,030 --> 00:02:13,840

billionaire entrepreneur and space x

63

00:02:20,070 --> 00:02:17,040

ceo elon musk let the curtain to the

64

00:02:21,830 --> 00:02:20,080

future drop on thursday on may 29th

65

00:02:24,790 --> 00:02:21,840

to reveal his company's new manned

66

00:02:26,470 --> 00:02:24,800

dragon version number two

67

00:02:28,390 --> 00:02:26,480

and this is going to be an astronaut

68

00:02:31,110 --> 00:02:28,400

transporter i believe it'll take

69

00:02:32,949 --> 00:02:31,120

i think it is seven astronauts to the

70

00:02:35,910 --> 00:02:32,959

international space station

71

00:02:37,990 --> 00:02:35,920

and right now the russians have uh

72

00:02:40,309 --> 00:02:38,000

they're charging i believe it is 17

73

00:02:40,869 --> 00:02:40,319

million dollars per seat to get us to

74

00:02:44,229 --> 00:02:40,879

the state

75

00:02:47,430 --> 00:02:44,239

space space station and back so um

76
00:02:48,470 --> 00:02:47,440
elon plans to keep it in the u.s and who

77
00:02:49,990 --> 00:02:48,480
knows what's going to happen in the

78
00:02:52,869 --> 00:02:50,000
future with the

79
00:02:55,030 --> 00:02:52,879
russians bringing us there anyway so i i

80
00:02:56,790 --> 00:02:55,040
have a little clip here of elon talking

81
00:02:58,070 --> 00:02:56,800
about it right here

82
00:03:00,390 --> 00:02:58,080
there are a lot of interesting

83
00:03:02,710 --> 00:03:00,400
technologies in version one

84
00:03:03,589 --> 00:03:02,720
it does have a relatively conventional

85
00:03:06,470 --> 00:03:03,599
landing

86
00:03:08,070 --> 00:03:06,480
approach so it throws out parachutes to

87
00:03:09,110 --> 00:03:08,080
land in the water after it comes back

88
00:03:11,190 --> 00:03:09,120

from the space station

89

00:03:12,550 --> 00:03:11,200

and it does have a life support system

90

00:03:14,710 --> 00:03:12,560

but not one that can

91

00:03:16,309 --> 00:03:14,720

last for a long time or carry a lot of

92

00:03:18,229 --> 00:03:16,319

people and

93

00:03:20,149 --> 00:03:18,239

so it's a great spacecraft and it was a

94

00:03:21,910 --> 00:03:20,159

great proof of concept it showed us

95

00:03:23,509 --> 00:03:21,920

what it took to bring something back

96

00:03:24,229 --> 00:03:23,519

from orbit which is a very difficult

97

00:03:25,589 --> 00:03:24,239

thing to do

98

00:03:27,670 --> 00:03:25,599

usually when something comes in from

99

00:03:29,670 --> 00:03:27,680

orbital velocity it it burns up

100

00:03:31,430 --> 00:03:29,680

in a big fireball but going from dragon

101
00:03:33,910 --> 00:03:31,440
version one we want to take

102
00:03:34,869 --> 00:03:33,920
a big step in technology really create

103
00:03:37,589 --> 00:03:34,879
something that was

104
00:03:38,309 --> 00:03:37,599
a step change in spacecraft technology

105
00:03:40,229 --> 00:03:38,319
and uh

106
00:03:42,710 --> 00:03:40,239
and some important characteristics of

107
00:03:43,350 --> 00:03:42,720
that are the ability to land anywhere on

108
00:03:45,110 --> 00:03:43,360
land

109
00:03:46,710 --> 00:03:45,120
uh propulsively so that's one of the

110
00:03:47,589 --> 00:03:46,720
things that dragon version 2 will be

111
00:03:49,190 --> 00:03:47,599
able to do so

112
00:03:50,949 --> 00:03:49,200
you'll be able to land anywhere on earth

113
00:03:51,509 --> 00:03:50,959

with the accuracy of a helicopter which

114

00:03:53,270 --> 00:03:51,519

is i think

115

00:03:55,030 --> 00:03:53,280

something that a spaceship should a

116

00:03:57,190 --> 00:03:55,040

modern spaceship should be able to do

117

00:03:59,589 --> 00:03:57,200

and it'll be capable of carrying seven

118

00:04:01,509 --> 00:03:59,599

people seven astronauts for several days

119

00:04:03,270 --> 00:04:01,519

it has an improved version of our pica

120

00:04:04,630 --> 00:04:03,280

heat shield and

121

00:04:06,149 --> 00:04:04,640

it's all around really a big leap

122

00:04:08,229 --> 00:04:06,159

forward in technology it really takes

123

00:04:09,990 --> 00:04:08,239

things to the next level

124

00:04:13,030 --> 00:04:10,000

now if you look at pictures we have one

125

00:04:15,830 --> 00:04:13,040

on our homepage podcastufo.com

126

00:04:17,189 --> 00:04:15,840

all of the pictures of the crafts and

127

00:04:19,270 --> 00:04:17,199

everything that are shown are always

128

00:04:22,069 --> 00:04:19,280

like squeaky clean and white

129

00:04:23,350 --> 00:04:22,079

and uh you know i just again i'm a big

130

00:04:26,629 --> 00:04:23,360

fan of musks

131

00:04:29,990 --> 00:04:26,639

or is it musk anyway however you say it

132

00:04:33,350 --> 00:04:30,000

big fan of his and uh and uh do

133

00:04:36,469 --> 00:04:33,360

do uh join our chat room coming up

134

00:04:39,030 --> 00:04:36,479

right now we have andy fleming and he's

135

00:04:42,469 --> 00:04:39,040

gonna talk about dark matter

136

00:04:43,510 --> 00:04:42,479

hi martin and listeners now it's an

137

00:04:46,469 --> 00:04:43,520

embarrassment

138

00:04:48,390 --> 00:04:46,479

of gargantuan proportions that lies at

139

00:04:51,189 --> 00:04:48,400

the heart of modern physics

140

00:04:51,749 --> 00:04:51,199

a kind of cosmic elephant in the room if

141

00:04:54,070 --> 00:04:51,759

you will

142

00:04:55,150 --> 00:04:54,080

put simply physicists realize that when

143

00:04:58,070 --> 00:04:55,160

we look out

144

00:05:00,710 --> 00:04:58,080

13.7 billion light years across the

145

00:05:04,310 --> 00:05:00,720

visible universe with our telescopes

146

00:05:07,189 --> 00:05:04,320

whether it visible infrared gamma ray or

147

00:05:08,469 --> 00:05:07,199

x-ray wavelengths we're only seeing a

148

00:05:11,749 --> 00:05:08,479

tiny proportion

149

00:05:12,390 --> 00:05:11,759

of all that there is modern physics and

150

00:05:14,870 --> 00:05:12,400

its key

151

00:05:16,550 --> 00:05:14,880

theories of quantum mechanics and

152

00:05:18,790 --> 00:05:16,560

general relativity

153

00:05:21,990 --> 00:05:18,800

which have successfully provided us with

154

00:05:24,629 --> 00:05:22,000

everything from ipods to gps systems

155

00:05:25,350 --> 00:05:24,639

simply doesn't have a clue as to what

156

00:05:28,710 --> 00:05:25,360

makes up

157

00:05:31,909 --> 00:05:28,720

96 of our universe

158

00:05:33,029 --> 00:05:31,919

the best estimates of cosmologists and

159

00:05:35,189 --> 00:05:33,039

physicists

160

00:05:37,510 --> 00:05:35,199

reveal that only four percent of the

161

00:05:40,150 --> 00:05:37,520

universe is constituted of

162

00:05:41,670 --> 00:05:40,160

normal baryonic matter consisting of the

163

00:05:42,950 --> 00:05:41,680

things we see with our eyes and

164

00:05:44,790 --> 00:05:42,960

detectors

165

00:05:46,710 --> 00:05:44,800

this is made up of atoms and their

166

00:05:49,749 --> 00:05:46,720

constituent parts and includes

167

00:05:52,950 --> 00:05:49,759

stars planets and intergalactic

168

00:05:54,150 --> 00:05:52,960

dust einstein said that mass and energy

169

00:05:58,110 --> 00:05:54,160

are equivalent

170

00:05:59,990 --> 00:05:58,120

and since the late 1990s astronomers and

171

00:06:03,029 --> 00:06:00,000

cosmologists have found that a

172

00:06:05,990 --> 00:06:03,039

staggering 73 percent of the universe

173

00:06:08,350 --> 00:06:06,000

is made of something called dark energy

174

00:06:11,110 --> 00:06:08,360

which reveals itself by an

175

00:06:14,150 --> 00:06:11,120

anti-gravitational force it

176

00:06:16,550 --> 00:06:14,160

turns out that the expanding universe as

177

00:06:19,270 --> 00:06:16,560

first revealed by edwin hubble

178

00:06:20,550 --> 00:06:19,280

isn't just expanding at a linear rate

179

00:06:23,749 --> 00:06:20,560

the expansion

180

00:06:24,150 --> 00:06:23,759

is actually accelerating one day in the

181

00:06:27,350 --> 00:06:24,160

far

182

00:06:30,150 --> 00:06:27,360

and distant future cosmologists will

183

00:06:30,870 --> 00:06:30,160

no longer see galaxies outside our own

184

00:06:33,029 --> 00:06:30,880

cluster

185

00:06:33,990 --> 00:06:33,039

they'll simply be over the cosmic

186

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

horizon

187

00:06:37,189 --> 00:06:36,080

too far away for light to have had

188

00:06:39,909 --> 00:06:37,199

enough time

189

00:06:42,710 --> 00:06:39,919

to travel to the earth for now though we

190

00:06:43,990 --> 00:06:42,720

have little idea as to what dark energy

191

00:06:46,150 --> 00:06:44,000

actually is

192

00:06:48,309 --> 00:06:46,160

we may have rather more success in

193

00:06:51,110 --> 00:06:48,319

identifying dark matter

194

00:06:51,749 --> 00:06:51,120

first postulated by astronomer fritz

195

00:06:55,430 --> 00:06:51,759

wiki

196

00:06:57,909 --> 00:06:55,440

in 1934 to account for the

197

00:07:00,550 --> 00:06:57,919

missing mass needed to sustain the

198

00:07:01,749 --> 00:07:00,560

orbital velocities of galaxies in

199

00:07:04,230 --> 00:07:01,759

clusters

200

00:07:06,469 --> 00:07:04,240

subsequently other observations have

201
00:07:07,350 --> 00:07:06,479
indicated the presence of dark matter in

202
00:07:09,830 --> 00:07:07,360
the universe

203
00:07:12,550 --> 00:07:09,840
including the gravitational lensing of

204
00:07:15,189 --> 00:07:12,560
background objects by galaxy clusters

205
00:07:17,589 --> 00:07:15,199
such as the bullet cluster and the

206
00:07:18,469 --> 00:07:17,599
temperature distribution of hot gas in

207
00:07:21,909 --> 00:07:18,479
galaxies

208
00:07:24,469 --> 00:07:21,919
that most

209
00:07:25,990 --> 00:07:24,479
dark matter by its very nature does not

210
00:07:28,790 --> 00:07:26,000
consist of atoms

211
00:07:29,670 --> 00:07:28,800
it doesn't interact with electromagnetic

212
00:07:31,990 --> 00:07:29,680
radiation

213
00:07:33,670 --> 00:07:32,000

and therefore we cannot detect it

214

00:07:36,390 --> 00:07:33,680

without telescopes

215

00:07:38,870 --> 00:07:36,400

there are many speculative possibilities

216

00:07:41,749 --> 00:07:38,880

as to what dark matter may be

217

00:07:42,710 --> 00:07:41,759

including a whole zoo of standard model

218

00:07:45,749 --> 00:07:42,720

or exotic

219

00:07:49,350 --> 00:07:45,759

particles including neutrinos and

220

00:07:52,710 --> 00:07:49,360

super symmetrical particles brown dwarfs

221

00:07:55,589 --> 00:07:52,720

rock dust or black holes

222

00:07:57,430 --> 00:07:55,599

whatever dark matter turns out to be and

223

00:07:58,070 --> 00:07:57,440

there are many experiments being

224

00:08:00,629 --> 00:07:58,080

conducted

225

00:08:03,029 --> 00:08:00,639

around the globe to detect it including

226

00:08:05,189 --> 00:08:03,039

at the large hadron collider at cern

227

00:08:07,990 --> 00:08:05,199

and in the zeppelin three dark matter

228

00:08:11,189 --> 00:08:08,000

detectors at cleveland potash's mine

229

00:08:13,270 --> 00:08:11,199

at booby whitby in the united kingdom

230

00:08:15,589 --> 00:08:13,280

we're likely to have an answer as to

231

00:08:16,869 --> 00:08:15,599

what this fundamental constituent of the

232

00:08:19,990 --> 00:08:16,879

universe is

233

00:08:22,070 --> 00:08:20,000

long before that for dark energy

234

00:08:24,309 --> 00:08:22,080

whichever way you look at it it's an

235

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

embarrassment though for modern physics

236

00:08:28,070 --> 00:08:26,800

to only know what just four percent of

237

00:08:31,510 --> 00:08:28,080

the universe

238

00:08:34,110 --> 00:08:31,520

is actually made of that's right

239

00:08:35,750 --> 00:08:34,120

uh please join in our chat room at

240

00:08:39,430 --> 00:08:35,760

podcastufo.com

241

00:08:40,709 --> 00:08:39,440

and uh chime in our guests ask our guest

242

00:08:43,829 --> 00:08:40,719

some questions

243

00:08:46,550 --> 00:08:43,839

or do your regular interacting bickering

244

00:08:46,949 --> 00:08:46,560

or whatever it is you like to do and we

245

00:08:49,829 --> 00:08:46,959

have

246

00:08:51,030 --> 00:08:49,839

mark d'antonio on the line how are you

247

00:08:53,350 --> 00:08:51,040

mark

248

00:08:54,470 --> 00:08:53,360

i'm doing great how are you great thanks

249

00:08:56,550 --> 00:08:54,480

so much you know for

250

00:08:58,790 --> 00:08:56,560

for jumping in at the last minute i

251

00:09:00,150 --> 00:08:58,800

really really appreciate it and uh

252

00:09:02,150 --> 00:09:00,160

you know you were going to be a future

253

00:09:03,350 --> 00:09:02,160

guest but um

254

00:09:05,990 --> 00:09:03,360

i just really want to thank you for

255

00:09:08,150 --> 00:09:06,000

coming on tonight oh not at all like uh

256

00:09:09,829 --> 00:09:08,160

like andy was just saying you know that

257

00:09:11,350 --> 00:09:09,839

we use dark matter here all the time

258

00:09:13,670 --> 00:09:11,360

it's rather boring now

259

00:09:15,350 --> 00:09:13,680

um but we use the technology to kind of

260

00:09:18,550 --> 00:09:15,360

jump back and forth through time

261

00:09:21,509 --> 00:09:18,560

it's you know it's little stuff so not a

262

00:09:23,590 --> 00:09:21,519

big deal to come back and do your show

263

00:09:24,710 --> 00:09:23,600

weeks after i had already not done it

264

00:09:28,150 --> 00:09:24,720

but then come back oh

265

00:09:30,949 --> 00:09:28,160

i just changed the timeline oh oh boy no

266

00:09:32,710 --> 00:09:30,959

this is just way too much from my head

267

00:09:37,509 --> 00:09:32,720

this is a problem my dog has

268

00:09:39,430 --> 00:09:37,519

five heads and that's just the beginning

269

00:09:42,070 --> 00:09:39,440

i shouldn't have stepped on it butterfly

270

00:09:46,630 --> 00:09:43,910

i do remember your sense of humor we

271

00:09:47,990 --> 00:09:46,640

recorded about astronomy um i think was

272

00:09:50,389 --> 00:09:48,000

last about a year ago or

273

00:09:51,670 --> 00:09:50,399

last fall i think it was yeah that's

274

00:09:53,030 --> 00:09:51,680

right and

275

00:09:54,710 --> 00:09:53,040

yeah that was correct that was a lot of

276

00:09:57,190 --> 00:09:54,720

fun so you

277

00:09:58,550 --> 00:09:57,200

are i have a a number of things i was

278

00:10:01,670 --> 00:09:58,560

thinking of to ask you

279

00:10:02,550 --> 00:10:01,680

you are the chief video and photo

280

00:10:04,949 --> 00:10:02,560

analyst

281

00:10:06,310 --> 00:10:04,959

am i saying that right of mufon yeah the

282

00:10:09,350 --> 00:10:06,320

chief photo video analyst for

283

00:10:10,790 --> 00:10:09,360

the mutual ufo network and um what that

284

00:10:12,949 --> 00:10:10,800

really means is that uh

285

00:10:13,990 --> 00:10:12,959

i'm i'm someone that was perfectly happy

286

00:10:16,949 --> 00:10:14,000

to do it

287

00:10:17,509 --> 00:10:16,959

well not no i'm kidding of course it was

288

00:10:19,350 --> 00:10:17,519

something

289

00:10:21,750 --> 00:10:19,360

i've actually been a member of mufon

290

00:10:25,110 --> 00:10:21,760

since 1971.

291

00:10:27,430 --> 00:10:25,120

wow yeah i was 11 when i joined mufon

292

00:10:28,870 --> 00:10:27,440

i'm not kidding i'm not kidding i am not

293

00:10:30,790 --> 00:10:28,880

that's actually true i mean

294

00:10:32,389 --> 00:10:30,800

and um everything i say is true with

295

00:10:33,509 --> 00:10:32,399

just a little jest thrown in here and

296

00:10:34,710 --> 00:10:33,519

there but it's nothing to do with time

297

00:10:37,750 --> 00:10:34,720

travel again though

298

00:10:38,150 --> 00:10:37,760

no no i knew i was gonna regret saying

299

00:10:41,269 --> 00:10:38,160

that

300

00:10:42,710 --> 00:10:41,279

but um no i i was eleven i had just uh

301
00:10:46,150 --> 00:10:42,720
i'd been out of the hospital after

302
00:10:48,069 --> 00:10:46,160
having a surgical procedure done and my

303
00:10:49,910 --> 00:10:48,079
parents brain surgery

304
00:10:53,670 --> 00:10:49,920
actually that was 18 years ago but

305
00:10:57,509 --> 00:10:56,150
no not at all i i if you can't laugh at

306
00:11:00,870 --> 00:10:57,519
yourself you can't laugh

307
00:11:02,790 --> 00:11:00,880
you know right so no but it was um

308
00:11:04,710 --> 00:11:02,800
uh you know interesting because i had

309
00:11:06,069 --> 00:11:04,720
always been interested in ufos and i

310
00:11:07,829 --> 00:11:06,079
would go outside look up

311
00:11:09,190 --> 00:11:07,839
see the gorgeous night sky and the first

312
00:11:09,750 --> 00:11:09,200
thing i want to do is take a picture of

313
00:11:12,470 --> 00:11:09,760

it

314

00:11:13,110 --> 00:11:12,480

and of course back then when i was 11

315

00:11:14,949 --> 00:11:13,120

okay

316

00:11:16,550 --> 00:11:14,959

it was uh you know kind of tough to get

317

00:11:18,870 --> 00:11:16,560

a film that could actually

318

00:11:20,550 --> 00:11:18,880

do the job number one number two it was

319

00:11:22,630 --> 00:11:20,560

tough to get a camera

320

00:11:24,389 --> 00:11:22,640

uh you know in general as an 11 year old

321

00:11:25,910 --> 00:11:24,399

who's going to go out and have the money

322

00:11:27,509 --> 00:11:25,920

to get a wonderful camera so i didn't

323

00:11:29,350 --> 00:11:27,519

get any of those things but what i

324

00:11:30,710 --> 00:11:29,360

did get was a telescope and the

325

00:11:32,230 --> 00:11:30,720

telescope was

326

00:11:34,710 --> 00:11:32,240

given to me by a dear friend of the

327

00:11:35,430 --> 00:11:34,720

family and i have to tell you that and

328

00:11:38,710 --> 00:11:35,440

one other

329

00:11:41,750 --> 00:11:38,720

interaction i had with someone at nasa

330

00:11:41,990 --> 00:11:41,760

got me fully into astronomy so i would

331

00:11:43,430 --> 00:11:42,000

look

332

00:11:45,990 --> 00:11:43,440

outside with the telescope all the time

333

00:11:48,710 --> 00:11:46,000

and then that sparked my imagination to

334

00:11:49,829 --> 00:11:48,720

create a space station plan and send it

335

00:11:51,990 --> 00:11:49,839

to nasa

336

00:11:53,670 --> 00:11:52,000

and i did just that on notebook paper

337

00:11:54,470 --> 00:11:53,680

with the lines and where i tore it out

338

00:11:57,750 --> 00:11:54,480

of the little

339

00:11:59,670 --> 00:11:57,760

you know notebook binder

340

00:12:01,990 --> 00:11:59,680

and i sent it to nasa and it was looked

341

00:12:05,430 --> 00:12:02,000

at by a man named

342

00:12:07,190 --> 00:12:05,440

um bert lee now

343

00:12:09,030 --> 00:12:07,200

most people know him as gentry lee

344

00:12:12,150 --> 00:12:09,040

gentry lee is the

345

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

runs the directorate for uh the outer

346

00:12:16,389 --> 00:12:12,880

solar system

347

00:12:18,230 --> 00:12:16,399

robotic missions and he was a young

348

00:12:19,990 --> 00:12:18,240

scientist at the time of nasa he looked

349

00:12:21,590 --> 00:12:20,000

at my space station plan

350

00:12:23,030 --> 00:12:21,600

and instead of just dismissing it and

351

00:12:23,750 --> 00:12:23,040

laughing at it with his colleagues or

352

00:12:25,829 --> 00:12:23,760

whatever

353

00:12:27,190 --> 00:12:25,839

he actually returned it to me with all

354

00:12:29,750 --> 00:12:27,200

kinds of wonderful handwritten

355

00:12:31,509 --> 00:12:29,760

suggestions on each and every page

356

00:12:33,910 --> 00:12:31,519

and then he put it in what i called my

357

00:12:37,350 --> 00:12:33,920

space box a gigantic

358

00:12:39,350 --> 00:12:37,360

box to me anyway all right a gigantic

359

00:12:42,069 --> 00:12:39,360

box to this 11 year old kid

360

00:12:43,190 --> 00:12:42,079

that was full of cloth mission patches

361

00:12:46,150 --> 00:12:43,200

for all of the

362

00:12:48,150 --> 00:12:46,160

you know human space flight and books

363

00:12:49,910 --> 00:12:48,160

and brochures i mean he filled that

364

00:12:52,870 --> 00:12:49,920

thing to the brim

365

00:12:54,710 --> 00:12:52,880

and i have to say it was very very you

366

00:12:57,350 --> 00:12:54,720

know incredible for me and

367

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

literally about a year and a half ago

368

00:12:59,670 --> 00:12:57,839

after

369

00:13:01,910 --> 00:12:59,680

not communicating with him since that

370

00:13:04,150 --> 00:13:01,920

point i wrote him an email

371

00:13:05,829 --> 00:13:04,160

and he responded and said i don't

372

00:13:07,670 --> 00:13:05,839

remember the incident but boy this is

373

00:13:09,509 --> 00:13:07,680

great let's keep talking

374

00:13:11,030 --> 00:13:09,519

so it was really cool to actually

375

00:13:12,949 --> 00:13:11,040

reconnect with gentry lee

376

00:13:16,150 --> 00:13:12,959

one of one of the people that i idolized

377

00:13:18,710 --> 00:13:16,160

in our human spaceflight endeavors

378

00:13:19,910 --> 00:13:18,720

wow that that is just amazing that

379

00:13:22,629 --> 00:13:19,920

really

380

00:13:23,350 --> 00:13:22,639

and then you you are actually now i'm

381

00:13:25,190 --> 00:13:23,360

sorry it's been

382

00:13:27,030 --> 00:13:25,200

you know several months you're you're

383

00:13:29,030 --> 00:13:27,040

actually an astronomer

384

00:13:30,949 --> 00:13:29,040

yeah that's what i got my degree in i

385

00:13:34,629 --> 00:13:30,959

went to i went to school for that i

386

00:13:36,550 --> 00:13:34,639

i spent many many a year in freezing

387

00:13:37,590 --> 00:13:36,560

cold observatories where the telescopes

388

00:13:39,350 --> 00:13:37,600

are so big

389

00:13:40,790 --> 00:13:39,360

that the entire floor moves up and down

390

00:13:42,790 --> 00:13:40,800

to meet the telescope

391

00:13:44,310 --> 00:13:42,800

you know as it's moving around the sky

392

00:13:46,470 --> 00:13:44,320

and that was when we had the work right

393

00:13:47,990 --> 00:13:46,480

at the eyepiece i was taking photos on

394

00:13:51,110 --> 00:13:48,000

glass plates

395

00:13:52,710 --> 00:13:51,120

because film wouldn't do the reason is

396

00:13:56,150 --> 00:13:52,720

it was part of a study called

397

00:13:58,790 --> 00:13:56,160

parallax study which which uh

398

00:14:00,629 --> 00:13:58,800

what what parallax is of course is is

399

00:14:03,910 --> 00:14:00,639

the

400

00:14:05,590 --> 00:14:03,920

finger out at arm's length and you

401
00:14:07,509 --> 00:14:05,600
hold up your index finger and you you

402
00:14:09,269 --> 00:14:07,519
blink left and right with your eye

403
00:14:11,110 --> 00:14:09,279
you're seeing the parallax effect you

404
00:14:11,750 --> 00:14:11,120
can actually see that the background

405
00:14:13,670 --> 00:14:11,760
remains

406
00:14:15,269 --> 00:14:13,680
relatively in the same position but the

407
00:14:16,629 --> 00:14:15,279
finger is shifting dramatically back and

408
00:14:18,310 --> 00:14:16,639
forth in the foreground

409
00:14:20,389 --> 00:14:18,320
well in the same way when we look at

410
00:14:22,230 --> 00:14:20,399
foreground stars that are not too far

411
00:14:24,230 --> 00:14:22,240
away from us

412
00:14:25,350 --> 00:14:24,240
we would see at each end of earth's

413
00:14:27,670 --> 00:14:25,360

orbit

414

00:14:29,030 --> 00:14:27,680

not the left and right eye but the both

415

00:14:30,310 --> 00:14:29,040

ends of the earth's orbit we would

416

00:14:32,230 --> 00:14:30,320

actually see that star

417

00:14:34,069 --> 00:14:32,240

shifting against the background stars

418

00:14:36,870 --> 00:14:34,079

and this gives us its distance to an

419

00:14:39,509 --> 00:14:36,880

extremely precise degree

420

00:14:40,150 --> 00:14:39,519

within a certain distance you know

421

00:14:43,350 --> 00:14:40,160

beyond

422

00:14:45,430 --> 00:14:43,360

parallax we have to use other

423

00:14:47,110 --> 00:14:45,440

you know techniques so there's it goes

424

00:14:48,949 --> 00:14:47,120

on and on but that was the program that

425

00:14:52,230 --> 00:14:48,959

i was involved in for a number of years

426

00:14:55,509 --> 00:14:52,240

and the glass plates would record

427

00:14:57,430 --> 00:14:55,519

a very precise image and then those

428

00:14:59,670 --> 00:14:57,440

plates would be used with a machine from

429

00:15:02,150 --> 00:14:59,680

yale university which would actually

430

00:15:02,710 --> 00:15:02,160

scan the density of the star image on

431

00:15:05,110 --> 00:15:02,720

this

432

00:15:06,550 --> 00:15:05,120

film emulsion can you imagine that film

433

00:15:07,670 --> 00:15:06,560

who's heard of film

434

00:15:09,430 --> 00:15:07,680

there's a lot of people out there that

435

00:15:10,150 --> 00:15:09,440

have never owned a film camera now you

436

00:15:17,430 --> 00:15:10,160

know

437

00:15:20,230 --> 00:15:17,440

go through that process

438

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

um and then you know using similar

439

00:15:24,710 --> 00:15:21,440

research telescopes

440

00:15:26,710 --> 00:15:24,720

uh i did my thesis which was on finding

441

00:15:28,150 --> 00:15:26,720

uh stars that are speeding out of the

442

00:15:30,069 --> 00:15:28,160

galaxy at high speed through

443

00:15:31,829 --> 00:15:30,079

gravitational interactions

444

00:15:34,310 --> 00:15:31,839

and i found a few which is great yeehaw

445

00:15:38,150 --> 00:15:34,320

wow my claim the fame and i found some

446

00:15:41,670 --> 00:15:40,790

now getting back to our topic this

447

00:15:45,350 --> 00:15:41,680

evening

448

00:15:47,590 --> 00:15:45,360

sure i would like to talk to you about

449

00:15:49,269 --> 00:15:47,600

you know some of the i i guess some of

450

00:15:52,870 --> 00:15:49,279

the more interesting

451
00:15:53,829 --> 00:15:52,880
ufo videos and and uh and pictures that

452
00:15:56,870 --> 00:15:53,839
you have

453
00:15:57,189 --> 00:15:56,880
researched and i guess what i'd like to

454
00:16:00,389 --> 00:15:57,199
know

455
00:16:03,670 --> 00:16:00,399
is what is uh what stands out

456
00:16:05,749 --> 00:16:03,680
to you as some of the most interesting

457
00:16:07,910 --> 00:16:05,759
ones that you've dealt with

458
00:16:09,829 --> 00:16:07,920
well one of one of the things about ufo

459
00:16:10,629 --> 00:16:09,839
photos is first of all we have to find

460
00:16:13,910 --> 00:16:10,639
out

461
00:16:15,829 --> 00:16:13,920
uh what it's not so when i see a ufo

462
00:16:18,629 --> 00:16:15,839
photo or a video the first thing i do is

463
00:16:22,150 --> 00:16:18,639

i look at each and every one

464

00:16:24,470 --> 00:16:22,160

from the same set of processes okay

465

00:16:25,350 --> 00:16:24,480

that are running through my head first i

466

00:16:27,910 --> 00:16:25,360

try to

467

00:16:29,670 --> 00:16:27,920

explain it away now at first that sounds

468

00:16:31,829 --> 00:16:29,680

like i'm being a debunker

469

00:16:33,189 --> 00:16:31,839

actually it's far from it i'm trying to

470

00:16:36,949 --> 00:16:33,199

eliminate

471

00:16:38,870 --> 00:16:36,959

because someone else

472

00:16:41,030 --> 00:16:38,880

who might be doing independent research

473

00:16:41,509 --> 00:16:41,040

might find something in the image that i

474

00:16:43,749 --> 00:16:41,519

missed

475

00:16:45,509 --> 00:16:43,759

so i can't afford to really miss

476

00:16:47,189 --> 00:16:45,519

anything i have to really take the time

477

00:16:48,710 --> 00:16:47,199

to do the diligence to actually look

478

00:16:51,110 --> 00:16:48,720

through these images and say

479

00:16:52,550 --> 00:16:51,120

okay if i'm thinking that this is

480

00:16:54,069 --> 00:16:52,560

something that's in the foreground in

481

00:16:56,069 --> 00:16:54,079

this image

482

00:16:57,269 --> 00:16:56,079

i need something to back that up not

483

00:16:59,829 --> 00:16:57,279

just an opinion

484

00:17:00,629 --> 00:16:59,839

but some science and that's that's the

485

00:17:03,110 --> 00:17:00,639

thing that i

486

00:17:04,630 --> 00:17:03,120

tend to do is i tend to use science to

487

00:17:06,150 --> 00:17:04,640

help us explain

488

00:17:08,470 --> 00:17:06,160

what we're seeing in an image because

489

00:17:09,189 --> 00:17:08,480

sometimes you capture an ordinary object

490

00:17:12,230 --> 00:17:09,199

in a most

491

00:17:15,029 --> 00:17:12,240

extraordinary way and that's the thing

492

00:17:15,750 --> 00:17:15,039

that can throw people off and there's a

493

00:17:17,350 --> 00:17:15,760

lot of

494

00:17:18,870 --> 00:17:17,360

you're fighting psychology because

495

00:17:22,069 --> 00:17:18,880

there's some psychology

496

00:17:23,270 --> 00:17:22,079

of how we observe the world that cameras

497

00:17:24,710 --> 00:17:23,280

don't know

498

00:17:26,549 --> 00:17:24,720

and so when we take it when we take a

499

00:17:29,510 --> 00:17:26,559

picture of

500

00:17:30,789 --> 00:17:29,520

say birds flying through a frame we

501
00:17:32,870 --> 00:17:30,799
ignore them while we're taking the

502
00:17:36,390 --> 00:17:32,880
picture because they're just birds

503
00:17:38,870 --> 00:17:36,400
right okay but the camera of course

504
00:17:39,510 --> 00:17:38,880
captures these really interesting dark

505
00:17:42,150 --> 00:17:39,520
dashes

506
00:17:43,750 --> 00:17:42,160
flying along the horizon what's that you

507
00:17:45,350 --> 00:17:43,760
know you don't know what that is and

508
00:17:47,590 --> 00:17:45,360
that's the thing that we're trying to

509
00:17:49,510 --> 00:17:47,600
you know we have to explain again using

510
00:17:51,350 --> 00:17:49,520
science so we have to talk about

511
00:17:53,029 --> 00:17:51,360
how are birds shaped when they're caught

512
00:17:54,710 --> 00:17:53,039
in an exposure sometimes you don't see

513
00:17:56,950 --> 00:17:54,720

them crisp and clear they're blurry

514

00:17:58,150 --> 00:17:56,960

but the blur gives you lots of data

515

00:18:00,230 --> 00:17:58,160

there's interesting things you can

516

00:18:03,510 --> 00:18:00,240

deduce from that blur

517

00:18:04,950 --> 00:18:03,520

and there are shapes in for instance of

518

00:18:09,350 --> 00:18:04,960

a bird that

519

00:18:12,830 --> 00:18:09,360

looks just like um you know a ufo

520

00:18:14,310 --> 00:18:12,840

of some kind except if you then look at

521

00:18:17,830 --> 00:18:14,320

the

522

00:18:21,990 --> 00:18:17,840

if

523

00:18:24,710 --> 00:18:22,000

object the object has on the image

524

00:18:26,950 --> 00:18:24,720

or in the video you can many times see

525

00:18:28,470 --> 00:18:26,960

clues that will help you decide

526

00:18:29,830 --> 00:18:28,480

what you're looking at and i know i

527

00:18:31,190 --> 00:18:29,840

haven't talked about interesting ufos

528

00:18:34,150 --> 00:18:31,200

yet but i'm getting there

529

00:18:36,070 --> 00:18:34,160

okay um well we're getting some

530

00:18:37,750 --> 00:18:36,080

questions popping in on our

531

00:18:40,070 --> 00:18:37,760

our message board and i want to

532

00:18:40,710 --> 00:18:40,080

apologize for our live listeners i hate

533

00:18:43,830 --> 00:18:40,720

to say but

534

00:18:46,630 --> 00:18:43,840

um there seems to be some type of studio

535

00:18:47,110 --> 00:18:46,640

audio problem um the audio is going in

536

00:18:49,590 --> 00:18:47,120

and out

537

00:18:50,630 --> 00:18:49,600

um i can tell you right now keith roland

538

00:18:52,470 --> 00:18:50,640

are

539

00:18:54,070 --> 00:18:52,480

the producer of the show is working on

540

00:18:57,510 --> 00:18:54,080

that and um

541

00:18:59,990 --> 00:18:57,520

and they're actually asking um

542

00:19:01,350 --> 00:19:00,000

i would try to actually message you mark

543

00:19:02,470 --> 00:19:01,360

but they're asking if your mic can be

544

00:19:04,230 --> 00:19:02,480

turned down a little bit

545

00:19:06,310 --> 00:19:04,240

it can't really be turned down but maybe

546

00:19:09,669 --> 00:19:06,320

you can pull it away just a little bit

547

00:19:12,310 --> 00:19:09,679

um and the question that

548

00:19:13,830 --> 00:19:12,320

came up um let's see they're coming in

549

00:19:15,590 --> 00:19:13,840

pretty fast here

550

00:19:17,750 --> 00:19:15,600

are you familiar with any advanced

551

00:19:20,150 --> 00:19:17,760

photography videography methods

552

00:19:21,830 --> 00:19:20,160

such as studying infrared or near

553

00:19:24,710 --> 00:19:21,840

ultraviolet

554

00:19:25,510 --> 00:19:24,720

uh yeah as a matter of fact um one of

555

00:19:28,789 --> 00:19:25,520

the things

556

00:19:30,070 --> 00:19:28,799

uh that we're doing right now is we do a

557

00:19:31,430 --> 00:19:30,080

lot of work with drones

558

00:19:32,630 --> 00:19:31,440

but people call them drones and of

559

00:19:33,669 --> 00:19:32,640

course when you call them drones

560

00:19:35,750 --> 00:19:33,679

immediately you think

561

00:19:37,350 --> 00:19:35,760

you know hellfire missiles and killing

562

00:19:38,870 --> 00:19:37,360

killing killing not at all

563

00:19:41,270 --> 00:19:38,880

these are search and rescue systems

564

00:19:44,230 --> 00:19:41,280

these are actually

565

00:19:45,190 --> 00:19:44,240

these are systems for use uh in scanning

566

00:19:47,029 --> 00:19:45,200

remote areas

567

00:19:48,230 --> 00:19:47,039

so one of the things that we're

568

00:19:50,470 --> 00:19:48,240

developing is

569

00:19:52,470 --> 00:19:50,480

an infrared system as a matter of fact

570

00:19:54,870 --> 00:19:52,480

that will allow us to

571

00:19:55,590 --> 00:19:54,880

do remote scans from a long long way

572

00:19:57,750 --> 00:19:55,600

away

573

00:19:59,270 --> 00:19:57,760

and when i say long long way i don't

574

00:20:01,750 --> 00:19:59,280

mean a continent away i mean

575

00:20:03,270 --> 00:20:01,760

you know 10 miles away you know because

576

00:20:05,430 --> 00:20:03,280

you know in a case where you

577

00:20:06,310 --> 00:20:05,440

you want to in a case where you want to

578

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

locate

579

00:20:09,669 --> 00:20:08,799

or do a scan of an area you know

580

00:20:11,909 --> 00:20:09,679

anything

581

00:20:13,190 --> 00:20:11,919

within a few miles might be alerted to

582

00:20:16,549 --> 00:20:13,200

your presence so we would

583

00:20:19,190 --> 00:20:16,559

rather have a system that can kind of

584

00:20:20,710 --> 00:20:19,200

get way up in the air kind of come in

585

00:20:22,549 --> 00:20:20,720

rather unannounced

586

00:20:23,990 --> 00:20:22,559

do some scans and then leave before

587

00:20:25,430 --> 00:20:24,000

being detected and even if it is

588

00:20:27,110 --> 00:20:25,440

detected

589

00:20:29,430 --> 00:20:27,120

it may not be registered as a threat

590

00:20:32,950 --> 00:20:29,440

because it's so small

591

00:20:35,990 --> 00:20:32,960

so these kinds of things are

592

00:20:38,549 --> 00:20:36,000

uh very important to us now um

593

00:20:39,750 --> 00:20:38,559

i i told you off the air earlier that

594

00:20:41,909 --> 00:20:39,760

we're working

595

00:20:43,510 --> 00:20:41,919

with a a guy that a lot of people out

596

00:20:45,430 --> 00:20:43,520

there know his name is doug trumbull

597

00:20:47,909 --> 00:20:45,440

doug is an academy award-winning special

598

00:20:49,110 --> 00:20:47,919

effects uh legend and a producer and

599

00:20:50,789 --> 00:20:49,120

i've been working with doug for about

600

00:20:51,909 --> 00:20:50,799

five years now i think it's going on

601
00:20:54,789 --> 00:20:51,919
it's been so long

602
00:20:55,190 --> 00:20:54,799
it's amazing how long that it's been uh

603
00:20:59,510 --> 00:20:55,200
time

604
00:21:01,190 --> 00:20:59,520
flies and we're actually developing

605
00:21:03,190 --> 00:21:01,200
uh with doug in fact it was doug's

606
00:21:04,070 --> 00:21:03,200
original idea a system that will

607
00:21:07,510 --> 00:21:04,080
actually do

608
00:21:09,350 --> 00:21:07,520
autonomous detection of anomalies now

609
00:21:11,029 --> 00:21:09,360
we you know everyone's heard of skywatch

610
00:21:11,510 --> 00:21:11,039
systems and there are skywatch systems

611
00:21:15,350 --> 00:21:11,520
out there

612
00:21:19,110 --> 00:21:15,360
they're great but the problem we have

613
00:21:21,669 --> 00:21:19,120

is what i see throughout the ufo world

614

00:21:22,630 --> 00:21:21,679

which is replete with photos that are

615

00:21:25,190 --> 00:21:22,640

that singular

616

00:21:26,950 --> 00:21:25,200

fuzzy photo but then the witness says

617

00:21:28,630 --> 00:21:26,960

but it was darting across the sky and

618

00:21:29,350 --> 00:21:28,640

then it did this and then it winked at

619

00:21:30,950 --> 00:21:29,360

me i mean

620

00:21:32,549 --> 00:21:30,960

but then you just see this blurry little

621

00:21:35,029 --> 00:21:32,559

dash of light in the sky

622

00:21:36,870 --> 00:21:35,039

so the data doesn't match the the

623

00:21:39,909 --> 00:21:36,880

witness

624

00:21:43,190 --> 00:21:39,919

you know testimony so what we want to do

625

00:21:44,710 --> 00:21:43,200

is to your question use multiple

626
00:21:46,870 --> 00:21:44,720
instruments

627
00:21:49,350 --> 00:21:46,880
in a sky watch system that will actually

628
00:21:50,870 --> 00:21:49,360
be able to monitor the sky in a variety

629
00:21:54,630 --> 00:21:50,880
of wavelengths including

630
00:21:57,350 --> 00:21:54,640
infrared ultraviolet and some other

631
00:21:58,710 --> 00:21:57,360
radiation emission elements in the

632
00:22:00,549 --> 00:21:58,720
spectrum

633
00:22:02,390 --> 00:22:00,559
you know we want to look for certain

634
00:22:05,909 --> 00:22:02,400
types of

635
00:22:08,149 --> 00:22:05,919
particle interactions known to

636
00:22:09,510 --> 00:22:08,159
expel particle accelerator physicists

637
00:22:12,149 --> 00:22:09,520
because those

638
00:22:13,990 --> 00:22:12,159

indicate something to us um somewhat of

639

00:22:15,830 --> 00:22:14,000

a smoking gun if advanced propulsion

640

00:22:19,430 --> 00:22:15,840

technologies are being used

641

00:22:22,630 --> 00:22:19,440

um so you know

642

00:22:23,190 --> 00:22:22,640

eventually when when string theory and m

643

00:22:27,190 --> 00:22:23,200

theory

644

00:22:29,430 --> 00:22:27,200

you know can can be made understandable

645

00:22:31,430 --> 00:22:29,440

uh to people i think it'll become

646

00:22:33,750 --> 00:22:31,440

clearer that

647

00:22:34,950 --> 00:22:33,760

we're on a sort of a precipice here we

648

00:22:37,830 --> 00:22:34,960

have to step off

649

00:22:39,830 --> 00:22:37,840

with a leap of faith and say look our

650

00:22:40,549 --> 00:22:39,840

our standard physics model that we

651
00:22:42,549 --> 00:22:40,559
currently

652
00:22:43,750 --> 00:22:42,559
hold dear which which andy was talking

653
00:22:45,510 --> 00:22:43,760
about earlier right

654
00:22:47,669 --> 00:22:45,520
um when he was talking about dark matter

655
00:22:48,230 --> 00:22:47,679
we tried to pigeonhole into our standard

656
00:22:50,950 --> 00:22:48,240
model what

657
00:22:53,190 --> 00:22:50,960
dark matter is but that's it's hard

658
00:22:55,110 --> 00:22:53,200
because a lot of things don't work

659
00:22:56,230 --> 00:22:55,120
they don't work right within the

660
00:22:59,350 --> 00:22:56,240
standard theory

661
00:23:00,390 --> 00:22:59,360
but if we work forward here from this

662
00:23:01,830 --> 00:23:00,400
point forward we're actually on a

663
00:23:03,270 --> 00:23:01,840

precipice where we have to take a leap

664

00:23:03,990 --> 00:23:03,280

of faith and say is string theory

665

00:23:06,789 --> 00:23:04,000

correct

666

00:23:07,669 --> 00:23:06,799

if it is then we're going to have to use

667

00:23:15,350 --> 00:23:07,679

different types of

668

00:23:17,510 --> 00:23:15,360

of of setups to look for

669

00:23:19,510 --> 00:23:17,520

beings that might be using advanced

670

00:23:23,270 --> 00:23:19,520

systems in order to get here

671

00:23:26,870 --> 00:23:23,280

because you know i do this marvelous

672

00:23:28,630 --> 00:23:26,880

funny toilet paper roll analogy

673

00:23:30,789 --> 00:23:28,640

uh when i do talks around the country

674

00:23:32,789 --> 00:23:30,799

and it's the entire history of the earth

675

00:23:36,149 --> 00:23:32,799

on a giant roll of toilet paper

676
00:23:39,029 --> 00:23:36,159
and you know the very beginning sheet is

677
00:23:41,990 --> 00:23:39,039
4.6 billion years ago and then at the

678
00:23:44,470 --> 00:23:42,000
very other end of the sheet 117

679
00:23:45,350 --> 00:23:44,480
plus feet later is us you know on that

680
00:23:48,549 --> 00:23:45,360
last sheet

681
00:23:51,750 --> 00:23:48,559
in a line

682
00:23:54,230 --> 00:23:51,760
that's only 0.01 millimeter in thickness

683
00:23:55,830 --> 00:23:54,240
and that's from ancient sumer all the

684
00:23:59,110 --> 00:23:55,840
way to present day

685
00:24:02,470 --> 00:23:59,120
so just all of the extent of human

686
00:24:03,430 --> 00:24:02,480
history is consolidated only in a tiny

687
00:24:05,430 --> 00:24:03,440
little

688
00:24:07,269 --> 00:24:05,440

line that's thinner than any implement

689

00:24:12,070 --> 00:24:07,279

on earth can draw

690

00:24:14,310 --> 00:24:12,080

on the finest paper so that said

691

00:24:16,070 --> 00:24:14,320

we already see on our horizons we see

692

00:24:17,430 --> 00:24:16,080

techniques to get to the nearest stars

693

00:24:19,590 --> 00:24:17,440

in a few days

694

00:24:20,630 --> 00:24:19,600

we can't do it now we need lots of

695

00:24:23,350 --> 00:24:20,640

energy to do this

696

00:24:24,470 --> 00:24:23,360

but we see that that possibility yes

697

00:24:25,990 --> 00:24:24,480

there's questions we don't know what to

698

00:24:26,630 --> 00:24:26,000

do how do you make a warp bubble we

699

00:24:29,269 --> 00:24:26,640

don't know

700

00:24:30,070 --> 00:24:29,279

but we do know that theoretically it's

701

00:24:33,190 --> 00:24:30,080

possible

702

00:24:35,990 --> 00:24:33,200

that's new because it's never been

703

00:24:37,510 --> 00:24:36,000

theoretical before and some of it hinges

704

00:24:40,070 --> 00:24:37,520

on string theory

705

00:24:41,430 --> 00:24:40,080

um and then beyond that horizon there's

706

00:24:43,830 --> 00:24:41,440

one more horizon which

707

00:24:46,070 --> 00:24:43,840

shows a possibility for us to actually

708

00:24:47,430 --> 00:24:46,080

leave our dimensional space

709

00:24:49,269 --> 00:24:47,440

sounds like we're going down the science

710

00:24:52,230 --> 00:24:49,279

fiction road here but you know what

711

00:24:53,430 --> 00:24:52,240

it's not so much science fiction anymore

712

00:24:55,350 --> 00:24:53,440

right if we can

713

00:24:56,789 --> 00:24:55,360

show the validity of string theory and

714

00:25:00,149 --> 00:24:56,799

some of the other

715

00:25:00,789 --> 00:25:00,159

uh ways in which we can supplement or

716

00:25:04,950 --> 00:25:00,799

replace

717

00:25:06,789 --> 00:25:04,960

the standard model that we use now so

718

00:25:08,390 --> 00:25:06,799

in those farther horizons we might be

719

00:25:09,430 --> 00:25:08,400

able to navigate different points in the

720

00:25:12,549 --> 00:25:09,440

universe

721

00:25:15,110 --> 00:25:12,559

you know in minutes and

722

00:25:16,230 --> 00:25:15,120

you know this is this is something that

723

00:25:19,269 --> 00:25:16,240

is really

724

00:25:21,750 --> 00:25:19,279

groundbreaking but it in our tiny little

725

00:25:23,510 --> 00:25:21,760

thin line of existence in that entire

726

00:25:26,830 --> 00:25:23,520

toilet paper roll

727

00:25:28,630 --> 00:25:26,840

in a uh universe that's been in

728

00:25:31,750 --> 00:25:28,640

existence a little bit

729

00:25:33,029 --> 00:25:31,760

less than three times that there's

730

00:25:34,630 --> 00:25:33,039

certainly

731

00:25:37,190 --> 00:25:34,640

other civilizations that probably came

732

00:25:39,029 --> 00:25:37,200

along say one inch before us

733

00:25:40,710 --> 00:25:39,039

on that last sheet which corresponds to

734

00:25:42,230 --> 00:25:40,720

several million years

735

00:25:45,110 --> 00:25:42,240

and they would have already seen those

736

00:25:47,269 --> 00:25:45,120

horizons we see now in our 0.01

737

00:25:50,710 --> 00:25:47,279

millimeter of thickness of existence

738

00:25:51,510 --> 00:25:50,720

and gone past them so the likelihood

739

00:25:53,750 --> 00:25:51,520

that

740

00:25:55,350 --> 00:25:53,760

another species another set of beings

741

00:25:56,390 --> 00:25:55,360

could have found us is actually quite

742

00:25:59,350 --> 00:25:56,400

high

743

00:26:01,110 --> 00:25:59,360

considering that we see planets that are

744

00:26:02,870 --> 00:26:01,120

forming now and we see planets that have

745

00:26:05,269 --> 00:26:02,880

survived the death of their star

746

00:26:06,870 --> 00:26:05,279

so planetary formation has been ongoing

747

00:26:08,310 --> 00:26:06,880

from just

748

00:26:10,230 --> 00:26:08,320

slightly after the beginning of the

749

00:26:12,950 --> 00:26:10,240

universe until now

750

00:26:14,149 --> 00:26:12,960

you know i'm listening to another

751
00:26:16,870 --> 00:26:14,159
astronomer

752
00:26:18,310 --> 00:26:16,880
speak he mentioned something i thought

753
00:26:19,350 --> 00:26:18,320
kind of goes along with this when you're

754
00:26:22,310 --> 00:26:19,360
talking about

755
00:26:23,590 --> 00:26:22,320
such a tiny little spot of time that

756
00:26:25,990 --> 00:26:23,600
we've been here

757
00:26:27,350 --> 00:26:26,000
you know by the time the sun starts

758
00:26:29,669 --> 00:26:27,360
swelling up and

759
00:26:30,710 --> 00:26:29,679
you know near the end of its um

760
00:26:34,549 --> 00:26:30,720
existence

761
00:26:36,630 --> 00:26:34,559
yeah um we'll the beings that will be on

762
00:26:39,350 --> 00:26:36,640
earth will be as close to

763
00:26:40,070 --> 00:26:39,360

us as we were to uh bacteria in other

764

00:26:42,390 --> 00:26:40,080

words

765

00:26:43,110 --> 00:26:42,400

will be so different whoever is on this

766

00:26:44,789 --> 00:26:43,120

earth

767

00:26:46,390 --> 00:26:44,799

and you know almost six billion years

768

00:26:49,830 --> 00:26:46,400

from now will

769

00:26:51,990 --> 00:26:49,840

most likely not be us well

770

00:26:52,950 --> 00:26:52,000

yes the way we if you look at history

771

00:26:55,350 --> 00:26:52,960

really

772

00:26:57,110 --> 00:26:55,360

you know the extinctions and you know

773

00:27:00,149 --> 00:26:57,120

what is it 99

774

00:27:02,230 --> 00:27:00,159

of everything has gone extinct yeah

775

00:27:04,230 --> 00:27:02,240

yeah there there's been actually in our

776

00:27:04,870 --> 00:27:04,240

on our history on earth we've actually

777

00:27:07,110 --> 00:27:04,880

had

778

00:27:08,310 --> 00:27:07,120

a number of incredible extinctions which

779

00:27:10,710 --> 00:27:08,320

are really

780

00:27:11,990 --> 00:27:10,720

uh you know most people don't even know

781

00:27:15,029 --> 00:27:12,000

about because they don't really

782

00:27:18,310 --> 00:27:15,039

think about it too much but you know

783

00:27:19,750 --> 00:27:18,320

everybody knows the the uh kt boundary

784

00:27:22,789 --> 00:27:19,760

extinction you know the

785

00:27:24,950 --> 00:27:22,799

cretaceous uh paley gene you know 65

786

00:27:27,669 --> 00:27:24,960

million years ago when dinosaurs died

787

00:27:28,630 --> 00:27:27,679

everybody knows that all right what they

788

00:27:32,070 --> 00:27:28,640

don't know

789

00:27:34,470 --> 00:27:32,080

is all the other uh mass extinctions

790

00:27:37,669 --> 00:27:34,480

that occurred on this planet you know

791

00:27:39,269 --> 00:27:37,679

there have been um well finally

792

00:27:40,710 --> 00:27:39,279

five or six of them actually you know

793

00:27:43,269 --> 00:27:40,720

and if you look at you know

794

00:27:44,789 --> 00:27:43,279

way back when uh you know we had

795

00:27:47,430 --> 00:27:44,799

extinctions from

796

00:27:47,990 --> 00:27:47,440

uh you know the the uh in the ordovician

797

00:27:50,149 --> 00:27:48,000

era which

798

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

was best known for you know uh

799

00:27:53,510 --> 00:27:52,159

trilobites and those things okay

800

00:27:55,990 --> 00:27:53,520

you know there was a mass extinction

801

00:27:57,510 --> 00:27:56,000

there uh you know 60 percent of all

802

00:27:59,990 --> 00:27:57,520

marine life died then

803

00:28:01,430 --> 00:28:00,000

amazing you know and then um you know

804

00:28:04,070 --> 00:28:01,440

moving forward there was there was

805

00:28:05,510 --> 00:28:04,080

a number of other you know uh

806

00:28:08,070 --> 00:28:05,520

extinctions you know for instance

807

00:28:10,070 --> 00:28:08,080

you know the tivonian extinction uh the

808

00:28:11,190 --> 00:28:10,080

permian triassic border i mean we're

809

00:28:14,230 --> 00:28:11,200

going back to obviously the

810

00:28:17,269 --> 00:28:14,240

to the the eras that are uh you know

811

00:28:17,990 --> 00:28:17,279

gosh uh half a billion years ago you

812

00:28:20,230 --> 00:28:18,000

know

813

00:28:21,590 --> 00:28:20,240

and then so it just goes on and on you

814

00:28:23,590 --> 00:28:21,600

know the you know we had the permian

815

00:28:25,269 --> 00:28:23,600

extinction triassic you know which

816

00:28:26,789 --> 00:28:25,279

and of course the cretaceous extinction

817

00:28:29,269 --> 00:28:26,799

that we just talked about that's the one

818

00:28:31,909 --> 00:28:29,279

that people seem to

819

00:28:33,190 --> 00:28:31,919

but earth understand been periodically

820

00:28:36,389 --> 00:28:33,200

hit

821

00:28:36,870 --> 00:28:36,399

uh by large objects from out in space

822

00:28:40,310 --> 00:28:36,880

and

823

00:28:41,750 --> 00:28:40,320

they have wiped out huge amounts of life

824

00:28:44,389 --> 00:28:41,760

on this planet you know

825

00:28:44,789 --> 00:28:44,399

and i i say one of the things i write

826

00:28:51,830 --> 00:28:44,799

about

827

00:28:53,750 --> 00:28:51,840

had the dinosaurs not become extinct

828

00:28:55,750 --> 00:28:53,760

what would have happened would they have

829

00:28:57,190 --> 00:28:55,760

developed more cranial capacity would

830

00:28:59,830 --> 00:28:57,200

they have developed the ability well

831

00:29:00,389 --> 00:28:59,840

there's actually a theory that talks

832

00:29:03,590 --> 00:29:00,399

about

833

00:29:05,590 --> 00:29:03,600

certain raptors that

834

00:29:07,269 --> 00:29:05,600

might have actually developed a larger

835

00:29:10,070 --> 00:29:07,279

cranial capacity because it looked like

836

00:29:12,230 --> 00:29:10,080

when they were extincted

837

00:29:13,830 --> 00:29:12,240

that they were actually growing larger

838

00:29:17,269 --> 00:29:13,840

brains at the time

839

00:29:19,110 --> 00:29:17,279

so perhaps that was a non-dead end

840

00:29:21,430 --> 00:29:19,120

in their in the path that could have

841

00:29:23,750 --> 00:29:21,440

gone to a more intelligent species

842

00:29:24,950 --> 00:29:23,760

so you know you would have said you know

843

00:29:25,990 --> 00:29:24,960

today you would have said well welcome

844

00:29:27,510 --> 00:29:26,000

you're our guest mark

845

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

to the show you know so mark how are

846

00:29:31,110 --> 00:29:29,279

those scales and how the yellow eyes ah

847

00:29:33,029 --> 00:29:31,120

doing great doing great you know i mean

848

00:29:34,789 --> 00:29:33,039

we would have had a different type of

849

00:29:37,590 --> 00:29:34,799

conversation for sure so

850

00:29:39,350 --> 00:29:37,600

what you say is will life would life be

851

00:29:41,190 --> 00:29:39,360

the same elsewhere probably not

852

00:29:42,470 --> 00:29:41,200

and would we even look the same a

853

00:29:44,710 --> 00:29:42,480

million years from now

854

00:29:46,389 --> 00:29:44,720

certainly not you know i mean just from

855

00:29:49,430 --> 00:29:46,399

the 1700s

856

00:29:50,230 --> 00:29:49,440

we've grown in height if you've ever

857

00:29:52,630 --> 00:29:50,240

been on a

858

00:29:54,230 --> 00:29:52,640

sailing ship you know by base of the

859

00:29:55,909 --> 00:29:54,240

size of the bunks and the

860

00:29:58,310 --> 00:29:55,919

ceilings you can tell that you would

861

00:30:01,669 --> 00:29:58,320

have been a very tall man back then

862

00:30:03,750 --> 00:30:01,679

that's right yeah um let's see there's a

863

00:30:05,029 --> 00:30:03,760

someone wanted you to elaborate a little

864

00:30:07,430 --> 00:30:05,039

bit on

865

00:30:08,789 --> 00:30:07,440

and i do want to apologize again to our

866

00:30:10,230 --> 00:30:08,799

live listeners um

867

00:30:12,230 --> 00:30:10,240

just keep in mind you can always listen

868

00:30:14,549 --> 00:30:12,240

to the podcast it's it's uh

869

00:30:15,830 --> 00:30:14,559

very clear on this end there is some

870

00:30:18,389 --> 00:30:15,840

audio issues so

871

00:30:19,909 --> 00:30:18,399

i do apologize if you wanted to uh still

872

00:30:21,549 --> 00:30:19,919

wanted to jump in

873

00:30:23,269 --> 00:30:21,559

to the chat room you can at

874

00:30:25,750 --> 00:30:23,279

podcastufo.com

875

00:30:27,110 --> 00:30:25,760

and um it's people are saying it's

876

00:30:30,950 --> 00:30:27,120

working fine now but we'll

877

00:30:33,750 --> 00:30:30,960

we'll see so um one of the questions is

878

00:30:34,470 --> 00:30:33,760

how does some string theory play into

879

00:30:37,269 --> 00:30:34,480

all this

880

00:30:38,789 --> 00:30:37,279

as far as you're concerned well when we

881

00:30:41,510 --> 00:30:38,799

look into string theory there's

882

00:30:41,990 --> 00:30:41,520

there's things that within string theory

883

00:30:45,830 --> 00:30:42,000

and

884

00:30:48,870 --> 00:30:45,840

i say this in in the best possible

885

00:30:49,830 --> 00:30:48,880

generic explanation because otherwise it

886

00:30:53,750 --> 00:30:49,840

quickly gets

887

00:30:55,269 --> 00:30:53,760

rather obtuse you know but

888

00:30:57,190 --> 00:30:55,279

because string theory is anything but

889

00:30:59,509 --> 00:30:57,200

intuitive but if you look

890

00:31:00,710 --> 00:30:59,519

further into the concepts behind string

891

00:31:01,590 --> 00:31:00,720

three one of the things that we would be

892

00:31:05,750 --> 00:31:01,600

looking for

893

00:31:06,470 --> 00:31:05,760

is a way to exploit other dimensionality

894

00:31:09,509 --> 00:31:06,480

to space

895

00:31:11,029 --> 00:31:09,519

now if you think about it here on earth

896

00:31:13,669 --> 00:31:11,039

and in our universe

897

00:31:15,269 --> 00:31:13,679

we know what light is we can generate it

898

00:31:18,710 --> 00:31:15,279

we can reflect it

899

00:31:21,909 --> 00:31:18,720

we can work with it we know that

900

00:31:24,070 --> 00:31:21,919

it you it is both a wave nature and

901
00:31:27,350 --> 00:31:24,080
particle nature

902
00:31:28,549 --> 00:31:27,360
we understand electricity we understand

903
00:31:31,830 --> 00:31:28,559
magnetism

904
00:31:33,669 --> 00:31:31,840
we can generate magnetic fields we can

905
00:31:35,990 --> 00:31:33,679
modify magnetic fields

906
00:31:37,830 --> 00:31:36,000
we can generate electricity we can

907
00:31:40,870 --> 00:31:37,840
modify electricity

908
00:31:41,830 --> 00:31:40,880
but what's the one force that we use

909
00:31:43,909 --> 00:31:41,840
every day that

910
00:31:45,590 --> 00:31:43,919
our life depends on that the sun is

911
00:31:47,350 --> 00:31:45,600
stable because of

912
00:31:49,909 --> 00:31:47,360
that we don't know anything about other

913
00:31:53,750 --> 00:31:49,919

than how to calculate its value

914

00:31:57,110 --> 00:31:53,760

that's gravity so now

915

00:31:59,029 --> 00:31:57,120

one of the things that we can use string

916

00:32:00,870 --> 00:31:59,039

theory for and other

917

00:32:02,389 --> 00:32:00,880

corollaries to string theory and again

918

00:32:05,269 --> 00:32:02,399

this is very generic

919

00:32:06,710 --> 00:32:05,279

is we would have a better understanding

920

00:32:10,389 --> 00:32:06,720

of what gravity is

921

00:32:10,870 --> 00:32:10,399

because if you look at how the universe

922

00:32:13,990 --> 00:32:10,880

was

923

00:32:15,590 --> 00:32:14,000

created the theory of the big bang where

924

00:32:17,190 --> 00:32:15,600

the primordial super atom exploded

925

00:32:19,830 --> 00:32:17,200

outward right well

926
00:32:20,389 --> 00:32:19,840
if you had a balloon that was inflating

927
00:32:21,750 --> 00:32:20,399
then

928
00:32:23,669 --> 00:32:21,760
every point on the surface of that

929
00:32:25,350 --> 00:32:23,679
balloon would be pulling at every other

930
00:32:27,590 --> 00:32:25,360
point on the surface of the balloon

931
00:32:28,710 --> 00:32:27,600
it wants to collapse by its nature

932
00:32:30,389 --> 00:32:28,720
correct

933
00:32:32,230 --> 00:32:30,399
well in the same way gravity is an

934
00:32:33,990 --> 00:32:32,240
attractive force so every point in the

935
00:32:35,110 --> 00:32:34,000
universe is pulling on every other point

936
00:32:37,669 --> 00:32:35,120
in the universe

937
00:32:38,310 --> 00:32:37,679
albeit small over distance i mean

938
00:32:40,230 --> 00:32:38,320

gravity

939

00:32:41,590 --> 00:32:40,240

you know falls off you know quite

940

00:32:44,630 --> 00:32:41,600

rapidly right so

941

00:32:45,830 --> 00:32:44,640

if you look at how that works with an

942

00:32:48,870 --> 00:32:45,840

expanding universe

943

00:32:51,990 --> 00:32:48,880

we would expect to see that the universe

944

00:32:55,430 --> 00:32:52,000

with it was either slowing down

945

00:32:56,789 --> 00:32:55,440

contracting or just

946

00:32:58,870 --> 00:32:56,799

holding a steady state those are those

947

00:33:01,590 --> 00:32:58,880

three theories from way way way way back

948

00:33:02,870 --> 00:33:01,600

right however one of the most perplexing

949

00:33:04,389 --> 00:33:02,880

things that was found was that the

950

00:33:05,509 --> 00:33:04,399

universe is actually accelerating

951
00:33:12,389 --> 00:33:05,519
outward

952
00:33:13,590 --> 00:33:12,399
this means that something is attracting

953
00:33:15,350 --> 00:33:13,600
the mass

954
00:33:17,029 --> 00:33:15,360
from outside the boundary of our

955
00:33:19,590 --> 00:33:17,039
expanding universe

956
00:33:21,190 --> 00:33:19,600
and pulling it outward at a faster rate

957
00:33:21,590 --> 00:33:21,200
now when i say accelerating i don't mean

958
00:33:23,269 --> 00:33:21,600
it's just

959
00:33:26,389 --> 00:33:23,279
moving fast outward it's actually going

960
00:33:29,830 --> 00:33:26,399
faster and faster outward

961
00:33:32,149 --> 00:33:29,840
now you see that's where

962
00:33:34,070 --> 00:33:32,159
that's where we scratch our heads when

963
00:33:36,789 --> 00:33:34,080

we try to put this into an understanding

964

00:33:39,190 --> 00:33:36,799

with our standard model of astrophysics

965

00:33:40,230 --> 00:33:39,200

and we can't quite do it so we have to

966

00:33:42,630 --> 00:33:40,240

look at other

967

00:33:43,909 --> 00:33:42,640

sometimes more exotic ways to explain it

968

00:33:46,070 --> 00:33:43,919

dark matter

969

00:33:47,830 --> 00:33:46,080

uh is matter that we only see

970

00:33:51,509 --> 00:33:47,840

interacting

971

00:33:54,950 --> 00:33:51,519

indirectly because it's go ahead say it

972

00:33:56,549 --> 00:33:54,960

dark okay but um

973

00:33:58,230 --> 00:33:56,559

the other thing that's important is dark

974

00:34:01,110 --> 00:33:58,240

energy and dark energy

975

00:34:01,990 --> 00:34:01,120

seems to be uh one of the culprits

976
00:34:03,750 --> 00:34:02,000
that's

977
00:34:06,230 --> 00:34:03,760
making our universe expand at an

978
00:34:07,750 --> 00:34:06,240
accelerating rate so

979
00:34:09,909 --> 00:34:07,760
dark energy is certainly one of those

980
00:34:11,030 --> 00:34:09,919
places we have to understand it's

981
00:34:11,829 --> 00:34:11,040
certainly a concept we have to

982
00:34:13,909 --> 00:34:11,839
understand

983
00:34:16,470 --> 00:34:13,919
so that we can start to harness uh

984
00:34:17,909 --> 00:34:16,480
potential you know gravitic drives

985
00:34:19,750 --> 00:34:17,919
if we are going to do that in the future

986
00:34:20,069 --> 00:34:19,760
now how are we going to do that we don't

987
00:34:22,710 --> 00:34:20,079
know

988
00:34:23,589 --> 00:34:22,720

yet because the physics hasn't been

989

00:34:25,510 --> 00:34:23,599

written yet

990

00:34:27,190 --> 00:34:25,520

that can really understand and be

991

00:34:30,550 --> 00:34:27,200

accepted by a

992

00:34:34,230 --> 00:34:32,790

how the universe works we don't know how

993

00:34:37,349 --> 00:34:34,240

that all comes together

994

00:34:40,550 --> 00:34:37,359

yet so propulsive concepts

995

00:34:42,950 --> 00:34:40,560

um in 1994 miguel alcubierre came up

996

00:34:45,349 --> 00:34:42,960

with something called the alcabery drive

997

00:34:46,869 --> 00:34:45,359

now colloquially we call it the warp

998

00:34:48,470 --> 00:34:46,879

drive right and everyone thinks star

999

00:34:51,669 --> 00:34:48,480

trek it's just sci-fi

1000

00:34:52,869 --> 00:34:51,679

well actually it's not gene roddenberry

1001
00:34:55,829 --> 00:34:52,879
although a writer

1002
00:34:56,310 --> 00:34:55,839
he was an avid reader and the concept of

1003
00:35:00,630 --> 00:34:56,320
warp

1004
00:35:03,670 --> 00:35:00,640
type systems didn't really

1005
00:35:04,630 --> 00:35:03,680
exist in in a in a fully developed

1006
00:35:06,630 --> 00:35:04,640
manner back then

1007
00:35:08,630 --> 00:35:06,640
but there were hints that down the line

1008
00:35:09,430 --> 00:35:08,640
we might be able to alter the fabric of

1009
00:35:11,910 --> 00:35:09,440
space

1010
00:35:12,710 --> 00:35:11,920
and that's a that's a term right there

1011
00:35:15,190 --> 00:35:12,720
that

1012
00:35:16,710 --> 00:35:15,200
you know people really they they'll say

1013
00:35:17,589 --> 00:35:16,720

it but they don't really know what that

1014

00:35:20,710 --> 00:35:17,599

means

1015

00:35:23,829 --> 00:35:20,720

you know the fabric of space

1016

00:35:25,670 --> 00:35:23,839

uh the time space continuum sounds like

1017

00:35:27,589 --> 00:35:25,680

a tv show but that's actually

1018

00:35:29,270 --> 00:35:27,599

a physics concept an astronomical

1019

00:35:32,230 --> 00:35:29,280

astrophysical concept

1020

00:35:33,670 --> 00:35:32,240

because the universe is not just an

1021

00:35:38,470 --> 00:35:33,680

empty

1022

00:35:40,790 --> 00:35:38,480

going on there's forces at play there's

1023

00:35:42,470 --> 00:35:40,800

global forces micro forces

1024

00:35:44,230 --> 00:35:42,480

that are all at play and they're all

1025

00:35:44,630 --> 00:35:44,240

working together and one of the things

1026

00:35:51,589 --> 00:35:44,640

that

1027

00:35:54,470 --> 00:35:51,599

and and

1028

00:35:56,310 --> 00:35:54,480

that's something that we called you know

1029

00:35:58,069 --> 00:35:56,320

gut you know grand unified theory

1030

00:36:00,950 --> 00:35:58,079

in the early days but it's really come

1031

00:36:03,829 --> 00:36:00,960

to mean something much more

1032

00:36:05,030 --> 00:36:03,839

because what happens is when you look at

1033

00:36:07,589 --> 00:36:05,040

the universe now

1034

00:36:08,870 --> 00:36:07,599

and as we understand it we actually see

1035

00:36:11,589 --> 00:36:08,880

that

1036

00:36:12,470 --> 00:36:11,599

we know far less than we thought we did

1037

00:36:15,750 --> 00:36:12,480

um

1038

00:36:19,670 --> 00:36:15,760

you know and as we try to learn

1039

00:36:22,710 --> 00:36:22,069

a gravitic drive a drive that uses

1040

00:36:25,990 --> 00:36:22,720

gravity

1041

00:36:29,670 --> 00:36:26,000

to operate we don't have that physics

1042

00:36:32,950 --> 00:36:29,680

in place yet and so we need to find

1043

00:36:35,750 --> 00:36:32,960

ways to expand that

1044

00:36:37,190 --> 00:36:35,760

avenue for us now we don't we oh sorry i

1045

00:36:39,510 --> 00:36:37,200

turned this down

1046

00:36:40,390 --> 00:36:39,520

i don't know if you heard that noise no

1047

00:36:42,790 --> 00:36:40,400

no

1048

00:36:45,589 --> 00:36:42,800

okay good and i just sounded like a fool

1049

00:36:52,630 --> 00:36:48,710

so in any case

1050

00:36:54,630 --> 00:36:52,640

when we look at dark energy for instance

1051
00:36:55,670 --> 00:36:54,640
that is a place we need to go and when

1052
00:36:58,470 --> 00:36:55,680
we explore

1053
00:36:59,910 --> 00:36:58,480
uh string theory and other uh

1054
00:37:01,910 --> 00:36:59,920
corollaries we're gonna

1055
00:37:03,990 --> 00:37:01,920
to these theories we're gonna actually

1056
00:37:07,030 --> 00:37:04,000
have a better handle on these things

1057
00:37:07,990 --> 00:37:07,040
the trouble is there's a lot of argument

1058
00:37:09,589 --> 00:37:08,000
and that's why i

1059
00:37:11,430 --> 00:37:09,599
kind of sound a little tentative right

1060
00:37:12,710 --> 00:37:11,440
now because i don't want to say

1061
00:37:14,630 --> 00:37:12,720
something that's going to

1062
00:37:16,390 --> 00:37:14,640
be expressed as a fact tomorrow when it

1063
00:37:19,030 --> 00:37:16,400

really isn't yet a fact

1064

00:37:19,750 --> 00:37:19,040

but there's an awful lot of these

1065

00:37:22,150 --> 00:37:19,760

theories

1066

00:37:23,430 --> 00:37:22,160

that still need to be proved now michio

1067

00:37:27,030 --> 00:37:23,440

kaiku he's

1068

00:37:27,510 --> 00:37:27,040

he's he is a a physicist in new york

1069

00:37:29,670 --> 00:37:27,520

who's

1070

00:37:30,790 --> 00:37:29,680

really uh well an astrophysicist and he

1071

00:37:32,950 --> 00:37:30,800

actually

1072

00:37:33,990 --> 00:37:32,960

feels that string theory is very very

1073

00:37:37,910 --> 00:37:34,000

important

1074

00:37:39,589 --> 00:37:37,920

um and i i have to agree with that

1075

00:37:41,430 --> 00:37:39,599

because i think you know

1076

00:37:43,109 --> 00:37:41,440

and he doesn't need my agreement but i

1077

00:37:46,230 --> 00:37:43,119

do think that he has to

1078

00:37:47,750 --> 00:37:46,240

um you know also prove why he thinks

1079

00:37:50,230 --> 00:37:47,760

it's important and he tries

1080

00:37:52,390 --> 00:37:50,240

but the problem is that the everyday

1081

00:37:54,950 --> 00:37:52,400

person has to understand string theory

1082

00:37:55,430 --> 00:37:54,960

because that way they understand why for

1083

00:37:58,069 --> 00:37:55,440

instance

1084

00:37:58,630 --> 00:37:58,079

money might be allocated to research you

1085

00:38:00,310 --> 00:37:58,640

know they don't

1086

00:38:02,150 --> 00:38:00,320

they don't want to research you know

1087

00:38:03,430 --> 00:38:02,160

what what is that i mean

1088

00:38:06,069 --> 00:38:03,440

this just sounds like some silly

1089

00:38:07,349 --> 00:38:06,079

intellectual pursuit shouldn't we be

1090

00:38:10,310 --> 00:38:07,359

feeding the hungry

1091

00:38:11,510 --> 00:38:10,320

well yeah but then again if you could

1092

00:38:14,069 --> 00:38:11,520

find out a way to

1093

00:38:14,790 --> 00:38:14,079

create an anti-gravity device then guess

1094

00:38:16,310 --> 00:38:14,800

what

1095

00:38:18,230 --> 00:38:16,320

plane flights are going to cost an awful

1096

00:38:21,430 --> 00:38:18,240

lot less and aid flights

1097

00:38:23,589 --> 00:38:21,440

will will be so much cheaper to fly and

1098

00:38:25,510 --> 00:38:23,599

the concept of needing money to get

1099

00:38:27,349 --> 00:38:25,520

some place on earth is going to go right

1100

00:38:29,430 --> 00:38:27,359

down the drain you're not going to need

1101

00:38:31,589 --> 00:38:29,440

to worry about that anymore so

1102

00:38:32,710 --> 00:38:31,599

these pursuits do have a humanitarian

1103

00:38:34,710 --> 00:38:32,720

end you know and

1104

00:38:35,910 --> 00:38:34,720

and you know um i don't know if you're

1105

00:38:38,950 --> 00:38:35,920

familiar with uh

1106

00:38:41,030 --> 00:38:38,960

yeah in terms of again advancing our our

1107

00:38:42,950 --> 00:38:41,040

our our physics so to speak into the

1108

00:38:46,230 --> 00:38:42,960

world of string theory and beyond

1109

00:38:46,950 --> 00:38:46,240

but um nikolai kardashev came up with

1110

00:38:49,589 --> 00:38:46,960

the

1111

00:38:51,349 --> 00:38:49,599

uh type one type two and type three

1112

00:38:52,950 --> 00:38:51,359

definitions for different societies you

1113

00:38:54,470 --> 00:38:52,960

know a type one society

1114

00:38:56,470 --> 00:38:54,480

you're familiar with this i think some

1115

00:38:57,270 --> 00:38:56,480

of your listeners your listeners are

1116

00:38:59,910 --> 00:38:57,280

probably very

1117

00:39:01,670 --> 00:38:59,920

familiar with it well the type 1 society

1118

00:39:05,030 --> 00:39:01,680

we're about 300 years from that

1119

00:39:07,750 --> 00:39:05,040

and that that's uh that can leave earth

1120

00:39:08,470 --> 00:39:07,760

well a type 1 society knows how to use

1121

00:39:12,630 --> 00:39:08,480

and

1122

00:39:15,589 --> 00:39:12,640

create energy from non

1123

00:39:17,190 --> 00:39:15,599

um well non-depleting sources for

1124

00:39:19,910 --> 00:39:17,200

instance the sun

1125

00:39:20,470 --> 00:39:19,920

wave action the wind action of the earth

1126

00:39:22,069 --> 00:39:20,480

um

1127

00:39:24,310 --> 00:39:22,079

the actual dynamo in the core of the

1128

00:39:27,109 --> 00:39:24,320

earth itself um

1129

00:39:29,030 --> 00:39:27,119

gravitational interaction among you know

1130

00:39:31,750 --> 00:39:29,040

the earth and moon

1131

00:39:34,310 --> 00:39:31,760

so there's ways okay and of course

1132

00:39:36,870 --> 00:39:34,320

that's a type 1 society now

1133

00:39:37,910 --> 00:39:36,880

type 2 would take that a step farther

1134

00:39:40,550 --> 00:39:37,920

and a type 2

1135

00:39:42,630 --> 00:39:40,560

would then be able to harness not just

1136

00:39:44,150 --> 00:39:42,640

all the resources say that the earth had

1137

00:39:46,470 --> 00:39:44,160

but it would use energy in a much

1138

00:39:48,310 --> 00:39:46,480

grander scale and it would use

1139

00:39:49,589 --> 00:39:48,320

i i know right the thing you're saying

1140

00:39:52,230 --> 00:39:49,599

now that's true

1141

00:39:53,270 --> 00:39:52,240

um just uh i'm sorry i didn't mean to no

1142

00:39:54,710 --> 00:39:53,280

that's fine

1143

00:39:56,310 --> 00:39:54,720

one of the things i was just thinking of

1144

00:39:58,310 --> 00:39:56,320

though can you imagine

1145

00:40:00,630 --> 00:39:58,320

how much of a fight it would be if there

1146

00:40:04,230 --> 00:40:00,640

was a technology breakthrough

1147

00:40:06,790 --> 00:40:04,240

that would change the paradigm of say

1148

00:40:07,270 --> 00:40:06,800

dependency on oil and things like that i

1149

00:40:10,390 --> 00:40:07,280

mean

1150

00:40:13,670 --> 00:40:10,400

you know think of who would kill for

1151

00:40:15,270 --> 00:40:13,680

to stop something like that yeah

1152

00:40:17,349 --> 00:40:15,280

you're absolutely right that that that

1153

00:40:20,790 --> 00:40:17,359

is something we face as a species

1154

00:40:22,470 --> 00:40:20,800

um however there are also a tremendous

1155

00:40:24,069 --> 00:40:22,480

number of benefits to being able to go

1156

00:40:26,870 --> 00:40:24,079

into that arena because

1157

00:40:28,710 --> 00:40:26,880

if power companies uh were able to

1158

00:40:31,829 --> 00:40:28,720

utilize an anti-gravity

1159

00:40:34,870 --> 00:40:31,839

technology or uh be able to harness

1160

00:40:35,829 --> 00:40:34,880

energy from the sun a thousand times

1161

00:40:37,349 --> 00:40:35,839

just even just

1162

00:40:40,150 --> 00:40:37,359

a thousand times more efficient than

1163

00:40:42,470 --> 00:40:40,160

they do now efficiently

1164

00:40:44,230 --> 00:40:42,480

then there are plenty of opportunities

1165

00:40:45,030 --> 00:40:44,240

and new technologies that can be spun

1166

00:40:46,870 --> 00:40:45,040

out of that

1167

00:40:49,109 --> 00:40:46,880

the people that use those technologies

1168

00:40:50,390 --> 00:40:49,119

will become the future trillionaires you

1169

00:40:51,910 --> 00:40:50,400

know if they want to look at it from a

1170

00:40:54,150 --> 00:40:51,920

business perspective

1171

00:40:55,589 --> 00:40:54,160

and but there's a lot of things we have

1172

00:40:58,790 --> 00:40:55,599

that are weak right now

1173

00:41:01,589 --> 00:40:58,800

we have an above ground energy grid

1174

00:41:04,150 --> 00:41:01,599

and it's subject to weather it's subject

1175

00:41:06,790 --> 00:41:04,160

to solar storms it's subject to

1176

00:41:08,390 --> 00:41:06,800

accidental destruction it's subject to

1177

00:41:11,910 --> 00:41:08,400

all kinds of things and

1178

00:41:13,829 --> 00:41:11,920

you know that energy is not free

1179

00:41:15,589 --> 00:41:13,839

um and i'm not going to go down a path

1180

00:41:16,390 --> 00:41:15,599

of free energy because in physics there

1181

00:41:18,710 --> 00:41:16,400

really isn't a

1182

00:41:20,950 --> 00:41:18,720

free energy and i know there's a lot of

1183

00:41:22,950 --> 00:41:20,960

devices out there that purport that but

1184

00:41:24,470 --> 00:41:22,960

all the ones that i've actually analyzed

1185

00:41:27,990 --> 00:41:24,480

because i have gotten my fair share

1186

00:41:30,390 --> 00:41:28,000

of those as parts of cases uh have been

1187

00:41:31,829 --> 00:41:30,400

you know uh not the real thing i'm not

1188

00:41:35,190 --> 00:41:31,839

saying it isn't out there but

1189

00:41:35,990 --> 00:41:35,200

um i think we need to be within uh the

1190

00:41:37,829 --> 00:41:36,000

next

1191

00:41:39,750 --> 00:41:37,839

level of physical understanding before

1192

00:41:42,069 --> 00:41:39,760

we'll actually be able to see that but

1193

00:41:44,390 --> 00:41:42,079

anyway you're right a lot of people are

1194

00:41:48,069 --> 00:41:44,400

going to fight for this technology

1195

00:41:50,470 --> 00:41:48,079

except if the energy is created by

1196

00:41:51,990 --> 00:41:50,480

a global consortium and then made

1197

00:41:53,990 --> 00:41:52,000

available to everybody

1198

00:41:55,030 --> 00:41:54,000

who's to fight for it you know it's

1199

00:41:57,030 --> 00:41:55,040

available to everybody

1200

00:41:58,630 --> 00:41:57,040

you know and i know that that's

1201
00:42:02,710 --> 00:41:58,640
simplifying a huge

1202
00:42:04,790 --> 00:42:02,720
uh hornet's nest of politics and

1203
00:42:05,829 --> 00:42:04,800
that's one of the problems though of

1204
00:42:09,990 --> 00:42:05,839
growing as a

1205
00:42:12,150 --> 00:42:10,000
as a planet

1206
00:42:13,190 --> 00:42:12,160
that's why when a lot of people talk

1207
00:42:14,790 --> 00:42:13,200
about well

1208
00:42:16,390 --> 00:42:14,800
maybe we'll be able to leave the earth

1209
00:42:16,950 --> 00:42:16,400
if we could ever stop fighting amongst

1210
00:42:19,910 --> 00:42:16,960
ourselves

1211
00:42:20,710 --> 00:42:19,920
yeah well that's also true but i think

1212
00:42:23,589 --> 00:42:20,720
that war

1213
00:42:24,710 --> 00:42:23,599

and and those kinds of squabbles what

1214

00:42:26,870 --> 00:42:24,720

are they over

1215

00:42:28,390 --> 00:42:26,880

i mean there are religious undertones to

1216

00:42:31,190 --> 00:42:28,400

a lot of it but you know what

1217

00:42:31,829 --> 00:42:31,200

a lot of the wars are over energy and

1218

00:42:38,309 --> 00:42:31,839

who owns

1219

00:42:40,550 --> 00:42:38,319

an ultra superior

1220

00:42:42,230 --> 00:42:40,560

solar panel was out there not with an

1221

00:42:45,270 --> 00:42:42,240

efficiency of like 42

1222

00:42:47,829 --> 00:42:45,280

which some can even do now but

1223

00:42:49,030 --> 00:42:47,839

95 and of course you say well how can

1224

00:42:52,069 --> 00:42:49,040

that possibly be

1225

00:42:54,550 --> 00:42:52,079

well there are ways because

1226
00:42:56,550 --> 00:42:54,560
as we progress we will improve on all of

1227
00:42:59,750 --> 00:42:56,560
the technology that we tend to

1228
00:43:00,790 --> 00:42:59,760
create here on earth and as a type one

1229
00:43:03,589 --> 00:43:00,800
society we will

1230
00:43:04,790 --> 00:43:03,599
use geothermal we'll use sun we'll use

1231
00:43:07,109 --> 00:43:04,800
wave energy

1232
00:43:07,910 --> 00:43:07,119
and so forth i developed um gulfstream

1233
00:43:10,470 --> 00:43:07,920
windmills

1234
00:43:12,309 --> 00:43:10,480
that would were that would be so big

1235
00:43:15,589 --> 00:43:12,319
that they would actually

1236
00:43:16,550 --> 00:43:15,599
um not even uh hurt a whale if it was

1237
00:43:19,589 --> 00:43:16,560
going through it

1238
00:43:21,750 --> 00:43:19,599

because they're basically giant fabric

1239

00:43:23,270 --> 00:43:21,760

veins on the windmill that would flex

1240

00:43:26,470 --> 00:43:23,280

with a creature and then retain their

1241

00:43:29,109 --> 00:43:26,480

shape once they got spinning again so

1242

00:43:31,190 --> 00:43:29,119

and those could generate a huge amount

1243

00:43:34,710 --> 00:43:31,200

of torque and a huge amount of

1244

00:43:36,790 --> 00:43:34,720

uh energy i mean little things like that

1245

00:43:39,430 --> 00:43:36,800

so bottom line is that there's a lot of

1246

00:43:42,630 --> 00:43:39,440

energy energy sources here on earth

1247

00:43:45,430 --> 00:43:42,640

the most important thing though is that

1248

00:43:46,790 --> 00:43:45,440

you have to understand that every single

1249

00:43:49,270 --> 00:43:46,800

energy generation

1250

00:43:51,349 --> 00:43:49,280

technique that we use except for nuclear

1251
00:43:54,790 --> 00:43:51,359
fission which is dangerous as all

1252
00:43:58,150 --> 00:43:54,800
get out is done by

1253
00:44:00,390 --> 00:43:58,160
burning dead things and that

1254
00:44:01,430 --> 00:44:00,400
is something that is gonna end we're

1255
00:44:05,030 --> 00:44:01,440
gonna run out of

1256
00:44:06,550 --> 00:44:05,040
dead things to burn so a lot of free

1257
00:44:09,349 --> 00:44:06,560
energy like i said

1258
00:44:09,990 --> 00:44:09,359
wave action you know what waves go up

1259
00:44:12,150 --> 00:44:10,000
and down

1260
00:44:14,470 --> 00:44:12,160
all day long i don't know a couple of

1261
00:44:16,470 --> 00:44:14,480
little bobbers out there that could

1262
00:44:18,550 --> 00:44:16,480
you know harness the energy and then

1263
00:44:20,710 --> 00:44:18,560

just put half a million of them

1264

00:44:22,309 --> 00:44:20,720

uh along the fringe of a of a

1265

00:44:24,309 --> 00:44:22,319

uninhabited harbor

1266

00:44:25,430 --> 00:44:24,319

um and you know you're getting free

1267

00:44:28,470 --> 00:44:25,440

energy 24

1268

00:44:29,910 --> 00:44:28,480

7. you know the sun is the generator of

1269

00:44:31,670 --> 00:44:29,920

all energy as they say

1270

00:44:33,589 --> 00:44:31,680

with the wind and you name it and

1271

00:44:36,630 --> 00:44:33,599

everything but also

1272

00:44:39,750 --> 00:44:36,640

if there's a lot of energy stored

1273

00:44:40,790 --> 00:44:39,760

in dead things compared to the energy

1274

00:44:42,950 --> 00:44:40,800

you can grab

1275

00:44:43,910 --> 00:44:42,960

that's live from you know the sun itself

1276

00:44:45,589 --> 00:44:43,920

which is

1277

00:44:47,030 --> 00:44:45,599

uh but you're right you know eventually

1278

00:44:49,349 --> 00:44:47,040

we'll we'll get these things

1279

00:44:50,870 --> 00:44:49,359

perfected more but you said something

1280

00:44:52,470 --> 00:44:50,880

very important though

1281

00:44:54,230 --> 00:44:52,480

there's a lot of energy stored in dead

1282

00:44:56,309 --> 00:44:54,240

things right

1283

00:44:57,750 --> 00:44:56,319

right now we're trying to acquire energy

1284

00:45:00,710 --> 00:44:57,760

from the sun

1285

00:45:01,670 --> 00:45:00,720

on earth through a large atmosphere

1286

00:45:03,990 --> 00:45:01,680

that's fickle

1287

00:45:06,309 --> 00:45:04,000

fickle at best where much of that energy

1288

00:45:08,790 --> 00:45:06,319

is reflected back off into space

1289

00:45:10,069 --> 00:45:08,800

so what we need to do is have energy

1290

00:45:13,510 --> 00:45:10,079

generating facilities

1291

00:45:15,030 --> 00:45:13,520

in space and sci-fi as that sounds

1292

00:45:16,550 --> 00:45:15,040

it's on the books it's something that

1293

00:45:19,910 --> 00:45:16,560

will happen and the reason

1294

00:45:22,790 --> 00:45:19,920

is because we know of the inefficiencies

1295

00:45:23,430 --> 00:45:22,800

on earth put the same solar panel up in

1296

00:45:26,150 --> 00:45:23,440

space

1297

00:45:27,910 --> 00:45:26,160

and you get more efficiency because you

1298

00:45:29,510 --> 00:45:27,920

have more direct sunlight without

1299

00:45:31,109 --> 00:45:29,520

anything in between

1300

00:45:32,870 --> 00:45:31,119

so it'll be running at maximum

1301

00:45:36,069 --> 00:45:32,880

efficiency all the time

1302

00:45:38,230 --> 00:45:36,079

close to maximum efficiency so

1303

00:45:41,030 --> 00:45:38,240

if you take the type 1 society is one

1304

00:45:43,990 --> 00:45:41,040

that takes a lot of energy from its sun

1305

00:45:44,309 --> 00:45:44,000

has no longer been burning dead things

1306

00:45:52,150 --> 00:45:44,319

on

1307

00:45:53,109 --> 00:45:52,160

that are renewable then we're looking at

1308

00:45:54,950 --> 00:45:53,119

something important

1309

00:45:56,150 --> 00:45:54,960

fusion i don't know if you're familiar

1310

00:45:59,270 --> 00:45:56,160

maybe you are

1311

00:46:02,150 --> 00:45:59,280

fusion research right now commands more

1312

00:46:04,550 --> 00:46:02,160

research dollars than every other

1313

00:46:06,630 --> 00:46:04,560

alternative energy combined

1314

00:46:07,990 --> 00:46:06,640

and that's because they believe fusion

1315

00:46:11,109 --> 00:46:08,000

is a coming reality

1316

00:46:14,230 --> 00:46:11,119

a sustainable reaction will happen

1317

00:46:17,670 --> 00:46:14,240

and you know what if fusion goes amok

1318

00:46:19,030 --> 00:46:17,680

uh the reaction shuts off you know

1319

00:46:20,870 --> 00:46:19,040

it's like you know okay pour out that

1320

00:46:22,550 --> 00:46:20,880

glass of water yeah okay because you

1321

00:46:26,230 --> 00:46:22,560

make water and you make uh

1322

00:46:27,990 --> 00:46:26,240

you know you need tritium okay which is

1323

00:46:29,510 --> 00:46:28,000

made in a breeder reactor before going

1324

00:46:32,309 --> 00:46:29,520

through the fusion process

1325

00:46:33,750 --> 00:46:32,319

but this tritium is interesting because

1326

00:46:37,030 --> 00:46:33,760

you could

1327

00:46:38,630 --> 00:46:37,040

you um

1328

00:46:41,990 --> 00:46:38,640

most of the tritium that's in your body

1329

00:46:44,550 --> 00:46:42,000

right now was inhaled

1330

00:46:45,670 --> 00:46:44,560

but it's not cumulative it also leaves

1331

00:46:49,109 --> 00:46:45,680

your body

1332

00:46:51,670 --> 00:46:49,119

so and it can't get through your skin

1333

00:46:52,550 --> 00:46:51,680

so you could rub it on your skin and be

1334

00:46:55,270 --> 00:46:52,560

perfectly safe

1335

00:46:56,150 --> 00:46:55,280

until you sniffed your arm you know

1336

00:46:57,990 --> 00:46:56,160

where you put it in

1337

00:47:00,390 --> 00:46:58,000

and then you have some that you ingest

1338

00:47:00,870 --> 00:47:00,400

but so so tritium is a relatively low

1339

00:47:03,270 --> 00:47:00,880

level

1340

00:47:04,470 --> 00:47:03,280

radioactive contaminant that is required

1341

00:47:08,390 --> 00:47:04,480

as a fuel

1342

00:47:10,230 --> 00:47:08,400

in the process and it's easy to make

1343

00:47:11,750 --> 00:47:10,240

and it's something that is easy to

1344

00:47:14,870 --> 00:47:11,760

control and like i said

1345

00:47:16,550 --> 00:47:14,880

a fusion reactor uh when the energy is

1346

00:47:19,109 --> 00:47:16,560

disrupted or if

1347

00:47:19,910 --> 00:47:19,119

electricity goes out the reaction shuts

1348

00:47:21,990 --> 00:47:19,920

off

1349

00:47:23,829 --> 00:47:22,000

unlike a fission reactor where we know

1350

00:47:24,790 --> 00:47:23,839

that we look at fukushima we know the

1351
00:47:26,950 --> 00:47:24,800
outcome

1352
00:47:28,390 --> 00:47:26,960
um you know a tsunami a tsunami would

1353
00:47:31,270 --> 00:47:28,400
shut down the plant for a while

1354
00:47:33,109 --> 00:47:31,280
if it was fusion in a fission reactor it

1355
00:47:36,230 --> 00:47:33,119
causes a potential meltdown

1356
00:47:37,349 --> 00:47:36,240
and dead zones so fission is not really

1357
00:47:41,589 --> 00:47:37,359
the best

1358
00:47:43,030 --> 00:47:41,599
generating energy but we're getting

1359
00:47:44,150 --> 00:47:43,040
there we're getting it when the fission

1360
00:47:47,190 --> 00:47:44,160
reactor goes online

1361
00:47:49,829 --> 00:47:47,200
world's gonna change

1362
00:47:51,430 --> 00:47:49,839
so the that type of energy when it

1363
00:47:53,750 --> 00:47:51,440

becomes available you see

1364

00:47:55,109 --> 00:47:53,760

it's a global research project like

1365

00:47:57,349 --> 00:47:55,119

we're talking before

1366

00:47:58,309 --> 00:47:57,359

fusion isn't going to be dominated by

1367

00:48:00,549 --> 00:47:58,319

any one company

1368

00:48:01,670 --> 00:48:00,559

because too many other people are

1369

00:48:03,270 --> 00:48:01,680

already working on it

1370

00:48:06,069 --> 00:48:03,280

and they're all going to have

1371

00:48:08,150 --> 00:48:06,079

competitive edges and competitive offers

1372

00:48:09,589 --> 00:48:08,160

so yes it will be a big business for who

1373

00:48:10,950 --> 00:48:09,599

you get your energy from

1374

00:48:12,470 --> 00:48:10,960

but then the time is going to come when

1375

00:48:13,430 --> 00:48:12,480

someone's going to generate a small

1376

00:48:15,670 --> 00:48:13,440

scale

1377

00:48:16,630 --> 00:48:15,680

energy generation system of some kind

1378

00:48:18,549 --> 00:48:16,640

for your home

1379

00:48:20,549 --> 00:48:18,559

for your personal use like walking

1380

00:48:21,990 --> 00:48:20,559

around with a pack of double a batteries

1381

00:48:24,390 --> 00:48:22,000

in your back pocket

1382

00:48:25,190 --> 00:48:24,400

you will have some other type of energy

1383

00:48:27,430 --> 00:48:25,200

system that will

1384

00:48:29,190 --> 00:48:27,440

run everything in your house and you

1385

00:48:33,030 --> 00:48:29,200

know that way the grid

1386

00:48:36,069 --> 00:48:33,040

can be dismantled the grid can go away

1387

00:48:37,349 --> 00:48:36,079

i think the people and you know in the

1388

00:48:39,270 --> 00:48:37,359

corporate world are just going to kill

1389

00:48:41,589 --> 00:48:39,280

everyone

1390

00:48:43,270 --> 00:48:41,599

well you know there is that distinct

1391

00:48:45,030 --> 00:48:43,280

possibility

1392

00:48:47,109 --> 00:48:45,040

now i want to get uh i want to get a

1393

00:48:49,109 --> 00:48:47,119

little bit more back on topic because we

1394

00:48:51,829 --> 00:48:49,119

have you know about eight minutes left

1395

00:48:52,390 --> 00:48:51,839

so um and you know as i said in the

1396

00:48:54,790 --> 00:48:52,400

beginning we're

1397

00:48:55,990 --> 00:48:54,800

going to talk about you know ufo videos

1398

00:48:58,710 --> 00:48:56,000

and and

1399

00:49:00,710 --> 00:48:58,720

photos you analyze but one of the things

1400

00:49:02,069 --> 00:49:00,720

i would like and i really do appreciate

1401

00:49:03,670 --> 00:49:02,079

you talking about all this and i can

1402

00:49:05,589 --> 00:49:03,680

talk to you for hours

1403

00:49:06,870 --> 00:49:05,599

and we have questions coming up on the

1404

00:49:08,470 --> 00:49:06,880

message board

1405

00:49:10,710 --> 00:49:08,480

that have to do with energy and stuff

1406

00:49:12,950 --> 00:49:10,720

like that but i would like to move on

1407

00:49:14,069 --> 00:49:12,960

um sorry everyone listening to that's on

1408

00:49:15,910 --> 00:49:14,079

the message board

1409

00:49:17,589 --> 00:49:15,920

yeah i apologize i sidetracked you there

1410

00:49:19,670 --> 00:49:17,599

but no no no i think it

1411

00:49:21,270 --> 00:49:19,680

started what started with you know

1412

00:49:22,630 --> 00:49:21,280

talking about the automated ufo

1413

00:49:23,829 --> 00:49:22,640

detection systems that are going to use

1414

00:49:26,470 --> 00:49:23,839

multiple wavelengths

1415

00:49:27,510 --> 00:49:26,480

and then you know you you needed me to

1416

00:49:29,990 --> 00:49:27,520

talk about

1417

00:49:31,829 --> 00:49:30,000

string theory and you opened that one up

1418

00:49:34,150 --> 00:49:31,839

i know i did

1419

00:49:35,750 --> 00:49:34,160

i take full blame that's okay it's a

1420

00:49:38,710 --> 00:49:35,760

good blame to have

1421

00:49:39,270 --> 00:49:38,720

now i wanted to talk about i when i

1422

00:49:40,710 --> 00:49:39,280

googled

1423

00:49:43,109 --> 00:49:40,720

i was trying to look for a picture to

1424

00:49:46,309 --> 00:49:43,119

put on on our show of you

1425

00:49:50,309 --> 00:49:46,319

and when i googled your name up came the

1426

00:49:51,829 --> 00:49:50,319

dome ufo in in jerusalem i wanted to

1427

00:49:53,589 --> 00:49:51,839

talk to you about that because

1428

00:49:55,510 --> 00:49:53,599

that is probably one of the most

1429

00:49:57,829 --> 00:49:55,520

controversial and if real

1430

00:49:58,630 --> 00:49:57,839

it was the most amazing you know ufo

1431

00:50:01,109 --> 00:49:58,640

sighting

1432

00:50:03,030 --> 00:50:01,119

i you know i didn't get a chance to read

1433

00:50:04,630 --> 00:50:03,040

the outcome of your investigation of

1434

00:50:08,069 --> 00:50:04,640

that but can you talk about it

1435

00:50:10,549 --> 00:50:08,079

sure when i uh first received that video

1436

00:50:11,990 --> 00:50:10,559

um you know i i looked at it with the

1437

00:50:14,150 --> 00:50:12,000

same excitement that i first looked

1438

00:50:15,270 --> 00:50:14,160

at the norway spiral that occurred and

1439

00:50:18,069 --> 00:50:15,280

you can look that one up

1440

00:50:20,150 --> 00:50:18,079

down the line but the jerusalem dome of

1441

00:50:21,030 --> 00:50:20,160

the rock ufo was really interesting to

1442

00:50:22,950 --> 00:50:21,040

me because

1443

00:50:25,190 --> 00:50:22,960

here we had what looked like multiple

1444

00:50:29,109 --> 00:50:25,200

witnesses videotaping

1445

00:50:32,470 --> 00:50:29,119

a ufo over old jerusalem

1446

00:50:32,870 --> 00:50:32,480

over the dome of the rock now first of

1447

00:50:34,470 --> 00:50:32,880

all

1448

00:50:37,270 --> 00:50:34,480

i don't believe that extraterrestrials

1449

00:50:38,069 --> 00:50:37,280

would recognize the significance of our

1450

00:50:41,270 --> 00:50:38,079

monuments

1451

00:50:43,030 --> 00:50:41,280

i do not here's what i found

1452

00:50:44,630 --> 00:50:43,040

there were several videos taken by

1453

00:50:47,589 --> 00:50:44,640

purported witnesses and

1454

00:50:49,190 --> 00:50:47,599

one of the videos showed the ufo another

1455

00:50:50,950 --> 00:50:49,200

one was sort of a zoomed in version of

1456

00:50:52,390 --> 00:50:50,960

that same ufo

1457

00:50:54,150 --> 00:50:52,400

all right then there were some others

1458

00:50:54,790 --> 00:50:54,160

that were clearly fake you know computer

1459

00:50:57,589 --> 00:50:54,800

generated

1460

00:50:58,549 --> 00:50:57,599

that were kind of thrown into the batch

1461

00:51:00,710 --> 00:50:58,559

by people that

1462

00:51:01,829 --> 00:51:00,720

just didn't know you know the chronology

1463

00:51:03,190 --> 00:51:01,839

of the case and stuff and

1464

00:51:05,270 --> 00:51:03,200

so i ended up of course having a look at

1465

00:51:06,790 --> 00:51:05,280

those as well and i've been misquoted

1466

00:51:07,430 --> 00:51:06,800

all over the internet as saying that you

1467

00:51:10,150 --> 00:51:07,440

know

1468

00:51:12,390 --> 00:51:10,160

uh that that cg ufo proves without a

1469

00:51:13,589 --> 00:51:12,400

doubt that you know uh the jerusalem ufo

1470

00:51:14,230 --> 00:51:13,599

was fake and that's not at all what i

1471

00:51:16,710 --> 00:51:14,240

said

1472

00:51:18,549 --> 00:51:16,720

what i was really saying the most

1473

00:51:21,030 --> 00:51:18,559

important aspect was

1474

00:51:22,470 --> 00:51:21,040

when you looked at the actual witness

1475

00:51:25,829 --> 00:51:22,480

footage taken with their

1476

00:51:28,630 --> 00:51:25,839

phones okay and their cameras

1477

00:51:29,030 --> 00:51:28,640

they were two different things they

1478

00:51:31,109 --> 00:51:29,040

showed

1479

00:51:33,190 --> 00:51:31,119

two different sets of details when you

1480

00:51:35,670 --> 00:51:33,200

looked at the details and that's

1481

00:51:37,190 --> 00:51:35,680

as we all know where the devil hit where

1482

00:51:38,630 --> 00:51:37,200

the devil lives right the devil is in

1483

00:51:41,750 --> 00:51:38,640

those details and

1484

00:51:43,270 --> 00:51:41,760

when i looked at the first one this

1485

00:51:45,829 --> 00:51:43,280

light came down

1486

00:51:46,870 --> 00:51:45,839

and then it shot up into the sky it

1487

00:51:49,349 --> 00:51:46,880

didn't go straight up

1488

00:51:51,510 --> 00:51:49,359

incidentally it went at a slight curve

1489

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

as seen from the first perspective

1490

00:51:55,109 --> 00:51:53,520

from the second perspective it looked

1491

00:51:56,549 --> 00:51:55,119

like it went um

1492

00:51:57,670 --> 00:51:56,559

you know straight up out of frame but

1493

00:51:59,670 --> 00:51:57,680

you couldn't tell it's trajectory

1494

00:52:00,950 --> 00:51:59,680

because it was zoomed in more

1495

00:52:03,270 --> 00:52:00,960

and then there was the flash of the

1496

00:52:06,309 --> 00:52:03,280

ground

1497

00:52:07,750 --> 00:52:06,319

now um based on the time of the night

1498

00:52:10,069 --> 00:52:07,760

there were still plenty of young people

1499

00:52:12,390 --> 00:52:10,079

out and about even down there

1500

00:52:13,670 --> 00:52:12,400

where it was all taking place but

1501
00:52:15,349 --> 00:52:13,680
curiously

1502
00:52:16,950 --> 00:52:15,359
now one other report showed up other

1503
00:52:20,230 --> 00:52:16,960
than what those those

1504
00:52:23,589 --> 00:52:20,240
couple of witnesses uh showed

1505
00:52:25,349 --> 00:52:23,599
now in the second video i actually saw

1506
00:52:27,910 --> 00:52:25,359
ufo spinning

1507
00:52:29,670 --> 00:52:27,920
all right and as it was spinning the

1508
00:52:31,430 --> 00:52:29,680
light was changing

1509
00:52:33,910 --> 00:52:31,440
uh looking at us as you could see the

1510
00:52:35,829 --> 00:52:33,920
light changing like it was a

1511
00:52:37,030 --> 00:52:35,839
maybe a disc shaped thing it wasn't a

1512
00:52:39,270 --> 00:52:37,040
round thing

1513
00:52:41,430 --> 00:52:39,280

uh in the previous video it looked very

1514

00:52:42,950 --> 00:52:41,440

different it wasn't doing any of that

1515

00:52:44,870 --> 00:52:42,960

yet it was supposed to be happening at

1516

00:52:47,670 --> 00:52:44,880

the same time so i

1517

00:52:49,750 --> 00:52:47,680

i felt like that was just not corrupt

1518

00:52:50,950 --> 00:52:49,760

those those data were not corroborating

1519

00:52:53,190 --> 00:52:50,960

each other

1520

00:52:55,109 --> 00:52:53,200

all right again i'm really hard on the

1521

00:52:56,630 --> 00:52:55,119

data but i'm not a debunker i've had

1522

00:52:58,150 --> 00:52:56,640

experiences of my own

1523

00:52:59,430 --> 00:52:58,160

which i cannot explain and which i

1524

00:53:00,230 --> 00:52:59,440

attribute to a potential

1525

00:53:03,430 --> 00:53:00,240

extraterrestrial

1526

00:53:06,230 --> 00:53:03,440

influence i have you know not

1527

00:53:08,230 --> 00:53:06,240

i saw one on a u.s nuclear submarine in

1528

00:53:09,349 --> 00:53:08,240

the mid 90s i saw an unknown submerged

1529

00:53:12,549 --> 00:53:09,359

object and

1530

00:53:14,150 --> 00:53:12,559

before another time you know but um

1531

00:53:15,430 --> 00:53:14,160

i was told in no short order i went

1532

00:53:16,309 --> 00:53:15,440

right up to the joint chiefs of staff

1533

00:53:19,829 --> 00:53:16,319

and sat with them

1534

00:53:20,390 --> 00:53:19,839

and and um uh talked to them about it

1535

00:53:22,069 --> 00:53:20,400

and and

1536

00:53:24,230 --> 00:53:22,079

got the same answer that they can't tell

1537

00:53:25,510 --> 00:53:24,240

me anything about the uh fast mover

1538

00:53:27,349 --> 00:53:25,520

program

1539

00:53:28,870 --> 00:53:27,359

so and that's like i said another thing

1540

00:53:32,309 --> 00:53:28,880

for another time but

1541

00:53:33,190 --> 00:53:32,319

um so when that jerusalem ufo showed up

1542

00:53:35,990 --> 00:53:33,200

i looked at that

1543

00:53:37,430 --> 00:53:36,000

and i felt that the the main videos that

1544

00:53:39,270 --> 00:53:37,440

purported to show it

1545

00:53:40,470 --> 00:53:39,280

were just too different from each other

1546

00:53:41,270 --> 00:53:40,480

for an event that was occurring at the

1547

00:53:44,150 --> 00:53:41,280

same time

1548

00:53:45,430 --> 00:53:44,160

and then there was a flash of down below

1549

00:53:47,990 --> 00:53:45,440

no one reported that

1550

00:53:48,630 --> 00:53:48,000

now in this age of social media you know

1551
00:53:50,870 --> 00:53:48,640
facebook

1552
00:53:52,630 --> 00:53:50,880
myspace okay and all these other places

1553
00:53:54,790 --> 00:53:52,640
even youtube commentary

1554
00:53:56,870 --> 00:53:54,800
all right you would expect someone would

1555
00:53:59,270 --> 00:53:56,880
have said yeah i saw it too

1556
00:54:00,870 --> 00:53:59,280
oh yeah i saw it too and here's my video

1557
00:54:02,470 --> 00:54:00,880
okay when i saw this thing hovering over

1558
00:54:05,510 --> 00:54:02,480
there i took a video too

1559
00:54:06,150 --> 00:54:05,520
not any of it and then later on so i

1560
00:54:07,990 --> 00:54:06,160
pronounced

1561
00:54:09,430 --> 00:54:08,000
as i believed at the time i said you

1562
00:54:10,790 --> 00:54:09,440
know what as much as we'd like to

1563
00:54:12,309 --> 00:54:10,800

believe it and you know unless i'm not

1564

00:54:13,190 --> 00:54:12,319

seeing something i have to call this a

1565

00:54:14,870 --> 00:54:13,200

hoax

1566

00:54:16,390 --> 00:54:14,880

it looks to me like a computer generated

1567

00:54:18,870 --> 00:54:16,400

hoax because i do

1568

00:54:20,870 --> 00:54:18,880

all the things in my company that i own

1569

00:54:22,790 --> 00:54:20,880

i do all those kinds of

1570

00:54:24,230 --> 00:54:22,800

um you know computer graphics things

1571

00:54:26,549 --> 00:54:24,240

that i'm seeing here

1572

00:54:27,829 --> 00:54:26,559

and i can generate this hoax i can

1573

00:54:29,910 --> 00:54:27,839

create this too

1574

00:54:31,109 --> 00:54:29,920

so you know it doesn't mean it's a hoax

1575

00:54:32,790 --> 00:54:31,119

for sure but

1576

00:54:34,870 --> 00:54:32,800

i'm saying that it's well within

1577

00:54:36,549 --> 00:54:34,880

capability and it's real easy

1578

00:54:37,990 --> 00:54:36,559

in this particular case because you get

1579

00:54:40,390 --> 00:54:38,000

it's night it's a point of light

1580

00:54:41,430 --> 00:54:40,400

you know it's very easy to create that

1581

00:54:42,789 --> 00:54:41,440

it's much harder to create something

1582

00:54:44,069 --> 00:54:42,799

during the day flying through city

1583

00:54:47,349 --> 00:54:44,079

streets for instance

1584

00:54:49,109 --> 00:54:47,359

well in any case

1585

00:54:51,430 --> 00:54:49,119

later on it was like i don't know a few

1586

00:54:54,549 --> 00:54:51,440

weeks later an israeli reporter

1587

00:54:57,349 --> 00:54:54,559

got a hold of the story and

1588

00:54:58,150 --> 00:54:57,359

he started looking into it um and he

1589

00:55:01,349 --> 00:54:58,160

discovered

1590

00:55:02,309 --> 00:55:01,359

that the two or three main witnesses to

1591

00:55:06,390 --> 00:55:02,319

the event

1592

00:55:09,349 --> 00:55:06,400

were all part of the same film class

1593

00:55:09,829 --> 00:55:09,359

yes yes i remember that hey mark we only

1594

00:55:12,150 --> 00:55:09,839

have

1595

00:55:14,549 --> 00:55:12,160

um about a minute and a half here i'm

1596

00:55:16,309 --> 00:55:14,559

going to ask you a question here now

1597

00:55:18,150 --> 00:55:16,319

would you mind hanging out with me after

1598

00:55:18,789 --> 00:55:18,160

the live show and we'll talk a little

1599

00:55:21,750 --> 00:55:18,799

bit more

1600

00:55:22,150 --> 00:55:21,760

so we'll put this on the podcast for

1601
00:55:23,829 --> 00:55:22,160
sure

1602
00:55:25,910 --> 00:55:23,839
you know we'll record on the podcast for

1603
00:55:27,670 --> 00:55:25,920
the listener can you tell is there any

1604
00:55:29,510 --> 00:55:27,680
place that someone can actually find you

1605
00:55:31,589 --> 00:55:29,520
on the internet or you actually don't

1606
00:55:34,870 --> 00:55:31,599
have a website up or anything like that

1607
00:55:36,710 --> 00:55:34,880
well actually my my my business is a

1608
00:55:39,990 --> 00:55:36,720
special effects and model making

1609
00:55:44,950 --> 00:55:40,000
business and it's called fx models as in

1610
00:55:46,710 --> 00:55:44,960
foxtrot x-ray models m-o-d-e-l-s

1611
00:55:49,349 --> 00:55:46,720
dot com and i don't have anything about

1612
00:55:51,270 --> 00:55:49,359
ufos up there right now

1613
00:55:52,390 --> 00:55:51,280

because that's just my day-to-day

1614

00:55:55,589 --> 00:55:52,400

business website

1615

00:55:57,270 --> 00:55:55,599

um but you know as i as i mentioned you

1616

00:55:58,870 --> 00:55:57,280

know we are working on these ufo

1617

00:55:59,990 --> 00:55:58,880

detection systems and we're going to be

1618

00:56:02,470 --> 00:56:00,000

coming out with

1619

00:56:03,190 --> 00:56:02,480

a much more information about those soon

1620

00:56:04,950 --> 00:56:03,200

we were just so

1621

00:56:06,470 --> 00:56:04,960

i'm sorry i'll cut you short but no so

1622

00:56:08,549 --> 00:56:06,480

that's it for our live show

1623

00:56:14,309 --> 00:56:08,559

and we're coming right back for the

1624

00:56:18,069 --> 00:56:16,630

so this is uh our extended version our

1625

00:56:21,349 --> 00:56:18,079

first extended version

1626

00:56:22,870 --> 00:56:21,359

past the live show and uh so mark i'm

1627

00:56:25,190 --> 00:56:22,880

sorry i had to cut you short and

1628

00:56:26,230 --> 00:56:25,200

we can keep talking so basically what

1629

00:56:29,349 --> 00:56:26,240

was the outcome

1630

00:56:30,710 --> 00:56:29,359

of the do you think it because the

1631

00:56:34,230 --> 00:56:30,720

students got together they

1632

00:56:36,549 --> 00:56:34,240

did this as a hoax i think that the

1633

00:56:37,510 --> 00:56:36,559

the way the investigative reporter in

1634

00:56:39,270 --> 00:56:37,520

israel

1635

00:56:40,789 --> 00:56:39,280

phrased it it was sort of a production

1636

00:56:43,750 --> 00:56:40,799

project that was supposed to be part of

1637

00:56:46,230 --> 00:56:43,760

a viral ad campaign

1638

00:56:48,230 --> 00:56:46,240

so they were using their their

1639

00:56:51,990 --> 00:56:48,240

techniques they learned in their classes

1640

00:56:55,270 --> 00:56:52,000

to create a generated host but

1641

00:56:57,829 --> 00:56:55,280

that all said again

1642

00:56:59,030 --> 00:56:57,839

you know my mind is not closed uh if

1643

00:57:01,589 --> 00:56:59,040

there's other data that

1644

00:57:02,470 --> 00:57:01,599

has not been seen or even if you know

1645

00:57:07,190 --> 00:57:02,480

there are other

1646

00:57:08,789 --> 00:57:07,200

agencies or groups out there that

1647

00:57:10,549 --> 00:57:08,799

put out a lot of this information of

1648

00:57:12,470 --> 00:57:10,559

some kind and said well hey

1649

00:57:14,390 --> 00:57:12,480

you know let's just say it was a hoax so

1650

00:57:16,549 --> 00:57:14,400

that they don't find out the truth

1651

00:57:18,549 --> 00:57:16,559

well see i don't i try not to fall

1652

00:57:21,670 --> 00:57:18,559

victim to that i just look at the data

1653

00:57:23,030 --> 00:57:21,680

data is not opinionated the data simply

1654

00:57:25,510 --> 00:57:23,040

stands on its own and when i looked at

1655

00:57:28,549 --> 00:57:25,520

the jerusalem ufo

1656

00:57:31,589 --> 00:57:28,559

data the different video

1657

00:57:33,430 --> 00:57:31,599

imagery they looked different to me it

1658

00:57:35,990 --> 00:57:33,440

didn't look like it was the same

1659

00:57:37,589 --> 00:57:36,000

object there were more details in one

1660

00:57:38,870 --> 00:57:37,599

than in the other one than the other you

1661

00:57:41,670 --> 00:57:38,880

should have seen them too

1662

00:57:42,390 --> 00:57:41,680

so i don't you know i i just don't get

1663

00:57:45,349 --> 00:57:42,400

it and then

1664

00:57:46,549 --> 00:57:45,359

the flash and the lack of any social

1665

00:57:48,710 --> 00:57:46,559

media uproar

1666

00:57:51,349 --> 00:57:48,720

the dome of the rock one of history's

1667

00:57:53,430 --> 00:57:51,359

most important locations has this ufo

1668

00:57:54,789 --> 00:57:53,440

over it and this giant flash illuminates

1669

00:57:58,710 --> 00:57:54,799

old jerusalem

1670

00:58:01,430 --> 00:57:58,720

and no one but two people see it

1671

00:58:02,789 --> 00:58:01,440

sorry you know right there just that you

1672

00:58:04,069 --> 00:58:02,799

don't need to be a photo and video

1673

00:58:06,950 --> 00:58:04,079

analyst to know

1674

00:58:07,510 --> 00:58:06,960

that something's wrong with that picture

1675

00:58:10,710 --> 00:58:07,520

well i

1676

00:58:11,750 --> 00:58:10,720

i think you know they they really picked

1677

00:58:15,270 --> 00:58:11,760

out

1678

00:58:18,710 --> 00:58:15,280

too big of a monumental you know uh

1679

00:58:20,150 --> 00:58:18,720

monument to uh to do this from like you

1680

00:58:22,470 --> 00:58:20,160

say there's always

1681

00:58:23,750 --> 00:58:22,480

thousands of people around that thing at

1682

00:58:25,190 --> 00:58:23,760

all times if there are

1683

00:58:26,789 --> 00:58:25,200

all night long i was going to say all

1684

00:58:28,870 --> 00:58:26,799

night long 24 hours

1685

00:58:30,710 --> 00:58:28,880

now there are curfews in israel there's

1686

00:58:31,990 --> 00:58:30,720

okay there are curfews you know and so

1687

00:58:33,270 --> 00:58:32,000

but and that was something i was working

1688

00:58:34,950 --> 00:58:33,280

with into was to understand you know

1689

00:58:37,510 --> 00:58:34,960

okay what was the curfew

1690

00:58:39,349 --> 00:58:37,520

okay because they were out and it wasn't

1691

00:58:43,190 --> 00:58:39,359

illegal for them to be

1692

00:58:44,950 --> 00:58:43,200

uh within um missile range

1693

00:58:46,309 --> 00:58:44,960

you know shoulder-mounted missile range

1694

00:58:48,390 --> 00:58:46,319

of the dome of the rock

1695

00:58:49,349 --> 00:58:48,400

so clearly other people had to have been

1696

00:58:53,349 --> 00:58:49,359

able to now

1697

00:58:56,150 --> 00:58:53,359

and be closer so

1698

00:58:56,950 --> 00:58:56,160

they would have seen it plus up on that

1699

00:58:58,390 --> 00:58:56,960

ridge

1700

00:59:00,390 --> 00:58:58,400

you didn't just hear the two of them

1701
00:59:02,470 --> 00:59:00,400
talking or the three of them talking

1702
00:59:04,150 --> 00:59:02,480
you heard all kinds of people talking

1703
00:59:06,150 --> 00:59:04,160
going ah

1704
00:59:07,990 --> 00:59:06,160
and not one further report from any of

1705
00:59:09,990 --> 00:59:08,000
those other ancillary people

1706
00:59:12,150 --> 00:59:10,000
so you see these are the these are the

1707
00:59:14,470 --> 00:59:12,160
factoids that you have to consider you

1708
00:59:18,390 --> 00:59:14,480
cannot let it sit you've gotta

1709
00:59:21,589 --> 00:59:18,400
you've got to let you you to consider

1710
00:59:24,630 --> 00:59:21,599
that information you know i talked to

1711
00:59:28,230 --> 00:59:24,640
dr bruce mcabee about you know

1712
00:59:29,270 --> 00:59:28,240
situations of you know analyzing photos

1713
00:59:31,829 --> 00:59:29,280

and videos and

1714

00:59:33,589 --> 00:59:31,839

the first thing he said is you know that

1715

00:59:35,349 --> 00:59:33,599

it's all secondary the first thing is

1716

00:59:36,950 --> 00:59:35,359

the witnesses

1717

00:59:39,510 --> 00:59:36,960

you know do you basically agree with

1718

00:59:41,430 --> 00:59:39,520

that well i mean

1719

00:59:43,349 --> 00:59:41,440

bruce and i are friends he's a great guy

1720

00:59:45,589 --> 00:59:43,359

and what i do is

1721

00:59:47,349 --> 00:59:45,599

when i actually do an analysis i do not

1722

00:59:50,069 --> 00:59:47,359

look at the witness report

1723

00:59:52,789 --> 00:59:50,079

until i do my analysis because i don't

1724

00:59:55,109 --> 00:59:52,799

want to be influenced by what i'm seeing

1725

00:59:55,910 --> 00:59:55,119

um you know what i've read i'll tell you

1726

00:59:58,549 --> 00:59:55,920

why i just did

1727

00:59:59,190 --> 00:59:58,559

i did four cases tonight just tonight

1728

01:00:04,630 --> 00:59:59,200

really

1729

01:00:09,109 --> 01:00:07,670

i was dead set on you know not

1730

01:00:11,270 --> 01:00:09,119

wanting to know anything about the

1731

01:00:12,069 --> 01:00:11,280

sighting and what it was was it was a it

1732

01:00:14,230 --> 01:00:12,079

was a bright

1733

01:00:16,630 --> 01:00:14,240

little tiny bit of light and you know in

1734

01:00:19,670 --> 01:00:16,640

a shot taken looking directly at the sun

1735

01:00:21,910 --> 01:00:19,680

which i always say to people don't

1736

01:00:23,990 --> 01:00:21,920

do that and then submit planet x to me

1737

01:00:27,349 --> 01:00:24,000

okay i'm not going to go down that path

1738

01:00:29,190 --> 01:00:27,359

you can't see a planet next to the sun

1739

01:00:31,190 --> 01:00:29,200

in full bright light of day and take a

1740

01:00:32,950 --> 01:00:31,200

picture of it with your cell phone

1741

01:00:35,030 --> 01:00:32,960

you can do that with a telescope when

1742

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

you isolate the field of the sky and you

1743

01:00:38,710 --> 01:00:36,799

see a tiny little dot of venus you can

1744

01:00:40,390 --> 01:00:38,720

actually see venus during the day

1745

01:00:42,230 --> 01:00:40,400

all right if you know where to look and

1746

01:00:43,750 --> 01:00:42,240

i can even see it with my eyes when i

1747

01:00:45,589 --> 01:00:43,760

know if i know where to look

1748

01:00:47,190 --> 01:00:45,599

and you got to stare at it for a while

1749

01:00:48,150 --> 01:00:47,200

and let all the floaters in your eye get

1750

01:00:51,270 --> 01:00:48,160

out of the way

1751

01:00:52,870 --> 01:00:51,280

i'm not kidding all right but it is a

1752

01:00:53,430 --> 01:00:52,880

rite of passage to find venus during the

1753

01:00:55,270 --> 01:00:53,440

day

1754

01:00:57,270 --> 01:00:55,280

but try taking a picture of that with

1755

01:00:57,750 --> 01:00:57,280

your cell phone you're just not gonna

1756

01:00:59,910 --> 01:00:57,760

get it

1757

01:01:02,150 --> 01:00:59,920

all right so what most people see is

1758

01:01:04,950 --> 01:01:02,160

these large

1759

01:01:06,390 --> 01:01:04,960

light you know lens flares and specular

1760

01:01:08,710 --> 01:01:06,400

reflections

1761

01:01:09,990 --> 01:01:08,720

off of dust on the lens cover and more

1762

01:01:13,430 --> 01:01:10,000

likely the filter that's over

1763

01:01:16,630 --> 01:01:13,440

the lens and so uh you know

1764

01:01:18,630 --> 01:01:16,640

those types of things are not ufos

1765

01:01:19,910 --> 01:01:18,640

you know but one of the things that we

1766

01:01:22,069 --> 01:01:19,920

have to look at is that the witness

1767

01:01:25,109 --> 01:01:22,079

testimony sometimes

1768

01:01:27,109 --> 01:01:25,119

relays something extraordinary but the

1769

01:01:29,750 --> 01:01:27,119

data doesn't support it

1770

01:01:30,390 --> 01:01:29,760

so i can't say like like the cases

1771

01:01:32,950 --> 01:01:30,400

tonight

1772

01:01:34,390 --> 01:01:32,960

i said well the witness says that this

1773

01:01:37,349 --> 01:01:34,400

thing came out

1774

01:01:38,870 --> 01:01:37,359

it shot around at extremely high speed

1775

01:01:40,710 --> 01:01:38,880

was flying around at this

1776

01:01:42,069 --> 01:01:40,720

unbelievable speed he went back and

1777

01:01:44,630 --> 01:01:42,079

forth

1778

01:01:46,309 --> 01:01:44,640

you know toward the sun and back but he

1779

01:01:46,789 --> 01:01:46,319

submitted a photo looking right at the

1780

01:01:49,030 --> 01:01:46,799

sun

1781

01:01:51,190 --> 01:01:49,040

showing a gigantic lens flare but in

1782

01:01:53,430 --> 01:01:51,200

addition

1783

01:01:55,589 --> 01:01:53,440

he saw or he he also recorded this

1784

01:01:57,109 --> 01:01:55,599

little tiny white dot

1785

01:01:59,109 --> 01:01:57,119

uh that was in there and it wasn't even

1786

01:02:02,230 --> 01:01:59,119

a dot it was sort of a smudge

1787

01:02:04,069 --> 01:02:02,240

way way off in the distance you know and

1788

01:02:06,230 --> 01:02:04,079

um i was asked to corroborate what the

1789

01:02:07,750 --> 01:02:06,240

witness was saying and i couldn't

1790

01:02:09,829 --> 01:02:07,760

i said well he can't the data certainly

1791

01:02:10,470 --> 01:02:09,839

doesn't support this this rapidly flying

1792

01:02:13,029 --> 01:02:10,480

thing

1793

01:02:14,630 --> 01:02:13,039

however if he was looking at the sun

1794

01:02:16,390 --> 01:02:14,640

with his camera because it was a

1795

01:02:18,069 --> 01:02:16,400

samsung phone that he used to take the

1796

01:02:20,630 --> 01:02:18,079

picture and he was moving it around

1797

01:02:22,230 --> 01:02:20,640

guess what that lens flare and any other

1798

01:02:24,549 --> 01:02:22,240

object that's a result of the sun is

1799

01:02:27,190 --> 01:02:24,559

going to dance all over the sky

1800

01:02:29,190 --> 01:02:27,200

you know in you know apparently in that

1801
01:02:32,390 --> 01:02:29,200
on that camera screen and it was a big

1802
01:02:33,910 --> 01:02:32,400
tablet sized screen so i'm sure that

1803
01:02:35,829 --> 01:02:33,920
you know there was plenty to see and it

1804
01:02:39,270 --> 01:02:35,839
was a really good camera you know

1805
01:02:41,670 --> 01:02:39,280
on this phone so you know the data

1806
01:02:43,829 --> 01:02:41,680
doesn't corroborate what he saw

1807
01:02:45,589 --> 01:02:43,839
yeah you know you know so or claims to

1808
01:02:47,349 --> 01:02:45,599
have seen so i couldn't call it what he

1809
01:02:49,109 --> 01:02:47,359
said i couldn't say it was what he said

1810
01:02:51,109 --> 01:02:49,119
but i could say that this looks similar

1811
01:02:51,750 --> 01:02:51,119
to a specular reflection of dust on a

1812
01:02:55,990 --> 01:02:51,760
lens

1813
01:02:57,910 --> 01:02:56,000

this we know from physics

1814

01:02:59,430 --> 01:02:57,920

so i'm sorry your data doesn't

1815

01:03:00,950 --> 01:02:59,440

corroborate you may have seen something

1816

01:03:03,349 --> 01:03:00,960

really cool

1817

01:03:04,470 --> 01:03:03,359

but i can't verify it with this one

1818

01:03:06,630 --> 01:03:04,480

picture right

1819

01:03:08,309 --> 01:03:06,640

now earlier we had on our message board

1820

01:03:12,309 --> 01:03:08,319

someone wanted to ask you

1821

01:03:15,829 --> 01:03:12,319

what you thought about rods oh rods yeah

1822

01:03:16,470 --> 01:03:15,839

um i have um i have analyzed rod footage

1823

01:03:17,829 --> 01:03:16,480

quite a bit

1824

01:03:19,750 --> 01:03:17,839

and and one of the things that i thought

1825

01:03:22,230 --> 01:03:19,760

was really interesting about them

1826

01:03:23,190 --> 01:03:22,240

is that they look like these strange

1827

01:03:25,270 --> 01:03:23,200

creatures that are

1828

01:03:28,950 --> 01:03:25,280

traveling along with these little

1829

01:03:31,589 --> 01:03:28,960

gossamer spirally wings

1830

01:03:33,109 --> 01:03:31,599

but you can go out and find them

1831

01:03:36,549 --> 01:03:33,119

yourself you can create them

1832

01:03:39,109 --> 01:03:36,559

right away all you have to do is find

1833

01:03:40,069 --> 01:03:39,119

uh insects flying through the video

1834

01:03:45,270 --> 01:03:40,079

frame

1835

01:03:46,390 --> 01:03:45,280

where the sunlight is you can actually

1836

01:03:50,069 --> 01:03:46,400

generate that little

1837

01:03:51,829 --> 01:03:50,079

sine wave look in your images in fact i

1838

01:03:54,630 --> 01:03:51,839

i reference that quite a bit when i'm

1839

01:03:58,549 --> 01:03:54,640

looking at some images i can

1840

01:04:01,270 --> 01:03:58,559

deduce by how many peaks of that curve

1841

01:04:03,430 --> 01:04:01,280

are are visible in an exposure of a

1842

01:04:07,109 --> 01:04:03,440

certain amount of time say it was a

1843

01:04:10,829 --> 01:04:07,119

30th of a second right and you see

1844

01:04:13,349 --> 01:04:10,839

uh four peaks in that curve

1845

01:04:14,390 --> 01:04:13,359

right that's four peaks in the 30th of a

1846

01:04:17,589 --> 01:04:14,400

second

1847

01:04:21,029 --> 01:04:17,599

right so that means you're gonna get

1848

01:04:24,069 --> 01:04:21,039

roughly uh 12 peaks per second

1849

01:04:26,950 --> 01:04:24,079

times 60 seconds okay

1850

01:04:27,750 --> 01:04:26,960

gives you you know over 600 and change

1851
01:04:30,470 --> 01:04:27,760
wing beats

1852
01:04:32,309 --> 01:04:30,480
per minute and now based on the wing

1853
01:04:34,789 --> 01:04:32,319
beats per minute that this this

1854
01:04:36,069 --> 01:04:34,799
photo captured you can go look at the

1855
01:04:39,109 --> 01:04:36,079
location they're at and

1856
01:04:39,990 --> 01:04:39,119
actually come up with a reasonable guess

1857
01:04:42,150 --> 01:04:40,000
as to what that

1858
01:04:43,190 --> 01:04:42,160
actually was and what insect it was

1859
01:04:45,349 --> 01:04:43,200
because some of them

1860
01:04:47,109 --> 01:04:45,359
have extraordinary wing beat frequencies

1861
01:04:48,470 --> 01:04:47,119
and some you know some are high some are

1862
01:04:52,150 --> 01:04:48,480
extremely low

1863
01:04:54,950 --> 01:04:52,160

um are you talking like the denver

1864

01:04:56,230 --> 01:04:54,960

video yeah like like in the denver video

1865

01:04:57,190 --> 01:04:56,240

where you actually see

1866

01:04:59,589 --> 01:04:57,200

i think that's the one right where you

1867

01:05:02,630 --> 01:04:59,599

actually see objects flying through

1868

01:05:04,230 --> 01:05:02,640

yeah in when i uh analyzed that one up

1869

01:05:05,589 --> 01:05:04,240

close and i took still frames you can

1870

01:05:08,150 --> 01:05:05,599

actually see

1871

01:05:09,349 --> 01:05:08,160

uh the body if it's the same one we're

1872

01:05:10,390 --> 01:05:09,359

talking about it was the body of an

1873

01:05:13,190 --> 01:05:10,400

insect

1874

01:05:13,750 --> 01:05:13,200

that was elongated slightly because the

1875

01:05:16,630 --> 01:05:13,760

footage

1876

01:05:18,390 --> 01:05:16,640

wasn't taken at 120 frames per second or

1877

01:05:19,829 --> 01:05:18,400

60 frames per second it was like at 30

1878

01:05:21,670 --> 01:05:19,839

frames per second

1879

01:05:23,510 --> 01:05:21,680

so effectively each still frame is a

1880

01:05:24,630 --> 01:05:23,520

30th of a second photograph that's why

1881

01:05:27,829 --> 01:05:24,640

they're always fuzzy

1882

01:05:28,309 --> 01:05:27,839

right right at 120 frames per second you

1883

01:05:30,630 --> 01:05:28,319

have

1884

01:05:31,349 --> 01:05:30,640

a photo that's real very sharp

1885

01:05:33,029 --> 01:05:31,359

relatively

1886

01:05:34,789 --> 01:05:33,039

and at a 60th of a second that's pretty

1887

01:05:36,470 --> 01:05:34,799

much the minimum for getting a sharp

1888

01:05:38,710 --> 01:05:36,480

still frame as long as the camera's not

1889

01:05:40,789 --> 01:05:38,720

moving a whole lot

1890

01:05:42,270 --> 01:05:40,799

now in the film work i do we've actually

1891

01:05:45,349 --> 01:05:42,280

done frame rates of

1892

01:05:47,589 --> 01:05:45,359

1600 frames per second

1893

01:05:48,630 --> 01:05:47,599

it was one burger king commercial that i

1894

01:05:51,750 --> 01:05:48,640

worked on with

1895

01:05:53,270 --> 01:05:51,760

doug and we actually you know had this

1896

01:05:54,390 --> 01:05:53,280

this this special camera called the

1897

01:05:58,230 --> 01:05:54,400

phantom which was

1898

01:05:59,029 --> 01:05:58,240

taking images of a 2500 rpm giant oreo

1899

01:06:01,349 --> 01:05:59,039

cookie

1900

01:06:02,789 --> 01:06:01,359

spinning around and it was spewing out

1901

01:06:05,029 --> 01:06:02,799

liquid nitrogen because that's

1902

01:06:06,470 --> 01:06:05,039

i created this thing you know to to make

1903

01:06:08,309 --> 01:06:06,480

us this and we put up if you have too

1904

01:06:10,309 --> 01:06:08,319

much time in your hands

1905

01:06:11,750 --> 01:06:10,319

oh no this was a great job i loved it

1906

01:06:13,270 --> 01:06:11,760

you know and that's the kind of thing

1907

01:06:15,029 --> 01:06:13,280

this is why i love working with doug

1908

01:06:17,270 --> 01:06:15,039

trumbull because he's he's just

1909

01:06:18,789 --> 01:06:17,280

it's so cool we do organic effects so

1910

01:06:20,470 --> 01:06:18,799

this spinning cookie and there's a point

1911

01:06:22,549 --> 01:06:20,480

to this the spinning cookie

1912

01:06:24,150 --> 01:06:22,559

you literally saw this brown blur now it

1913

01:06:25,990 --> 01:06:24,160

was 10 inches in diameter by the way it

1914

01:06:27,910 --> 01:06:26,000

was an oversized oreo so a lot of people

1915

01:06:29,670 --> 01:06:27,920

really wanted an oreo cake

1916

01:06:31,510 --> 01:06:29,680

you know when we were done but there's

1917

01:06:33,990 --> 01:06:31,520

none to be found so

1918

01:06:35,510 --> 01:06:34,000

this spinning cookie had liquid nitrogen

1919

01:06:38,789 --> 01:06:35,520

coming out of the edges

1920

01:06:40,150 --> 01:06:38,799

and the entire take all right was done

1921

01:06:42,309 --> 01:06:40,160

in a second and a half

1922

01:06:43,190 --> 01:06:42,319

so i would run the liquid nitrogen down

1923

01:06:46,470 --> 01:06:43,200

through the rig

1924

01:06:49,750 --> 01:06:46,480

the cookie would spin up 2500 frames per

1925

01:06:51,190 --> 01:06:49,760

2500 rpm it was a brown blur with a

1926

01:06:53,190 --> 01:06:51,200

white center

1927

01:06:54,549 --> 01:06:53,200

okay and all this liquid nitrogen coming

1928

01:06:56,789 --> 01:06:54,559

out of the white center

1929

01:06:58,710 --> 01:06:56,799

and so you had all the steam and a fan

1930

01:07:01,270 --> 01:06:58,720

blowing it back like a comet

1931

01:07:02,549 --> 01:07:01,280

and the whole exposure the whole shot

1932

01:07:05,670 --> 01:07:02,559

was

1933

01:07:10,870 --> 01:07:05,680

right

1934

01:07:12,230 --> 01:07:10,880

it was a 1600 frame per second take so

1935

01:07:14,549 --> 01:07:12,240

when you play it back at normal frame

1936

01:07:17,109 --> 01:07:14,559

rate you've got this beautiful slow

1937

01:07:17,910 --> 01:07:17,119

graceful massive cookie coursing through

1938

01:07:21,029 --> 01:07:17,920

space

1939

01:07:24,950 --> 01:07:21,039

spewing cometary debris and and

1940

01:07:26,870 --> 01:07:24,960

and and uh clouds of dust and steam

1941

01:07:28,230 --> 01:07:26,880

blowing back behind it it looked

1942

01:07:31,510 --> 01:07:28,240

gorgeous all right

1943

01:07:32,630 --> 01:07:31,520

so you see this is why

1944

01:07:34,549 --> 01:07:32,640

you know i can see the world in

1945

01:07:36,630 --> 01:07:34,559

different ways because i look at the

1946

01:07:37,990 --> 01:07:36,640

world this way i see the world at fast

1947

01:07:40,870 --> 01:07:38,000

and slow rates

1948

01:07:41,430 --> 01:07:40,880

right so when i see an insect on film i

1949

01:07:43,430 --> 01:07:41,440

see

1950

01:07:44,870 --> 01:07:43,440

a sine wave of a wing beat pattern that

1951

01:07:45,829 --> 01:07:44,880

was caught based on the length of the

1952

01:07:49,029 --> 01:07:45,839

exposure

1953

01:07:50,390 --> 01:07:49,039

see and that's where this all comes from

1954

01:07:51,510 --> 01:07:50,400

this is stuff i've been doing since i

1955

01:07:55,029 --> 01:07:51,520

was a kid

1956

01:07:55,829 --> 01:07:55,039

you know again you you heard me and i'm

1957

01:07:58,470 --> 01:07:55,839

not lying

1958

01:08:00,230 --> 01:07:58,480

1971 i joined at age 11 and it was then

1959

01:08:00,710 --> 01:08:00,240

when i started looking into the science

1960

01:08:03,029 --> 01:08:00,720

of

1961

01:08:03,910 --> 01:08:03,039

what makes those things tick that people

1962

01:08:06,390 --> 01:08:03,920

see out there

1963

01:08:07,750 --> 01:08:06,400

and of course that meant i had to

1964

01:08:09,670 --> 01:08:07,760

explore the natural world

1965

01:08:12,069 --> 01:08:09,680

like you know like crazy in order to

1966

01:08:13,990 --> 01:08:12,079

understand the laws the natural laws

1967

01:08:15,829 --> 01:08:14,000

physical laws the laws throughout

1968

01:08:16,630 --> 01:08:15,839

science i went to school for science i

1969

01:08:18,630 --> 01:08:16,640

was a

1970

01:08:20,229 --> 01:08:18,640

science geek and a nerd throughout

1971

01:08:21,749 --> 01:08:20,239

college other people are playing

1972

01:08:24,550 --> 01:08:21,759

football i'm in the basement of the

1973

01:08:27,749 --> 01:08:24,560

science library studying physics

1974

01:08:30,070 --> 01:08:27,759

what the heck is wrong with me well

1975

01:08:31,430 --> 01:08:30,080

uh you've led an interesting life i'm

1976

01:08:34,390 --> 01:08:31,440

sure because of that

1977

01:08:35,749 --> 01:08:34,400

um one of the questions that came up on

1978

01:08:39,590 --> 01:08:35,759

the message board

1979

01:08:42,229 --> 01:08:39,600

was what was your most interesting

1980

01:08:43,990 --> 01:08:42,239

analysis and i'm going to add to that

1981

01:08:45,749 --> 01:08:44,000

have you ever seen anything that you are

1982

01:08:49,189 --> 01:08:45,759

totally convinced

1983

01:08:50,630 --> 01:08:49,199

is possibly extraterrestrial or just

1984

01:08:52,789 --> 01:08:50,640

plain unexplainable

1985

01:08:54,390 --> 01:08:52,799

yeah absolutely but it wasn't the ufo it

1986

01:08:57,749 --> 01:08:54,400

was actually a uh

1987

01:08:59,749 --> 01:08:57,759

a close encounter um really yeah

1988

01:09:01,110 --> 01:08:59,759

and and this is why you know what people

1989

01:09:02,789 --> 01:09:01,120

like to call me a debunker but they got

1990

01:09:04,630 --> 01:09:02,799

to understand

1991

01:09:07,349 --> 01:09:04,640

these people they don't have a clue i am

1992

01:09:10,229 --> 01:09:07,359

not a debunker i actually

1993

01:09:11,430 --> 01:09:10,239

not only believe okay i show i do talks

1994

01:09:12,709 --> 01:09:11,440

around the country explaining the

1995

01:09:15,189 --> 01:09:12,719

science of why they

1996

01:09:16,390 --> 01:09:15,199

certainly can be here i don't walk

1997

01:09:18,070 --> 01:09:16,400

around and saying they're not here i

1998

01:09:18,870 --> 01:09:18,080

walk around saying i think they are and

1999

01:09:21,510 --> 01:09:18,880

here's why

2000

01:09:22,070 --> 01:09:21,520

so that's really the the way that i work

2001

01:09:24,789 --> 01:09:22,080

um

2002

01:09:26,149 --> 01:09:24,799

but i am hard on data and and one of the

2003

01:09:28,789 --> 01:09:26,159

things that happened to me that

2004

01:09:30,789 --> 01:09:28,799

uh two things um the first was seeing

2005

01:09:32,550 --> 01:09:30,799

the fast move around the nuclear sub

2006

01:09:34,149 --> 01:09:32,560

now it was in the middle of the 90s i

2007

01:09:36,070 --> 01:09:34,159

was a guest

2008

01:09:37,749 --> 01:09:36,080

because uh to this day i still do a lot

2009

01:09:39,269 --> 01:09:37,759

of work for the navy and i end up

2010

01:09:41,269 --> 01:09:39,279

sometimes they'll say hey do you want to

2011

01:09:42,789 --> 01:09:41,279

go check out an aircraft carrier or hey

2012

01:09:44,789 --> 01:09:42,799

how about a ride on a submarine you know

2013

01:09:46,550 --> 01:09:44,799

i know that sounds kind of flippant but

2014

01:09:48,709 --> 01:09:46,560

believe me they're very sparing and they

2015

01:09:49,749 --> 01:09:48,719

are you know they're only after doing

2016

01:09:52,550 --> 01:09:49,759

something that's you know

2017

01:09:54,149 --> 01:09:52,560

really above and beyond so i try to do

2018

01:09:56,470 --> 01:09:54,159

that from time to time

2019

01:09:59,270 --> 01:09:56,480

um so i did go on board us sub it was

2020

01:10:02,709 --> 01:09:59,280

the most fun i had getting seasick

2021

01:10:04,790 --> 01:10:02,719

no don't lie and uh you know i uh

2022

01:10:06,550 --> 01:10:04,800

while hanging on the sky periscope half

2023

01:10:09,830 --> 01:10:06,560

the time just so i can just see

2024

01:10:11,110 --> 01:10:09,840

a horizon there's no windows no windows

2025

01:10:14,310 --> 01:10:11,120

in these things you know

2026

01:10:15,590 --> 01:10:14,320

um i then went into the sonar shack

2027

01:10:17,350 --> 01:10:15,600

they called the sonar shack it's a

2028

01:10:18,709 --> 01:10:17,360

little alleyway along the control room

2029

01:10:20,310 --> 01:10:18,719

and the submarine and

2030

01:10:21,750 --> 01:10:20,320

that's where all the you know the the

2031

01:10:23,270 --> 01:10:21,760

sonar guys sit and they look at the

2032

01:10:24,630 --> 01:10:23,280

screens and they look like the you know

2033

01:10:26,229 --> 01:10:24,640

in the matrix remember the green letters

2034

01:10:28,790 --> 01:10:26,239

going down the screen

2035

01:10:30,310 --> 01:10:28,800

yeah okay well now take those and

2036

01:10:31,910 --> 01:10:30,320

dissolve them from being letters into

2037

01:10:33,990 --> 01:10:31,920

static

2038

01:10:35,830 --> 01:10:34,000

and that's what a sonar display on a

2039

01:10:37,590 --> 01:10:35,840

submarine looks like you know on a los

2040

01:10:38,390 --> 01:10:37,600

angeles class sub that i was on at the

2041

01:10:41,350 --> 01:10:38,400

time

2042

01:10:42,070 --> 01:10:41,360

well um but within that data you

2043

01:10:43,830 --> 01:10:42,080

actually see

2044

01:10:46,070 --> 01:10:43,840

hard lines and other types of

2045

01:10:47,669 --> 01:10:46,080

information and curving lines that

2046

01:10:50,390 --> 01:10:47,679

change over time

2047

01:10:52,229 --> 01:10:50,400

the refresh rate is much slower you know

2048

01:10:53,430 --> 01:10:52,239

can be much slower than you see in the

2049

01:10:55,030 --> 01:10:53,440

matrix that kind of thing

2050

01:10:57,189 --> 01:10:55,040

but that's exactly you know what it

2051

01:11:00,470 --> 01:10:57,199

looks like okay now

2052

01:11:02,390 --> 01:11:00,480

take this and imagine when a

2053

01:11:03,990 --> 01:11:02,400

sonar guy looks at that screen he knows

2054

01:11:04,790 --> 01:11:04,000

exactly what he's looking at most of the

2055

01:11:07,189 --> 01:11:04,800

time

2056

01:11:09,350 --> 01:11:07,199

they can they have biologics which are

2057

01:11:11,910 --> 01:11:09,360

whales and schools of fish

2058

01:11:14,229 --> 01:11:11,920

um you know some animals in the sea make

2059

01:11:15,189 --> 01:11:14,239

popping noises no show up the submarine

2060

01:11:18,149 --> 01:11:15,199

listens

2061

01:11:19,990 --> 01:11:18,159

um you know to find out where it's going

2062

01:11:21,110 --> 01:11:20,000

it listens to the surroundings to know

2063

01:11:23,110 --> 01:11:21,120

where it's going

2064

01:11:24,310 --> 01:11:23,120

you know it can't see ahead you know

2065

01:11:28,229 --> 01:11:24,320

what i mean it has to listen

2066

01:11:30,070 --> 01:11:28,239

listen ahead so um so accurate charts

2067

01:11:31,669 --> 01:11:30,080

and sonar or how a submarine

2068

01:11:33,510 --> 01:11:31,679

you know moves around in the ocean um

2069

01:11:35,110 --> 01:11:33,520

for the most part so

2070

01:11:36,470 --> 01:11:35,120

imagine now i'm sitting there watching

2071

01:11:38,229 --> 01:11:36,480

the sonar display the reason i'm in

2072

01:11:40,390 --> 01:11:38,239

there is because it's a it's a seat

2073

01:11:41,750 --> 01:11:40,400

it's out of the way the mainstream you

2074

01:11:44,390 --> 01:11:41,760

know you got a hundred and

2075

01:11:45,030 --> 01:11:44,400

you know 30 guys on board a sub or more

2076

01:11:46,709 --> 01:11:45,040

and

2077

01:11:48,709 --> 01:11:46,719

you know walking down a hallway is a you

2078

01:11:52,870 --> 01:11:48,719

know con especially the height of

2079

01:11:55,669 --> 01:11:52,880

a of a shift is crazy because

2080

01:11:56,709 --> 01:11:55,679

it's in the hallways you know uh 30

2081

01:11:58,950 --> 01:11:56,719

inches wide

2082

01:12:00,790 --> 01:11:58,960

and to get by someone especially the six

2083

01:12:01,990 --> 01:12:00,800

foot submariner i don't know why he

2084

01:12:04,390 --> 01:12:02,000

would get on a submarine

2085

01:12:06,149 --> 01:12:04,400

at six feet tall but you have to turn

2086

01:12:07,669 --> 01:12:06,159

your body sideways to let them squeeze

2087

01:12:09,990 --> 01:12:07,679

by and then you keep going

2088

01:12:11,750 --> 01:12:10,000

and so the quiet was what i was looking

2089

01:12:12,390 --> 01:12:11,760

for for some of the time when i was on

2090

01:12:14,149 --> 01:12:12,400

board

2091

01:12:15,750 --> 01:12:14,159

so i would sit in the sonar shack it's

2092

01:12:16,310 --> 01:12:15,760

dark and all you see is this green

2093

01:12:18,790 --> 01:12:16,320

screen

2094

01:12:20,229 --> 01:12:18,800

going down green green green and so i

2095

01:12:21,990 --> 01:12:20,239

was like ah this is nice

2096

01:12:23,189 --> 01:12:22,000

and i had learned how to read sonar a

2097

01:12:24,310 --> 01:12:23,199

little bit before i went on board

2098

01:12:25,510 --> 01:12:24,320

because i was really interested in the

2099

01:12:27,110 --> 01:12:25,520

technology

2100

01:12:28,950 --> 01:12:27,120

um and i actually had a simulator that

2101

01:12:31,189 --> 01:12:28,960

showed me how to read

2102

01:12:32,229 --> 01:12:31,199

los angeles class submarine sonar so i

2103

01:12:34,310 --> 01:12:32,239

was looking in

2104

01:12:35,990 --> 01:12:34,320

and by getting into something it took my

2105

01:12:38,870 --> 01:12:36,000

mind off the fact that i was feeling

2106

01:12:40,950 --> 01:12:38,880

i was gonna get sick you know um so i'm

2107

01:12:42,229 --> 01:12:40,960

sitting there and all of a sudden

2108

01:12:43,350 --> 01:12:42,239

amidst all the other lines that are

2109

01:12:45,110 --> 01:12:43,360

showing up on there which is like a

2110

01:12:46,790 --> 01:12:45,120

distance ship that's a tanker

2111

01:12:49,990 --> 01:12:46,800

that one has you know that one's a

2112

01:12:51,830 --> 01:12:50,000

single screw four-bladed propeller and

2113

01:12:52,790 --> 01:12:51,840

this tanker that's you know 12 miles

2114

01:12:54,630 --> 01:12:52,800

away i mean

2115

01:12:56,790 --> 01:12:54,640

that's the kind of resolution you know

2116

01:13:00,149 --> 01:12:56,800

they can get in beyond that

2117

01:13:01,510 --> 01:13:00,159

um nowadays well anyway

2118

01:13:03,669 --> 01:13:01,520

as i'm sitting there all of a sudden on

2119

01:13:06,070 --> 01:13:03,679

the screen you see this this line

2120

01:13:07,430 --> 01:13:06,080

up here yeah and just go through the

2121

01:13:10,470 --> 01:13:07,440

field

2122

01:13:13,270 --> 01:13:10,480

um and it was moving you know i

2123

01:13:15,189 --> 01:13:13,280

i can't i can't discuss the actual shape

2124

01:13:17,270 --> 01:13:15,199

and and so forth because that

2125

01:13:20,070 --> 01:13:17,280

you know gives away some of the sonar

2126

01:13:22,550 --> 01:13:20,080

stuff so but i can tell you this

2127

01:13:24,950 --> 01:13:22,560

we saw something on this owner that

2128

01:13:27,990 --> 01:13:24,960

executed a path that was not like

2129

01:13:30,070 --> 01:13:28,000

anything um known

2130

01:13:32,470 --> 01:13:30,080

and the first thing that the sonar i

2131

01:13:35,189 --> 01:13:32,480

call the kid the sonar kid

2132

01:13:36,950 --> 01:13:35,199

did okay was he corroborated with

2133

01:13:40,390 --> 01:13:36,960

another sonar

2134

01:13:42,470 --> 01:13:40,400

all right that wasn't working with

2135

01:13:44,070 --> 01:13:42,480

this sonar with a separate system just

2136

01:13:45,990 --> 01:13:44,080

for that purpose in other words if

2137

01:13:47,270 --> 01:13:46,000

there's a torpedo coming at you you

2138

01:13:49,590 --> 01:13:47,280

really want to make sure you're not

2139

01:13:51,430 --> 01:13:49,600

going to fire um unless you can

2140

01:13:53,030 --> 01:13:51,440

corroborate that the sonar is not acting

2141

01:13:55,030 --> 01:13:53,040

up or doing something

2142

01:13:56,550 --> 01:13:55,040

so anyway and that's sort of a

2143

01:13:58,229 --> 01:13:56,560

simplification because

2144

01:13:59,750 --> 01:13:58,239

sonar systems are really really good and

2145

01:14:00,870 --> 01:13:59,760

you don't need a whole lot of double

2146

01:14:03,189 --> 01:14:00,880

coverage but

2147

01:14:04,870 --> 01:14:03,199

that all said um in this particular case

2148

01:14:06,229 --> 01:14:04,880

he looked at a second one and confirmed

2149

01:14:07,990 --> 01:14:06,239

it was there too

2150

01:14:10,390 --> 01:14:08,000

different shape different look but it

2151
01:14:13,270 --> 01:14:10,400
was there so he immediately calls

2152
01:14:15,510 --> 01:14:13,280
the xo the executive officer he says

2153
01:14:17,350 --> 01:14:15,520
sonar fast mover

2154
01:14:18,790 --> 01:14:17,360
oh like oh my god i'm in a science

2155
01:14:21,350 --> 01:14:18,800
fiction movie holy crap

2156
01:14:23,669 --> 01:14:21,360
i mean no no lie i suddenly just if i

2157
01:14:25,590 --> 01:14:23,679
was sick i had forgotten all about it

2158
01:14:27,350 --> 01:14:25,600
the executive officer i could hear him

2159
01:14:28,790 --> 01:14:27,360
coming and he comes right around into

2160
01:14:30,870 --> 01:14:28,800
this little sonar alley

2161
01:14:32,310 --> 01:14:30,880
followed by a couple other people and he

2162
01:14:35,270 --> 01:14:32,320
looks at the screen what do you got

2163
01:14:36,709 --> 01:14:35,280

and he shows them okay and as the other

2164

01:14:37,750 --> 01:14:36,719

guys came in they kind of crowded around

2165

01:14:40,390 --> 01:14:37,760

the screen and kind of

2166

01:14:40,870 --> 01:14:40,400

i backed away because it's not my boat

2167

01:14:42,390 --> 01:14:40,880

right

2168

01:14:43,990 --> 01:14:42,400

and i let them do their thing but i

2169

01:14:46,709 --> 01:14:44,000

overheard very clearly

2170

01:14:47,830 --> 01:14:46,719

and very precisely i heard the uh the

2171

01:14:49,350 --> 01:14:47,840

kids say

2172

01:14:51,510 --> 01:14:49,360

that it was moving at several hundred

2173

01:14:53,590 --> 01:14:51,520

knots wow

2174

01:14:54,870 --> 01:14:53,600

and he said and the and and then the

2175

01:14:57,030 --> 01:14:54,880

kids then

2176

01:14:58,790 --> 01:14:57,040

they actually looked at it did some

2177

01:15:01,510 --> 01:14:58,800

fiddling and and checked out

2178

01:15:03,189 --> 01:15:01,520

different ranges and stuff on the screen

2179

01:15:05,510 --> 01:15:03,199

were you talking about water or

2180

01:15:06,950 --> 01:15:05,520

below water no this was below water

2181

01:15:09,990 --> 01:15:06,960

that's what i thought you meant

2182

01:15:13,510 --> 01:15:10,000

yeah goodness and so he you know

2183

01:15:15,430 --> 01:15:13,520

the kid at the sonar said disposition

2184

01:15:16,870 --> 01:15:15,440

and he looked at the exo and the xo just

2185

01:15:19,669 --> 01:15:16,880

looked at him for a second and

2186

01:15:21,270 --> 01:15:19,679

and again i try to be very precise when

2187

01:15:22,630 --> 01:15:21,280

i retell this because

2188

01:15:25,350 --> 01:15:22,640

you know how what happens over time

2189

01:15:27,430 --> 01:15:25,360

people kind of add and embellish

2190

01:15:28,390 --> 01:15:27,440

i'm telling you all that i know and only

2191

01:15:29,910 --> 01:15:28,400

what i know i don't

2192

01:15:31,510 --> 01:15:29,920

there's nothing to add okay so i'm just

2193

01:15:33,750 --> 01:15:31,520

telling you exactly what it was the xo

2194

01:15:37,030 --> 01:15:33,760

just looked at the kid and he said

2195

01:15:39,669 --> 01:15:37,040

log it and dog it wow now

2196

01:15:40,790 --> 01:15:39,679

um what was uh that i guess you'd call

2197

01:15:43,189 --> 01:15:40,800

it a uso

2198

01:15:44,310 --> 01:15:43,199

what was the uh range how far away was

2199

01:15:47,189 --> 01:15:44,320

it from your

2200

01:15:48,870 --> 01:15:47,199

your sub actually don't know but i don't

2201

01:15:52,070 --> 01:15:48,880

know that actually in

2202

01:15:55,030 --> 01:15:52,080

if i did i probably um i probably forgot

2203

01:15:56,149 --> 01:15:55,040

over time and so i don't know because i

2204

01:15:57,110 --> 01:15:56,159

couldn't remember what the range was

2205

01:15:58,550 --> 01:15:57,120

because what happened was

2206

01:16:00,149 --> 01:15:58,560

when when it first happened he was

2207

01:16:01,510 --> 01:16:00,159

flicking back and forth and you can

2208

01:16:03,590 --> 01:16:01,520

flick back and forth all these different

2209

01:16:05,669 --> 01:16:03,600

range settings anyway

2210

01:16:07,189 --> 01:16:05,679

um and i couldn't really tell you know

2211

01:16:08,709 --> 01:16:07,199

most people think of a radar screen when

2212

01:16:11,030 --> 01:16:08,719

they think of sonar that's not what this

2213

01:16:13,110 --> 01:16:11,040

is it's it's a square screen you know

2214

01:16:14,790 --> 01:16:13,120

and stuff moves from top to bottom

2215

01:16:16,790 --> 01:16:14,800

you know if you look up los angeles

2216

01:16:18,790 --> 01:16:16,800

class submarine sonar online

2217

01:16:20,390 --> 01:16:18,800

you'll actually find you know some

2218

01:16:22,149 --> 01:16:20,400

really good examples

2219

01:16:23,750 --> 01:16:22,159

uh just don't go to the hollywood movies

2220

01:16:24,709 --> 01:16:23,760

they they turn them into you know air

2221

01:16:27,270 --> 01:16:24,719

traffic controller

2222

01:16:28,470 --> 01:16:27,280

type screens it's ridiculous um that's

2223

01:16:32,790 --> 01:16:28,480

not the reality

2224

01:16:35,990 --> 01:16:32,800

um so that all said you know uh

2225

01:16:37,590 --> 01:16:36,000

later on i walked up to the xo um

2226

01:16:39,030 --> 01:16:37,600

still very excited i was actually kind

2227

01:16:42,550 --> 01:16:39,040

of breathless when i saw this

2228

01:16:43,910 --> 01:16:42,560

because i i couldn't use you know uh

2229

01:16:45,830 --> 01:16:43,920

there was no one i could talk to you

2230

01:16:48,790 --> 01:16:45,840

know and back then

2231

01:16:50,790 --> 01:16:48,800

i think i had uh i don't even know if i

2232

01:16:53,110 --> 01:16:50,800

had a cell phone back then

2233

01:16:54,070 --> 01:16:53,120

holy cow in the mid 90s i must have had

2234

01:16:55,590 --> 01:16:54,080

it must have been

2235

01:16:57,189 --> 01:16:55,600

it was probably i think it was this

2236

01:16:57,910 --> 01:16:57,199

older one where you know every minute

2237

01:16:59,990 --> 01:16:57,920

was

2238

01:17:02,070 --> 01:17:00,000

25 cents or 18 cents i forget what it

2239

01:17:03,110 --> 01:17:02,080

was if it existed at all i don't even

2240

01:17:05,430 --> 01:17:03,120

remember back then

2241

01:17:06,950 --> 01:17:05,440

but i uh i went up to the executive

2242

01:17:09,189 --> 01:17:06,960

officer and i said

2243

01:17:10,310 --> 01:17:09,199

exo um i'm very familiar with fast

2244

01:17:12,149 --> 01:17:10,320

movers you know can you

2245

01:17:13,990 --> 01:17:12,159

tell me anything about this and he

2246

01:17:15,910 --> 01:17:14,000

looked at me and he said

2247

01:17:18,229 --> 01:17:15,920

mr antonio are you enjoying this your

2248

01:17:19,830 --> 01:17:18,239

cruise i said absolutely sir

2249

01:17:22,390 --> 01:17:19,840

and he put his hand on my shoulder and

2250

01:17:25,430 --> 01:17:22,400

smiled he said let's keep it that way

2251

01:17:26,870 --> 01:17:25,440

wow and i was like yes sir and i you

2252

01:17:28,310 --> 01:17:26,880

know what i said yes sir

2253

01:17:30,470 --> 01:17:28,320

so do you think this is a common

2254

01:17:33,430 --> 01:17:30,480

occurrence well

2255

01:17:34,870 --> 01:17:33,440

i didn't know and and and it's

2256

01:17:36,630 --> 01:17:34,880

interesting it's almost as if i told you

2257

01:17:39,669 --> 01:17:36,640

this before but i don't think i did

2258

01:17:41,030 --> 01:17:39,679

um you know what happened was

2259

01:17:42,709 --> 01:17:41,040

later on in the wardrobe when we're

2260

01:17:43,910 --> 01:17:42,719

eating dinner because one of the things

2261

01:17:44,630 --> 01:17:43,920

is you know when you're a guest you know

2262

01:17:46,070 --> 01:17:44,640

they do

2263

01:17:47,590 --> 01:17:46,080

nice things for you so it was our turn

2264

01:17:48,070 --> 01:17:47,600

to sit in the wardroom with the captain

2265

01:17:49,669 --> 01:17:48,080

and

2266

01:17:51,430 --> 01:17:49,679

you know have dinner with them was nice

2267

01:17:52,709 --> 01:17:51,440

and and you know this is why the

2268

01:17:56,070 --> 01:17:52,719

submarine navy

2269

01:17:56,790 --> 01:17:56,080

yeah there's no windows but you know

2270

01:17:59,270 --> 01:17:56,800

what

2271

01:18:00,870 --> 01:17:59,280

the food is the best in all the services

2272

01:18:03,430 --> 01:18:00,880

and it's actually great

2273

01:18:04,950 --> 01:18:03,440

it's always been true it really is you

2274

01:18:05,669 --> 01:18:04,960

know and the cook can make or break a

2275

01:18:08,229 --> 01:18:05,679

crew so they

2276

01:18:09,350 --> 01:18:08,239

really really really train excessively

2277

01:18:11,830 --> 01:18:09,360

you can't imagine

2278

01:18:13,510 --> 01:18:11,840

so anyway um while sitting there i look

2279

01:18:14,149 --> 01:18:13,520

at the xo and i get that little smile on

2280

01:18:16,790 --> 01:18:14,159

my face

2281

01:18:18,630 --> 01:18:16,800

okay like i want to ask him you know and

2282

01:18:20,870 --> 01:18:18,640

i kind of scratched my nose and i

2283

01:18:21,990 --> 01:18:20,880

looked down and i you know that little

2284

01:18:24,070 --> 01:18:22,000

smirk like well

2285

01:18:26,390 --> 01:18:24,080

you're gonna share something and he he's

2286

01:18:27,830 --> 01:18:26,400

across the table diagonally okay the

2287

01:18:29,430 --> 01:18:27,840

one side of the captain i can't remember

2288

01:18:31,669 --> 01:18:29,440

where uh

2289

01:18:32,550 --> 01:18:31,679

but uh there's an order of things i

2290

01:18:35,189 --> 01:18:32,560

guess well

2291

01:18:36,630 --> 01:18:35,199

anyway he looks at me and he goes he he

2292

01:18:37,910 --> 01:18:36,640

just sort of points at me he says still

2293

01:18:40,950 --> 01:18:37,920

having a good time

2294

01:18:42,950 --> 01:18:40,960

and then yes sir and he smiles

2295

01:18:44,550 --> 01:18:42,960

and he turns away so you know so he was

2296

01:18:46,630 --> 01:18:44,560

just trying to remind me

2297

01:18:47,669 --> 01:18:46,640

and and that never and it never came up

2298

01:18:50,870 --> 01:18:47,679

again

2299

01:18:53,669 --> 01:18:50,880

until about and that was the mid 90s

2300

01:18:53,990 --> 01:18:53,679

it didn't come up again until about five

2301
01:18:57,030 --> 01:18:54,000
years

2302
01:18:57,669 --> 01:18:57,040
ago when i did a job for the joint

2303
01:19:01,189 --> 01:18:57,679
chiefs

2304
01:19:04,709 --> 01:19:01,199
down in dc and i became friends

2305
01:19:08,790 --> 01:19:04,719
with one of them

2306
01:19:10,790 --> 01:19:08,800
and i had done a project for him

2307
01:19:11,910 --> 01:19:10,800
and i talked to him on the phone he said

2308
01:19:14,950 --> 01:19:11,920
well you ever gonna you're gonna

2309
01:19:16,790 --> 01:19:14,960
be down here this way i said yeah i i

2310
01:19:18,870 --> 01:19:16,800
think i could in fact you know i'm

2311
01:19:21,510 --> 01:19:18,880
i'm up for a drive i mean washington's

2312
01:19:23,270 --> 01:19:21,520
only six hours away

2313
01:19:24,870 --> 01:19:23,280

i literally do that in one day i do i

2314

01:19:26,070 --> 01:19:24,880

drive down and back to washington dc in

2315

01:19:27,669 --> 01:19:26,080

one day i i don't

2316

01:19:29,350 --> 01:19:27,679

i have no problem with it because you

2317

01:19:30,310 --> 01:19:29,360

know i'm just focused i do my thing and

2318

01:19:31,830 --> 01:19:30,320

then come home

2319

01:19:33,350 --> 01:19:31,840

and then i sit there scratching my head

2320

01:19:35,110 --> 01:19:33,360

in my office saying did i did i really

2321

01:19:38,790 --> 01:19:35,120

see the washington monument today

2322

01:19:41,110 --> 01:19:38,800

you know you know well anyway um

2323

01:19:42,070 --> 01:19:41,120

so i went down there and i drove down

2324

01:19:43,990 --> 01:19:42,080

there with my

2325

01:19:45,750 --> 01:19:44,000

nine-year-old son at the time he's now

2326

01:19:47,590 --> 01:19:45,760

16 so it wasn't

2327

01:19:49,030 --> 01:19:47,600

five years ago right it was seven years

2328

01:19:52,390 --> 01:19:49,040

ago i guess

2329

01:19:55,110 --> 01:19:52,400

um and uh while he was

2330

01:19:55,990 --> 01:19:55,120

in the we went to the this this

2331

01:19:59,110 --> 01:19:56,000

particular

2332

01:19:59,830 --> 01:19:59,120

uh the home of this guy and it was just

2333

01:20:03,270 --> 01:19:59,840

me and him

2334

01:20:06,310 --> 01:20:03,280

his wife and my son and while he was

2335

01:20:07,990 --> 01:20:06,320

my wife no my wife his wife and my my

2336

01:20:10,390 --> 01:20:08,000

son were actually in the kitchen making

2337

01:20:13,830 --> 01:20:10,400

lemonade i leaned over and i said

2338

01:20:15,110 --> 01:20:13,840

to uh to the chief i said um

2339

01:20:18,390 --> 01:20:15,120

what can you tell me about the fast

2340

01:20:20,550 --> 01:20:18,400

mover program

2341

01:20:22,709 --> 01:20:20,560

and he just sat back in his couch you

2342

01:20:24,550 --> 01:20:22,719

know and we both had like lemonades or

2343

01:20:26,229 --> 01:20:24,560

whatever it was we were drinking

2344

01:20:28,390 --> 01:20:26,239

you know and there was this really

2345

01:20:29,270 --> 01:20:28,400

uncomfortable silence for about 15

2346

01:20:31,270 --> 01:20:29,280

seconds

2347

01:20:32,950 --> 01:20:31,280

and he's kind of looking around and he

2348

01:20:33,910 --> 01:20:32,960

kind of you know looks at me i can't

2349

01:20:35,910 --> 01:20:33,920

remember exactly

2350

01:20:37,510 --> 01:20:35,920

all the things that he did he had some

2351

01:20:40,470 --> 01:20:37,520

gestures which led me to believe

2352

01:20:41,830 --> 01:20:40,480

he knew something but then he said the

2353

01:20:44,229 --> 01:20:41,840

one sentence

2354

01:20:46,149 --> 01:20:44,239

he looked at me and he just sort of

2355

01:20:48,790 --> 01:20:46,159

shrugged a little and he said

2356

01:20:51,110 --> 01:20:48,800

uh i'm sorry mark i can't tell you

2357

01:20:54,229 --> 01:20:51,120

anything about the program

2358

01:20:56,229 --> 01:20:54,239

and it was that knowing smile look

2359

01:20:57,430 --> 01:20:56,239

it's not not the oh i'm sorry i don't

2360

01:20:58,950 --> 01:20:57,440

know anything about the program he

2361

01:21:01,270 --> 01:20:58,960

didn't say that

2362

01:21:02,310 --> 01:21:01,280

he said um i'm sorry i can't tell you

2363

01:21:04,870 --> 01:21:02,320

anything about the program

2364

01:21:05,510 --> 01:21:04,880

wow that's amazing and i and i said you

2365

01:21:07,510 --> 01:21:05,520

know admiral

2366

01:21:08,709 --> 01:21:07,520

fair enough cheers and we kind of clink

2367

01:21:09,830 --> 01:21:08,719

there you know i remember yeah yeah it

2368

01:21:11,270 --> 01:21:09,840

was yeah it was iced tea

2369

01:21:13,350 --> 01:21:11,280

i guess i don't remember you know it's a

2370

01:21:16,070 --> 01:21:13,360

long time ago well anyway you know

2371

01:21:17,669 --> 01:21:16,080

uh so that that's as much as i remember

2372

01:21:18,870 --> 01:21:17,679

about that you know a lot more happened

2373

01:21:21,430 --> 01:21:18,880

that day with him but i

2374

01:21:22,149 --> 01:21:21,440

i can't remember well enough to really

2375

01:21:23,590 --> 01:21:22,159

commit it and

2376

01:21:25,430 --> 01:21:23,600

and say this is exactly what happened

2377

01:21:26,629 --> 01:21:25,440

but nothing ufo related just just you

2378

01:21:28,390 --> 01:21:26,639

know event wise

2379

01:21:30,550 --> 01:21:28,400

being there but we spent the whole

2380

01:21:32,870 --> 01:21:30,560

afternoon at his house and then

2381

01:21:33,990 --> 01:21:32,880

when we left um he was kind enough to

2382

01:21:36,470 --> 01:21:34,000

give my son one

2383

01:21:37,270 --> 01:21:36,480

one of his battle coins uh which is a

2384

01:21:39,189 --> 01:21:37,280

prize it's a

2385

01:21:40,709 --> 01:21:39,199

really it's a prized possession and he

2386

01:21:42,149 --> 01:21:40,719

actually gave him two which is really

2387

01:21:43,990 --> 01:21:42,159

cool they hit it off like

2388

01:21:45,669 --> 01:21:44,000

you can't believe like like grandfather

2389

01:21:47,750 --> 01:21:45,679

and grandson you know

2390

01:21:49,030 --> 01:21:47,760

at one point i was with his wife in the

2391

01:21:50,149 --> 01:21:49,040

couch in the living room and he

2392

01:21:52,790 --> 01:21:50,159

disappeared with with

2393

01:21:54,310 --> 01:21:52,800

uh my son uh into another room to show

2394

01:21:57,189 --> 01:21:54,320

him his train collection

2395

01:21:58,709 --> 01:21:57,199

oh wow yeah yeah it was really funny it

2396

01:21:59,350 --> 01:21:58,719

was great it was a really good day it

2397

01:22:02,229 --> 01:21:59,360

was a good

2398

01:22:03,669 --> 01:22:02,239

good time you know but i did get you

2399

01:22:04,470 --> 01:22:03,679

know i was all the way home all i could

2400

01:22:07,990 --> 01:22:04,480

think about was

2401
01:22:11,110 --> 01:22:08,000
wow i can't tell you anything about that

2402
01:22:13,430 --> 01:22:11,120
i can't tell you that means he knows no

2403
01:22:14,870 --> 01:22:13,440
he said and the way he looked and as by

2404
01:22:16,950 --> 01:22:14,880
the time i got home i had almost

2405
01:22:17,910 --> 01:22:16,960
forgotten the look on his face about how

2406
01:22:20,950 --> 01:22:17,920
he

2407
01:22:22,470 --> 01:22:20,960
that sentence because

2408
01:22:23,990 --> 01:22:22,480
that said everything to me in that

2409
01:22:26,709 --> 01:22:24,000
moment it said everything

2410
01:22:27,350 --> 01:22:26,719
to me and now when i relay the story um

2411
01:22:29,270 --> 01:22:27,360
i don't

2412
01:22:30,790 --> 01:22:29,280
remember that visceral feeling i had

2413
01:22:32,390 --> 01:22:30,800

when he said that i know that i was

2414

01:22:32,870 --> 01:22:32,400

certainly excited but i can't remember

2415

01:22:35,830 --> 01:22:32,880

that

2416

01:22:37,350 --> 01:22:35,840

visceral feeling of knowing oh my gosh

2417

01:22:39,189 --> 01:22:37,360

this is real

2418

01:22:41,110 --> 01:22:39,199

you know i can't reproduce that in my

2419

01:22:42,629 --> 01:22:41,120

gut and i'm really sorry about that

2420

01:22:44,709 --> 01:22:42,639

you know because i want to i want to

2421

01:22:46,310 --> 01:22:44,719

feel that again you know about what that

2422

01:22:49,350 --> 01:22:46,320

felt like to know that this guy

2423

01:22:51,270 --> 01:22:49,360

knew right right yeah we're just about

2424

01:22:52,390 --> 01:22:51,280

out of time to make this uh an hour and

2425

01:22:55,270 --> 01:22:52,400

a half show

2426

01:22:57,030 --> 01:22:55,280

and uh thanks for the listener to listen

2427

01:22:59,910 --> 01:22:57,040

in for this extended version

2428

01:23:00,390 --> 01:22:59,920

i wanted to ask you to basically wrap it

2429

01:23:04,149 --> 01:23:00,400

up

2430

01:23:07,189 --> 01:23:04,159

what would you say has been the latest

2431

01:23:09,189 --> 01:23:07,199

most compelling either video or uh

2432

01:23:10,550 --> 01:23:09,199

images that you've been involved in

2433

01:23:13,270 --> 01:23:10,560

lately

2434

01:23:15,669 --> 01:23:13,280

well i uh one of the things that uh you

2435

01:23:18,229 --> 01:23:15,679

know i did do was i did a number of

2436

01:23:21,270 --> 01:23:18,239

episodes of nasa's unexplained files

2437

01:23:23,189 --> 01:23:21,280

and uh that's a that's a show which

2438

01:23:24,550 --> 01:23:23,199

uh you know you like it or hate it you

2439

01:23:25,910 --> 01:23:24,560

know it actually does

2440

01:23:27,910 --> 01:23:25,920

produce something cool and one of the

2441

01:23:29,669 --> 01:23:27,920

things we did was to use science

2442

01:23:31,110 --> 01:23:29,679

to explain a lot of different things

2443

01:23:32,950 --> 01:23:31,120

including

2444

01:23:35,030 --> 01:23:32,960

how aliens could be here you know the

2445

01:23:37,270 --> 01:23:35,040

real thing so i know you're not talking

2446

01:23:38,790 --> 01:23:37,280

about a ufo thing and i do have a

2447

01:23:40,629 --> 01:23:38,800

i do have something i can say to that in

2448

01:23:42,550 --> 01:23:40,639

a minute but so

2449

01:23:43,669 --> 01:23:42,560

uh we did that and then the other thing

2450

01:23:46,629 --> 01:23:43,679

i did was

2451
01:23:48,229 --> 01:23:46,639
um a television show on artificial

2452
01:23:50,629 --> 01:23:48,239
structures on the moon

2453
01:23:52,390 --> 01:23:50,639
and i i can't give away any data other

2454
01:23:56,629 --> 01:23:52,400
than to tell you

2455
01:23:58,310 --> 01:23:56,639
that some of the images stumped me

2456
01:24:00,470 --> 01:23:58,320
and i don't believe they were

2457
01:24:01,750 --> 01:24:00,480
artificially created i believe

2458
01:24:03,590 --> 01:24:01,760
not the structures i don't believe that

2459
01:24:04,950 --> 01:24:03,600
the images were faked is what i'm

2460
01:24:07,430 --> 01:24:04,960
getting at

2461
01:24:09,110 --> 01:24:07,440
when i looked at these i was stunned so

2462
01:24:11,189 --> 01:24:09,120
that's

2463
01:24:13,350 --> 01:24:11,199

to me very interesting okay so i looked

2464

01:24:15,910 --> 01:24:13,360

at that and i was like wow

2465

01:24:17,830 --> 01:24:15,920

you know because that's that's that does

2466

01:24:21,189 --> 01:24:17,840

strike a visceral core to me because

2467

01:24:24,229 --> 01:24:21,199

to me if i were an alien

2468

01:24:27,189 --> 01:24:24,239

race of being certainly a tiny tiny

2469

01:24:29,430 --> 01:24:27,199

minority maybe just a handful coming to

2470

01:24:31,270 --> 01:24:29,440

a planet with billions of inhabitants

2471

01:24:33,350 --> 01:24:31,280

i would probably set up shop far enough

2472

01:24:35,030 --> 01:24:33,360

away that i knew they couldn't get to me

2473

01:24:36,629 --> 01:24:35,040

and then just kind of reach out and get

2474

01:24:38,390 --> 01:24:36,639

to them because

2475

01:24:39,750 --> 01:24:38,400

with some of the futuristic propulsion

2476

01:24:40,629 --> 01:24:39,760

we might be able to get to mars in just

2477

01:24:42,470 --> 01:24:40,639

a few minutes

2478

01:24:44,070 --> 01:24:42,480

so going from the moon to the earth

2479

01:24:46,870 --> 01:24:44,080

would you know

2480

01:24:48,950 --> 01:24:46,880

take you know no time at all for people

2481

01:24:51,430 --> 01:24:48,960

with that kind of advancement so

2482

01:24:52,629 --> 01:24:51,440

i'd set up shop did these pardon me for

2483

01:24:54,390 --> 01:24:52,639

interrupting did these yeah

2484

01:24:57,430 --> 01:24:54,400

images come from the orbiter or where

2485

01:24:59,189 --> 01:24:57,440

they come from well

2486

01:25:00,790 --> 01:24:59,199

that'll be made clear in the show i i

2487

01:25:01,510 --> 01:25:00,800

signed a document saying i can't talk

2488

01:25:04,709 --> 01:25:01,520

about it

2489

01:25:06,629 --> 01:25:04,719

but but gosh i really want to but

2490

01:25:07,830 --> 01:25:06,639

um oh i promise i'll edit it out if you

2491

01:25:12,070 --> 01:25:07,840

tell oh no

2492

01:25:15,270 --> 01:25:12,080

no no i'm just kidding yeah yeah i know

2493

01:25:17,270 --> 01:25:15,280

no but but the thing is um even in

2494

01:25:18,070 --> 01:25:17,280

person i i would respect the agreement

2495

01:25:21,110 --> 01:25:18,080

right but

2496

01:25:24,149 --> 01:25:21,120

um i'll tell you this um these

2497

01:25:25,189 --> 01:25:24,159

objects were in uh data that was

2498

01:25:28,950 --> 01:25:25,199

acquired

2499

01:25:31,430 --> 01:25:28,960

during the apollo years and with modern

2500

01:25:33,350 --> 01:25:31,440

orbiters that were circling the moon and

2501
01:25:35,590 --> 01:25:33,360
the thing that got me

2502
01:25:36,550 --> 01:25:35,600
was when i would look at an old apollo

2503
01:25:39,350 --> 01:25:36,560
image and see

2504
01:25:41,030 --> 01:25:39,360
something you know from lunar orbit and

2505
01:25:42,390 --> 01:25:41,040
say okay well i want that same frame

2506
01:25:44,629 --> 01:25:42,400
using you know

2507
01:25:48,070 --> 01:25:44,639
you know lro or clementine or something

2508
01:25:51,990 --> 01:25:48,080
like that and then see it again

2509
01:25:53,110 --> 01:25:52,000
that that was what i found to be very

2510
01:25:55,910 --> 01:25:53,120
compelling so

2511
01:25:57,350 --> 01:25:55,920
um right here at home our own moon for

2512
01:25:59,669 --> 01:25:57,360
crying out loud there might be something

2513
01:26:01,030 --> 01:25:59,679

going on there who knows i'm not a big

2514

01:26:03,189 --> 01:26:01,040

you know lunar anomaly guy

2515

01:26:05,110 --> 01:26:03,199

in fact i think most are you know they

2516

01:26:07,510 --> 01:26:05,120

say tricks of light and shadow

2517

01:26:09,590 --> 01:26:07,520

but one of the things that i did was i

2518

01:26:12,550 --> 01:26:09,600

created a way to actually demonstrate

2519

01:26:13,669 --> 01:26:12,560

live how those things actually occur by

2520

01:26:15,350 --> 01:26:13,679

literally creating

2521

01:26:17,750 --> 01:26:15,360

again i'm a special effects guy right

2522

01:26:20,310 --> 01:26:17,760

with with you know with the film arena

2523

01:26:21,110 --> 01:26:20,320

so i actually created a lunar surface

2524

01:26:23,510 --> 01:26:21,120

that we could

2525

01:26:24,149 --> 01:26:23,520

help with meteorites and other things to

2526

01:26:26,790 --> 01:26:24,159

generate

2527

01:26:27,830 --> 01:26:26,800

actual landforms dynamically right live

2528

01:26:31,430 --> 01:26:27,840

on camera

2529

01:26:32,709 --> 01:26:31,440

so um that that display

2530

01:26:34,310 --> 01:26:32,719

that thing in fact i used to take this

2531

01:26:35,270 --> 01:26:34,320

thing around i would actually take this

2532

01:26:38,550 --> 01:26:35,280

around

2533

01:26:40,550 --> 01:26:38,560

actually show people i've done this

2534

01:26:42,550 --> 01:26:40,560

before

2535

01:26:44,149 --> 01:26:42,560

and use different materials well anyway

2536

01:26:47,270 --> 01:26:44,159

it's really neat but

2537

01:26:48,470 --> 01:26:47,280

um you know we'll see how much gets into

2538

01:26:50,390 --> 01:26:48,480

the show i know that

2539

01:26:51,830 --> 01:26:50,400

again i can't say anything more about it

2540

01:26:55,189 --> 01:26:51,840

i won't but

2541

01:26:57,110 --> 01:26:55,199

i do know that uh there are uh

2542

01:26:58,310 --> 01:26:57,120

one or two images that i was shown that

2543

01:27:00,790 --> 01:26:58,320

i simply

2544

01:27:01,590 --> 01:27:00,800

couldn't explain and that i found

2545

01:27:03,669 --> 01:27:01,600

corroborative

2546

01:27:05,830 --> 01:27:03,679

data for you know from what they

2547

01:27:08,070 --> 01:27:05,840

provided so i was like wow

2548

01:27:09,830 --> 01:27:08,080

now you know when that was gonna air i

2549

01:27:11,590 --> 01:27:09,840

don't in fact i sent an email today

2550

01:27:13,110 --> 01:27:11,600

to the producer asking you know what's

2551

01:27:15,350 --> 01:27:13,120

going on because

2552

01:27:17,030 --> 01:27:15,360

i want them to come back and and and you

2553

01:27:18,390 --> 01:27:17,040

know film some more of the things they

2554

01:27:19,430 --> 01:27:18,400

were talking about that we were talking

2555

01:27:22,709 --> 01:27:19,440

about doing

2556

01:27:24,629 --> 01:27:22,719

so really cool that is great

2557

01:27:26,550 --> 01:27:24,639

hey well you know what it's been a real

2558

01:27:28,470 --> 01:27:26,560

pleasure talking to you

2559

01:27:30,390 --> 01:27:28,480

i feel like we haven't finished like we

2560

01:27:32,070 --> 01:27:30,400

can talk again sometime soon

2561

01:27:34,470 --> 01:27:32,080

absolutely we can talk about in fact

2562

01:27:36,790 --> 01:27:34,480

when you know we stayed specifically

2563

01:27:37,830 --> 01:27:36,800

away from all the the background and

2564

01:27:39,990 --> 01:27:37,840

details of the

2565

01:27:41,030 --> 01:27:40,000

ufo detection systems i mean that's

2566

01:27:43,110 --> 01:27:41,040

going to be a

2567

01:27:44,229 --> 01:27:43,120

a multi-instrument skywatch system

2568

01:27:46,390 --> 01:27:44,239

deployed

2569

01:27:48,709 --> 01:27:46,400

all over the southwest in america and in

2570

01:27:49,270 --> 01:27:48,719

the ocean i've got some set up for usos

2571

01:27:51,669 --> 01:27:49,280

that i

2572

01:27:53,910 --> 01:27:51,679

i designed one for uso hunting and you

2573

01:27:55,750 --> 01:27:53,920

know one for ufo hunting on land

2574

01:27:57,430 --> 01:27:55,760

and we have a science team from all over

2575

01:27:58,950 --> 01:27:57,440

the country of people much smarter than

2576

01:28:01,910 --> 01:27:58,960

me that are working with me to

2577

01:28:03,270 --> 01:28:01,920

and doug to try early on and now we're

2578

01:28:05,669 --> 01:28:03,280

actually making it smaller

2579

01:28:06,790 --> 01:28:05,679

portable reproducible and we're going to

2580

01:28:09,350 --> 01:28:06,800

have it

2581

01:28:10,149 --> 01:28:09,360

talk to satellites to send us data and

2582

01:28:12,870 --> 01:28:10,159

uh

2583

01:28:14,310 --> 01:28:12,880

that part already works so we're making

2584

01:28:16,070 --> 01:28:14,320

progress it's pretty cool

2585

01:28:17,910 --> 01:28:16,080

well that's great so thank you so much

2586

01:28:19,510 --> 01:28:17,920

mark of course martin thank you so much

2587

01:28:19,990 --> 01:28:19,520

for having me i'll talk to you again i'm

2588

01:28:21,510 --> 01:28:20,000

sure

2589

01:28:23,830 --> 01:28:21,520

i want to thank everyone for helping out

2590

01:28:25,430 --> 01:28:23,840

with the show today our guest of course

2591

01:28:27,110 --> 01:28:25,440

mark d'antonio

2592

01:28:29,030 --> 01:28:27,120

keith roland the producer for the dark

2593

01:28:30,870 --> 01:28:29,040

matter radio network

2594

01:28:33,189 --> 01:28:30,880

andy fleming for the astronomy news

2595

01:28:35,110 --> 01:28:33,199

carrie lloyd white house for our music

2596

01:28:37,350 --> 01:28:35,120

peggy shunning for managing our facebook

2597

01:28:39,510 --> 01:28:37,360

page and remember to like us on facebook

2598

01:28:41,350 --> 01:28:39,520

for all the latest ufo news

2599

01:28:42,950 --> 01:28:41,360

you can check us out live next week the

2600

01:28:45,270 --> 01:28:42,960

dark matter radio network

2601

01:28:46,790 --> 01:28:45,280

and every wednesday at 9 00 pm eastern

2602

01:28:49,510 --> 01:28:46,800

standard time and don't forget

2603

01:28:51,110 --> 01:28:49,520

to jump in the chat room at podcast ufo

2604

01:28:53,669 --> 01:28:51,120

this is martin willis