

The Skeptic Zone
Show 381 - 7 Feb 2016



Dr Phil Plait

1
00:00:23,380 --> 00:00:09,090
welcome to the skeptic zone the podcast

2
00:00:31,340 --> 00:00:26,120
hello and welcome to the skeptics are an

3
00:00:33,590 --> 00:00:31,350
episode number 381 47th of every 2016

4
00:00:35,660 --> 00:00:33,600
Richard Saunders here with you from

5
00:00:37,820 --> 00:00:35,670
Sydney Australia coming up on this

6
00:00:40,580 --> 00:00:37,830
week's show what a treat what a special

7
00:00:43,130 --> 00:00:40,590
treat my old friend dr. Phil Plait known

8
00:00:44,660 --> 00:00:43,140
as the bad astronomer having caught up

9
00:00:46,280 --> 00:00:44,670
with Phil for a while we're going to be

10
00:00:49,000 --> 00:00:46,290
talking about the passing of the

11
00:00:52,640 --> 00:00:49,010
astronaut edgar mitchell and some of the

12
00:00:54,590 --> 00:00:52,650
well far-fetched things he believed in

13
00:00:57,649 --> 00:00:54,600

Phil's going to talk to us also about

14

00:01:00,290 --> 00:00:57,659

exploring the universe and UFOs and all

15

00:01:03,200 --> 00:01:00,300

sorts of good space things like that the

16

00:01:05,210 --> 00:01:03,210

bad astronomer dr. Phil Plait kicking

17

00:01:07,250 --> 00:01:05,220

off this week's episode of the skeptic

18

00:01:09,320 --> 00:01:07,260

zone following notes a week in science

19

00:01:14,120 --> 00:01:09,330

from the Royal Institution of Australia

20

00:01:18,469 --> 00:01:14,130

w WR ia us ova you keeping with the

21

00:01:23,210 --> 00:01:18,479

space theme are we talking about the

22

00:01:25,100 --> 00:01:23,220

roundness of planet Earth is it flat yes

23

00:01:27,470 --> 00:01:25,110

somebody in the media has been saying

24

00:01:30,320 --> 00:01:27,480

recently find out with a week in science

25

00:01:32,780 --> 00:01:30,330

well in this round it's not flat just

26

00:01:35,210 --> 00:01:32,790

thought I'd let you know after that a

27

00:01:38,150 --> 00:01:35,220

brief report from me about this mark

28

00:01:40,160 --> 00:01:38,160

zuckerberg story where he took his

29

00:01:43,490 --> 00:01:40,170

daughter to get her vaccination shots

30

00:01:47,270 --> 00:01:43,500

and the anti-vaccination crowd came out

31

00:01:49,880 --> 00:01:47,280

of the woodwork and left a very nasty

32

00:01:52,760 --> 00:01:49,890

but telling comments on social media

33

00:01:54,290 --> 00:01:52,770

I'll be reading out some of those then

34

00:01:56,720 --> 00:01:54,300

to round off the show it's Sydney

35

00:01:58,970 --> 00:01:56,730

skeptics in the pub where I'll be asking

36

00:02:02,080 --> 00:01:58,980

the question if you had a magic wand if

37

00:02:04,610 --> 00:02:02,090

skeptics had a magic wand or some way to

38

00:02:09,130 --> 00:02:04,620

make people see our point of view would

39

00:02:11,899 --> 00:02:09,140

we do it would we just dispense with

40

00:02:15,170 --> 00:02:11,909

hours of argument and reasoning and

41

00:02:18,170 --> 00:02:15,180

logic and examples or would we just like

42

00:02:20,210 --> 00:02:18,180

to wave our magic one also during the

43

00:02:21,770 --> 00:02:20,220

flow the ebb and flow of skeptics in the

44

00:02:24,410 --> 00:02:21,780

pub for some reason we end up talking

45

00:02:26,180 --> 00:02:24,420

about ghost hunting but that skeptics in

46

00:02:29,509 --> 00:02:26,190

the pub for you folks especially the one

47

00:02:31,309 --> 00:02:29,519

here in sydney wow what fun it is just

48

00:02:33,589 --> 00:02:31,319

lots of interesting people talking about

49

00:02:34,320 --> 00:02:33,599

whatever we want to talk about the first

50

00:02:35,970 --> 00:02:34,330

Thursday

51
00:02:38,850 --> 00:02:35,980
of the month if you're in Sydney at the

52
00:02:41,550 --> 00:02:38,860
Crown Hotel which is near museum station

53
00:02:46,440 --> 00:02:41,560
more details at skeptics calm today you

54
00:02:47,760 --> 00:02:46,450
or just look it up on meetup com thank

55
00:02:49,500 --> 00:02:47,770
you to all those listeners thank you

56
00:02:51,720 --> 00:02:49,510
very much indeed who have been sending

57
00:02:54,360 --> 00:02:51,730
me very kind and heartfelt messages

58
00:02:56,970 --> 00:02:54,370
about Fred the cat miss Fred the cat

59
00:02:59,070 --> 00:02:56,980
very much you should be right here right

60
00:03:02,280 --> 00:02:59,080
now in this office either sitting on my

61
00:03:07,140 --> 00:03:02,290
keyboard or at my feet looking at me

62
00:03:08,670 --> 00:03:07,150
saying come on time for food it's just

63
00:03:09,930 --> 00:03:08,680

not the same without Fred the cat the

64

00:03:12,150 --> 00:03:09,940
skeptic zone isn't quite the same

65

00:03:14,220 --> 00:03:12,160
without frantic at gotta admit it but

66

00:03:16,020 --> 00:03:14,230
yes thank you so much so many kind

67

00:03:18,690 --> 00:03:16,030
messages have been coming and I even got

68

00:03:21,330 --> 00:03:18,700
a card can you believe it it is so sweet

69

00:03:23,550 --> 00:03:21,340
thank you yes Fred will long be

70

00:03:27,060 --> 00:03:23,560
remembered pronounce time for me to run

71

00:03:30,150 --> 00:03:27,070
downstairs and to commemorate Fred I

72

00:03:31,980 --> 00:03:30,160
might have a Vegemite sandwich there is

73

00:03:33,660 --> 00:03:31,990
reasoning behind this every time I had a

74

00:03:37,410 --> 00:03:33,670
Vegemite sandwich Fred would suddenly

75

00:03:40,560 --> 00:03:37,420
appear on the chair next to me look at

76

00:03:43,440 --> 00:03:40,570

me and he was waiting for you to dab a

77

00:03:46,680 --> 00:03:43,450

little bit of Vegemite on my finger and

78

00:03:49,979 --> 00:03:46,690

Abby's poor and look at his poor that Oh

79

00:03:51,990 --> 00:03:49,989

a bit of Vegemite and lick it up that

80

00:04:15,650 --> 00:03:52,000

was Fred while I do that I hope you

81

00:04:20,940 --> 00:04:18,600

joining me now on the line from well

82

00:04:22,710 --> 00:04:20,950

sort of outside boulder colorado in the

83

00:04:25,380 --> 00:04:22,720

countryside there with a few goats and

84

00:04:28,020 --> 00:04:25,390

things floating about it's my old friend

85

00:04:29,490 --> 00:04:28,030

dr. Phil Plait otherwise known and I

86

00:04:32,850 --> 00:04:29,500

think you're still known as the bad

87

00:04:35,460 --> 00:04:32,860

astronomer hello Phil I Richard hello

88

00:04:37,530 --> 00:04:35,470

Richards listeners there's been a while

89

00:04:41,040 --> 00:04:37,540

it's been a while Phil now we've known

90

00:04:42,510 --> 00:04:41,050

each other Oh since about 2003-2004

91

00:04:44,450 --> 00:04:42,520

something like that in fact you were

92

00:04:46,380 --> 00:04:44,460

against here in Australia at the

93

00:04:50,280 --> 00:04:46,390

Australian skeptics National Convention

94

00:04:53,460 --> 00:04:50,290

way back in 2004 we flew you out that

95

00:04:55,590 --> 00:04:53,470

was a highlight of my life that was my

96

00:04:57,750 --> 00:04:55,600

first trip to Australia and I just had

97

00:04:59,040 --> 00:04:57,760

the best time I was just thinking about

98

00:05:01,200 --> 00:04:59,050

that meeting the other day as a matter

99

00:05:04,440 --> 00:05:01,210

of fact I had so much fun it was great

100

00:05:06,150 --> 00:05:04,450

and the last time we caught up was was

101

00:05:08,550 --> 00:05:06,160

it not last year but maybe the year

102

00:05:10,980 --> 00:05:08,560

before in Sydney you're out here to give

103

00:05:14,580 --> 00:05:10,990

a talk or two and we had the pleasure of

104

00:05:17,970 --> 00:05:14,590

visiting the Sydney Observatory right

105

00:05:19,290 --> 00:05:17,980

that was fun that was amazing I have a

106

00:05:21,240 --> 00:05:19,300

lot of friends in Australia a lot of

107

00:05:23,820 --> 00:05:21,250

astronomers and just other folks and so

108

00:05:25,050 --> 00:05:23,830

it was nice to catch up with a few and

109

00:05:27,360 --> 00:05:25,060

we caught up with a few there at the

110

00:05:31,980 --> 00:05:27,370

observatory and it was a gorgeous night

111

00:05:34,410 --> 00:05:31,990

and we went out and I got to look at the

112

00:05:38,040 --> 00:05:34,420

sky which is so different down there

113

00:05:39,180 --> 00:05:38,050

that hemisphere than up here and if you

114

00:05:43,830 --> 00:05:39,190

remember looking through the telescope

115

00:05:45,750 --> 00:05:43,840

at oh my gosh ada Carinae and all these

116

00:05:48,780 --> 00:05:45,760

different objects ada Carinae is a a

117

00:05:51,300 --> 00:05:48,790

star on the verge of exploding famous

118

00:05:52,860 --> 00:05:51,310

Hubble picture of that and and I've seen

119

00:05:54,450 --> 00:05:52,870

a million pictures of all these objects

120

00:05:57,270 --> 00:05:54,460

but to actually stand at the eyepiece

121

00:05:59,370 --> 00:05:57,280

and see them that was pretty cool that

122

00:06:01,260 --> 00:05:59,380

was cool and it's one of the great

123

00:06:03,390 --> 00:06:01,270

advantages of knowing someone like you

124

00:06:06,600 --> 00:06:03,400

feel if we turn up that the observatory

125

00:06:09,000 --> 00:06:06,610

we often get them a special pass to see

126

00:06:10,399 --> 00:06:09,010

areas where normal normal humans don't

127

00:06:13,129 --> 00:06:10,409

get to go now Phil

128

00:06:15,139 --> 00:06:13,139

oh yeah that's true all those years ago

129

00:06:17,540 --> 00:06:15,149

of course you were famous and and I

130

00:06:21,049 --> 00:06:17,550

first heard about you because of bad

131

00:06:24,519 --> 00:06:21,059

astronomy and your writings especially

132

00:06:26,989 --> 00:06:24,529

on the so-called moon landing hoax and

133

00:06:28,519 --> 00:06:26,999

things like the face on Mars and things

134

00:06:30,529 --> 00:06:28,529

like that and I was just thinking the

135

00:06:34,070 --> 00:06:30,539

other day when I will get to this topic

136

00:06:38,959 --> 00:06:34,080

soon the passing of the astronaut edgar

137

00:06:41,299 --> 00:06:38,969

mittell that this is one thorn in our

138

00:06:44,209 --> 00:06:41,309

side that's more or less God away you

139

00:06:46,519 --> 00:06:44,219

hardly ever hear about the moon landing

140

00:06:51,049 --> 00:06:46,529

hoax anymore are you responsible for

141

00:06:54,469 --> 00:06:51,059

that I take full credit you know we all

142

00:06:56,119 --> 00:06:54,479

played our parts everybody who stood up

143

00:06:58,040 --> 00:06:56,129

and said listen this idea is ridiculous

144

00:07:00,469 --> 00:06:58,050

of course we went to the moon and here's

145

00:07:02,659 --> 00:07:00,479

why yeah and here's where the arguments

146

00:07:05,509 --> 00:07:02,669

are wrong from the people who believe

147

00:07:07,909 --> 00:07:05,519

the landings were faked and yeah back

148

00:07:11,149 --> 00:07:07,919

back in around the time you and I first

149

00:07:13,369 --> 00:07:11,159

met in the early 2000s uh gosh the web

150

00:07:16,819 --> 00:07:13,379

was young and new all the electrons were

151

00:07:18,709 --> 00:07:16,829

still shiny and be indented but back

152

00:07:21,559 --> 00:07:18,719

then I I actually wrote up a web page

153

00:07:25,009 --> 00:07:21,569

about this because fox TV and aaron a

154

00:07:27,439 --> 00:07:25,019

special called conspiracy theory did we

155

00:07:29,239 --> 00:07:27,449

land on the moon and if they just said

156

00:07:31,519 --> 00:07:29,249

yes it would have been a very short TV

157

00:07:33,259 --> 00:07:31,529

show but they put on all these

158

00:07:35,419 --> 00:07:33,269

ridiculous claims and I wound up writing

159

00:07:37,249 --> 00:07:35,429

about it and when I went to Australia I

160

00:07:38,929 --> 00:07:37,259

gave several talks about that was so

161

00:07:41,809 --> 00:07:38,939

much fun especially at the Parkes radio

162

00:07:44,149 --> 00:07:41,819

observatory and at parts they're very

163

00:07:46,639 --> 00:07:44,159

proud of their involvement with the

164

00:07:50,359 --> 00:07:46,649

Apollo missions so that was a real treat

165

00:07:52,939 --> 00:07:50,369

to go there but yeah you know over the

166

00:07:54,619 --> 00:07:52,949

years like most silly conspiracy

167

00:07:57,949 --> 00:07:54,629

theories that are very specific at least

168

00:08:00,079 --> 00:07:57,959

its kind of died off and most of the the

169

00:08:02,600 --> 00:08:00,089

hardcore people are still around yeah

170

00:08:04,669 --> 00:08:02,610

the sort of the hangers on the people

171

00:08:06,199 --> 00:08:04,679

that might just kind of sort of believe

172

00:08:09,909 --> 00:08:06,209

it and talk about it I've kind of died

173

00:08:13,909 --> 00:08:09,919

off I think and there are still a few

174

00:08:16,879 --> 00:08:13,919

really strongly opinionated people out

175

00:08:20,689 --> 00:08:16,889

there but their audience has basically

176

00:08:22,459 --> 00:08:20,699

disappeared yeah and and things like new

177

00:08:24,020 --> 00:08:22,469

high-resolution photographs of the

178

00:08:26,600 --> 00:08:24,030

landing sites came

179

00:08:28,610 --> 00:08:26,610

away some years ago now and there were

180

00:08:30,470 --> 00:08:28,620

even the Mythbusters got into the act

181

00:08:33,650 --> 00:08:30,480

and they had a special all about some of

182

00:08:35,840 --> 00:08:33,660

the the moon landing conspiracies but I

183

00:08:38,060 --> 00:08:35,850

remember the talks you gave in that era

184

00:08:40,310 --> 00:08:38,070

were fascinating and I learned a lot

185

00:08:42,320 --> 00:08:40,320

from those talks because i was able then

186

00:08:44,210 --> 00:08:42,330

to engage with other people said or how

187

00:08:46,340 --> 00:08:44,220

can you explain the two shadows or the

188

00:08:47,630 --> 00:08:46,350

no shadows or I'm sorry not the two

189

00:08:49,070 --> 00:08:47,640

shadows the shadows at different angles

190

00:08:51,680 --> 00:08:49,080

and all this sort break they're not

191

00:08:53,000 --> 00:08:51,690

parallel they're not parallel and how do

192

00:08:55,520 --> 00:08:53,010

you explain this that and the other way

193

00:08:57,010 --> 00:08:55,530

your talk did exactly that and at the

194

00:09:00,340 --> 00:08:57,020

time I think it was the perfect

195

00:09:02,720 --> 00:09:00,350

skeptical investigation of a of an issue

196

00:09:07,190 --> 00:09:02,730

well thank you that's very kind of you

197

00:09:12,470 --> 00:09:07,200

and for me the as aggravating as it all

198

00:09:14,510 --> 00:09:12,480

was as difficult as as it was to keep my

199

00:09:16,730 --> 00:09:14,520

cool sometimes when been confronting

200

00:09:18,800 --> 00:09:16,740

these people the beauty of it was that I

201
00:09:21,620 --> 00:09:18,810
learned so much about the moon I learned

202
00:09:23,420 --> 00:09:21,630
about the Apollo missions I learned

203
00:09:25,970 --> 00:09:23,430
about all the missions previous and

204
00:09:29,120 --> 00:09:25,980
subsequent to them about the moon itself

205
00:09:30,230 --> 00:09:29,130
and and also just and you know anytime

206
00:09:35,090 --> 00:09:30,240
you you investigate something

207
00:09:37,370 --> 00:09:35,100
skeptically you find avenues of insight

208
00:09:39,290 --> 00:09:37,380
for example the shadows not being

209
00:09:41,120 --> 00:09:39,300
parallel why why is that well it's

210
00:09:42,920 --> 00:09:41,130
perspective and you see this all the

211
00:09:44,750 --> 00:09:42,930
time but your brain is just kind of

212
00:09:47,060 --> 00:09:44,760
wired to ignore it and then when you

213
00:09:49,700 --> 00:09:47,070

when you see it it's like opening your

214

00:09:51,860 --> 00:09:49,710

eyes for the first time and so for me

215

00:09:54,800 --> 00:09:51,870

that was it was it was lovely it was

216

00:09:58,670 --> 00:09:54,810

just a new way of investigating the

217

00:10:02,330 --> 00:09:58,680

world and learning how to dig down into

218

00:10:05,960 --> 00:10:02,340

a conspiracy theory into pseudoscience

219

00:10:09,620 --> 00:10:05,970

and figure out how to disrupt it it was

220

00:10:11,870 --> 00:10:09,630

and it was just a such a joy to see that

221

00:10:16,580 --> 00:10:11,880

talk and your wonderful illustrations

222

00:10:18,530 --> 00:10:16,590

and you you reproduced to some extent

223

00:10:20,750 --> 00:10:18,540

some of the famous photographs here on

224

00:10:23,510 --> 00:10:20,760

earth and showed how reflections from

225

00:10:26,120 --> 00:10:23,520

the landscape can lighten things and how

226

00:10:27,770 --> 00:10:26,130

shadows work it was a well-done Phil cop

227

00:10:28,970 --> 00:10:27,780

mark thank you it was fun to put it

228

00:10:31,160 --> 00:10:28,980

together it's fun to put it together

229

00:10:34,010 --> 00:10:31,170

they're talking about Apollo let's get

230

00:10:37,730 --> 00:10:34,020

back to the recent passing of a snore

231

00:10:39,080 --> 00:10:37,740

astronaut edgar mitchell now

232

00:10:40,970 --> 00:10:39,090

been reading a lot of comments about him

233

00:10:42,560 --> 00:10:40,980

lately over the last day the news has

234

00:10:45,350 --> 00:10:42,570

only really just come out that he he

235

00:10:47,090 --> 00:10:45,360

passed away he was on Apollo 14 he was

236

00:10:50,120 --> 00:10:47,100

one of the men who walked on the moon

237

00:10:51,410 --> 00:10:50,130

but he's also he's quite a double sword

238

00:10:54,800 --> 00:10:51,420

double-edged sword because he's also

239

00:10:56,690 --> 00:10:54,810

known for his what shall we say somewhat

240

00:10:59,750 --> 00:10:56,700

far-fetched conspiracy theories belief

241

00:11:03,410 --> 00:10:59,760

in aliens and he was famous for

242

00:11:06,730 --> 00:11:03,420

conducting unofficial ESP tests from

243

00:11:12,320 --> 00:11:06,740

orbit it was quite quite a mixed bag

244

00:11:14,390 --> 00:11:12,330

yeah this is it's an interesting it's an

245

00:11:17,300 --> 00:11:14,400

interesting topic you know we all have

246

00:11:20,000 --> 00:11:17,310

these contradictory beliefs and

247

00:11:21,890 --> 00:11:20,010

hopefully when it's shown when they're

248

00:11:23,180 --> 00:11:21,900

shown to us and you say you believe this

249

00:11:24,860 --> 00:11:23,190

but you also believe this and then you

250

00:11:27,980 --> 00:11:24,870

look at them and go oh yeah one of these

251
00:11:30,800 --> 00:11:27,990
must be wrong that happens but sometimes

252
00:11:32,920 --> 00:11:30,810
it doesn't and sometimes you can really

253
00:11:35,930 --> 00:11:32,930
dig in and that can happen to anybody

254
00:11:38,770 --> 00:11:35,940
and it certainly it certainly happened

255
00:11:41,450 --> 00:11:38,780
in Mitchell's case here's a man who

256
00:11:45,740 --> 00:11:41,460
walked on the moon ii was the 6th human

257
00:11:49,810 --> 00:11:45,750
being to walk on the moon and look you

258
00:11:52,970 --> 00:11:49,820
know let's be clear for me ESP is a

259
00:11:54,890 --> 00:11:52,980
scientific hypothesis you you have a you

260
00:11:57,500 --> 00:11:54,900
have some scattered evidence which

261
00:11:59,840 --> 00:11:57,510
indicates that perhaps people can

262
00:12:01,460 --> 00:11:59,850
communicate telepathically or you can

263
00:12:04,120 --> 00:12:01,470

move things with your mind or something

264

00:12:08,630 --> 00:12:04,130

like that that's a perfectly acceptable

265

00:12:10,940 --> 00:12:08,640

scientific hypothesis say some place to

266

00:12:14,240 --> 00:12:10,950

start but then that's the place to start

267

00:12:16,940 --> 00:12:14,250

you have to test it and back then back

268

00:12:21,410 --> 00:12:16,950

at apollo 14 which was in the early

269

00:12:23,900 --> 00:12:21,420

1970s um that's a that was a time when

270

00:12:26,360 --> 00:12:23,910

it was it was sort of really popular i

271

00:12:27,860 --> 00:12:26,370

was yes absolutely yes that was the time

272

00:12:30,200 --> 00:12:27,870

were you together and all that sort of

273

00:12:32,660 --> 00:12:30,210

stuff Oh exactly and people were testing

274

00:12:33,980 --> 00:12:32,670

it but the tests were terrible and as

275

00:12:37,190 --> 00:12:33,990

far as I'm concerned you know you can

276

00:12:38,960 --> 00:12:37,200

say it when you're when you're testing a

277

00:12:41,300 --> 00:12:38,970

scientific hypothesis you say listen I

278

00:12:42,710 --> 00:12:41,310

can hold up a card and there's somebody

279

00:12:44,120 --> 00:12:42,720

across the room and maybe they can tell

280

00:12:45,770 --> 00:12:44,130

what card I'm holding up because we're

281

00:12:48,410 --> 00:12:45,780

communicating telepathically and if it

282

00:12:49,910 --> 00:12:48,420

doesn't work you can say well maybe

283

00:12:51,290 --> 00:12:49,920

didn't work because there are too many

284

00:12:54,230 --> 00:12:51,300

other people around in

285

00:12:56,420 --> 00:12:54,240

with the signal so hey you know what a

286

00:12:58,100 --> 00:12:56,430

good control experiment would be to take

287

00:13:00,320 --> 00:12:58,110

a human being and put them a hundred

288

00:13:03,259 --> 00:13:00,330

thousand miles away from the earth right

289

00:13:06,560 --> 00:13:03,269

yeah so so you know in effect the idea

290

00:13:09,139 --> 00:13:06,570

of testing this idea of telepathically

291

00:13:11,780 --> 00:13:09,149

communicating with people through ESP uh

292

00:13:13,910 --> 00:13:11,790

and doing that on board an Apollo

293

00:13:16,670 --> 00:13:13,920

capsule on the way to and from the moon

294

00:13:19,430 --> 00:13:16,680

that's a great idea I kind of like it i

295

00:13:21,500 --> 00:13:19,440

can imagine nasa with their their

296

00:13:26,449 --> 00:13:21,510

knickers in a twist guys were so

297

00:13:29,360 --> 00:13:26,459

straight-laced uh but still it's not a

298

00:13:32,269 --> 00:13:29,370

bad idea from what i've read and what

299

00:13:34,220 --> 00:13:32,279

I've heard now and I should say Edgar

300

00:13:36,350 --> 00:13:34,230

Mitchell did this he got together with

301
00:13:38,840 --> 00:13:36,360
some some people and they they won this

302
00:13:42,139 --> 00:13:38,850
out James Oberg who was a space

303
00:13:43,610 --> 00:13:42,149
historian and and has written about many

304
00:13:45,620 --> 00:13:43,620
of these things has said that in fact

305
00:13:47,930 --> 00:13:45,630
Mitchell's tests weren't very good they

306
00:13:49,670 --> 00:13:47,940
weren't controlling carefully and so

307
00:13:52,400 --> 00:13:49,680
they really didn't wind up showing much

308
00:13:55,190 --> 00:13:52,410
and he he claimed i think that there was

309
00:13:56,540 --> 00:13:55,200
a 25-percent hit rate but that this

310
00:13:58,639 --> 00:13:56,550
would you know that basically twenty

311
00:14:00,079 --> 00:13:58,649
five percent of the of the guesses were

312
00:14:02,800 --> 00:14:00,089
accurate way more than to expect from

313
00:14:05,600 --> 00:14:02,810

random chance but according to Oberg

314

00:14:07,550 --> 00:14:05,610

this claim is probably exaggerated that

315

00:14:08,930 --> 00:14:07,560

the tests weren't is carefully

316

00:14:11,060 --> 00:14:08,940

controlled as they should have been yeah

317

00:14:14,360 --> 00:14:11,070

yeah well but I know I take your point

318

00:14:16,310 --> 00:14:14,370

that why not and inspect especially in

319

00:14:20,060 --> 00:14:16,320

that day and age in the early 70s where

320

00:14:22,760 --> 00:14:20,070

ah there was a almost a broad acceptance

321

00:14:24,769 --> 00:14:22,770

that these things were real it's strange

322

00:14:26,720 --> 00:14:24,779

Who am I mean I was only a very little

323

00:14:29,600 --> 00:14:26,730

kid at the time but even I remember that

324

00:14:32,090 --> 00:14:29,610

that feeling the the press were

325

00:14:33,889 --> 00:14:32,100

certainly that's how they treated think

326

00:14:36,920 --> 00:14:33,899

scientists were investigating it so from

327

00:14:38,000 --> 00:14:36,930

that point of view actually I and I sort

328

00:14:41,389 --> 00:14:38,010

of tend to agree with what you're saying

329

00:14:43,370 --> 00:14:41,399

well why not but in more recent times

330

00:14:45,189 --> 00:14:43,380

he's been I guess he's been more known

331

00:14:47,600 --> 00:14:45,199

for his conspiracy theories regarding

332

00:14:49,400 --> 00:14:47,610

friendly aliens or aliens looking at our

333

00:14:52,970 --> 00:14:49,410

military processes or things like that

334

00:14:55,069 --> 00:14:52,980

and attracts me is quite interesting and

335

00:14:56,960 --> 00:14:55,079

I wonder how some of the conspiracy

336

00:14:59,150 --> 00:14:56,970

theories treated him because there'd be

337

00:15:00,680 --> 00:14:59,160

a mindset of people who didn't believe

338

00:15:01,939 --> 00:15:00,690

that people went to the moon but we're

339

00:15:04,550 --> 00:15:01,949

quite happy to believe that Edgar

340

00:15:05,180 --> 00:15:04,560

Mitchell says there are aliens what yeah

341

00:15:12,710 --> 00:15:05,190

there's a

342

00:15:15,740 --> 00:15:12,720

contradictions there for example I wrote

343

00:15:18,620 --> 00:15:15,750

about Edgar Mitchell this week shortly

344

00:15:21,140 --> 00:15:18,630

after after he died I met him at a

345

00:15:23,600 --> 00:15:21,150

meeting a few years ago Ryan and I

346

00:15:25,190 --> 00:15:23,610

chatted with him briefly about the moon

347

00:15:26,360 --> 00:15:25,200

hoax most of the Apollo astronauts don't

348

00:15:28,130 --> 00:15:26,370

like talking about it because they're

349

00:15:29,900 --> 00:15:28,140

sick of it yeah it makes them angry you

350

00:15:32,060 --> 00:15:29,910

know you dedicated your life to this

351
00:15:33,470 --> 00:15:32,070
incredible achievement that's one of the

352
00:15:37,610 --> 00:15:33,480
greatest things humans have ever done

353
00:15:39,860 --> 00:15:37,620
and and some some go ah comes along

354
00:15:42,350 --> 00:15:39,870
thinking much and says I don't believe

355
00:15:43,670 --> 00:15:42,360
you walked on the moon and so he was

356
00:15:46,390 --> 00:15:43,680
very clear about this if that was all

357
00:15:50,090 --> 00:15:46,400
nonsense and and mind you the moon hoax

358
00:15:53,210 --> 00:15:50,100
idea is based on this this idea that

359
00:15:56,090 --> 00:15:53,220
NASA faked the moon landings yes spiracy

360
00:15:59,360 --> 00:15:56,100
that NASA did it on the other hand when

361
00:16:01,190 --> 00:15:59,370
you've got UFOs and and ed Mitchell was

362
00:16:03,530 --> 00:16:01,200
very clear about this he felt that NASA

363
00:16:05,120 --> 00:16:03,540

was covering up the evidence of alien

364

00:16:09,080 --> 00:16:05,130

spaceships and that aliens were coming

365

00:16:11,480 --> 00:16:09,090

and doing all this but in fact I mean we

366

00:16:13,940 --> 00:16:11,490

know we've all seen the evidence and the

367

00:16:15,320 --> 00:16:13,950

evidence is very poor the more you look

368

00:16:19,400 --> 00:16:15,330

at the evidence of flying saucers

369

00:16:22,190 --> 00:16:19,410

landing the more you find that they're

370

00:16:27,410 --> 00:16:22,200

just misinterpretations or whatever

371

00:16:29,780 --> 00:16:27,420

exaggerations over time uh and and forty

372

00:16:31,010 --> 00:16:29,790

years ago whatever when when we didn't

373

00:16:33,590 --> 00:16:31,020

have digital cameras we didn't have the

374

00:16:34,760 --> 00:16:33,600

internet yeah sure it was much easier to

375

00:16:37,880 --> 00:16:34,770

believe in that kind of thing but the

376

00:16:40,970 --> 00:16:37,890

longer we have everybody on earth

377

00:16:43,210 --> 00:16:40,980

walking around with a camera and and

378

00:16:47,180 --> 00:16:43,220

still not seeing good evidence of this

379

00:16:48,320 --> 00:16:47,190

the less likely it is for me to want to

380

00:16:50,180 --> 00:16:48,330

think that this is the stuff that's

381

00:16:51,650 --> 00:16:50,190

happening the only way you can believe

382

00:16:55,070 --> 00:16:51,660

this is happening is if there is some

383

00:16:57,290 --> 00:16:55,080

sort of cover-up where these aliens

384

00:17:00,380 --> 00:16:57,300

aren't coming that often so that people

385

00:17:02,120 --> 00:17:00,390

don't see them but the military and nasa

386

00:17:04,579 --> 00:17:02,130

and government knows madam is covering

387

00:17:06,020 --> 00:17:04,589

them up but I still just don't I just

388

00:17:08,750 --> 00:17:06,030

don't see that I don't see the evidence

389

00:17:11,090 --> 00:17:08,760

I don't see the reasoning behind it it's

390

00:17:13,090 --> 00:17:11,100

kind of a it's in sort of a logical

391

00:17:17,120 --> 00:17:13,100

cul-de-sac it's removed itself from

392

00:17:18,649 --> 00:17:17,130

evidence and and fact-finding and I just

393

00:17:19,999 --> 00:17:18,659

I just don't buy into it anymore

394

00:17:22,039 --> 00:17:20,009

but it's fascinating that somebody like

395

00:17:23,719 --> 00:17:22,049

Edgar Mitchell could believe it when he

396

00:17:25,549 --> 00:17:23,729

would discount other NASA conspiracies

397

00:17:27,529 --> 00:17:25,559

like the moon landing absolutely yes

398

00:17:29,659 --> 00:17:27,539

separate compartments in the brain for

399

00:17:32,089 --> 00:17:29,669

things like that well yes well with

400

00:17:34,879 --> 00:17:32,099

course said to see another Apollo

401
00:17:37,729 --> 00:17:34,889
astronaut no longer with us and we we

402
00:17:40,039 --> 00:17:37,739
keep weren't wondering is what it at the

403
00:17:41,719 --> 00:17:40,049
end of the movie Apollo 13 Tom Hanks

404
00:17:45,469 --> 00:17:41,729
said and you know we wonder when we'll

405
00:17:48,499 --> 00:17:45,479
go back words to that effect yeah it's

406
00:17:50,690 --> 00:17:48,509
some that's a that's a whole thing um

407
00:17:53,960 --> 00:17:50,700
it's a longer we have long intervals in

408
00:17:56,289 --> 00:17:53,970
them yeah we've had we've had 12 humans

409
00:17:58,639 --> 00:17:56,299
walk on the moon Mitchell was the sixth

410
00:18:01,190 --> 00:17:58,649
seven of these Apollo astronauts are

411
00:18:02,599 --> 00:18:01,200
still alive I'm not sure how old the

412
00:18:06,560 --> 00:18:02,609
youngest one is but they're well into

413
00:18:08,210 --> 00:18:06,570

their 70s and it's going to be years

414

00:18:11,419 --> 00:18:08,220

before we can put human beings on the

415

00:18:16,789 --> 00:18:11,429

moon again but maybe not too many years

416

00:18:18,950 --> 00:18:16,799

um I think that between NASA space X the

417

00:18:20,960 --> 00:18:18,960

Chinese certainly the Chinese have

418

00:18:22,099 --> 00:18:20,970

talked about this the Russians and I

419

00:18:23,539 --> 00:18:22,109

don't know if I can ever trust the

420

00:18:26,570 --> 00:18:23,549

Russian space program they say things

421

00:18:27,979 --> 00:18:26,580

and do things and then drop it so who

422

00:18:30,349 --> 00:18:27,989

knows but the Russians have claimed they

423

00:18:32,119 --> 00:18:30,359

want to go back we could we could put

424

00:18:34,969 --> 00:18:32,129

people on the moon probably within 10

425

00:18:36,469 --> 00:18:34,979

years if we wanted to do it in a hurry

426

00:18:38,269 --> 00:18:36,479

if we want to do it right it would

427

00:18:40,849 --> 00:18:38,279

probably take a little bit more where

428

00:18:42,289 --> 00:18:40,859

you you build a sustainable you know so

429

00:18:44,450 --> 00:18:42,299

you don't just go there plaintiff like

430

00:18:47,060 --> 00:18:44,460

come home you go there and plant a

431

00:18:53,269 --> 00:18:47,070

building call you a base where people

432

00:18:56,570 --> 00:18:53,279

can go I just I I would love to see some

433

00:18:58,519 --> 00:18:56,580

some Apollo astronauts be able to

434

00:19:01,940 --> 00:18:58,529

witness that to be able to witness a

435

00:19:04,940 --> 00:19:01,950

young man or woman stepping foot on the

436

00:19:07,549 --> 00:19:04,950

moon and saying we do this to provide

437

00:19:09,799 --> 00:19:07,559

continuity yeah XD Asian about of space

438

00:19:11,659 --> 00:19:09,809

yeah that would be something and I hope

439

00:19:15,919 --> 00:19:11,669

I live to see that too because I was I

440

00:19:18,109 --> 00:19:15,929

saw the first one me too you do yeah we

441

00:19:20,389 --> 00:19:18,119

get you and I saw the first one I'd love

442

00:19:23,149 --> 00:19:20,399

to see the next one whenever that may be

443

00:19:27,200 --> 00:19:23,159

whenever that may be now let's look

444

00:19:29,359 --> 00:19:27,210

further afield Phil before we wind this

445

00:19:32,580 --> 00:19:29,369

up and let's look as bad as far as we

446

00:19:34,169 --> 00:19:32,590

can go will recently anyway which was

447

00:19:36,930 --> 00:19:34,179

Pluto and how exciting was that

448

00:19:39,390 --> 00:19:36,940

encounter last yeah what do you mean

449

00:19:41,130 --> 00:19:39,400

what do you mean there but if it were a

450

00:19:46,500 --> 00:19:41,140

planet it would have been more exciting

451
00:19:50,700 --> 00:19:46,510
um no I thought I was amazing that I

452
00:19:55,310 --> 00:19:50,710
don't think anybody was expecting Pluto

453
00:19:57,480 --> 00:19:55,320
to be so bizarre isn't it yeah and and

454
00:19:59,370 --> 00:19:57,490
you can you can look at the planets in

455
00:20:02,070 --> 00:19:59,380
the solar system and they're all they

456
00:20:03,510 --> 00:20:02,080
all have a lot of diversity even though

457
00:20:04,649 --> 00:20:03,520
maybe at first glance you look at Mars

458
00:20:06,600 --> 00:20:04,659
and you think well it's just red and

459
00:20:09,840 --> 00:20:06,610
Dustin it's like well no in fact it's

460
00:20:12,120 --> 00:20:09,850
got volcanoes and basins and dune sand

461
00:20:14,460 --> 00:20:12,130
dunes on it and every planets like that

462
00:20:17,789 --> 00:20:14,470
Merc even mercury has a little bit of

463
00:20:20,340 --> 00:20:17,799

diversity not much but some but you know

464

00:20:22,440 --> 00:20:20,350

Pluto is going to be an ice ball that

465

00:20:24,720 --> 00:20:22,450

formed long time ago and has been

466

00:20:26,490 --> 00:20:24,730

relatively unmodified for billions of

467

00:20:29,159 --> 00:20:26,500

years and then we get there and it turns

468

00:20:31,590 --> 00:20:29,169

out it's crazy it's got mountains of

469

00:20:35,399 --> 00:20:31,600

water ice and planes that look like they

470

00:20:36,690 --> 00:20:35,409

were uh basins basically like like ocean

471

00:20:41,840 --> 00:20:36,700

beds but they're filled with frozen

472

00:20:44,730 --> 00:20:41,850

nitrogen those red spots and pits and

473

00:20:47,100 --> 00:20:44,740

evidence now the most recent news that

474

00:20:50,159 --> 00:20:47,110

came out is where the mountains meet the

475

00:20:52,440 --> 00:20:50,169

nitrogen planes it looks like some of

476
00:20:54,419 --> 00:20:52,450
the mountains of crumbled and are are

477
00:20:57,090 --> 00:20:54,429
basically the water ice is less dense

478
00:20:58,889 --> 00:20:57,100
than the nitrogen ice and so as the

479
00:21:02,730 --> 00:20:58,899
nitrogen ice moves around it sweeps

480
00:21:05,340 --> 00:21:02,740
these gigantic boulders which are you

481
00:21:06,750 --> 00:21:05,350
know many many hundreds or thousands of

482
00:21:08,480 --> 00:21:06,760
meters of thousands of meters across

483
00:21:10,830 --> 00:21:08,490
hundreds of millions hundreds okay and

484
00:21:13,139 --> 00:21:10,840
moving them around on the plane so

485
00:21:15,060 --> 00:21:13,149
they're sticking up out of the ice it's

486
00:21:16,950 --> 00:21:15,070
just it's as weird as it could possibly

487
00:21:21,120 --> 00:21:16,960
be and none of us could have imagined

488
00:21:23,820 --> 00:21:21,130

this so fluto is dynamic it is it is in

489

00:21:25,440 --> 00:21:23,830

the sense that it's changing yeah very

490

00:21:27,779 --> 00:21:25,450

very slowly I don't think it's changing

491

00:21:30,510 --> 00:21:27,789

over like you know days but certainly

492

00:21:32,490 --> 00:21:30,520

years and decades good having fun and

493

00:21:34,919 --> 00:21:32,500

it's just weird I mean you can stand on

494

00:21:36,240 --> 00:21:34,929

one spot on Pluto and and stand in

495

00:21:38,850 --> 00:21:36,250

another spot and they would be as

496

00:21:41,669 --> 00:21:38,860

different as night and day that yeah and

497

00:21:44,970 --> 00:21:41,679

the the imagery coming back still coming

498

00:21:46,390 --> 00:21:44,980

back is just breathtaking and it reminds

499

00:21:48,250 --> 00:21:46,400

me of the old saying that

500

00:21:50,700 --> 00:21:48,260

you said or somebody said years ago

501
00:21:53,110 --> 00:21:50,710
which is stuck with me that when

502
00:21:56,290 --> 00:21:53,120
investigating the the solar system

503
00:21:59,110 --> 00:21:56,300
expect the unexpected I think everybody

504
00:22:02,230 --> 00:21:59,120
said that it's so and and we're not done

505
00:22:05,470 --> 00:22:02,240
there's another object about a billion

506
00:22:07,450 --> 00:22:05,480
kilometers out past Pluto that they're

507
00:22:11,460 --> 00:22:07,460
going to pass by what's called a Kuiper

508
00:22:15,400 --> 00:22:11,470
belt object basically a giant icy chunk

509
00:22:16,900 --> 00:22:15,410
that Pluto is sort of kind of related to

510
00:22:18,460 --> 00:22:16,910
it's like one of the biggest ones of

511
00:22:21,070 --> 00:22:18,470
these things this one's going to be much

512
00:22:24,040 --> 00:22:21,080
smaller but we've never seen one of

513
00:22:27,070 --> 00:22:24,050

these that far out up close and it's

514

00:22:28,810 --> 00:22:27,080

it's New Horizons the spacecraft is

515

00:22:30,790 --> 00:22:28,820

going to pass very close to this object

516

00:22:32,110 --> 00:22:30,800

if they get the everything right really

517

00:22:34,060 --> 00:22:32,120

there's no reason to expect they won't

518

00:22:35,770 --> 00:22:34,070

so you know we're not done that's not

519

00:22:37,390 --> 00:22:35,780

going to be for three years there so I

520

00:22:39,430 --> 00:22:37,400

was wondering what the time scale was

521

00:22:43,270 --> 00:22:39,440

three yeah I understood that nice big

522

00:22:44,860 --> 00:22:43,280

the space is big I understood from doing

523

00:22:48,520 --> 00:22:44,870

a little bit research on your horizons

524

00:22:51,400 --> 00:22:48,530

that it was it's traveling at tremendous

525

00:22:53,260 --> 00:22:51,410

speed and in fact if I'm right once it

526

00:22:55,810 --> 00:22:53,270

left the earth had passed the moon in

527

00:22:58,360 --> 00:22:55,820

record time it was traveling so quickly

528

00:23:00,400 --> 00:22:58,370

I think so yeah basically they made the

529

00:23:03,280 --> 00:23:00,410

lightest possible spacecraft they could

530

00:23:04,900 --> 00:23:03,290

and launched it on a rocket that could

531

00:23:07,570 --> 00:23:04,910

give it the biggest kick and good and

532

00:23:10,270 --> 00:23:07,580

even then they picked up a little bit of

533

00:23:12,520 --> 00:23:10,280

a boost from Jupiter which shaved I

534

00:23:14,770 --> 00:23:12,530

think a year or two off of the trip Wow

535

00:23:15,940 --> 00:23:14,780

it was nine in nine and a half years to

536

00:23:18,220 --> 00:23:15,950

get from here to pluto because that's

537

00:23:21,480 --> 00:23:18,230

how far away Pluto is yeah yeah and it's

538

00:23:25,240 --> 00:23:21,490

it's currently moving I think from Earth

539

00:23:27,160 --> 00:23:25,250

14 kilometers per second wow so you know

540

00:23:28,840 --> 00:23:27,170

that a rifle bullets only about one

541

00:23:30,370 --> 00:23:28,850

kilometer per second so that things it's

542

00:23:34,120 --> 00:23:30,380

really it's really moving that's

543

00:23:36,670 --> 00:23:34,130

incredible and it's reminds me again of

544

00:23:38,980 --> 00:23:36,680

getting back to UFOs and aliens visit

545

00:23:41,890 --> 00:23:38,990

visiting and things like that is one of

546

00:23:44,170 --> 00:23:41,900

the arguments is people generally don't

547

00:23:46,390 --> 00:23:44,180

have a true understanding of the scale

548

00:23:49,540 --> 00:23:46,400

of space and if there is another

549

00:23:51,430 --> 00:23:49,550

civilization within anywhere near us at

550

00:23:54,700 --> 00:23:51,440

all it's still going to be a long way

551
00:23:56,860 --> 00:23:54,710
away right you the other thing about

552
00:23:58,780 --> 00:23:56,870
aliens too is that you have to make so

553
00:23:59,360 --> 00:23:58,790
many assumptions for them to exist in

554
00:24:01,640 --> 00:23:59,370
becoming

555
00:24:03,080 --> 00:24:01,650
mmm and you really can't get around that

556
00:24:07,040 --> 00:24:03,090
they'd have to travel faster than light

557
00:24:08,510 --> 00:24:07,050
because a hundred light-years is your

558
00:24:10,400 --> 00:24:08,520
next door neighbor as far as the galaxy

559
00:24:12,170 --> 00:24:10,410
is concerned yeah but at the speed of

560
00:24:14,390 --> 00:24:12,180
light that takes a century to get here

561
00:24:17,060 --> 00:24:14,400
yeah yeah so you know they're long-lived

562
00:24:18,680 --> 00:24:17,070
and they can travel very rapidly or they

563
00:24:20,030 --> 00:24:18,690

live as long as we do but they can

564

00:24:21,260 --> 00:24:20,040

travel faster than light but as far as

565

00:24:23,180 --> 00:24:21,270

we know you can't travel faster than

566

00:24:26,150 --> 00:24:23,190

light so again you know you're making

567

00:24:28,549 --> 00:24:26,160

assumptions on assumption and each one

568

00:24:30,920 --> 00:24:28,559

kind of defies the laws of physics so at

569

00:24:32,180 --> 00:24:30,930

some point I'm like you know what if you

570

00:24:35,630 --> 00:24:32,190

want if you want me to believe in this

571

00:24:37,820 --> 00:24:35,640

you have to show me Klaatu spaceship

572

00:24:40,310 --> 00:24:37,830

landing in Washington DC I just watch

573

00:24:42,590 --> 00:24:40,320

that Gator Stood Still it's such a great

574

00:24:46,430 --> 00:24:42,600

movie the original you the original good

575

00:24:48,530 --> 00:24:46,440

yes therefore 1951 and that's what i

576

00:24:51,500 --> 00:24:48,540

need and i think that's not too much to

577

00:24:53,930 --> 00:24:51,510

ask it's not too much no no no you make

578

00:24:55,460 --> 00:24:53,940

an acclaim that extraordinary you better

579

00:24:57,410 --> 00:24:55,470

come up with evidence that's better than

580

00:24:59,900 --> 00:24:57,420

a fuzzy picture fuzzy due to act of

581

00:25:02,150 --> 00:24:59,910

documents fuzzy pictures my goodness me

582

00:25:04,430 --> 00:25:02,160

of insects and stars and and things like

583

00:25:07,760 --> 00:25:04,440

that oh it's it's fuzzy it must be UFO

584

00:25:11,540 --> 00:25:07,770

film we could talk about UFOs for the

585

00:25:14,630 --> 00:25:11,550

next three weeks I'm sure so you're

586

00:25:16,400 --> 00:25:14,640

happily living there in Colorado and I

587

00:25:19,070 --> 00:25:16,410

have had the pleasure of visiting you

588

00:25:21,380 --> 00:25:19,080

over the years and my goodness me what a

589

00:25:23,270 --> 00:25:21,390

wonderful state it is you and I went for

590

00:25:25,160 --> 00:25:23,280

a hike up into the mountains and that

591

00:25:26,840 --> 00:25:25,170

was all right that was such a wonderful

592

00:25:29,510 --> 00:25:26,850

experience although I got pretty badly

593

00:25:31,430 --> 00:25:29,520

sunburned I'm us oh yeah and you were

594

00:25:33,350 --> 00:25:31,440

you were doing better than I was walking

595

00:25:35,480 --> 00:25:33,360

up those hills I was exhausted and you

596

00:25:37,460 --> 00:25:35,490

were ready to go then all those other

597

00:25:39,950 --> 00:25:37,470

bull derides Boulder is well known as a

598

00:25:41,960 --> 00:25:39,960

city of people in very good shape i

599

00:25:44,750 --> 00:25:41,970

remember a woman who had just given

600

00:25:46,730 --> 00:25:44,760

birth and she had her baby on a backpack

601
00:25:48,560 --> 00:25:46,740
and the baby couldn't have been more

602
00:25:50,120 --> 00:25:48,570
than three months old and she went

603
00:25:53,390 --> 00:25:50,130
blowing past us like we were sitting

604
00:25:55,640 --> 00:25:53,400
still and i thought yeah I'm out of

605
00:25:58,280 --> 00:25:55,650
shape that was a wonderful experience

606
00:26:00,530 --> 00:25:58,290
Phil where can people catch up with you

607
00:26:04,460 --> 00:26:00,540
finally read your blog and follow your

608
00:26:07,130 --> 00:26:04,470
adventures well I write for slate slate

609
00:26:10,280 --> 00:26:07,140
com you just look up bad astronomy I'm

610
00:26:12,840 --> 00:26:10,290
bad astronomer on twitter you can find

611
00:26:15,720 --> 00:26:12,850
me on facebook and instagram

612
00:26:16,770 --> 00:26:15,730
about about me which is a good place to

613
00:26:18,780 --> 00:26:16,780

find me because I have links to

614

00:26:21,780 --> 00:26:18,790

everything else from there and I just

615

00:26:24,300 --> 00:26:21,790

finished a web series called crash

616

00:26:28,410 --> 00:26:24,310

course astronomy which was 46 episodes

617

00:26:30,840 --> 00:26:28,420

basically class two semesters of

618

00:26:33,270 --> 00:26:30,850

astronomy and that's on YouTube but last

619

00:26:35,850 --> 00:26:33,280

I checked we had 12 million views well

620

00:26:37,380 --> 00:26:35,860

yes that's fine nice I'm glad you told

621

00:26:39,420 --> 00:26:37,390

me about that I'm glad you've told that

622

00:26:41,340 --> 00:26:39,430

listeners folks i will add those links

623

00:26:44,160 --> 00:26:41,350

to the show notes for this week's

624

00:26:46,380 --> 00:26:44,170

episode but for now phil plait the bad

625

00:26:48,450 --> 00:26:46,390

astronomer still bad after all these

626
00:27:12,000 --> 00:26:48,460
years all the way from Colorado thank

627
00:27:13,530 --> 00:27:12,010
you very much thank you Richard well

628
00:27:15,690 --> 00:27:13,540
there's no danger of falling off the

629
00:27:18,000 --> 00:27:15,700
edge of the earth but as that thanks to

630
00:27:20,430 --> 00:27:18,010
the roundness of our home planet well

631
00:27:30,710 --> 00:27:20,440
not quite the ground beneath your feet

632
00:27:36,270 --> 00:27:34,260
so what's an oblate spheroid well it's

633
00:27:38,400 --> 00:27:36,280
basically a sphere with a bulge around

634
00:27:41,100 --> 00:27:38,410
the middle because the planet spins

635
00:27:43,290 --> 00:27:41,110
rotational forces push mass outwards at

636
00:27:45,540 --> 00:27:43,300
the equator creating this odd shape in

637
00:27:47,460 --> 00:27:45,550
fact if you measure the earth across the

638
00:27:49,110 --> 00:27:47,470

poles you'll find that it's twelve

639

00:27:51,600 --> 00:27:49,120

thousand seven hundred and thirteen

640

00:27:53,430 --> 00:27:51,610

point six kilometres then if you measure

641

00:27:55,410 --> 00:27:53,440

the earth across the equator you'll get

642

00:27:57,780 --> 00:27:55,420

twelve thousand seven hundred fifty six

643

00:28:01,440 --> 00:27:57,790

point two kilometers that's a difference

644

00:28:03,540 --> 00:28:01,450

of forty two point six kilometers of the

645

00:28:05,760 --> 00:28:03,550

Earth's shape by using GPS sensors

646

00:28:07,860 --> 00:28:05,770

satellite laser ranging and very long

647

00:28:09,480 --> 00:28:07,870

baseline interferometry basically a

648

00:28:12,190 --> 00:28:09,490

bunch of different ways of monitoring

649

00:28:15,080 --> 00:28:12,200

the position of ground stations

650

00:28:16,490 --> 00:28:15,090

and of course how can the earth be round

651
00:28:18,799 --> 00:28:16,500
when it's covered in mountains and

652
00:28:22,310 --> 00:28:18,809
valleys the highest point above sea

653
00:28:25,159 --> 00:28:22,320
level Mount Everest reaches 8,848 meters

654
00:28:27,139 --> 00:28:25,169
but not Everest is not actually the

655
00:28:29,930 --> 00:28:27,149
point on earth furthest from the center

656
00:28:33,889 --> 00:28:29,940
that honor goes to Mount Chimborazo in

657
00:28:35,899 --> 00:28:33,899
Ecuador while its elevation is only 6268

658
00:28:37,519 --> 00:28:35,909
metres it's more than 2,000 meters

659
00:28:39,830 --> 00:28:37,529
further from the Earth's center than

660
00:28:41,509 --> 00:28:39,840
Everest and there's one last competitor

661
00:28:43,789 --> 00:28:41,519
for biggest mountain the Hawaiian

662
00:28:46,100 --> 00:28:43,799
volcano Mauna Kea which is more than

663
00:28:47,779 --> 00:28:46,110

10,000 meters from base to summit and

664

00:28:49,879 --> 00:28:47,789

here's the fact that might blow your

665

00:28:52,039 --> 00:28:49,889

mind if you Shrank the earth down to the

666

00:28:53,960 --> 00:28:52,049

same size it would be smoother than a

667

00:28:55,820 --> 00:28:53,970

billiard ball that's right billiard

668

00:28:58,870 --> 00:28:55,830

balls can have imperfections of up to

669

00:29:02,149 --> 00:28:58,880

0.32 percent but the earth only regions

670

00:29:05,980 --> 00:29:02,159

0.17 percent and now for fast facts

671

00:29:09,379 --> 00:29:05,990

about this oblate spheroid we call home

672

00:29:11,269 --> 00:29:09,389

sea level isn't actually level due to

673

00:29:13,039 --> 00:29:11,279

the Earth's uneven gravity field there

674

00:29:15,230 --> 00:29:13,049

are permanent hills and valleys in the

675

00:29:17,570 --> 00:29:15,240

ocean the circumference of the earth is

676
00:29:19,519 --> 00:29:17,580
40,000 and 75 kilometers around the

677
00:29:21,980 --> 00:29:19,529
equator than 40 thousand and eight

678
00:29:24,230 --> 00:29:21,990
kilometers around the poles every day

679
00:29:25,850 --> 00:29:24,240
the earth gains between 20 and 40 tons

680
00:29:27,950 --> 00:29:25,860
of mass due to collision with space

681
00:29:29,870 --> 00:29:27,960
debris at this rate it will take about

682
00:29:32,509 --> 00:29:29,880
four hundred and fifty trillion years

683
00:29:34,340 --> 00:29:32,519
for the earth to double in size want to

684
00:29:36,200 --> 00:29:34,350
find out more about the earth check out

685
00:29:53,400 --> 00:29:36,210
our website where we have some links and

686
00:29:53,410 --> 00:30:02,040
you

687
00:30:08,650 --> 00:30:06,010
dr. Harriet hall md known to thousands

688
00:30:10,930 --> 00:30:08,660

as the skeptic a retired family

689

00:30:14,050 --> 00:30:10,940

physician and former Air Force flight

690

00:30:15,370 --> 00:30:14,060

surgeon she writes about medicine so

691

00:30:18,970 --> 00:30:15,380

called complementary and alternative

692

00:30:22,300 --> 00:30:18,980

medicine science hackery and critical

693

00:30:24,580 --> 00:30:22,310

thinking Harriet now has a free course a

694

00:30:27,630 --> 00:30:24,590

series of ten video lectures on science

695

00:30:30,370 --> 00:30:27,640

based medicine and alternative medicine

696

00:30:32,620 --> 00:30:30,380

the videos and an accompanying course

697

00:30:36,730 --> 00:30:32,630

guide can be found by following the link

698

00:30:40,750 --> 00:30:36,740

at skeptic dot info or by visiting web

699

00:30:45,100 --> 00:30:40,760

Randy's org slash educational dash

700

00:30:48,220 --> 00:30:45,110

modules dot HTML topics covered in the

701
00:30:51,330 --> 00:30:48,230
series are science-based medicine vs.

702
00:30:54,750 --> 00:30:51,340
evidence-based medicine what is cam

703
00:30:57,940 --> 00:30:54,760
chiropractic acupuncture homeopathy

704
00:31:00,070 --> 00:30:57,950
naturopathy and herbal medicine energy

705
00:31:03,220 --> 00:31:00,080
medicine miscellaneous alternatives

706
00:31:06,540 --> 00:31:03,230
pitfalls in research and science-based

707
00:31:09,280 --> 00:31:06,550
medicine in the media and politics

708
00:31:11,830 --> 00:31:09,290
Harriet covers each topic in a matter of

709
00:31:40,720 --> 00:31:11,840
fact no-nonsense way that shorter

710
00:31:44,870 --> 00:31:43,070
as I've been saying for the last few

711
00:31:48,080 --> 00:31:44,880
weeks now the story was floating around

712
00:31:50,030 --> 00:31:48,090
that Mark Zuckerberg of Facebook Fame

713
00:31:52,280 --> 00:31:50,040

took his daughter to get her

714

00:31:54,230 --> 00:31:52,290

vaccinations a little baby daughter very

715

00:31:56,240 --> 00:31:54,240

sweet and there's a lovely photograph of

716

00:31:59,210 --> 00:31:56,250

Mark Zuckerberg in the waiting room

717

00:32:02,650 --> 00:31:59,220

daughter on his lap waiting to get the

718

00:32:05,840 --> 00:32:02,660

end the vaccinations well this sent the

719

00:32:07,400 --> 00:32:05,850

anti-vaccination people now you can use

720

00:32:11,020 --> 00:32:07,410

your own term here I'll using word

721

00:32:13,970 --> 00:32:11,030

people for the moment hmm into a frenzy

722

00:32:15,910 --> 00:32:13,980

absolutely and the conspiracy theories

723

00:32:19,610 --> 00:32:15,920

and the winters and the whiners and the

724

00:32:21,980 --> 00:32:19,620

quite frankly very nasty people came out

725

00:32:24,860 --> 00:32:21,990

of the woodwork here's some of the

726

00:32:28,490 --> 00:32:24,870

comments posted on Twitter and Facebook

727

00:32:30,740 --> 00:32:28,500

I feel sorry for his kid being hit up

728

00:32:34,520 --> 00:32:30,750

with toxins because daddy and mommy

729

00:32:39,530 --> 00:32:34,530

think they are too smart another comment

730

00:32:42,770 --> 00:32:39,540

I hope your kit dies so you will wake up

731

00:32:48,050 --> 00:32:42,780

and stop being a CIA puppet you piece of

732

00:32:50,690 --> 00:32:48,060

ugly dog the comment oh that's good be

733

00:32:53,750 --> 00:32:50,700

already has clothes for the baby in the

734

00:32:57,620 --> 00:32:53,760

autism colors that just might come in

735

00:33:00,860 --> 00:32:57,630

handy one day love her the kamid hope

736

00:33:04,790 --> 00:33:00,870

the shots kill his baby maybe then the

737

00:33:07,760 --> 00:33:04,800

stupid little jew will wake up consuming

738

00:33:10,760 --> 00:33:07,770

doesn't him here's one it'll be ironic

739

00:33:13,310 --> 00:33:10,770

if his kid ends up with autism epilepsy

740

00:33:16,060 --> 00:33:13,320

childhood cancer autoimmune disorder or

741

00:33:20,000 --> 00:33:16,070

whatever else can't possibly be related

742

00:33:24,740 --> 00:33:20,010

the comment poor child has to grow up

743

00:33:26,990 --> 00:33:24,750

with ignorant parents the comment too

744

00:33:29,480 --> 00:33:27,000

bad he and his wife can't do research on

745

00:33:31,250 --> 00:33:29,490

vaccines maybe it's because the dollar

746

00:33:32,940 --> 00:33:31,260

sign dollar sign dollar sign dollar sign

747

00:33:35,940 --> 00:33:32,950

got in the way poor

748

00:33:37,529 --> 00:33:35,950

Amy what implying that Mark Zuckerberg

749

00:33:39,899 --> 00:33:37,539

is doing something for the money one of

750

00:33:41,700 --> 00:33:39,909

the richest men in the world hmm but

751
00:33:42,990 --> 00:33:41,710
free cheers for Mark Zuckerberg for not

752
00:33:45,360 --> 00:33:43,000
only doing the right thing by his

753
00:33:48,919 --> 00:33:45,370
daughter getting their vaccinations up

754
00:33:52,259 --> 00:33:48,929
to date but publicizing the fact and

755
00:33:54,149 --> 00:33:52,269
well it's certainly telling some of

756
00:33:56,759 --> 00:33:54,159
these comments now they are the fringe

757
00:34:01,320 --> 00:33:56,769
of course they are the Looney fringe but

758
00:34:03,710 --> 00:34:01,330
they are nasty nasty people spreading

759
00:34:19,190 --> 00:34:03,720
lies and disinformation and just being

760
00:34:23,039 --> 00:34:21,690
today this is dr. Karl Karl Chris let's

761
00:34:25,199 --> 00:34:23,049
keep proud to be a skeptic and you can

762
00:34:42,260 --> 00:34:25,209
find out more about me at dr. Karl calm

763
00:34:46,980 --> 00:34:44,940

it's Sydney skeptics in the pub now

764

00:34:48,330 --> 00:34:46,990

normally of course it's Maynard running

765

00:34:50,280 --> 00:34:48,340

around here with these microphone may

766

00:34:54,330 --> 00:34:50,290

not having this skeptics in the pub off

767

00:34:55,830 --> 00:34:54,340

he's having a night off from skeptics in

768

00:34:58,530 --> 00:34:55,840

the pub never fear i'm here with my

769

00:35:00,270 --> 00:34:58,540

trusty microphone it's trish electrician

770

00:35:02,640 --> 00:35:00,280

today hello it you're an early bird

771

00:35:05,850 --> 00:35:02,650

tonight i am yeah nothing better to do I

772

00:35:08,550 --> 00:35:05,860

say when I say but all those people

773

00:35:12,330 --> 00:35:08,560

healthy it's an expression I don't mean

774

00:35:15,030 --> 00:35:12,340

you're an early bird is ending Sandy's

775

00:35:17,400 --> 00:35:15,040

English sitcom burn right I grew up with

776

00:35:19,080 --> 00:35:17,410

that it's fine anyway you here nice and

777

00:35:22,680 --> 00:35:19,090

early and we were just having a little

778

00:35:24,210 --> 00:35:22,690

chat before then the hordes come in the

779

00:35:26,280 --> 00:35:24,220

skeptics in the pub here is any because

780

00:35:28,200 --> 00:35:26,290

it is popular and tonight but it's going

781

00:35:32,100 --> 00:35:28,210

to be interesting because they always

782

00:35:35,370 --> 00:35:32,110

are now you're talking about what I

783

00:35:37,530 --> 00:35:35,380

called the long game skepticism and what

784

00:35:39,690 --> 00:35:37,540

was your comment about them just that it

785

00:35:42,480 --> 00:35:39,700

can be really frustrating for us because

786

00:35:44,010 --> 00:35:42,490

people expect us maybe to be able to fix

787

00:35:46,650 --> 00:35:44,020

things or to come up with an answer or

788

00:35:48,960 --> 00:35:46,660

to be able to kind of police things that

789

00:35:50,820 --> 00:35:48,970

we have absolutely no control over all

790

00:35:52,410 --> 00:35:50,830

we seem to do is talk and nothing ever

791

00:35:54,810 --> 00:35:52,420

happens which is obviously complete

792

00:35:56,609 --> 00:35:54,820

bollocks but well it can seem that way

793

00:35:58,770 --> 00:35:56,619

we do a lot of talking there's no doubt

794

00:36:02,340 --> 00:35:58,780

about that but things do happen but when

795

00:36:04,740 --> 00:36:02,350

I say it's the long game sometimes our

796

00:36:06,300 --> 00:36:04,750

investigations or campaigns can take a

797

00:36:08,580 --> 00:36:06,310

very long time and there is this

798

00:36:10,470 --> 00:36:08,590

perception out there and I get it and I

799

00:36:12,570 --> 00:36:10,480

some listeners might know what I mean

800

00:36:14,490 --> 00:36:12,580

people come up to us and say oh you

801
00:36:17,080 --> 00:36:14,500
skeptics you should do something about

802
00:36:20,750 --> 00:36:17,090
the psychic loser

803
00:36:22,100 --> 00:36:20,760
we can suddenly do you know and also if

804
00:36:23,840 --> 00:36:22,110
we did have that kind of power it be

805
00:36:24,920 --> 00:36:23,850
terrifying because if we decided to

806
00:36:27,470 --> 00:36:24,930
click on something would you actually

807
00:36:30,110 --> 00:36:27,480
fine yeah we could destroy it which is

808
00:36:31,940 --> 00:36:30,120
just not good it can be frustrating

809
00:36:34,610 --> 00:36:31,950
though I mean there is there are many

810
00:36:37,310 --> 00:36:34,620
things that I would like to waive my

811
00:36:38,840 --> 00:36:37,320
skeptical on and say haha you know if

812
00:36:41,110 --> 00:36:38,850
mind buddy wallet don't make a good

813
00:36:43,400 --> 00:36:41,120

grief yeah test it all after storm but

814

00:36:45,890 --> 00:36:43,410

sadly things just don't operate that way

815

00:36:48,080 --> 00:36:45,900

no they don't and there are procedures

816

00:36:50,090 --> 00:36:48,090

and it can be really frustrating but

817

00:36:51,800 --> 00:36:50,100

equally I think we are getting some

818

00:36:53,600 --> 00:36:51,810

pretty good winds internationally and

819

00:36:54,740 --> 00:36:53,610

the good thing is now with the age of

820

00:36:56,450 --> 00:36:54,750

the internet we can collaborate

821

00:36:57,890 --> 00:36:56,460

internationally as well so things are

822

00:37:00,890 --> 00:36:57,900

good thinking society back in the UK

823

00:37:03,170 --> 00:37:00,900

what oh what a great organization yeah

824

00:37:04,940 --> 00:37:03,180

and society is Michael Marshalls regular

825

00:37:07,580 --> 00:37:04,950

guest on this show and I also think

826

00:37:10,190 --> 00:37:07,590

about other organizations not just the

827

00:37:11,750 --> 00:37:10,200

Australian skeptics in this country we

828

00:37:14,510 --> 00:37:11,760

have the Friends of science and medicine

829

00:37:16,340 --> 00:37:14,520

yeah really easy really really

830

00:37:18,440 --> 00:37:16,350

knowledgeable people doing some really

831

00:37:19,760 --> 00:37:18,450

good work yeah ken harvey was a guest on

832

00:37:21,950 --> 00:37:19,770

the show last week oh yeah he's very

833

00:37:23,720 --> 00:37:21,960

good ya know you're a listener to the

834

00:37:25,940 --> 00:37:23,730

skip town and you said something very

835

00:37:27,920 --> 00:37:25,950

sweet to me when you walked in you you

836

00:37:30,770 --> 00:37:27,930

commiserated with me over Fred the cat

837

00:37:34,190 --> 00:37:30,780

yeah poor little Fred thank you it was

838

00:37:35,720 --> 00:37:34,200

very nice because uh as listeners know

839

00:37:38,600 --> 00:37:35,730

he was a regular little feature of the

840

00:37:40,790 --> 00:37:38,610

show he's got some fans he does he does

841

00:37:42,020 --> 00:37:40,800

but it's just a little secret between

842

00:37:44,000 --> 00:37:42,030

you and me and a couple of thousand

843

00:37:47,750 --> 00:37:44,010

listeners there might be some more

844

00:37:52,220 --> 00:37:47,760

little footprints around down skeptic

845

00:37:55,070 --> 00:37:52,230

zone for too long I mean without Fraden

846

00:37:57,140 --> 00:37:55,080

Adele who was the cat before fit it's

847

00:38:00,290 --> 00:37:57,150

just not a saint it's not the same but

848

00:38:05,150 --> 00:38:00,300

it can be different Thank You truth

849

00:38:06,740 --> 00:38:05,160

you're welcome well the evenings are

850

00:38:09,620 --> 00:38:06,750

warming up quite a lot the room is

851

00:38:11,360 --> 00:38:09,630

almost full it's good to see I can seize

852

00:38:14,060 --> 00:38:11,370

various skeptics running around the room

853

00:38:15,890 --> 00:38:14,070

getting ready for tonight's talk and I'm

854

00:38:18,340 --> 00:38:15,900

in the presence of Ian Bryce the chief

855

00:38:23,120 --> 00:38:18,350

investigator for the Australian skeptics

856

00:38:24,230 --> 00:38:23,130

ian let me ask you the question tonight

857

00:38:26,480 --> 00:38:24,240

a sort of

858

00:38:28,850 --> 00:38:26,490

what is red what would it mean to

859

00:38:31,550 --> 00:38:28,860

skeptics if they had a magic wand and

860

00:38:34,280 --> 00:38:31,560

could change things what I mean by that

861

00:38:36,200 --> 00:38:34,290

is we come across a lot of quackery and

862

00:38:37,940 --> 00:38:36,210

woo and all the all sorts of things and

863

00:38:39,770 --> 00:38:37,950

a lot of people will come to us and say

864

00:38:41,180 --> 00:38:39,780

well why don't you skeptics just do

865

00:38:43,070 --> 00:38:41,190

something about it as if we could

866

00:38:46,430 --> 00:38:43,080

suddenly do something about it would you

867

00:38:48,830 --> 00:38:46,440

like to have the power to suddenly just

868

00:38:51,350 --> 00:38:48,840

do something about this the quackery of

869

00:38:55,580 --> 00:38:51,360

the week of ago oh yes that would be I

870

00:38:57,470 --> 00:38:55,590

often think about that but that was you

871

00:38:59,780 --> 00:38:57,480

get sick of arguing with people you

872

00:39:01,910 --> 00:38:59,790

think why not just have an expeditious

873

00:39:04,460 --> 00:39:01,920

solution to the problem but it happens

874

00:39:05,930 --> 00:39:04,470

to be illegal unfortunately and and not

875

00:39:07,940 --> 00:39:05,940

in a court of the laws of physics or the

876

00:39:10,610 --> 00:39:07,950

laws of the land so I tried to push that

877

00:39:13,180 --> 00:39:10,620

to the far corners of my brain well can

878

00:39:16,240 --> 00:39:13,190

we say also in that would be slightly

879

00:39:19,400 --> 00:39:16,250

immoral or counterproductive because

880

00:39:21,500 --> 00:39:19,410

what if we were wrong and we would waive

881

00:39:24,080 --> 00:39:21,510

our magic wand and change somebody's

882

00:39:26,090 --> 00:39:24,090

mind but we were wrong that's right what

883

00:39:29,870 --> 00:39:26,100

if what if Hitler had ever had have had

884

00:39:32,150 --> 00:39:29,880

a magic wand for Stalin or any tyrant

885

00:39:35,690 --> 00:39:32,160

they could have wiped us all out well

886

00:39:38,180 --> 00:39:35,700

Tony Abbott that's right scary scary is

887

00:39:40,070 --> 00:39:38,190

still say yes indeed so unfortunately

888

00:39:42,290 --> 00:39:40,080

that just remains a bit of a dream

889

00:39:44,780 --> 00:39:42,300

because we were talking earlier about

890

00:39:47,120 --> 00:39:44,790

what i call them long game in other

891

00:39:49,570 --> 00:39:47,130

words we can't change things suddenly or

892

00:39:51,710 --> 00:39:49,580

sometimes we can sometimes in the rare

893

00:39:54,200 --> 00:39:51,720

situation we can show something's wrong

894

00:39:58,250 --> 00:39:54,210

pretty quickly but other times it's a

895

00:40:00,470 --> 00:39:58,260

very very slow process yes indeed

896

00:40:02,960 --> 00:40:00,480

because some things we can do I remember

897

00:40:05,570 --> 00:40:02,970

a political exchange minh thi think it

898

00:40:07,490 --> 00:40:05,580

involved Paul Keating was giving some

899

00:40:08,870 --> 00:40:07,500

long apology for something and one of

900

00:40:10,070 --> 00:40:08,880

his colleagues realize it was kind of

901
00:40:13,830 --> 00:40:10,080
productive and he shouldn't get anything

902
00:40:16,390 --> 00:40:13,840
so he said just tell him to get stuffed

903
00:40:18,970 --> 00:40:16,400
say that's that's a logo that I could

904
00:40:22,710 --> 00:40:18,980
just about it that wouldn't mind on my

905
00:40:25,750 --> 00:40:22,720
tombstone just tell him to get stuff I

906
00:40:30,280 --> 00:40:25,760
will remember that he in for two zone

907
00:40:32,650 --> 00:40:30,290
thank you goodness me it's Ali Thea Dean

908
00:40:34,990 --> 00:40:32,660
and listeners may remember ilithya I

909
00:40:38,740 --> 00:40:35,000
she came with us on a ghost tour a

910
00:40:41,680 --> 00:40:38,750
couple of years ago you can go yeah you

911
00:40:45,070 --> 00:40:41,690
and me and Maynard wandering around a

912
00:40:50,230 --> 00:40:45,080
ghost just feel the symmetry how many

913
00:40:53,530 --> 00:40:50,240

good sweetie Richard hard to count 00

914

00:40:56,920 --> 00:40:53,540

sorry Kevin you know the question

915

00:41:01,000 --> 00:40:56,930

tonight I'm asking people is if skeptics

916

00:41:03,130 --> 00:41:01,010

had a magic wand to fix things we come

917

00:41:05,080 --> 00:41:03,140

across you and charlatans and quacks and

918

00:41:07,030 --> 00:41:05,090

all sorts of things will be thinking we

919

00:41:08,800 --> 00:41:07,040

could say right ma'am you change your

920

00:41:12,150 --> 00:41:08,810

thinking do you think we should use it

921

00:41:16,330 --> 00:41:12,160

or is it best to just do what we do

922

00:41:18,310 --> 00:41:16,340

would you like that power well yes cuz

923

00:41:20,380 --> 00:41:18,320

that's that's the easy way I mean I

924

00:41:22,360 --> 00:41:20,390

guess in real world we have to employ

925

00:41:24,010 --> 00:41:22,370

critical thinking as their only tool but

926

00:41:26,590 --> 00:41:24,020

if there is a shortcut which is what all

927

00:41:29,650 --> 00:41:26,600

these magic Shelton charlatans people

928

00:41:31,740 --> 00:41:29,660

one why not an employer surely that

929

00:41:33,840 --> 00:41:31,750

would be the sensible thanks to

930

00:41:36,270 --> 00:41:33,850

would you trust yourself from that power

931

00:41:38,280 --> 00:41:36,280

absolutely not take it away from me I

932

00:41:40,080 --> 00:41:38,290

would be power-hungry and irresponsible

933

00:41:41,250 --> 00:41:40,090

so you're saying we should use a but you

934

00:41:45,420 --> 00:41:41,260

shouldn't use I shouldn't use it

935

00:41:48,590 --> 00:41:45,430

absolutely not no and would you would

936

00:41:51,420 --> 00:41:48,600

you recommend goes to as you please Oh

937

00:41:56,310 --> 00:41:51,430

ghost tours perhaps but the ghost

938

00:41:57,990 --> 00:41:56,320

hunting trip that we did possibly not I

939

00:42:01,530 --> 00:41:58,000

think that's the hardcore hardcore

940

00:42:03,000 --> 00:42:01,540

interests only it was fun though in the

941

00:42:05,850 --> 00:42:03,010

end wasn't it it was fun because we were

942

00:42:09,000 --> 00:42:05,860

hanging out together but it was a lot of

943

00:42:12,030 --> 00:42:09,010

like holding a hand over a Ouija board

944

00:42:15,090 --> 00:42:12,040

while it didn't move but I I must admit

945

00:42:17,150 --> 00:42:15,100

I Olivia I did admire your patience you

946

00:42:19,650 --> 00:42:17,160

SAT there you went through the whole

947

00:42:23,410 --> 00:42:19,660

rigmarole and and you were very good I

948

00:42:30,520 --> 00:42:29,079

he's doing it's over oh goodness me it's

949

00:42:32,950 --> 00:42:30,530

jessica singer from the Australian

950

00:42:35,650 --> 00:42:32,960

skeptics committee Jessica the questions

951
00:42:38,140 --> 00:42:35,660
night is if skeptics had a magic wand to

952
00:42:39,970 --> 00:42:38,150
change people's thinking you know we

953
00:42:42,670 --> 00:42:39,980
come across ruined quack are in stuff

954
00:42:45,160 --> 00:42:42,680
and you can get into long arguments and

955
00:42:46,900 --> 00:42:45,170
sometimes you think I'll come on see it

956
00:42:50,620 --> 00:42:46,910
from my point of view would you be

957
00:42:54,430 --> 00:42:50,630
tempted to just use it oh definitely oh

958
00:42:55,960 --> 00:42:54,440
definitely yeah the magic magic wand

959
00:42:58,720 --> 00:42:55,970
that's what we what that's what we need

960
00:43:02,530 --> 00:42:58,730
just to just to get people to think

961
00:43:07,660 --> 00:43:02,540
critically question would you be would

962
00:43:11,170 --> 00:43:07,670
you be scared of the power so you can I

963
00:43:16,780 --> 00:43:11,180

swear can I can I oh yes you okay well

964

00:43:19,780 --> 00:43:16,790

that no oh no it's not oh I've learned

965

00:43:21,130 --> 00:43:19,790

something about Jessica tonight and what

966

00:43:23,140 --> 00:43:21,140

would you do what would you think could

967

00:43:24,609 --> 00:43:23,150

you would you use a magic power to make

968

00:43:29,530 --> 00:43:24,619

people change their mind when it comes

969

00:43:31,030 --> 00:43:29,540

to critical thinking most likely yes and

970

00:43:33,309 --> 00:43:31,040

you wouldn't be scared of the power you

971

00:43:38,880 --> 00:43:33,319

might wield you know absolute power

972

00:43:42,069 --> 00:43:38,890

corrupts they say it's in wise hands I

973

00:43:43,660 --> 00:43:42,079

see and if you had a magic power to

974

00:43:45,069 --> 00:43:43,670

change people's thinking would you use

975

00:43:47,500 --> 00:43:45,079

it right well that's a complex question

976
00:43:49,870 --> 00:43:47,510
because as a skeptic I should not have a

977
00:43:53,799 --> 00:43:49,880
magic power it should be scientifically

978
00:43:55,510 --> 00:43:53,809
based based on some known force so the

979
00:43:57,309 --> 00:43:55,520
answer is if I touch a power it would

980
00:44:00,880 --> 00:43:57,319
not be magical it'll be you know

981
00:44:02,380 --> 00:44:00,890
provable most in science and if I had a

982
00:44:04,539 --> 00:44:02,390
magical power I would not expect it to

983
00:44:07,059 --> 00:44:04,549
actually work because there is no real

984
00:44:10,329 --> 00:44:07,069
magic you know there's only things that

985
00:44:11,410 --> 00:44:10,339
appear to be magical so I'd say I'd be

986
00:44:13,900 --> 00:44:11,420
manipulating into some sort of

987
00:44:15,609 --> 00:44:13,910
persuasion technique to make them become

988
00:44:19,089 --> 00:44:15,619

more rational and they're thinking oh

989

00:44:21,460 --> 00:44:19,099

that's a good answer thank you gentlemen

990

00:44:23,200 --> 00:44:21,470

here's the question of the night here's

991

00:44:25,780 --> 00:44:23,210

the question of the night if you had a

992

00:44:28,530 --> 00:44:25,790

magic wand to change people's opinions

993

00:44:31,390 --> 00:44:28,540

and their point of view instead of

994

00:44:34,120 --> 00:44:31,400

spending hours a weeks or years or

995

00:44:36,099 --> 00:44:34,130

whatever reasoning with them you could

996

00:44:38,010 --> 00:44:36,109

make them change their mind and see your

997

00:44:43,120 --> 00:44:38,020

point of view would you use that power

998

00:44:45,039 --> 00:44:43,130

yes Oh quick answer absolutely but I'd

999

00:44:46,510 --> 00:44:45,049

spend a long time to working out what

1000

00:44:50,950 --> 00:44:46,520

the funniest thing to make people

1001

00:44:54,760 --> 00:44:50,960

believe it well the other side of this

1002

00:44:56,500 --> 00:44:54,770

coin is what if you're wrong and you

1003

00:44:59,020 --> 00:44:56,510

make people change their minds but

1004

00:45:01,569 --> 00:44:59,030

ultimately you're working under a false

1005

00:45:03,670 --> 00:45:01,579

assumption well it's just the same as if

1006

00:45:06,640 --> 00:45:03,680

I had convinced them by a longer to

1007

00:45:08,900 --> 00:45:06,650

longer be a processor and I was wrong I

1008

00:45:11,130 --> 00:45:08,910

mean

1009

00:45:12,900 --> 00:45:11,140

it's quite possible that they would then

1010

00:45:15,060 --> 00:45:12,910

by the magic potion to and convince me

1011

00:45:17,940 --> 00:45:15,070

back I make my mind back to what I hear

1012

00:45:19,650 --> 00:45:17,950

what they used to be but but bringing it

1013

00:45:24,870 --> 00:45:19,660

back to reality of course it's wrong

1014

00:45:26,310 --> 00:45:24,880

it's not funny if it's right and what

1015

00:45:31,070 --> 00:45:26,320

about an absolute power corrupts

1016

00:45:33,570 --> 00:45:31,080

absolutely I've never believed that I

1017

00:45:35,190 --> 00:45:33,580

don't think you should either it's only

1018

00:45:36,420 --> 00:45:35,200

if any of someone else has absolute

1019

00:45:39,230 --> 00:45:36,430

power that it crapped up to leave

1020

00:45:41,550 --> 00:45:39,240

absolute power then everything's fine

1021

00:45:45,120 --> 00:45:41,560

that's true that's Bette's been well

1022

00:45:47,790 --> 00:45:45,130

verified by experiment think of his Lord

1023

00:45:49,290 --> 00:45:47,800

of the Rings more of the Rings I'm

1024

00:45:52,350 --> 00:45:49,300

sitting opposite akin we talking about

1025

00:45:58,230 --> 00:45:52,360

absolute power I have nothing more than

1026

00:46:01,230 --> 00:45:58,240

add all those skeptics in the pub is

1027

00:46:05,220 --> 00:46:01,240

almost over Alethea is regaling as the

1028

00:46:08,520 --> 00:46:05,230

stories of ghost tours Alethea goes to

1029

00:46:10,620 --> 00:46:08,530

us this is ghost tourism versus ghost

1030

00:46:13,620 --> 00:46:10,630

hunters which is the hunch is what we

1031

00:46:17,850 --> 00:46:13,630

went on the hunt is when you go out with

1032

00:46:21,180 --> 00:46:17,860

your EVP machines and your various

1033

00:46:22,620 --> 00:46:21,190

magnetic recorders and you ask things up

1034

00:46:25,080 --> 00:46:22,630

the air and hope that something

1035

00:46:27,090 --> 00:46:25,090

interesting shows up which it didn't

1036

00:46:29,730 --> 00:46:27,100

when we went on one now I must admit I

1037

00:46:31,890 --> 00:46:29,740

did not but never ready it was a good

1038

00:46:34,200 --> 00:46:31,900

experience and it's a good thing for

1039

00:46:37,680 --> 00:46:34,210

skeptics to do is it goes to our ghost

1040

00:46:40,140 --> 00:46:37,690

hunters it's a good thing to do but I

1041

00:46:43,170 --> 00:46:40,150

would advise any skeptic who goes on one

1042

00:46:46,320 --> 00:46:43,180

to be respectful and open to the

1043

00:46:48,480 --> 00:46:46,330

experience and not to go there sneering

1044

00:46:51,450 --> 00:46:48,490

and judgey just go there and and to be

1045

00:46:53,690 --> 00:46:51,460

open to the experience but contrasting

1046

00:46:57,000 --> 00:46:53,700

this to the ghost tour which is

1047

00:46:59,480 --> 00:46:57,010

basically a historical tour with a lot

1048

00:47:03,060 --> 00:46:59,490

of spooky yarns turn in those are fun

1049

00:47:05,310 --> 00:47:03,070

there's a super fun and if anyone in

1050

00:47:08,990 --> 00:47:05,320

Sydney knows that this company is still

1051
00:47:12,000 --> 00:47:09,000
open i went on the Haunted hearse tours

1052
00:47:14,790 --> 00:47:12,010
ages go where there's two horses that

1053
00:47:17,910 --> 00:47:14,800
have been renovated and take you out to

1054
00:47:20,800 --> 00:47:17,920
all sydney underbelly location so you

1055
00:47:23,140 --> 00:47:20,810
know where r this is a spot words

1056
00:47:26,310 --> 00:47:23,150
k Tilly had something going on or

1057
00:47:31,300 --> 00:47:26,320
keightley so chilly divine and caitlin

1058
00:47:35,140 --> 00:47:31,310
and murders went on or someone committed

1059
00:47:42,640 --> 00:47:35,150
suicide or the old train station to the

1060
00:47:46,450 --> 00:47:42,650
necropolis have you ever been on a ghost

1061
00:47:50,080 --> 00:47:46,460
tour no I haven't you want to i do want

1062
00:48:16,690 --> 00:47:50,090
to now i do anyway why wouldn't I I want

1063
00:48:18,490 --> 00:48:16,700

to go in a hearse one day be reasonable

1064

00:48:20,740 --> 00:48:18,500

it's a podcast in a MERSEYSIDE skeptic

1065

00:48:23,290 --> 00:48:20,750

society hosted by Michael Marshall in

1066

00:48:24,750 --> 00:48:23,300

each monthly interview will examine

1067

00:48:26,470 --> 00:48:24,760

belief from outside of the mainstream

1068

00:48:28,300 --> 00:48:26,480

exploring how those views are

1069

00:48:31,000 --> 00:48:28,310

constructed and more evidence people

1070

00:48:33,630 --> 00:48:31,010

feel support their case on the latest

1071

00:48:35,650 --> 00:48:33,640

episode I speak with dr. pol burn a

1072

00:48:39,670 --> 00:48:35,660

pediatrician and prominent campaigner

1073

00:48:43,210 --> 00:48:39,680

against organ donation you use the word

1074

00:48:45,330 --> 00:48:43,220

market and yes it is market because the

1075

00:48:48,940 --> 00:48:45,340

organ transplant industry is a

1076

00:48:52,360 --> 00:48:48,950

multi-billion dollar industry and it all

1077

00:48:54,640 --> 00:48:52,370

depends on getting healthy organs and

1078

00:48:57,010 --> 00:48:54,650

the only place you get healthy organs

1079

00:48:59,260 --> 00:48:57,020

from living persons hey what Paul has to

1080

00:49:01,390 --> 00:48:59,270

say as well as downloading back issues

1081

00:49:04,990 --> 00:49:01,400

of the show by going to Merseyside

1082

00:49:23,140 --> 00:49:05,000

skeptics WK fold / podcasts or by

1083

00:49:29,060 --> 00:49:25,850

thank you for listening to the skeptic

1084

00:49:30,620 --> 00:49:29,070

zone and i really love i really love

1085

00:49:33,140 --> 00:49:30,630

those interviews with dr. Phil Plait

1086

00:49:35,630 --> 00:49:33,150

what an interesting man and thank you to

1087

00:49:38,000 --> 00:49:35,640

all those people who were at skeptics in

1088

00:49:40,550 --> 00:49:38,010

the pub as you can hear it's a it's a

1089

00:49:42,200 --> 00:49:40,560

really fun evening coming up on next

1090

00:49:45,260 --> 00:49:42,210

week's show we have another report from

1091

00:49:46,910 --> 00:49:45,270

the fabulous Joe alabaster we'll see if

1092

00:49:48,260 --> 00:49:46,920

we can get something from Maynard I

1093

00:49:50,000 --> 00:49:48,270

don't know what he's up to at the moment

1094

00:49:52,970 --> 00:49:50,010

running around with his microphone doing

1095

00:49:55,100 --> 00:49:52,980

something or other but as ever we really

1096

00:49:59,240 --> 00:49:55,110

don't know from week to week what

1097

00:50:00,620 --> 00:49:59,250

skeptical story will appear oh now thank

1098

00:50:03,500 --> 00:50:00,630

you to all those people who have been

1099

00:50:08,630 --> 00:50:03,510

leaving questions at the patched website

1100

00:50:12,410 --> 00:50:08,640

pa TCH apostrophe D that's on facebook i

1101

00:50:14,390 --> 00:50:12,420

should say patched is this little tiny

1102

00:50:17,210 --> 00:50:14,400

device you stick on your phone the claim

1103

00:50:22,370 --> 00:50:17,220

is it will protect you from that naughty

1104

00:50:24,380 --> 00:50:22,380

radiation and as i scroll down the

1105

00:50:28,060 --> 00:50:24,390

patched facebook site at the moment a

1106

00:50:31,550 --> 00:50:28,070

lot of it is dare I say fear mongering

1107

00:50:33,740 --> 00:50:31,560

stories like breast cancer in young

1108

00:50:37,930 --> 00:50:33,750

women with prolonged contact between

1109

00:50:40,700 --> 00:50:37,940

their breasts and cellular phones and

1110

00:50:44,870 --> 00:50:40,710

cell phones may damage male fertility

1111

00:50:46,910 --> 00:50:44,880

Israel study finds mm-hmm patched won't

1112

00:50:49,310 --> 00:50:46,920

reduce your hay fever but will reduce

1113

00:50:51,680 --> 00:50:49,320

radiation yeah little devices you stick

1114

00:50:54,650 --> 00:50:51,690

on your smartphone and all sorts of

1115

00:50:56,120 --> 00:50:54,660

claims being made but yes thank you to

1116

00:50:58,010 --> 00:50:56,130

the skeptics who have been going to that

1117

00:50:59,930 --> 00:50:58,020

site and simply asking questions about

1118

00:51:03,320 --> 00:50:59,940

the product how could it possibly work

1119

00:51:05,000 --> 00:51:03,330

and if you've got nothing else to do I

1120

00:51:08,390 --> 00:51:05,010

suggest you go there and read some of

1121

00:51:10,760 --> 00:51:08,400

the comments and read the well rather

1122

00:51:13,610 --> 00:51:10,770

pathetic replies from the patched

1123

00:51:16,040 --> 00:51:13,620

company if you scroll down on the left

1124

00:51:18,230 --> 00:51:16,050

you'll see where you two can leave a

1125

00:51:21,920 --> 00:51:18,240

comment and if you're going to a comment

1126

00:51:24,440 --> 00:51:21,930

or a question I keep it polite keep it

1127

00:51:27,290 --> 00:51:24,450

to the point and amber them with science

1128

00:51:28,760 --> 00:51:27,300

best best thing we can do but we'll be

1129

00:51:31,490 --> 00:51:28,770

keeping an eye on that story over the

1130

00:51:34,330 --> 00:51:31,500

coming months and another thank you to

1131

00:51:35,630 --> 00:51:34,340

the people who have been buying the

1132

00:51:38,750 --> 00:51:35,640

dependence they are

1133

00:51:41,390 --> 00:51:38,760

gummy pendants at mr. cats online store

1134

00:51:43,700 --> 00:51:41,400

mr. Katz origami pendants and all that

1135

00:51:46,040 --> 00:51:43,710

money helps to go to support the skeptic

1136

00:51:48,320 --> 00:51:46,050

zone well that's enough for me for now

1137

00:51:50,360 --> 00:51:48,330

so for this week this is Richard

1138

00:51:56,480 --> 00:51:50,370

Saunders signing off from Sydney

1139

00:51:58,580 --> 00:51:56,490

Australia you've been listening to the

1140

00:52:02,810 --> 00:51:58,590

skeptic zone podcast visit our website

1141

00:52:06,110 --> 00:52:02,820

at wwc a petting zoo TV for contacts an

1142

00:52:09,290 --> 00:52:06,120

archive of all episodes since 2008 and

1143

00:52:11,330 --> 00:52:09,300

our online store please support the

1144

00:52:14,690 --> 00:52:11,340

skeptic zone by following us on twitter

1145

00:52:18,200 --> 00:52:14,700

at skeptic zone liking us on facebook

1146

00:52:19,700 --> 00:52:18,210

and leaving a review on iTunes you can

1147

00:52:23,540 --> 00:52:19,710

also show your support by subscribing

1148

00:52:26,570 --> 00:52:23,550

via paypal for as little as 99 cents a

1149

00:52:28,220 --> 00:52:26,580

week the skeptic zone is an independent

1150

00:52:30,650 --> 00:52:28,230

production the views and opinions

1151

00:52:32,270 --> 00:52:30,660

expressed on the skeptic zone and not

1152

00:52:35,150 --> 00:52:32,280

necessarily those of Australian