

1
00:00:06,559 --> 00:00:14,109
welcome to the skeptic zone the podcast

2
00:00:09,529 --> 00:00:14,109
from Australia for science and reason

3
00:00:20,370 --> 00:00:25,380
and welcome to the skeptics on an

4
00:00:22,920 --> 00:00:27,800
episode 99 for the tenth of sep tember

5
00:00:25,379 --> 00:00:30,629
2010 Richard Saunders here with you

6
00:00:27,800 --> 00:00:33,240
sitting at the most wonderfully

7
00:00:30,629 --> 00:00:35,339
beautiful spectacularly picturesque Lake

8
00:00:33,240 --> 00:00:37,650
up here in the Rocky Mountains I'm with

9
00:00:35,340 --> 00:00:39,660
my good friend you know him is the bad

10
00:00:37,649 --> 00:00:44,780
astronomer dr. Phil Plait hi Phil good

11
00:00:39,659 --> 00:00:47,939
day today where exactly are we we're a

12
00:00:44,780 --> 00:00:52,109
black lake which is in Rocky Mountain

13
00:00:47,939 --> 00:00:53,399
National Park in Colorado and it's if

14
00:00:52,109 --> 00:00:56,338
you know where Denver is if you look on

15
00:00:53,399 --> 00:01:00,210
a map you drive north about 0 100

16
00:00:56,338 --> 00:01:01,649
kilometers and then turn left and that

17
00:01:00,210 --> 00:01:03,120
takes you under the Rocky Mountains and

18
00:01:01,649 --> 00:01:07,799
these are magnificent peaks and they

19
00:01:03,119 --> 00:01:09,929
they top off it Oh 4,000 meters 4,500

20
00:01:07,799 --> 00:01:12,239
meters there they're pretty high up and

21
00:01:09,930 --> 00:01:14,250
so are we yeah we're up we're up about

22
00:01:12,239 --> 00:01:15,959
3,000 meters the air is noticeably

23
00:01:14,250 --> 00:01:18,930
thinner here's Richard and I are both

24
00:01:15,959 --> 00:01:22,259
struggling a little bit the trails

25
00:01:18,930 --> 00:01:24,510
aren't too bad but walking up hills you

26
00:01:22,260 --> 00:01:27,620
know you get to the top you know you're

27
00:01:24,510 --> 00:01:31,020
in thinner air yeah but for the for the

28
00:01:27,620 --> 00:01:33,480
views from one to land on by they just

29

00:01:31,019 --> 00:01:35,699
and the day is beautiful it's still

30
00:01:33,480 --> 00:01:38,430
there are scattered clouds the sun comes

31
00:01:35,700 --> 00:01:40,650
out and it just can't get much better

32
00:01:38,430 --> 00:01:43,080
than this yeah we've got some wildlife

33
00:01:40,650 --> 00:01:44,880
sitting right next to us yeah some

34
00:01:43,079 --> 00:01:46,379
squirrels and chipmunks and some

35
00:01:44,879 --> 00:01:48,420
interesting birds flying around it's

36
00:01:46,379 --> 00:01:52,319
really gorgeous here I don't get here

37
00:01:48,420 --> 00:01:54,150
enough no missing with me well coming up

38
00:01:52,319 --> 00:01:56,719
on this week's episode of the skeptic

39
00:01:54,150 --> 00:02:00,390
zone we have a special report from

40
00:01:56,719 --> 00:02:02,700
dragoncon dragoncon Atlanta Georgia a

41
00:02:00,390 --> 00:02:04,170
bit about overview of dragoncon

42
00:02:02,700 --> 00:02:06,329
interviewing lots of people here in

43
00:02:04,170 --> 00:02:08,788

there and that's followed by dr. Richie

44

00:02:06,329 --> 00:02:12,060

reports where she's reporting live from

45

00:02:08,788 --> 00:02:15,988

the vaccinations booth at dragoncon the

46

00:02:12,060 --> 00:02:17,640

skeptic set up a booster room and lots

47

00:02:15,989 --> 00:02:20,430

of people came in we'll hear more about

48

00:02:17,639 --> 00:02:23,068

that later as what is that that's a

49

00:02:20,430 --> 00:02:30,329

golden mental swirl I think that's ago

50

00:02:23,068 --> 00:02:32,188

look at me or label that thing is Wow it

51

00:02:30,329 --> 00:02:33,430

just ran right past that's too good to

52

00:02:32,188 --> 00:02:36,098

be true as it could have passed

53

00:02:33,430 --> 00:02:39,310

we have been well wipe it with why Phil

54

00:02:36,098 --> 00:02:42,188

and I catch our breath uh and have

55

00:02:39,310 --> 00:02:46,479

another sip of water what was that don't

56

00:02:42,188 --> 00:02:48,549

fall my wife is uh with at the edge

57

00:02:46,479 --> 00:02:50,530

of this lake it flows into a stream and

58
00:02:48,549 --> 00:02:53,530
it makes beautiful waterfalls down the

59
00:02:50,530 --> 00:02:59,229
hill but there's a lot of from a lot of

60
00:02:53,530 --> 00:03:03,009
fallen don't you see why there's like a

61
00:02:59,229 --> 00:03:04,899
30 x 10 meter pile of dead bed one dead

62
00:03:03,009 --> 00:03:07,209
wood pine and aspen and i'm not sure

63
00:03:04,900 --> 00:03:08,980
what else and it's all she's kind of d

64
00:03:07,209 --> 00:03:11,049
barked and bleached in the Sun it's

65
00:03:08,979 --> 00:03:13,179
clearly been here for decades and she's

66
00:03:11,049 --> 00:03:16,209
scrambling over it well I feel and I

67
00:03:13,180 --> 00:03:18,129
actually go and rescue well we'll let

68
00:03:16,209 --> 00:03:20,759
you listen to this episode of the

69
00:03:18,128 --> 00:03:20,759
skeptics are

70
00:03:36,120 --> 00:03:43,689
dragon con 2010 was held from the third

71
00:03:40,900 --> 00:03:46,480
to the sixth of the September in Atlanta

72
00:03:43,689 --> 00:03:49,150
Georgia it's the largest multimedia

73
00:03:46,479 --> 00:03:51,639
popular culture convention focusing on

74
00:03:49,150 --> 00:03:56,200
science fiction and fantasy gaming

75
00:03:51,639 --> 00:03:59,529
comics literature art music film and of

76
00:03:56,199 --> 00:04:02,649
course skepticism it was the pleasure of

77
00:03:59,530 --> 00:04:04,840
the skeptic zone to once again take part

78
00:04:02,650 --> 00:04:06,969
in Dragon Con as we've done now for

79
00:04:04,840 --> 00:04:10,680
three years and we pick up the story

80
00:04:06,969 --> 00:04:13,680
with me wandering about one of the mega

81
00:04:10,680 --> 00:04:13,680
hotels

82
00:04:19,189 --> 00:04:25,050
I'm speaking to you from level 2 of the

83
00:04:22,228 --> 00:04:28,228
hilton hotel atlanta georgia where it's

84
00:04:25,050 --> 00:04:31,949
day 3 of dragoncon the great science

85
00:04:28,228 --> 00:04:34,459
fiction and fantasy convention my

86

00:04:31,949 --> 00:04:38,009
vantage point here i can overlook the

87
00:04:34,459 --> 00:04:39,888
lobby the main floor area where where

88
00:04:38,009 --> 00:04:42,449
hundreds of people are milling about i

89
00:04:39,889 --> 00:04:44,728
walk over to my left a little bit

90
00:04:42,449 --> 00:04:47,280
there's a sky bridge which connects this

91
00:04:44,728 --> 00:04:52,008
hotel to the marriott which is a

92
00:04:47,279 --> 00:04:55,589
constant stream of characters dressed up

93
00:04:52,009 --> 00:04:59,848
and see if we can spot some we've got

94
00:04:55,589 --> 00:05:01,049
three schoolgirls coming along I don't

95
00:04:59,848 --> 00:05:02,878
know what they're from maybe Harry

96
00:05:01,050 --> 00:05:06,389
Potter followed by some sort of and

97
00:05:02,879 --> 00:05:07,860
which and I looked over to my right eye

98
00:05:06,389 --> 00:05:10,620
can see somebody dressed up in the

99
00:05:07,860 --> 00:05:13,669
amazing steampunk outfit which is sort

100
00:05:10,620 --> 00:05:17,810

of like the Wild West meets technology

101

00:05:13,668 --> 00:05:20,698

lady with bright green hair followed by

102

00:05:17,810 --> 00:05:25,079

poison ivy from batman with a long red

103

00:05:20,699 --> 00:05:27,900

hair and green ivy we've got a sort of a

104

00:05:25,079 --> 00:05:31,228

New York cop complete with coffee

105

00:05:27,899 --> 00:05:34,219

stained trench coat last night I saw

106

00:05:31,228 --> 00:05:39,269

Darth Vader a couple of

107

00:05:34,220 --> 00:05:42,960

stormtroopers following I walk over ask

108

00:05:39,269 --> 00:05:45,209

the elevator shaft with its constantly

109

00:05:42,959 --> 00:05:48,539

packed elevators full of all sorts of

110

00:05:45,209 --> 00:05:51,359

characters sometimes it's quite a wait

111

00:05:48,540 --> 00:05:55,260

more steampunk people there's a little

112

00:05:51,360 --> 00:05:58,980

ferry over here with a long cape and I'm

113

00:05:55,259 --> 00:06:02,819

entering one of the main subsections

114

00:05:58,980 --> 00:06:04,950

here we have the walk of fame which is

115
00:06:02,819 --> 00:06:08,969
where all the celebrities hang out to

116
00:06:04,949 --> 00:06:13,110
get to meet people on my right is the I

117
00:06:08,970 --> 00:06:17,760
Dream of Jeannie room barbara eden Larry

118
00:06:13,110 --> 00:06:19,949
Hagman and William Daley who played the

119
00:06:17,759 --> 00:06:22,680
characters and I Dream of Jeannie are

120
00:06:19,949 --> 00:06:24,269
all there it's on my right if I walk

121
00:06:22,680 --> 00:06:29,699
over to my left it's the grand ballroom

122
00:06:24,269 --> 00:06:33,120
with all the stars past and present this

123
00:06:29,699 --> 00:06:36,300
is where the skeptic table is astronomy

124
00:06:33,120 --> 00:06:38,759
cast table the Center for inquiry are

125
00:06:36,300 --> 00:06:41,020
here just outside surly Amy the

126
00:06:38,759 --> 00:06:43,240
wonderful things

127
00:06:41,019 --> 00:06:46,089
so now I'm entering the Grand Ballroom

128
00:06:43,240 --> 00:06:47,889
as I did last year in here before to my

129
00:06:46,089 --> 00:06:49,899
right a lot of the characters from Star

130
00:06:47,889 --> 00:06:55,090
Trek The Next Generation we've got Brent

131
00:06:49,899 --> 00:06:58,839
Spiner levar burton some people i don't

132
00:06:55,089 --> 00:07:01,348
know lots of people i don't know i guess

133
00:06:58,839 --> 00:07:04,628
they're stars of other TV shows and

134
00:07:01,348 --> 00:07:06,550
comic books or i don't not sure Peter

135
00:07:04,629 --> 00:07:09,250
Mayhew he's here he's the guy who paid

136
00:07:06,550 --> 00:07:15,610
chewbacca the wookie and the Star Wars

137
00:07:09,250 --> 00:07:19,689
serious lots of lots of fans coming to

138
00:07:15,610 --> 00:07:23,710
meet their heroes futurama table is the

139
00:07:19,689 --> 00:07:27,180
man over there really west who does a

140
00:07:23,709 --> 00:07:27,180
lot of the voices of futurama

141
00:07:27,949 --> 00:07:38,788
so I walk around the room who else is

142
00:07:33,449 --> 00:07:43,348
here Virginia hey from farscape she's an

143

00:07:38,788 --> 00:07:45,918
Australian Fraser Hines who played Jamie

144
00:07:43,348 --> 00:07:45,918
in Doctor Who

145
00:07:46,610 --> 00:07:52,699
having a bite to eat lots of people

146
00:07:49,788 --> 00:07:56,029
milling about more Star Trek characters

147
00:07:52,699 --> 00:07:59,550
in this section of the room Jonathan

148
00:07:56,029 --> 00:08:04,349
Franks who played William Riker is here

149
00:07:59,550 --> 00:08:07,790
huge rod from buck rogers who else do we

150
00:08:04,350 --> 00:08:07,790
have Luke Perry

151
00:08:09,379 --> 00:08:14,449
more fans milling about a couple of

152
00:08:12,500 --> 00:08:18,920
people from lost in space the original

153
00:08:14,449 --> 00:08:21,439
lost in space Marta Kristin and Mark got

154
00:08:18,920 --> 00:08:25,580
out who played major West mother Kristin

155
00:08:21,439 --> 00:08:28,459
played Judy Robinson don't see them that

156
00:08:25,579 --> 00:08:31,669
their names are here anyway Avery Brooks

157
00:08:28,459 --> 00:08:33,829

Captain Sisko forearm Deep Space nine as

158

00:08:31,670 --> 00:08:36,320

I passed three people dressed up as

159

00:08:33,830 --> 00:08:38,090

various Doctor Who characters this gives

160

00:08:36,320 --> 00:08:40,789

fans the opportunity not only to buy

161

00:08:38,090 --> 00:08:43,759

autograph see it simply to come up and

162

00:08:40,788 --> 00:08:47,179

just chat with their with their favorite

163

00:08:43,759 --> 00:08:49,460

celebrity which is really cool in fact

164

00:08:47,179 --> 00:08:51,469

avery brooks who played Captain Sisko is

165

00:08:49,460 --> 00:08:54,019

simply just chatting to a couple of

166

00:08:51,470 --> 00:08:58,279

people so I'll just leave the Grand

167

00:08:54,019 --> 00:09:03,740

Ballroom of all its celebrities come

168

00:08:58,279 --> 00:09:07,610

back out to the chamber outside where

169

00:09:03,740 --> 00:09:10,430

we've got the skeptic table with lots of

170

00:09:07,610 --> 00:09:12,470

magazines sort of skeptic magazines and

171

00:09:10,429 --> 00:09:14,299

books by Michael Shermer and this sort

172
00:09:12,470 --> 00:09:19,100
of thing and there's some strange dude

173
00:09:14,299 --> 00:09:23,359
it's dr. atlantis hi good afternoon in

174
00:09:19,100 --> 00:09:25,940
australia wacko wacko he's rubbing it in

175
00:09:23,360 --> 00:09:28,460
because i slept in today dr. atlantis

176
00:09:25,940 --> 00:09:30,050
from the monster talk podcast correct

177
00:09:28,460 --> 00:09:32,810
that's correct and you're from what

178
00:09:30,049 --> 00:09:34,219
skeptic zap is that is that yeah that's

179
00:09:32,809 --> 00:09:36,709
close enough

180
00:09:34,220 --> 00:09:40,970
how is your convention going it's been

181
00:09:36,710 --> 00:09:44,480
fantastic well and it's just been very

182
00:09:40,970 --> 00:09:46,460
rewarding I got a stoned with Brian

183
00:09:44,480 --> 00:09:47,899
Dunning no no I saw some stones when

184
00:09:46,460 --> 00:09:49,840
Brian dunny that's what it was I'm a

185
00:09:47,899 --> 00:09:52,639
little confused it's really early here

186
00:09:49,840 --> 00:09:54,769
well it's noon but it's early for a

187
00:09:52,639 --> 00:09:58,389
convention so yeah it's been fun so

188
00:09:54,769 --> 00:09:58,389
thank you dr. Atlantis

189
00:10:00,159 --> 00:10:04,208
I better let him get back to the the

190
00:10:02,440 --> 00:10:07,980
queue of people who formed to ask him

191
00:10:04,208 --> 00:10:07,979
questions about skeptic magazine

192
00:10:08,339 --> 00:10:11,970
what what is seen it's hard to describe

193
00:10:10,470 --> 00:10:16,589
where's wally is over there a couple

194
00:10:11,970 --> 00:10:18,930
more witches over there next to him more

195
00:10:16,589 --> 00:10:22,379
steampunk steampunk is very popular very

196
00:10:18,929 --> 00:10:27,149
popular indeed and so many people

197
00:10:22,379 --> 00:10:29,909
dressed up as characters from comic

198
00:10:27,149 --> 00:10:32,009
books or TV shows or movies I haven't

199
00:10:29,909 --> 00:10:33,448
ever seen I have no clue they're wearing

200

00:10:32,009 --> 00:10:38,879
funny stripes and this that and the

201
00:10:33,448 --> 00:10:42,719
other and we're all left guessing what

202
00:10:38,879 --> 00:10:47,209
they are or what they represent as I

203
00:10:42,720 --> 00:10:51,120
walk back across the elevator shaft I'm

204
00:10:47,208 --> 00:10:54,448
just now outside the skeptics room the

205
00:10:51,120 --> 00:10:57,389
skip track room which has some talks

206
00:10:54,448 --> 00:10:59,578
going on at the moment walk past those

207
00:10:57,389 --> 00:11:01,879
we have other rooms for other tracks as

208
00:10:59,578 --> 00:11:04,878
they call them there's a science track

209
00:11:01,879 --> 00:11:04,879
podcasting

210
00:11:06,110 --> 00:11:10,820
skeptic room i'm pleased to say takes up

211
00:11:08,480 --> 00:11:13,009
three separate rooms all sort of merged

212
00:11:10,820 --> 00:11:15,170
together they took the barriers down

213
00:11:13,009 --> 00:11:17,980
right down the escalators let's see what

214
00:11:15,169 --> 00:11:17,979

we can find down here

215

00:11:19,110 --> 00:11:26,639

there's super girl superwoman super girl

216

00:11:23,100 --> 00:11:26,639

looking rather splendid

217

00:11:27,429 --> 00:11:34,659

it's about a noon so people are grabbing

218

00:11:30,399 --> 00:11:38,019

some lunch now I'm down right in the

219

00:11:34,659 --> 00:11:39,959

lowest section well I should say a lower

220

00:11:38,019 --> 00:11:43,000

section there are lower sections with

221

00:11:39,960 --> 00:11:45,940

gamers playing Dungeons and Dragons and

222

00:11:43,000 --> 00:11:49,720

all sorts of things it's a constant

223

00:11:45,940 --> 00:11:51,640

parade dragoncon almost 24 hours a day

224

00:11:49,720 --> 00:11:55,450

well it was a constant parade last night

225

00:11:51,639 --> 00:11:59,399

and three o'clock in the morning if you

226

00:11:55,450 --> 00:11:59,399

bleary eyed people walking about

227

00:11:59,778 --> 00:12:06,708

well dragon confer for the skeptic zone

228

00:12:04,999 --> 00:12:10,040

means a chance to catch up with our

229
00:12:06,708 --> 00:12:12,109
colleagues more or less i think take

230
00:12:10,039 --> 00:12:14,539
part in panels and talks which or which

231
00:12:12,110 --> 00:12:16,550
rachel kylie and i have been doing so

232
00:12:14,539 --> 00:12:20,120
far and we've had our skeptic zone life

233
00:12:16,549 --> 00:12:24,409
a little bit later today and a chance

234
00:12:20,120 --> 00:12:26,959
for a chance for listeners to the

235
00:12:24,409 --> 00:12:28,490
skeptic zone from united states to come

236
00:12:26,958 --> 00:12:31,998
up and say hi to us which is really

237
00:12:28,490 --> 00:12:36,149
really a lot of fun well there goes our

238
00:12:31,999 --> 00:12:39,560
Klingon scare

239
00:12:36,149 --> 00:12:39,559
dragoncon is also

240
00:12:40,190 --> 00:12:46,810
very tiring kids none stop believe me

241
00:12:50,139 --> 00:12:55,399
and what are the fabulous people we bump

242
00:12:52,639 --> 00:12:58,189
into here is yes grinning like a

243
00:12:55,399 --> 00:13:01,669
Cheshire cat it's Tracy king hello hello

244
00:12:58,190 --> 00:13:04,460
sir hello now you you seem to be always

245
00:13:01,669 --> 00:13:06,469
bobbing up at these events yeah I can't

246
00:13:04,460 --> 00:13:08,269
understand why I'm not gonna pull in a

247
00:13:06,470 --> 00:13:10,040
barrel I like a rotten apple in a barrel

248
00:13:08,269 --> 00:13:11,240
I always probably this isn't even on is

249
00:13:10,039 --> 00:13:13,779
it this is just you're just showing up

250
00:13:11,240 --> 00:13:16,700
in to scale acum look at my iphone it on

251
00:13:13,779 --> 00:13:19,159
um well I'm here I'm here and I'm doing

252
00:13:16,700 --> 00:13:21,110
duties here yes I'm not just your

253
00:13:19,159 --> 00:13:23,480
regular guy yes now tell us about Tam

254
00:13:21,110 --> 00:13:26,029
London this is very exciting it is very

255
00:13:23,480 --> 00:13:27,289
exciting because it last year was the

256
00:13:26,029 --> 00:13:28,879
first one and we didn't know how that

257

00:13:27,289 --> 00:13:30,769
will go anytime that's a huge success so

258
00:13:28,879 --> 00:13:33,169
this year we've managed to kind of come

259
00:13:30,769 --> 00:13:35,689
back twice the size and twice as amazing

260
00:13:33,169 --> 00:13:38,000
and we've got the most ridiculous lineup

261
00:13:35,690 --> 00:13:40,070
of speakers that's kind of nothing else

262
00:13:38,000 --> 00:13:41,659
like it I think it skepticism suits

263
00:13:40,070 --> 00:13:42,950
because it's a bit more mainstream than

264
00:13:41,659 --> 00:13:44,389
usual it's not you know I mean there are

265
00:13:42,950 --> 00:13:46,850
incredible skeptical speakers there but

266
00:13:44,389 --> 00:13:49,279
also people who you know are skeptical

267
00:13:46,850 --> 00:13:51,889
people like Stephen Fry and Graham

268
00:13:49,279 --> 00:13:53,329
Linehan who does father ted and black

269
00:13:51,889 --> 00:13:55,100
books and IT Crowd you know those guys

270
00:13:53,330 --> 00:13:56,780
are skeptical from the output don't

271
00:13:55,100 --> 00:13:57,889

usually do skeptical events so it's

272

00:13:56,779 --> 00:14:01,639
really great to be able to kind of bring

273

00:13:57,889 --> 00:14:04,549
mainstream speakers and then tam

274

00:14:01,639 --> 00:14:06,740
Australia yes what's that gonna be like

275

00:14:04,549 --> 00:14:10,909
I can't imagine no side down and

276

00:14:06,740 --> 00:14:13,460
everything you've never had that before

277

00:14:10,909 --> 00:14:16,159
but I'll strain listeners will write you

278

00:14:13,460 --> 00:14:17,720
naughty you know I don't know if we get

279

00:14:16,159 --> 00:14:20,329
that all the time now that's very

280

00:14:17,720 --> 00:14:22,180
exciting for everybody yes I'm very much

281

00:14:20,330 --> 00:14:24,560
looking forward to that and obviously

282

00:14:22,179 --> 00:14:26,809
storm which is the movie aren't

283

00:14:24,559 --> 00:14:28,939
producing Tim Minchin storm will be

284

00:14:26,809 --> 00:14:30,799
finished by then how exciting is I will

285

00:14:28,940 --> 00:14:32,870
show it in its entirety on the screen

286

00:14:30,799 --> 00:14:35,269

hopefully fabulous if you've got a big

287

00:14:32,870 --> 00:14:36,320

enough screen for us yeah and that and

288

00:14:35,269 --> 00:14:38,750

that'll be really nice because obviously

289

00:14:36,320 --> 00:14:40,220

unless you come to Tam London where

290

00:14:38,750 --> 00:14:41,600

we're premiering it then that you won't

291

00:14:40,220 --> 00:14:43,129

be able to have seen it on a big screen

292

00:14:41,600 --> 00:14:44,720

so that'll be really exciting for people

293

00:14:43,129 --> 00:14:45,049

hopefully if they're like the movement

294

00:14:44,720 --> 00:14:46,370

they can

295

00:14:45,049 --> 00:14:50,000

in a car have you been to Australia

296

00:14:46,370 --> 00:14:51,740

before no I know I've always wanted to

297

00:14:50,000 --> 00:14:54,769

now you'll see what it's like it better

298

00:14:51,740 --> 00:14:56,870

be good how about that listeners what

299

00:14:54,769 --> 00:14:59,179

have you got why do you got home me not

300
00:14:56,870 --> 00:15:00,950
really excited about it free beer yeah

301
00:14:59,179 --> 00:15:05,778
i'm not i'm not a big drinker does that

302
00:15:00,950 --> 00:15:07,459
mean I'm not allowed in sorry don't

303
00:15:05,778 --> 00:15:08,750
worry will ply your vigilance stamp it

304
00:15:07,458 --> 00:15:10,129
with lightweight yeah I'm good with the

305
00:15:08,750 --> 00:15:11,269
butter with the vegetable now I'm really

306
00:15:10,129 --> 00:15:13,399
looking forward to I think that it's

307
00:15:11,269 --> 00:15:15,919
it's so amazing that tams are spreading

308
00:15:13,399 --> 00:15:18,740
and Australia I know has always had a

309
00:15:15,919 --> 00:15:20,509
huge really a bigger skeptical output

310
00:15:18,740 --> 00:15:22,730
than Britain has you know and I've

311
00:15:20,509 --> 00:15:24,350
always kind of watched footage of when

312
00:15:22,730 --> 00:15:26,120
Randy was in Australia so much stuff

313
00:15:24,350 --> 00:15:27,290
there yes you don't see the media in

314

00:15:26,120 --> 00:15:28,429
Australia it's always struck me as being

315
00:15:27,289 --> 00:15:29,809
you know there's quite a lot of

316
00:15:28,429 --> 00:15:32,149
skeptical programming perhaps not so

317
00:15:29,809 --> 00:15:33,500
much these days it did waffles it varies

318
00:15:32,149 --> 00:15:34,789
alright but at least you kind of you

319
00:15:33,500 --> 00:15:36,769
have that there seems to be a history of

320
00:15:34,789 --> 00:15:38,419
that and so I think it's perfect yeah

321
00:15:36,769 --> 00:15:41,360
we've had some we've had some success i

322
00:15:38,419 --> 00:15:44,149
must say what listeners who are coming

323
00:15:41,360 --> 00:15:45,829
to town australia you can meet tracy in

324
00:15:44,149 --> 00:15:47,809
person but before then where can people

325
00:15:45,828 --> 00:15:49,429
run with their fingers on the keyboards

326
00:15:47,809 --> 00:15:51,889
to visit your website i would recommend

327
00:15:49,429 --> 00:15:55,159
first port of call would be store movie

328
00:15:51,889 --> 00:15:57,199

dr. Mehta yes we're a little movie we

329

00:15:55,159 --> 00:15:58,458

put little bits of artwork and

330

00:15:57,200 --> 00:16:01,220

behind-the-scenes stuff up there every

331

00:15:58,458 --> 00:16:02,778

so often and also Tamland and dog if you

332

00:16:01,220 --> 00:16:04,820

fancy popping along in the next six

333

00:16:02,778 --> 00:16:06,259

weeks to London to to meet some

334

00:16:04,820 --> 00:16:08,540

luminaries and have a good time at the

335

00:16:06,259 --> 00:16:10,669

Brits um and also our blog for skeptic

336

00:16:08,539 --> 00:16:13,000

dog which is always worth visiting Thank

337

00:16:10,669 --> 00:16:13,000

You Tracy

338

00:16:14,860 --> 00:16:19,120

I think they're right well some of the

339

00:16:17,200 --> 00:16:20,740

funny characters look at dressed up oh

340

00:16:19,120 --> 00:16:22,810

no they just just normally apart from

341

00:16:20,740 --> 00:16:26,080

the killer I suppose we've got dr.

342

00:16:22,809 --> 00:16:28,209

beggar hello hello and gender but narrow

343
00:16:26,080 --> 00:16:30,879
Jennifer hello Jennifer hi how are you

344
00:16:28,210 --> 00:16:32,379
doing I'm fine now this is I've been

345
00:16:30,879 --> 00:16:34,029
trying to explain to my listeners what

346
00:16:32,379 --> 00:16:35,950
dragoncon is like now look around us

347
00:16:34,029 --> 00:16:38,620
it's a passing parade isn't it never

348
00:16:35,950 --> 00:16:40,720
anything it is it's a 35,000 of your

349
00:16:38,620 --> 00:16:44,110
closest friends it really is isn't that

350
00:16:40,720 --> 00:16:47,620
fast and you this is your third year for

351
00:16:44,110 --> 00:16:49,570
this is my night through ninth year nice

352
00:16:47,620 --> 00:16:52,210
dragon con is fantastic donkey boy

353
00:16:49,570 --> 00:16:54,400
radford he's over here to its bed in

354
00:16:52,210 --> 00:16:56,500
redford don't talk to me talk to these

355
00:16:54,399 --> 00:17:01,539
important people it did it in water

356
00:16:56,500 --> 00:17:03,789
that's by 16 what makes 16 really yeah

357
00:17:01,539 --> 00:17:06,190
wow very must have seen a lot of changes

358
00:17:03,789 --> 00:17:08,769
yeah actually originally it was just in

359
00:17:06,190 --> 00:17:12,789
this one hotel way back in the day very

360
00:17:08,769 --> 00:17:15,879
small it's exploded yes we tried to get

361
00:17:12,789 --> 00:17:18,039
to the hill the hyatt yesterday we've

362
00:17:15,880 --> 00:17:20,680
done it would turn back to many people

363
00:17:18,039 --> 00:17:22,839
it's almost easier to go around outside

364
00:17:20,680 --> 00:17:28,900
the building's that's how we got back

365
00:17:22,839 --> 00:17:30,369
there you go and but now we have in the

366
00:17:28,900 --> 00:17:33,130
last few years we have the skeptical

367
00:17:30,369 --> 00:17:35,409
Alamo and the room behind us is almost

368
00:17:33,130 --> 00:17:37,630
full I think which is gonna be good this

369
00:17:35,410 --> 00:17:39,640
is part of dragoncon for the skeptics is

370
00:17:37,630 --> 00:17:41,710
another you go to the great panels and

371

00:17:39,640 --> 00:17:43,780
learn stuff and then you hang out yeah

372
00:17:41,710 --> 00:17:46,900
the like-minded people we've had some

373
00:17:43,779 --> 00:17:49,539
great conversations too and let me give

374
00:17:46,900 --> 00:17:51,790
a shout out to nyan tio tommy jax

375
00:17:49,539 --> 00:17:53,500
scanlon you're out there for sure yeah

376
00:17:51,789 --> 00:17:55,200
you did you come someday you'd love it

377
00:17:53,500 --> 00:17:57,778
jack

378
00:17:55,200 --> 00:17:59,819
so what but um what I love about this is

379
00:17:57,778 --> 00:18:02,159
that we can all there's not a there's no

380
00:17:59,819 --> 00:18:03,808
ego or agenda or anything like that we

381
00:18:02,159 --> 00:18:06,450
can all really get together share ideas

382
00:18:03,808 --> 00:18:08,668
and absolutely and while you're doing

383
00:18:06,450 --> 00:18:10,288
that you glance to the other side and

384
00:18:08,669 --> 00:18:12,120
you see the passing right now what's

385
00:18:10,288 --> 00:18:16,589

that character with a little like all

386

00:18:12,119 --> 00:18:19,319

the West with little devil wings scenes

387

00:18:16,589 --> 00:18:21,058

around here the cow a prophecy the Gulf

388

00:18:19,319 --> 00:18:22,859

southern yeah therefore coughing then

389

00:18:21,058 --> 00:18:24,808

there's a steampunk and there's a speed

390

00:18:22,859 --> 00:18:28,288

fun later going like yeah that's like

391

00:18:24,808 --> 00:18:29,879

Lord of the Rings just a little bit of

392

00:18:28,288 --> 00:18:31,980

everything yes but if everything

393

00:18:29,880 --> 00:18:33,299

actually I saw I saw some airline pilots

394

00:18:31,980 --> 00:18:37,200

last night I didn't know if they were

395

00:18:33,298 --> 00:18:40,048

real oh you haven't seen the of and I

396

00:18:37,200 --> 00:18:41,850

guess I'll be very not PC but the sexy

397

00:18:40,048 --> 00:18:44,929

korean store just convention that comes

398

00:18:41,849 --> 00:18:48,778

through here like like there is like a a

399

00:18:44,929 --> 00:18:52,950

just on our me like I'm talion of really

400
00:18:48,778 --> 00:18:55,558
really awesome fembot looking Korean

401
00:18:52,950 --> 00:18:57,929
stewardesses that come through every

402
00:18:55,558 --> 00:18:59,548
year engine starts right after this one

403
00:18:57,929 --> 00:19:01,320
so if you stay around the necks today

404
00:18:59,548 --> 00:19:02,879
there's a little bit convention this

405
00:19:01,319 --> 00:19:04,678
from from Korea naris fantastic I'll

406
00:19:02,880 --> 00:19:07,380
keep an eye out I'll kick know what are

407
00:19:04,679 --> 00:19:08,970
these carradine all space invaders it is

408
00:19:07,380 --> 00:19:13,440
awful something like that you will see

409
00:19:08,970 --> 00:19:15,569
officers from all the sims other sins a

410
00:19:13,440 --> 00:19:17,009
lot of Star Trek well that's half the

411
00:19:15,569 --> 00:19:18,359
battle is is you know trying to figure

412
00:19:17,009 --> 00:19:20,250
out just what the hell these people are

413
00:19:18,359 --> 00:19:21,839
sometimes it's obvious miss Harry Potter

414
00:19:20,250 --> 00:19:25,380
but then you're like you know you're

415
00:19:21,839 --> 00:19:27,720
that one that guy from that one movie in

416
00:19:25,380 --> 00:19:30,120
the 82 that yeah no matter how broadly

417
00:19:27,720 --> 00:19:32,788
experienced you think you are as a geek

418
00:19:30,119 --> 00:19:35,069
or a nerd there's someone who is like

419
00:19:32,788 --> 00:19:38,980
this guy for example the eye patch in

420
00:19:35,069 --> 00:19:41,779
the skin tight suit your white tape it

421
00:19:38,980 --> 00:19:44,509
this is going to clone trooper from Star

422
00:19:41,779 --> 00:19:48,079
Wars and a tiny little Jedi all of what

423
00:19:44,509 --> 00:19:51,349
five years old time yeah remember

424
00:19:48,079 --> 00:19:52,699
everything fantastic and it's just

425
00:19:51,349 --> 00:19:55,279
everyone being able to express

426
00:19:52,700 --> 00:19:59,299
themselves in a way that in daily in

427
00:19:55,279 --> 00:20:01,069
Norton normal society you just can't do

428

00:19:59,299 --> 00:20:04,490
this no room for it there's no room for

429
00:20:01,069 --> 00:20:06,439
a nine-foot-tall off his mom or a Mad

430
00:20:04,490 --> 00:20:08,240
Hatter right I like there's nothing but

431
00:20:06,440 --> 00:20:12,110
wow there's no there's no room for a Mad

432
00:20:08,240 --> 00:20:13,339
Hatter at your office job no like and I

433
00:20:12,109 --> 00:20:14,899
must take my head off to all the

434
00:20:13,339 --> 00:20:17,959
characters who dress up and then go

435
00:20:14,900 --> 00:20:20,509
outside in this heat oh yeah Wow shows

436
00:20:17,960 --> 00:20:21,980
are three and dedication seasonably cool

437
00:20:20,509 --> 00:20:24,950
it's still hot but it's it's a

438
00:20:21,980 --> 00:20:26,779
seasonably cool usually it's together

439
00:20:24,950 --> 00:20:28,190
this time of year well they're lucky I

440
00:20:26,779 --> 00:20:29,599
guess because I wouldn't want to walk

441
00:20:28,190 --> 00:20:31,759
down the street as a storm trooper and

442
00:20:29,599 --> 00:20:34,179

man how hard it can get it at lunch I

443

00:20:31,759 --> 00:20:37,430

want to walk across the room those are

444

00:20:34,180 --> 00:20:39,350

really but a lot of the people who is a

445

00:20:37,430 --> 00:20:41,450

mean this is one another aspect about

446

00:20:39,349 --> 00:20:43,219

Dragon Con is awesome you have people

447

00:20:41,450 --> 00:20:45,200

who are professionals and people are

448

00:20:43,220 --> 00:20:47,240

amateurs and they work together and so

449

00:20:45,200 --> 00:20:50,029

you get a lot of technological

450

00:20:47,240 --> 00:20:51,500

advancements in costume making where

451

00:20:50,029 --> 00:20:53,329

they have like for instance then people

452

00:20:51,500 --> 00:20:55,250

you see with halo costumes or with iron

453

00:20:53,329 --> 00:20:59,539

man costumes like they look really good

454

00:20:55,250 --> 00:21:00,890

like a real thing they tend to have like

455

00:20:59,539 --> 00:21:02,659

they didn't have like personal air

456

00:21:00,890 --> 00:21:06,020

conditioning systems underneath their

457
00:21:02,660 --> 00:21:08,600
shoes and how they can do it oh yeah

458
00:21:06,019 --> 00:21:10,970
some of them actually work in special

459
00:21:08,599 --> 00:21:13,369
effects or costuming for Hollywood so

460
00:21:10,970 --> 00:21:15,200
there's there's amateurs and there's

461
00:21:13,369 --> 00:21:16,819
professionals well that makes me feel

462
00:21:15,200 --> 00:21:19,069
better for some of these people walking

463
00:21:16,819 --> 00:21:21,379
by in the full outfit of what about

464
00:21:19,069 --> 00:21:24,849
right i saw one

465
00:21:21,380 --> 00:21:27,200
chewbacca last night oh very nice Wow

466
00:21:24,849 --> 00:21:29,089
will they go Supergirl again she's been

467
00:21:27,200 --> 00:21:31,309
wandering around a lot oh well I'm gonna

468
00:21:29,089 --> 00:21:35,659
go participate other con tradition which

469
00:21:31,309 --> 00:21:38,740
is waiting in line for coffee okay thank

470
00:21:35,660 --> 00:21:38,740
you everyone thank you

471
00:21:40,089 --> 00:21:45,189
it's the last day of dragoncon monday

472
00:21:42,849 --> 00:21:47,619
labor day here in the United States and

473
00:21:45,190 --> 00:21:49,150
I'm here with dr. rates you dr. hu we

474
00:21:47,619 --> 00:21:51,819
found ourselves in one of the massive

475
00:21:49,150 --> 00:21:53,470
trading rooms we have and it's not as

476
00:21:51,819 --> 00:21:55,480
busy as it was yesterday which is that

477
00:21:53,470 --> 00:21:58,419
it's still pretty pretty busy on the

478
00:21:55,480 --> 00:22:01,450
last day of dragoncon there there are no

479
00:21:58,419 --> 00:22:04,570
end of our amazing paraphernalia

480
00:22:01,450 --> 00:22:06,909
t-shirts models there was big kit models

481
00:22:04,569 --> 00:22:08,500
of Tomb Raider over there Star Trek's

482
00:22:06,909 --> 00:22:10,900
everywhere all sorts of things to buy

483
00:22:08,500 --> 00:22:12,788
yeah and I noticed just off to the left

484
00:22:10,900 --> 00:22:16,179
here there's an author signing his books

485

00:22:12,788 --> 00:22:18,579
his name's Brandon Sanderson and he

486
00:22:16,179 --> 00:22:19,899
wrote some sort of sci-fi series as well

487
00:22:18,579 --> 00:22:21,639
so there's all kinds of stuff happening

488
00:22:19,898 --> 00:22:24,398
here today and we just had some good

489
00:22:21,640 --> 00:22:28,870
luck you came across the stand selling

490
00:22:24,398 --> 00:22:31,898
germs yeah the standards of giant

491
00:22:28,869 --> 00:22:34,569
microbes which of these sort of plush

492
00:22:31,898 --> 00:22:37,178
soft toys of different kinds of viruses

493
00:22:34,569 --> 00:22:39,819
bacteria and parasites and all kinds of

494
00:22:37,179 --> 00:22:41,830
shirts when you got there well the one

495
00:22:39,819 --> 00:22:44,288
I've got here Richard is called the pox

496
00:22:41,829 --> 00:22:46,740
but it's actually syphilis which is

497
00:22:44,288 --> 00:22:49,869
trippin i'ma pal pal a whole item

498
00:22:46,740 --> 00:22:51,909
treponema colada room so yeah it

499
00:22:49,869 --> 00:22:54,278

actually looks like a curled up quite a

500

00:22:51,909 --> 00:22:58,539

cute snake person does it it causes

501

00:22:54,278 --> 00:23:00,429

syphilis yeah fascinating we walk around

502

00:22:58,538 --> 00:23:04,298

the corner here still so many people

503

00:23:00,429 --> 00:23:05,798

here buying things all sorts of toys you

504

00:23:04,298 --> 00:23:07,869

can get from your favorite TV show I

505

00:23:05,798 --> 00:23:11,889

just picked up the complete Batman

506

00:23:07,869 --> 00:23:13,509

series on DVD yeah from the 1960s from

507

00:23:11,890 --> 00:23:16,580

the original master tapes apparently

508

00:23:13,509 --> 00:23:18,200

right and early MC we're also

509

00:23:16,579 --> 00:23:20,990

you know with our microbes we also

510

00:23:18,200 --> 00:23:23,808

bought pertussis yeah and measles all

511

00:23:20,990 --> 00:23:26,298

the set yeah we've got the set and the

512

00:23:23,808 --> 00:23:32,750

guy told us that if you buy six STDs you

513

00:23:26,298 --> 00:23:34,879

get penicillin for free leather seems to

514
00:23:32,750 --> 00:23:38,750
be quite popular and steampunk which is

515
00:23:34,880 --> 00:23:40,760
sort of Wild West meets technology sorts

516
00:23:38,750 --> 00:23:44,329
of leather and things your wrap around

517
00:23:40,759 --> 00:23:46,490
your head and it's quite something I

518
00:23:44,329 --> 00:23:49,398
mean I've never seen it outside of

519
00:23:46,490 --> 00:23:51,798
dragoncon though what steampunk yeah no

520
00:23:49,398 --> 00:23:53,869
I haven't either except on stage shows

521
00:23:51,798 --> 00:23:56,509
and stuff like that but it's incredibly

522
00:23:53,869 --> 00:23:59,479
popular of dragoncon mind you I think

523
00:23:56,509 --> 00:24:01,908
you'd want a cooler climate to really

524
00:23:59,480 --> 00:24:05,360
wear steampunk yeah I mean a lot of the

525
00:24:01,909 --> 00:24:09,049
clothes here yeah not really designed

526
00:24:05,359 --> 00:24:11,658
for blondie 115 degrees Fahrenheit yeah

527
00:24:09,048 --> 00:24:13,460
so most people stay in the hotels for

528
00:24:11,659 --> 00:24:15,500
that reason I think Richard I look at

529
00:24:13,460 --> 00:24:17,538
all these patches iron on patches we've

530
00:24:15,500 --> 00:24:20,538
got here in front of us what a

531
00:24:17,538 --> 00:24:23,898
collection Superman the flash Green

532
00:24:20,538 --> 00:24:26,509
Lantern Smallville lots of things I

533
00:24:23,898 --> 00:24:28,398
don't recognize all this Star Trek

534
00:24:26,509 --> 00:24:31,750
Captain America Wonder Woman

535
00:24:28,398 --> 00:24:31,750
ghostbusters the Joker

536
00:24:32,529 --> 00:24:38,170
endless endless array of really really

537
00:24:35,980 --> 00:24:39,610
top quality pine on patches but that's

538
00:24:38,170 --> 00:24:41,950
just a sort of thing that you would

539
00:24:39,609 --> 00:24:43,179
expect here at DragonCon it it attracts

540
00:24:41,950 --> 00:24:45,670
these sort of people who would love to

541
00:24:43,180 --> 00:24:47,860
wear these things yeah you know what I

542

00:24:45,670 --> 00:24:49,390
noticed and I observed this I made this

543
00:24:47,859 --> 00:24:52,359
observation to you before Richard that

544
00:24:49,390 --> 00:24:56,710
although there's a lot of sort of sci-fi

545
00:24:52,359 --> 00:24:58,629
stuff here and also some you know a lot

546
00:24:56,710 --> 00:25:01,440
of wizardry kind of things and some of

547
00:24:58,630 --> 00:25:03,880
the drawings that you might see with the

548
00:25:01,440 --> 00:25:06,610
dragons on the top of a mountain there's

549
00:25:03,880 --> 00:25:08,950
no woo here at all there's no room there

550
00:25:06,609 --> 00:25:12,069
is no isn't that interesting because

551
00:25:08,950 --> 00:25:14,140
there's no tarot readers as no not

552
00:25:12,069 --> 00:25:15,279
anything like that no and I'm I don't

553
00:25:14,140 --> 00:25:17,320
know whether I should be surprised by

554
00:25:15,279 --> 00:25:19,690
that I'm not but some of the stuff here

555
00:25:17,319 --> 00:25:21,480
does lend to that sort of maybe it's

556
00:25:19,690 --> 00:25:24,309

because we're so used to going to

557

00:25:21,480 --> 00:25:26,980

festivals which it's always rude but

558

00:25:24,309 --> 00:25:28,179

when we don't live it seems strange yeah

559

00:25:26,980 --> 00:25:30,069

but then some of the stuff here you

560

00:25:28,180 --> 00:25:32,890

would find it a wave festival yeah so

561

00:25:30,069 --> 00:25:35,169

the drawings of the the wall between a

562

00:25:32,890 --> 00:25:38,680

mystical kind of stuff earlier you know

563

00:25:35,170 --> 00:25:41,560

the statues of wizards and wolves and

564

00:25:38,680 --> 00:25:43,240

that's all maybe the average fantasy and

565

00:25:41,559 --> 00:25:47,490

science fiction fan has a better grasp

566

00:25:43,240 --> 00:25:50,529

of reality maybe they do let's hope so

567

00:25:47,490 --> 00:25:52,690

and of course one of the highlights for

568

00:25:50,529 --> 00:25:55,538

any skeptic coming to dragoncon is the

569

00:25:52,690 --> 00:25:58,150

chance to glimpse or even meet James

570

00:25:55,538 --> 00:26:00,879

Randi hi James hello very Richard GoM's

571
00:25:58,150 --> 00:26:03,340
good to see you thank you and this is I

572
00:26:00,880 --> 00:26:05,380
think your second dragoncon although you

573
00:26:03,339 --> 00:26:08,798
were here virtually last year virtually

574
00:26:05,380 --> 00:26:10,570
as I was in the hospital last year with

575
00:26:08,798 --> 00:26:13,269
tubes down my throat which rather

576
00:26:10,569 --> 00:26:15,689
inhibits their presence at conventions

577
00:26:13,269 --> 00:26:17,829
and things like this it's a remarkable

578
00:26:15,690 --> 00:26:20,470
event I must say this dragon Connor

579
00:26:17,829 --> 00:26:22,269
minutes ago walking spectacle walking

580
00:26:20,470 --> 00:26:23,829
sideshow all the time but it is a good

581
00:26:22,269 --> 00:26:26,650
opportunity for skeptics to get together

582
00:26:23,829 --> 00:26:29,710
oh it is indeed the fact that the

583
00:26:26,650 --> 00:26:32,470
skeptical presence at Dragon Con is so

584
00:26:29,710 --> 00:26:34,929
very pervasive and it is it's all over

585
00:26:32,470 --> 00:26:36,548
the place rather cheers me and I

586
00:26:34,929 --> 00:26:38,320
understand those standing room only for

587
00:26:36,548 --> 00:26:39,970
your talk was sitting room only awesome

588
00:26:38,319 --> 00:26:42,220
yeah it's talking a falling-down room

589
00:26:39,970 --> 00:26:45,210
all day yes and I got a standing ovation

590
00:26:42,220 --> 00:26:49,480
as well so I'm very proud of that but

591
00:26:45,210 --> 00:26:52,259
these people are just great dragoncon

592
00:26:49,480 --> 00:26:55,750
rules as far as I'm concerned these are

593
00:26:52,259 --> 00:26:59,319
generally speaking mystics who don't fit

594
00:26:55,750 --> 00:27:02,529
into society easily oh because of

595
00:26:59,319 --> 00:27:05,950
various problems that they might have or

596
00:27:02,529 --> 00:27:08,619
or whatever it's highly variable but

597
00:27:05,950 --> 00:27:10,900
they do fit here and they look forward

598
00:27:08,619 --> 00:27:13,089
I'm sure to this every year as I do

599

00:27:10,900 --> 00:27:15,788
because I'm a bit of a list of it myself

600
00:27:13,089 --> 00:27:18,359
yeah I just think you are too rigid in a

601
00:27:15,788 --> 00:27:20,769
way I think so yeah and no one is

602
00:27:18,359 --> 00:27:22,869
discriminated against here on sequence

603
00:27:20,769 --> 00:27:25,089
and everybody helps everyone else

604
00:27:22,869 --> 00:27:27,428
they're all very cooperative they're

605
00:27:25,089 --> 00:27:29,408
lovely folks and I'm very happy to be in

606
00:27:27,429 --> 00:27:31,480
this crowd well we look forward to

607
00:27:29,409 --> 00:27:34,090
seeing you very soon in Australia for

608
00:27:31,480 --> 00:27:36,610
that deal the first amazing meeting yes

609
00:27:34,089 --> 00:27:38,709
really how exciting the very except for

610
00:27:36,609 --> 00:27:40,808
two with great enthusiasm and I'll be

611
00:27:38,710 --> 00:27:43,210
rubbing shoulders with Dick Smith again

612
00:27:40,808 --> 00:27:44,740
now what else could a guy ask that's

613
00:27:43,210 --> 00:27:47,529

about that's that's the highest you can

614

00:27:44,740 --> 00:27:49,450

go on exactly I'm sure it is thank you

615

00:27:47,529 --> 00:27:51,720

James great pleasure Richard thank you

616

00:27:49,450 --> 00:27:51,720

for asking

617

00:27:59,329 --> 00:28:05,339

hi i am Gavroche co-president of the

618

00:28:02,670 --> 00:28:06,960

Hungarian skeptics society this year we

619

00:28:05,339 --> 00:28:09,659

are organizing the 14th european

620

00:28:06,960 --> 00:28:12,660

skeptics congress it will be held in

621

00:28:09,660 --> 00:28:15,900

Budapest Hungary between 17 and 19 s of

622

00:28:12,660 --> 00:28:18,150

September in Europe skeptic groups has

623

00:28:15,900 --> 00:28:21,210

an umbrella organization the European

624

00:28:18,150 --> 00:28:23,910

Council of skeptical organizations XO it

625

00:28:21,210 --> 00:28:25,980

was founded 16 years ago in Ostend

626

00:28:23,910 --> 00:28:28,279

Belgium during the 6th annual congress

627

00:28:25,980 --> 00:28:31,140

of the european skeptical organizations

628
00:28:28,279 --> 00:28:34,079
currently 15 organizations are members

629
00:28:31,140 --> 00:28:37,380
of EXO EXO supports a bi-annual congress

630
00:28:34,079 --> 00:28:39,269
and the symposium every other year the

631
00:28:37,380 --> 00:28:42,720
first European skeptics congress was

632
00:28:39,269 --> 00:28:45,450
held 21 years ago in battles germany the

633
00:28:42,720 --> 00:28:47,579
last one in 2007 was organized by the

634
00:28:45,450 --> 00:28:49,529
irish skeptical society in dublin and

635
00:28:47,579 --> 00:28:52,529
this year the congress is held in

636
00:28:49,529 --> 00:28:54,990
budapest hungary between 17 and 19 s of

637
00:28:52,529 --> 00:28:59,279
sep tember check for detailed

638
00:28:54,990 --> 00:29:01,079
information at dub dub kappa tau there

639
00:28:59,279 --> 00:29:03,269
will be more than 20 lectures about

640
00:29:01,079 --> 00:29:06,419
alternative medicine the paranormal

641
00:29:03,269 --> 00:29:09,029
miracles and more lecturers include

642
00:29:06,420 --> 00:29:12,240
Simon Singh joe nickell massimo polidoro

643
00:29:09,029 --> 00:29:14,879
villain bets Christopher C French amar

644
00:29:12,240 --> 00:29:16,950
desh Sharma Michael heap Tim Cratchit

645
00:29:14,880 --> 00:29:19,020
and many more there will be lectures

646
00:29:16,950 --> 00:29:21,779
about a so Terry and pseudoscience in

647
00:29:19,019 --> 00:29:24,420
nowadays Hungary and Romania each Tuan

648
00:29:21,779 --> 00:29:26,428
vago a devoted skeptic who hosted the TV

649
00:29:24,420 --> 00:29:28,230
show Who Wants to Be a Millionaire in

650
00:29:26,429 --> 00:29:30,420
Hungary for eight consecutive years

651
00:29:28,230 --> 00:29:32,819
speaks about to the science and the

652
00:29:30,420 --> 00:29:34,350
media one of the main goals of the

653
00:29:32,819 --> 00:29:36,389
Congress is to strengthen the

654
00:29:34,349 --> 00:29:39,119
cooperation among the European skeptic

655
00:29:36,390 --> 00:29:41,190
organizations they face international

656

00:29:39,119 --> 00:29:43,319
challenges alternative medicine

657
00:29:41,190 --> 00:29:45,808
proponents are aggressively lobbying at

658
00:29:43,319 --> 00:29:48,629
Brussels and influence european union

659
00:29:45,808 --> 00:29:50,759
legislation rather effectively bogus

660
00:29:48,630 --> 00:29:52,620
products are marketed internationally

661
00:29:50,759 --> 00:29:56,429
and are using international references

662
00:29:52,619 --> 00:30:00,149
and certificates we skeptics should also

663
00:29:56,429 --> 00:30:02,700
work more internationally register for

664
00:30:00,150 --> 00:30:04,259
the congress a dub dub dub the skeptics

665
00:30:02,700 --> 00:30:06,480
that age you

666
00:30:04,259 --> 00:30:08,460
registration fee is only 30 euros of

667
00:30:06,480 --> 00:30:10,440
course we cannot cover all the

668
00:30:08,460 --> 00:30:14,039
organizational costs from these low fees

669
00:30:10,440 --> 00:30:16,980
we also accept donations you can pay and

670
00:30:14,039 --> 00:30:18,930

donate through paypal don't forget for

671

00:30:16,980 --> 00:30:21,299

teens European skeptics Congress in

672

00:30:18,930 --> 00:30:28,140

Hungary see you in Budapest dis

673

00:30:21,299 --> 00:30:33,839

September now it's time for dr. Richie

674

00:30:28,140 --> 00:30:36,600

reports with dr. Rachel Dunlop and I'm

675

00:30:33,839 --> 00:30:39,359

dr. H E and here we are at the free

676

00:30:36,599 --> 00:30:41,969

vaccine clinic at dragon con 2010 in

677

00:30:39,359 --> 00:30:44,699

Atlanta Georgia and i'm here with Bill

678

00:30:41,970 --> 00:30:47,069

Atkinson hello bill welcome to the

679

00:30:44,700 --> 00:30:49,830

skeptic zone what would you allow thank

680

00:30:47,069 --> 00:30:51,809

you very much now you are in

681

00:30:49,829 --> 00:30:53,819

immunization from the Centers for

682

00:30:51,809 --> 00:30:56,609

Disease Control the CDC it's great

683

00:30:53,819 --> 00:30:59,369

you're an MD with a master's in public

684

00:30:56,609 --> 00:31:02,539

health yes and you helped to set up the

685
00:30:59,369 --> 00:31:04,469
vaccine clinic here at Dragon Con yes

686
00:31:02,539 --> 00:31:09,059
can you tell me about your role in

687
00:31:04,470 --> 00:31:11,309
setting it up my job day-to-day is

688
00:31:09,059 --> 00:31:17,309
mainly training doctors and nurses how

689
00:31:11,309 --> 00:31:20,309
to get vaccines I met I met Maria

690
00:31:17,309 --> 00:31:23,069
Walters at tam and introduced myself and

691
00:31:20,309 --> 00:31:26,009
she remembered me when she got back here

692
00:31:23,069 --> 00:31:29,129
and initiated the idea of doing a

693
00:31:26,009 --> 00:31:30,960
program like this and I was the one who

694
00:31:29,130 --> 00:31:32,820
sort of knew the contacts who had the

695
00:31:30,960 --> 00:31:34,440
vaccine and the nurses and the skills to

696
00:31:32,819 --> 00:31:36,029
actually give it so I was sort of the

697
00:31:34,440 --> 00:31:37,529
intermediary between the people with the

698
00:31:36,029 --> 00:31:39,960
idea and the people who are doing the

699

00:31:37,529 --> 00:31:42,899
vaccinating right so at the city CEO

700

00:31:39,960 --> 00:31:45,840
role is in epidemiology immunization

701

00:31:42,900 --> 00:31:48,360
epidemiology or vaccine epidemiology yes

702

00:31:45,839 --> 00:31:51,449
I have in the past work in measles

703

00:31:48,359 --> 00:31:53,279
vaccine epidemiology and now I primarily

704

00:31:51,450 --> 00:31:55,350
try to train doctors and nurses about

705

00:31:53,279 --> 00:31:56,700
vaccine there's a lot of constant

706

00:31:55,349 --> 00:31:59,819
changes as you know and in the

707

00:31:56,700 --> 00:32:01,710
vaccination realm and so my job is to

708

00:31:59,819 --> 00:32:04,409
make sure that doctors and nurses in the

709

00:32:01,710 --> 00:32:05,640
US are kept up to date on what the new

710

00:32:04,410 --> 00:32:07,500
recommendations are and what they should

711

00:32:05,640 --> 00:32:09,630
be doing and there's a good reason why

712

00:32:07,500 --> 00:32:11,670
we are here today in the vaccine clinic

713

00:32:09,630 --> 00:32:13,620
at dragoncon there's currently an

714
00:32:11,670 --> 00:32:15,330
epidemic of whooping cough in California

715
00:32:13,619 --> 00:32:16,649
can you tell us a little bit about that

716
00:32:15,329 --> 00:32:20,519
we've already had deaths

717
00:32:16,650 --> 00:32:22,710
seven or eight young children how bad is

718
00:32:20,519 --> 00:32:25,650
that epidemic at the moment we've seen

719
00:32:22,710 --> 00:32:27,720
quite a lot of pertussis in in several

720
00:32:25,650 --> 00:32:32,040
states California being the most notable

721
00:32:27,720 --> 00:32:34,589
there have been 10 15 deaths countrywide

722
00:32:32,039 --> 00:32:36,149
what we're seeing is a lot of the cases

723
00:32:34,589 --> 00:32:38,189
have been in children but they're being

724
00:32:36,150 --> 00:32:41,400
affected by their parents and their

725
00:32:38,190 --> 00:32:42,840
siblings and their babysitter's so we

726
00:32:41,400 --> 00:32:44,550
thought this was a good idea here

727
00:32:42,839 --> 00:32:45,990

because this is a lot of the age of the

728

00:32:44,549 --> 00:32:47,909

people that may have children at home

729

00:32:45,990 --> 00:32:50,339

may have contacts with children at home

730

00:32:47,910 --> 00:32:52,170

and thought this was a very fertile area

731

00:32:50,339 --> 00:32:54,629

likely and a lot of these kids have not

732

00:32:52,170 --> 00:32:56,640

had pertussis vaccine before or at least

733

00:32:54,630 --> 00:32:58,770

recently and the thing is with the

734

00:32:56,640 --> 00:33:00,930

Petoskey spec seen it wears off after a

735

00:32:58,769 --> 00:33:03,089

number of years right so as an adult you

736

00:33:00,930 --> 00:33:04,740

need to get a booster because you can be

737

00:33:03,089 --> 00:33:05,970

a carrier but then you can pass it on to

738

00:33:04,740 --> 00:33:07,589

young children who are particularly

739

00:33:05,970 --> 00:33:10,140

susceptible is that right absolutely

740

00:33:07,589 --> 00:33:11,759

correct probably most of us got our last

741

00:33:10,140 --> 00:33:14,040

dose of pertussis vaccine when we were

742
00:33:11,759 --> 00:33:16,529
five or six and it's only been since

743
00:33:14,039 --> 00:33:18,029
2005 that we've had this new vaccine we

744
00:33:16,529 --> 00:33:19,980
could give to adolescents and adults so

745
00:33:18,029 --> 00:33:21,480
it's a relatively new vaccine and we

746
00:33:19,980 --> 00:33:24,210
hope it will make a big difference in

747
00:33:21,480 --> 00:33:26,339
put us both in the US and elsewhere as

748
00:33:24,210 --> 00:33:27,809
well so who is the most susceptible to

749
00:33:26,339 --> 00:33:30,419
pertussis we're talking about young kids

750
00:33:27,809 --> 00:33:31,919
but we're also talking about people with

751
00:33:30,420 --> 00:33:34,470
immune suppression are we what who are

752
00:33:31,920 --> 00:33:36,779
the people that are most at risk the

753
00:33:34,470 --> 00:33:38,490
most really anybody can be infected who

754
00:33:36,779 --> 00:33:41,549
hasn't been who hasn't been vaccinated

755
00:33:38,490 --> 00:33:45,240
recently adults because of our the size

756
00:33:41,549 --> 00:33:46,889
of our Airways tend to have fewer severe

757
00:33:45,240 --> 00:33:49,200
symptoms they could be pretty sick but

758
00:33:46,890 --> 00:33:50,580
it's mostly really young children who

759
00:33:49,200 --> 00:33:52,559
have the most severe disease because

760
00:33:50,579 --> 00:33:54,629
their Airways are very tiny and because

761
00:33:52,559 --> 00:33:57,599
they likely have not had all their doses

762
00:33:54,630 --> 00:33:59,370
of their pediatric childhood vaccine

763
00:33:57,599 --> 00:34:01,289
series yet so we worry most about

764
00:33:59,369 --> 00:34:03,119
children that's most likely to die most

765
00:34:01,289 --> 00:34:05,279
likely to have very severe illness but

766
00:34:03,119 --> 00:34:07,019
really any of us can cough it on

767
00:34:05,279 --> 00:34:08,429
anybody else that we haven't if we

768
00:34:07,019 --> 00:34:10,800
haven't had a vaccine within a few years

769
00:34:08,429 --> 00:34:12,720
and how is it transmitted transmitted by

770

00:34:10,800 --> 00:34:15,570
by droplets by air with my respiratory

771
00:34:12,719 --> 00:34:17,668
droplets when people cough sneeze talk

772
00:34:15,570 --> 00:34:20,550
anything it's a very efficiently

773
00:34:17,668 --> 00:34:22,789
transmitted bacteria and it is it very

774
00:34:20,550 --> 00:34:26,390
easily transmitted from person to person

775
00:34:22,789 --> 00:34:27,980
so what what role do you think the low

776
00:34:26,389 --> 00:34:30,440
levels of vaccinations are having in

777
00:34:27,980 --> 00:34:32,329
this epidemic if any because I know that

778
00:34:30,440 --> 00:34:35,329
some people are now choosing not to

779
00:34:32,329 --> 00:34:36,860
vaccinate their children for all sorts

780
00:34:35,329 --> 00:34:38,690
of reasons but some of this is to do

781
00:34:36,860 --> 00:34:40,250
with the anti backs movement getting

782
00:34:38,690 --> 00:34:42,139
quite active in America we have the same

783
00:34:40,250 --> 00:34:43,610
problem in Australia do you think that's

784
00:34:42,139 --> 00:34:45,980

contributed all to these recent

785

00:34:43,610 --> 00:34:48,919
outbreaks it probably does I think

786

00:34:45,980 --> 00:34:51,530
probably the bigger problem that tends

787

00:34:48,918 --> 00:34:53,119
to be a fairly small proportion except

788

00:34:51,530 --> 00:34:55,190
they tend to cluster together folks who

789

00:34:53,119 --> 00:34:56,719
who haven't been vaccinated we think

790

00:34:55,190 --> 00:34:58,970
probably in the u.s. is not more than

791

00:34:56,719 --> 00:35:01,009
one or two percent of people but in some

792

00:34:58,969 --> 00:35:02,539
areas it can be much much higher than

793

00:35:01,010 --> 00:35:05,450
that because they sort of have

794

00:35:02,539 --> 00:35:06,860
communities if you will and but the

795

00:35:05,449 --> 00:35:08,719
biggest problem I think right now is the

796

00:35:06,860 --> 00:35:10,880
fact that most adults and adolescents

797

00:35:08,719 --> 00:35:13,309
have not had a dose of pertussis vaccine

798

00:35:10,880 --> 00:35:15,440
for so long so the kind of vaccine we're

799

00:35:13,309 --> 00:35:17,630
doing here is exactly i think what we

800

00:35:15,440 --> 00:35:19,280
need to do to raise the level of

801

00:35:17,630 --> 00:35:20,780
immunity in the population and help

802

00:35:19,280 --> 00:35:22,730
stomp out this outbreak we're having

803

00:35:20,780 --> 00:35:25,400
never so what's the response been like

804

00:35:22,730 --> 00:35:26,719
here in the clinic at dragoncon it's

805

00:35:25,400 --> 00:35:28,010
been very good we didn't really know

806

00:35:26,719 --> 00:35:30,649
what was going to happen is the first

807

00:35:28,010 --> 00:35:32,210
time this has been tried but we are

808

00:35:30,650 --> 00:35:33,980
probably going to use all our vaccine

809

00:35:32,210 --> 00:35:35,659
today we came with we came with a

810

00:35:33,980 --> 00:35:37,369
hundred doses yesterday gave almost all

811

00:35:35,659 --> 00:35:38,929
of them came with more than 100 today

812

00:35:37,369 --> 00:35:41,179
and it looks like we're going to

813
00:35:38,929 --> 00:35:42,769
probably give out all those too so it's

814
00:35:41,179 --> 00:35:44,929
actually been quite successful since we

815
00:35:42,769 --> 00:35:47,389
didn't really know what to suspect but

816
00:35:44,929 --> 00:35:48,409
the uptake has been very good yeah so

817
00:35:47,389 --> 00:35:50,480
we're very happy with the way it turned

818
00:35:48,409 --> 00:35:51,769
out and so what kind of people have you

819
00:35:50,480 --> 00:35:54,320
been vaccinating are you talking about

820
00:35:51,769 --> 00:35:56,420
the the people that you really want to

821
00:35:54,320 --> 00:35:59,420
target which is the adolescents and the

822
00:35:56,420 --> 00:36:00,860
young parents kind of what sort of

823
00:35:59,420 --> 00:36:04,490
demographic that's been coming has been

824
00:36:00,860 --> 00:36:07,550
it's been it looks like about half men

825
00:36:04,489 --> 00:36:09,649
and women about half of each and we have

826
00:36:07,550 --> 00:36:11,120
seen mostly it looks just we haven't

827

00:36:09,650 --> 00:36:12,980
actually crunched the numbers all yet

828
00:36:11,119 --> 00:36:15,319
but it looks like it's been people in

829
00:36:12,980 --> 00:36:17,869
their 30s 20s 30s and 40s it's who's

830
00:36:15,320 --> 00:36:19,130
exactly the folks that we were hoping to

831
00:36:17,869 --> 00:36:21,889
be able to vaccinate while we were here

832
00:36:19,130 --> 00:36:22,910
so I'm fascinated by this but the fact

833
00:36:21,889 --> 00:36:24,289
that you can actually do this bill

834
00:36:22,909 --> 00:36:25,759
because in Australia I don't know if

835
00:36:24,289 --> 00:36:27,710
it's that common that you can kind of I

836
00:36:25,760 --> 00:36:29,870
mean this was set up by the skeptics as

837
00:36:27,710 --> 00:36:32,449
you said Maria Walters and they rented

838
00:36:29,869 --> 00:36:34,308
out a shopfront and for the weekend and

839
00:36:32,449 --> 00:36:37,248
got you guys on board and

840
00:36:34,309 --> 00:36:40,339
terms of liability and health issues and

841
00:36:37,248 --> 00:36:41,778

stuff is that's already in place that in

842

00:36:40,338 --> 00:36:43,608

America to do that sort of thing is it

843

00:36:41,778 --> 00:36:45,259

it is we do a lot of that in public

844

00:36:43,608 --> 00:36:48,078

health in the United States and

845

00:36:45,259 --> 00:36:49,759

fortunately the state of Georgia and one

846

00:36:48,079 --> 00:36:52,130

of the local County Health Department's

847

00:36:49,759 --> 00:36:56,420

really have a lot of experience doing

848

00:36:52,130 --> 00:36:58,640

remote immunization operations they had

849

00:36:56,420 --> 00:37:00,199

a protocol set up they had the equipment

850

00:36:58,639 --> 00:37:02,328

and the people who are willing to come

851

00:37:00,199 --> 00:37:04,938

down and spend their weekend down here

852

00:37:02,329 --> 00:37:07,430

and volunteer so they we actually have a

853

00:37:04,938 --> 00:37:08,929

very good infrastructure we some places

854

00:37:07,429 --> 00:37:11,328

are better at doing that than others we

855

00:37:08,929 --> 00:37:13,368

got lucky we have a very good group here

856
00:37:11,329 --> 00:37:15,528
in the Atlanta area that was able to

857
00:37:13,369 --> 00:37:17,329
come out and do this for us and you see

858
00:37:15,528 --> 00:37:18,920
them sitting out back there behind us

859
00:37:17,329 --> 00:37:20,449
now and they'd been busy all day they're

860
00:37:18,920 --> 00:37:22,188
very busy at the moment but i noticed

861
00:37:20,449 --> 00:37:24,889
behind us also there's free HIV testing

862
00:37:22,188 --> 00:37:28,068
here how does she how do you conduct

863
00:37:24,889 --> 00:37:30,498
that it's actually a saliva test for

864
00:37:28,068 --> 00:37:32,748
antibodies and that was kind of an

865
00:37:30,498 --> 00:37:34,938
afterthought it turns out that the the

866
00:37:32,748 --> 00:37:37,698
folks doing the HIV testing work in the

867
00:37:34,938 --> 00:37:39,920
same office as the nurses back there

868
00:37:37,699 --> 00:37:42,199
doing the vaccinating so they it was

869
00:37:39,920 --> 00:37:43,909
word of mouth again kind of right place

870
00:37:42,199 --> 00:37:45,229
right time they said well we're going

871
00:37:43,909 --> 00:37:47,048
down would you like to come with us and

872
00:37:45,228 --> 00:37:50,419
there may be some high-risk folks there

873
00:37:47,048 --> 00:37:52,130
lots of tattoos lots of things and yeah

874
00:37:50,420 --> 00:37:53,568
and they thought good opportunity to do

875
00:37:52,130 --> 00:37:54,920
this and really they've had a good

876
00:37:53,568 --> 00:37:56,900
response even though we didn't really

877
00:37:54,920 --> 00:37:59,150
advertise this at all they just kind of

878
00:37:56,900 --> 00:38:01,519
came and set up shopping we just kind of

879
00:37:59,150 --> 00:38:03,889
let it run so what about the counseling

880
00:38:01,518 --> 00:38:07,728
sort of aspect of the HIV testing do you

881
00:38:03,889 --> 00:38:10,129
get a result right here or do you send

882
00:38:07,728 --> 00:38:12,259
that test away and then it's done all it

883
00:38:10,130 --> 00:38:14,479
takes 20 minutes it's all done right on

884

00:38:12,259 --> 00:38:17,298
the spot we ask the person to come back

885
00:38:14,478 --> 00:38:18,978
we won't email it or anything we want to

886
00:38:17,298 --> 00:38:21,380
come back and be able to counsel them as

887
00:38:18,978 --> 00:38:23,838
to what the results mean we interesting

888
00:38:21,380 --> 00:38:25,880
they are using the dressing rooms for

889
00:38:23,838 --> 00:38:27,528
our little counseling offices oh I say

890
00:38:25,880 --> 00:38:29,358
right yeah when getting out of those

891
00:38:27,528 --> 00:38:31,670
little rooms this was a former clothing

892
00:38:29,358 --> 00:38:33,588
store I say and they've been using the

893
00:38:31,670 --> 00:38:36,048
the dressing rooms as the counseling

894
00:38:33,588 --> 00:38:38,179
rooms so I say the results for the HIV

895
00:38:36,048 --> 00:38:40,038
are given in the dressing room and right

896
00:38:38,179 --> 00:38:42,199
yeah right here 20 minutes interesting

897
00:38:40,039 --> 00:38:43,850
interesting well thank you so much bill

898
00:38:42,199 --> 00:38:46,070

for joining us today what

899

00:38:43,849 --> 00:38:47,750

I think this is a fantastic initiative I

900

00:38:46,070 --> 00:38:49,160

don't know if we have anything like this

901

00:38:47,750 --> 00:38:50,780

in Australia I wish we could have

902

00:38:49,159 --> 00:38:52,190

something like this I don't know if you

903

00:38:50,780 --> 00:38:54,620

know but we've had measles outbreaks

904

00:38:52,190 --> 00:38:57,349

recently and we've had australia-wide

905

00:38:54,619 --> 00:38:59,690

we've had pertussis epidemics as well so

906

00:38:57,349 --> 00:39:01,159

we have similar problems to America in

907

00:38:59,690 --> 00:39:03,260

that sense I think this is a great thing

908

00:39:01,159 --> 00:39:06,469

to do great thanks for joining us today

909

00:39:03,260 --> 00:39:09,380

you're welcome and now I'm talking to

910

00:39:06,469 --> 00:39:11,809

Brian Anders hello Brian and also met

911

00:39:09,380 --> 00:39:14,420

Larry hi Matt how are you now Matt you

912

00:39:11,809 --> 00:39:16,219

are involved setting up the free vaccine

913
00:39:14,420 --> 00:39:19,820
clinic tell me what was your role in

914
00:39:16,219 --> 00:39:21,859
setting this up well Brian and I are

915
00:39:19,820 --> 00:39:23,930
here as a as representatives for the

916
00:39:21,860 --> 00:39:27,320
women think thinking free foundation and

917
00:39:23,929 --> 00:39:28,969
that's a that's a group that has gotten

918
00:39:27,320 --> 00:39:31,100
started within the last few months to

919
00:39:28,969 --> 00:39:33,859
promote skepticism critical thinking

920
00:39:31,099 --> 00:39:35,179
among young parents young women and so

921
00:39:33,860 --> 00:39:37,849
on and so forth we thought what better

922
00:39:35,179 --> 00:39:40,819
way to to help out at DragonCon than to

923
00:39:37,849 --> 00:39:42,679
get this vaccination clinic working my

924
00:39:40,820 --> 00:39:44,510
specific role besides you know being

925
00:39:42,679 --> 00:39:47,509
behind the counter being hands-on and

926
00:39:44,510 --> 00:39:50,810
helping out I helped write a copy for

927
00:39:47,510 --> 00:39:52,490
our brochure and now this is really key

928
00:39:50,809 --> 00:39:54,710
can you just hold that up yeah this is

929
00:39:52,489 --> 00:39:56,329
the logo yeah I kept inning yeah I can

930
00:39:54,710 --> 00:39:58,460
vaccinate it yeah I can't take credit

931
00:39:56,329 --> 00:40:00,199
for that that was a Lisa Andrews idea or

932
00:39:58,460 --> 00:40:02,840
who was up saying yes certainly Amy's

933
00:40:00,199 --> 00:40:05,269
run with the actual logo for her but

934
00:40:02,840 --> 00:40:07,750
exciting a lot of us were involved in

935
00:40:05,269 --> 00:40:11,469
writing the copy for this and so on

936
00:40:07,750 --> 00:40:13,719
and then we are here just basically

937
00:40:11,469 --> 00:40:16,139
being present as representatives of

938
00:40:13,719 --> 00:40:18,309
women thinking free foundation and

939
00:40:16,139 --> 00:40:20,529
helping answer people's questions and

940
00:40:18,309 --> 00:40:21,699
getting literature handed out and so on

941

00:40:20,530 --> 00:40:24,670
we're hoping to make this a regular

942
00:40:21,699 --> 00:40:28,179
thing at Dragon Con Wow so Brian your

943
00:40:24,670 --> 00:40:29,710
lovely wife Elise is not able to be here

944
00:40:28,179 --> 00:40:31,750
this weekend because you just had

945
00:40:29,710 --> 00:40:33,880
another baby haven't you yes and because

946
00:40:31,750 --> 00:40:35,409
of the risk of pertussis she isn't

947
00:40:33,880 --> 00:40:38,079
wasn't able to come can you tell us a

948
00:40:35,409 --> 00:40:39,909
little bit about that yes our our

949
00:40:38,079 --> 00:40:42,849
youngest daughter Delaney is three

950
00:40:39,909 --> 00:40:44,409
months old and she felt it was in her

951
00:40:42,849 --> 00:40:47,170
best interest not to bring her into a

952
00:40:44,409 --> 00:40:49,769
situation where she's exposed to a lot

953
00:40:47,170 --> 00:40:52,840
of people we've actually been very

954
00:40:49,769 --> 00:40:55,900
cautious with how we're letting her be

955
00:40:52,840 --> 00:40:57,730

exposed to general population and even

956

00:40:55,900 --> 00:41:01,090

family wiser keeping it to smaller

957

00:40:57,730 --> 00:41:04,630

family events so that she's not catching

958

00:41:01,090 --> 00:41:06,250

anything so Lisa's this has been her

959

00:41:04,630 --> 00:41:07,690

mission for about two years he's been

960

00:41:06,250 --> 00:41:09,849

trying to launch the whole hug me

961

00:41:07,690 --> 00:41:12,849

campaign and it just it finally all came

962

00:41:09,849 --> 00:41:15,489

together thanks to just the last year of

963

00:41:12,849 --> 00:41:18,639

success we've had with the moon thinking

964

00:41:15,489 --> 00:41:20,679

free foundation yeah it's such a

965

00:41:18,639 --> 00:41:22,839

fantastic idea and so obviously you've

966

00:41:20,679 --> 00:41:24,250

got the cdc involved you guys aren't

967

00:41:22,840 --> 00:41:27,070

giving the vaccinations right we've got

968

00:41:24,250 --> 00:41:29,949

qualified health professionals on site

969

00:41:27,070 --> 00:41:32,559

to do this so how did you how did you

970
00:41:29,949 --> 00:41:34,449
get them involved oh well actually it

971
00:41:32,559 --> 00:41:36,789
was real that was Maria yeah Maria

972
00:41:34,449 --> 00:41:39,099
Walters from skeptic and at least know

973
00:41:36,789 --> 00:41:41,380
each other very well so when we really

974
00:41:39,099 --> 00:41:42,969
started to get rolling with the idea at

975
00:41:41,380 --> 00:41:45,820
least talk to Maria and since Maria was

976
00:41:42,969 --> 00:41:49,239
here in Atlanta she had contacts with

977
00:41:45,820 --> 00:41:50,980
the CDC and she talked to a bill and

978
00:41:49,239 --> 00:41:53,049
some other people and

979
00:41:50,980 --> 00:41:54,849
they got it all hooked up so that's how

980
00:41:53,050 --> 00:41:56,619
I work yeah so I believe you're probably

981
00:41:54,849 --> 00:41:58,719
going to run out of vaccines today bill

982
00:41:56,619 --> 00:42:00,190
says he'd bought up a hundred for today

983
00:41:58,719 --> 00:42:03,730
and they've already used something like

984
00:42:00,190 --> 00:42:05,380
85 so that's good that's that's good

985
00:42:03,730 --> 00:42:06,730
news editor and they said they can run

986
00:42:05,380 --> 00:42:08,320
and go get more in that would be a good

987
00:42:06,730 --> 00:42:09,760
problem to have yeah don't be awesome

988
00:42:08,320 --> 00:42:11,710
because they would exceed our

989
00:42:09,760 --> 00:42:13,180
expectations I mean this is just you

990
00:42:11,710 --> 00:42:16,210
yeah it was explaining to us yesterday

991
00:42:13,179 --> 00:42:17,919
that zeerid that in events like this

992
00:42:16,210 --> 00:42:20,199
it's not uncommon to walk away with

993
00:42:17,920 --> 00:42:23,409
nobody getting vaccinated and family yes

994
00:42:20,199 --> 00:42:26,500
and for the the fact that we are using

995
00:42:23,409 --> 00:42:29,289
up our supply is just astounding so it's

996
00:42:26,500 --> 00:42:32,019
it's a credit to not just the people who

997
00:42:29,289 --> 00:42:34,210
work in the foundation in Chicago but to

998

00:42:32,019 --> 00:42:36,219
just getting the word out and all the

999
00:42:34,210 --> 00:42:39,010
skeptics coming together and just just

1000
00:42:36,219 --> 00:42:40,779
spreading the word and helping us you

1001
00:42:39,010 --> 00:42:42,520
know launch this if it's been absolutely

1002
00:42:40,780 --> 00:42:45,700
wonderful we've gotten a huge amount of

1003
00:42:42,519 --> 00:42:47,949
support from just all kinds of folks to

1004
00:42:45,699 --> 00:42:49,779
get the word out about this and it's

1005
00:42:47,949 --> 00:42:51,099
been wonderful but it's true that

1006
00:42:49,780 --> 00:42:52,720
there's not just skeptics here right i

1007
00:42:51,099 --> 00:42:54,368
mean there's something like 50,000

1008
00:42:52,719 --> 00:42:55,959
people here i guess you're getting

1009
00:42:54,369 --> 00:42:57,280
people coming through the door he you

1010
00:42:55,960 --> 00:43:00,070
don't know all of them there's there's

1011
00:42:57,280 --> 00:43:01,359
just strangers as well yeah we've had a

1012
00:43:00,070 --> 00:43:02,920

lot of people who have just been

1013

00:43:01,358 --> 00:43:04,989

complete strangers coming in because

1014

00:43:02,920 --> 00:43:07,930

they've heard by word of mouth or

1015

00:43:04,989 --> 00:43:10,059

they've seen the posters or or they've

1016

00:43:07,929 --> 00:43:12,009

seen the stickers and and that's that's

1017

00:43:10,059 --> 00:43:15,099

what we want we want to get as many

1018

00:43:12,010 --> 00:43:16,869

people to come as possible I i think the

1019

00:43:15,099 --> 00:43:19,239

posters that Jill Powell put together

1020

00:43:16,869 --> 00:43:20,680

have been a huge influence I believe me

1021

00:43:19,239 --> 00:43:22,569

we've had people just standing out there

1022

00:43:20,679 --> 00:43:25,089

reading them and I think it's the

1023

00:43:22,570 --> 00:43:28,030

pictures that are drying them in and it

1024

00:43:25,090 --> 00:43:30,160

was just a fantastic combination and

1025

00:43:28,030 --> 00:43:32,410

helping launch this the pictures are of

1026

00:43:30,159 --> 00:43:35,679

sort of characters from science fiction

1027
00:43:32,409 --> 00:43:36,858
right yes yeah we have Princess Leia of

1028
00:43:35,679 --> 00:43:39,088
dr. mercola

1029
00:43:36,858 --> 00:43:40,528
Starbuck from Battlestar Galactica and

1030
00:43:39,088 --> 00:43:42,509
the really great thing about this is is

1031
00:43:40,528 --> 00:43:44,849
even even if they walk by even if they

1032
00:43:42,509 --> 00:43:46,650
do not come in to get the vaccination

1033
00:43:44,849 --> 00:43:47,579
they're stopping in there reading us so

1034
00:43:46,650 --> 00:43:48,749
they're still getting the information

1035
00:43:47,579 --> 00:43:50,309
they're still getting they're still

1036
00:43:48,748 --> 00:43:51,389
learning that wow whooping cough is

1037
00:43:50,309 --> 00:43:52,739
coming back and it could be a really

1038
00:43:51,389 --> 00:43:56,098
serious thing they actually go talk to

1039
00:43:52,739 --> 00:43:57,509
my doctor so it's it's it's spreading

1040
00:43:56,099 --> 00:43:59,460
the word in more ways than just getting

1041
00:43:57,509 --> 00:44:02,278
some people come in here for them for

1042
00:43:59,460 --> 00:44:04,769
them for the shot yeah well thanks very

1043
00:44:02,278 --> 00:44:06,329
much Brian and Matt for joining us today

1044
00:44:04,768 --> 00:44:08,068
on the skeptic zone and I think this is

1045
00:44:06,329 --> 00:44:10,890
a wonderful initiative and I wish you

1046
00:44:08,068 --> 00:44:26,639
all success in future vaccine clinics

1047
00:44:10,889 --> 00:44:28,788
thank thank you very much this is des

1048
00:44:26,639 --> 00:44:31,078
Rochelle hosted skeptically speaking

1049
00:44:28,789 --> 00:44:33,599
check out our website at skeptically

1050
00:44:31,079 --> 00:44:37,890
speaking calm and listen to us live on

1051
00:44:33,599 --> 00:44:46,499
CJ sr 88.5 FM in Edmonton Alberta Canada

1052
00:44:37,889 --> 00:44:49,528
I now return you to the skeptic zone dr.

1053
00:44:46,498 --> 00:44:52,078
Phil Plait PhD is no stranger to the

1054
00:44:49,528 --> 00:44:54,389
skeptic zone or fans of skepticism

1055

00:44:52,079 --> 00:44:57,960
worldwide he is a renowned astronomer

1056
00:44:54,389 --> 00:45:04,768
and now he stars in his own TV series

1057
00:44:57,960 --> 00:45:08,278
Phil plates bad universe I'm sitting

1058
00:45:04,768 --> 00:45:11,218
here in Bad Astronomy central gazing

1059
00:45:08,278 --> 00:45:13,018
over to the screen of dr. Phil played

1060
00:45:11,219 --> 00:45:15,829
with a beautiful picture or a moody

1061
00:45:13,018 --> 00:45:19,468
picture you were saying of Saturn Phil

1062
00:45:15,829 --> 00:45:21,359
yeah it's as we're speaking there was a

1063
00:45:19,469 --> 00:45:23,088
new picture released there were pictures

1064
00:45:21,358 --> 00:45:25,558
released all the time from Saturn

1065
00:45:23,088 --> 00:45:27,869
Carolyn Porco who is the team leader for

1066
00:45:25,559 --> 00:45:30,059
a Cassini imaging the probe that's

1067
00:45:27,869 --> 00:45:32,548
orbiting Saturn right now is on Twitter

1068
00:45:30,059 --> 00:45:33,719
and she will occasionally say Oh take a

1069
00:45:32,548 --> 00:45:35,248

look at this here's a nice picture of

1070

00:45:33,719 --> 00:45:37,229

Titan or here's a picture of the Rings

1071

00:45:35,248 --> 00:45:38,759

or whatever and she said here's an

1072

00:45:37,228 --> 00:45:41,129

incredible picture of Saturn's rings

1073

00:45:38,759 --> 00:45:42,150

with four moons and I clicked on it and

1074

00:45:41,130 --> 00:45:45,420

it's this really it's this really

1075

00:45:42,150 --> 00:45:46,650

beautiful wide shot of a crescent Saturn

1076

00:45:45,420 --> 00:45:49,260

which we can't see from the earth

1077

00:45:46,650 --> 00:45:51,090

because you have to be off to the side

1078

00:45:49,260 --> 00:45:52,710

and the earth is always between Saturn

1079

00:45:51,090 --> 00:45:54,210

and the Sun because we're we're really

1080

00:45:52,710 --> 00:45:56,490

close to the Sun Saturn's really far

1081

00:45:54,210 --> 00:45:57,750

away we can't get off to Saturn side

1082

00:45:56,489 --> 00:46:00,000

here on earth you have to send a space

1083

00:45:57,750 --> 00:46:03,119

probe to do that I say you've got this

1084
00:46:00,000 --> 00:46:05,369
beautiful crescent Saturn and it was

1085
00:46:03,119 --> 00:46:07,109
taken with a filter that picks out

1086
00:46:05,369 --> 00:46:09,150
methane in the atmosphere of the planet

1087
00:46:07,110 --> 00:46:11,309
and it makes the picture look a little

1088
00:46:09,150 --> 00:46:13,410
funny and I remember I was this morning

1089
00:46:11,309 --> 00:46:15,329
when when Carolyn tweeted the the image

1090
00:46:13,409 --> 00:46:16,829
and I looked at it and I was taken I

1091
00:46:15,329 --> 00:46:18,840
wasn't interesting the picture shadow is

1092
00:46:16,829 --> 00:46:20,039
a little weird within a minute somebody

1093
00:46:18,840 --> 00:46:21,480
had tweeted me and said why does the

1094
00:46:20,039 --> 00:46:23,670
shadow it look weird and I thought well

1095
00:46:21,480 --> 00:46:27,030
maybe I should look into this for us

1096
00:46:23,670 --> 00:46:29,309
shadows actually seems to be it's not

1097
00:46:27,030 --> 00:46:30,750
cold old dipping dimple is that you know

1098
00:46:29,309 --> 00:46:34,049
when you see when you look at a crescent

1099
00:46:30,750 --> 00:46:35,579
moon the Crescent the curved shadow what

1100
00:46:34,050 --> 00:46:37,289
you're seeing is that is that is the

1101
00:46:35,579 --> 00:46:39,059
line between day and night on the moon

1102
00:46:37,289 --> 00:46:41,730
yeah it's the same on Saturn and you

1103
00:46:39,059 --> 00:46:44,849
expect that to be a nice smooth curve

1104
00:46:41,730 --> 00:46:46,500
because the planet is roughly a sphere

1105
00:46:44,849 --> 00:46:49,619
and it's not right in the middle there's

1106
00:46:46,500 --> 00:46:53,099
a huge dip and it's almost like a very

1107
00:46:49,619 --> 00:46:54,719
broad smooth em on its side I it's hard

1108
00:46:53,099 --> 00:46:57,059
to explain explain you have to see the

1109
00:46:54,719 --> 00:46:58,649
picture but I kind of figured right away

1110
00:46:57,059 --> 00:47:00,059
that must have to do with the the

1111
00:46:58,650 --> 00:47:02,160
methane in the atmosphere and it absorbs

1112

00:47:00,059 --> 00:47:03,690
light and so you're seeing things a

1113
00:47:02,159 --> 00:47:05,579
little bit differently and in fact it's

1114
00:47:03,690 --> 00:47:07,950
the same thing on the moon when you look

1115
00:47:05,579 --> 00:47:09,719
at the terminator this line between day

1116
00:47:07,949 --> 00:47:10,710
night on the moon it looks smooth to

1117
00:47:09,719 --> 00:47:12,869
your eye but you pull out a pair of

1118
00:47:10,710 --> 00:47:14,429
binoculars or telescope and it's bumpy

1119
00:47:12,869 --> 00:47:16,109
and wiggly because the moon isn't a

1120
00:47:14,429 --> 00:47:18,329
perfect sphere it's got craters and

1121
00:47:16,110 --> 00:47:20,670
mountains and things that break up that

1122
00:47:18,329 --> 00:47:21,809
so you can imagine a sunset is you're

1123
00:47:20,670 --> 00:47:23,550
standing on the ground the Sun might

1124
00:47:21,809 --> 00:47:25,110
already be set but if you're standing on

1125
00:47:23,550 --> 00:47:27,690
a mountain top you're up higher you can

1126
00:47:25,110 --> 00:47:30,090

still see the Sun so irregularities in

1127

00:47:27,690 --> 00:47:32,070

the surface change the shadow and that's

1128

00:47:30,090 --> 00:47:33,840

what's going on here of guessing that

1129

00:47:32,070 --> 00:47:36,660

we're seeing cloud tops at different

1130

00:47:33,840 --> 00:47:38,100

heights above Saturn's average size and

1131

00:47:36,659 --> 00:47:40,799

some of them are still catching sunlight

1132

00:47:38,099 --> 00:47:43,230

some art screw it up the kresson and you

1133

00:47:40,800 --> 00:47:45,360

get that effect there is dramatic now if

1134

00:47:43,230 --> 00:47:46,800

people are sitting by their computers at

1135

00:47:45,360 --> 00:47:48,900

the moment Phil what is this site you're

1136

00:47:46,800 --> 00:47:50,820

using to study all these pictures well

1137

00:47:48,900 --> 00:47:54,030

if you if you just look for carolyn

1138

00:47:50,820 --> 00:47:58,080

porco VOR CEO on the web you'll find ur

1139

00:47:54,030 --> 00:48:00,840

but this is the Cassini raw data

1140

00:47:58,079 --> 00:48:02,288

database it's just images that they come

1141
00:48:00,840 --> 00:48:03,278
down from the machine they from the

1142
00:48:02,289 --> 00:48:09,009
space probe they stick and write in

1143
00:48:03,278 --> 00:48:11,048
database and it's Saturn JPL nasa gov so

1144
00:48:09,009 --> 00:48:14,798
Saturn the planet JPL is Jet Propulsion

1145
00:48:11,048 --> 00:48:16,809
Laboratory and then NASA gov and you'll

1146
00:48:14,798 --> 00:48:18,668
see that there is a raw image archive

1147
00:48:16,809 --> 00:48:20,619
and you can go in there and type you

1148
00:48:18,668 --> 00:48:23,199
know show me wide angle shots of Saturn

1149
00:48:20,619 --> 00:48:25,028
taking on for example in this case if

1150
00:48:23,199 --> 00:48:28,568
you set the search parameters for july

1151
00:48:25,028 --> 00:48:30,518
seventeenth 2010 and you look for wide

1152
00:48:28,568 --> 00:48:32,318
angle shots of Saturn BAM these will

1153
00:48:30,518 --> 00:48:34,838
come up and you'll see that some of them

1154
00:48:32,318 --> 00:48:36,278
are very odd-looking and they have

1155
00:48:34,838 --> 00:48:39,130
different filters which is different

1156
00:48:36,278 --> 00:48:41,108
they respond differently to methane some

1157
00:48:39,130 --> 00:48:42,489
of them methane absorbs a little bit of

1158
00:48:41,108 --> 00:48:44,558
light in that that color some of it

1159
00:48:42,489 --> 00:48:45,818
absorbs a huge amount and the one we're

1160
00:48:44,559 --> 00:48:47,499
looking at here is where methane is

1161
00:48:45,818 --> 00:48:49,958
really strongly absorbing and so you get

1162
00:48:47,498 --> 00:48:51,668
these really dramatic features on the

1163
00:48:49,958 --> 00:48:52,838
pond the planets well the cloud tops I

1164
00:48:51,668 --> 00:48:55,088
was going to say the surface that's me

1165
00:48:52,838 --> 00:48:57,548
it's a big old gas giant planet you're

1166
00:48:55,088 --> 00:48:59,018
not seeing a surface and you really see

1167
00:48:57,548 --> 00:49:00,909
the storm bands and all that stuff is

1168
00:48:59,018 --> 00:49:03,008
totally I would like you definitely see

1169

00:49:00,909 --> 00:49:04,989
a wonderful just to the right of the

1170
00:49:03,009 --> 00:49:06,969
ring there that's incredible dip which

1171
00:49:04,989 --> 00:49:08,438
must be a gigantic storm right near the

1172
00:49:06,969 --> 00:49:09,818
equator something going on I you

1173
00:49:08,438 --> 00:49:11,168
actually don't understand how all that

1174
00:49:09,818 --> 00:49:13,568
stuff works i'm not a planetary

1175
00:49:11,168 --> 00:49:15,308
scientist and so it's funny i'll post

1176
00:49:13,568 --> 00:49:16,989
these pictures and this one's beautiful

1177
00:49:15,309 --> 00:49:19,329
as you can see Titan you can see the

1178
00:49:16,989 --> 00:49:20,318
mood teeth us in there or thethe this I

1179
00:49:19,329 --> 00:49:22,179
don't know how to pronounce all these

1180
00:49:20,318 --> 00:49:24,219
some did there's get causal to confuse

1181
00:49:22,179 --> 00:49:26,918
and all these all these words all these

1182
00:49:24,219 --> 00:49:28,568
Greek moon names and everything but i'll

1183
00:49:26,918 --> 00:49:30,038

post something i posted some of the

1184

00:49:28,568 --> 00:49:31,449

other day saying oh look at this picture

1185

00:49:30,039 --> 00:49:33,309

of the rings and you can't really see

1186

00:49:31,449 --> 00:49:35,798

what's going on here and i got an email

1187

00:49:33,309 --> 00:49:37,900

from a friend says oh actually you can

1188

00:49:35,798 --> 00:49:39,608

see what's going on here if you're

1189

00:49:37,900 --> 00:49:41,318

trained to do it so it comes to these

1190

00:49:39,608 --> 00:49:43,778

pictures on you know i'm a scientist and

1191

00:49:41,318 --> 00:49:45,130

i can puzzle a few things out but when

1192

00:49:43,778 --> 00:49:46,778

it comes to the details i don't know

1193

00:49:45,130 --> 00:49:49,239

well what's going it's a good argument

1194

00:49:46,778 --> 00:49:51,429

it's a good case that scientists need to

1195

00:49:49,239 --> 00:49:52,929

specialize because oh absolutely your

1196

00:49:51,429 --> 00:49:54,369

specialist in your field but once you

1197

00:49:52,929 --> 00:49:56,469

see something like this which isn't

1198
00:49:54,369 --> 00:49:58,298
quite your field you have to run to the

1199
00:49:56,469 --> 00:50:00,639
people to know more about it sure and

1200
00:49:58,298 --> 00:50:02,228
there are times i don't and then you

1201
00:50:00,639 --> 00:50:03,759
know I wind up saying something is wrong

1202
00:50:02,228 --> 00:50:05,889
and I did corrected that's happened

1203
00:50:03,759 --> 00:50:07,688
several times with Saturn things I

1204
00:50:05,889 --> 00:50:09,759
thought I knew and I was totally wrong

1205
00:50:07,688 --> 00:50:11,048
and it's funny these these a lot of

1206
00:50:09,759 --> 00:50:11,579
these pictures I know how digital

1207
00:50:11,048 --> 00:50:13,259
imagery

1208
00:50:11,579 --> 00:50:15,690
works i worked on I did that for Hubble

1209
00:50:13,259 --> 00:50:17,338
for a decade.the these different filters

1210
00:50:15,690 --> 00:50:19,469
that they use I know how that works

1211
00:50:17,338 --> 00:50:21,420
really well so when I saw the picture I

1212
00:50:19,469 --> 00:50:23,099
knew almost right away what was going on

1213
00:50:21,420 --> 00:50:24,749
I just had to confirm it I did we did

1214
00:50:23,099 --> 00:50:25,829
yeah well you confirmed it right when I

1215
00:50:24,748 --> 00:50:28,679
was sitting here you went for another

1216
00:50:25,829 --> 00:50:30,839
shot of another another angle of the

1217
00:50:28,679 --> 00:50:32,308
planet and you could confirm your or

1218
00:50:30,838 --> 00:50:34,228
less that's what was going on well I

1219
00:50:32,309 --> 00:50:35,940
made a prediction as if this is caused

1220
00:50:34,228 --> 00:50:37,858
by methane absorption then there's

1221
00:50:35,940 --> 00:50:39,778
another filter which shows that more

1222
00:50:37,858 --> 00:50:41,969
strongly we should see the feature even

1223
00:50:39,778 --> 00:50:43,139
more obviously pop that up and that's

1224
00:50:41,969 --> 00:50:44,458
what we're looking at now and now that

1225
00:50:43,139 --> 00:50:47,699
dip in the middle of the Crescent is

1226

00:50:44,458 --> 00:50:50,818
incredibly obvious so I my prediction

1227
00:50:47,699 --> 00:50:52,618
was supported and I don't I don't know

1228
00:50:50,818 --> 00:50:53,849
if I'm right but it lends credence to

1229
00:50:52,619 --> 00:50:55,588
the phone yeah I was writing this is due

1230
00:50:53,849 --> 00:50:58,170
to methane it's something you can

1231
00:50:55,588 --> 00:50:59,278
explore from here on in right and I

1232
00:50:58,170 --> 00:51:00,539
would have to I'd have to figure out

1233
00:50:59,278 --> 00:51:02,039
what you were the one who said you

1234
00:51:00,539 --> 00:51:02,849
should look at it at different well you

1235
00:51:02,039 --> 00:51:04,109
know what it would look like in a

1236
00:51:02,849 --> 00:51:05,579
different user and I thought it was sure

1237
00:51:04,108 --> 00:51:07,409
yeah and so there are other ways we

1238
00:51:05,579 --> 00:51:08,849
could try to work this out but the best

1239
00:51:07,409 --> 00:51:10,649
way in this case would be to talk to an

1240
00:51:08,849 --> 00:51:12,599

expert yeah I hate to argue from

1241
00:51:10,650 --> 00:51:14,670
authority but on the other hand you know

1242
00:51:12,599 --> 00:51:17,219
Carolyn or my friend Emily lock dawala

1243
00:51:14,670 --> 00:51:19,259
who is with the Planetary Society a very

1244
00:51:17,219 --> 00:51:21,329
big public outreach group about

1245
00:51:19,259 --> 00:51:23,369
planetary exploration she knows all this

1246
00:51:21,329 --> 00:51:24,778
stuff too and she's one who corrected me

1247
00:51:23,369 --> 00:51:26,309
on my post the other day as she's

1248
00:51:24,778 --> 00:51:29,369
writing something up today I think about

1249
00:51:26,309 --> 00:51:31,170
it um but they I mean there's reason

1250
00:51:29,369 --> 00:51:33,028
these people are experts they know what

1251
00:51:31,170 --> 00:51:35,489
they're talking about and they may be

1252
00:51:33,028 --> 00:51:37,469
wrong too but you know statistically

1253
00:51:35,489 --> 00:51:39,778
speaking they're wrong a lot less than I

1254
00:51:37,469 --> 00:51:42,420
am when it comes to this I find it quite

1255
00:51:39,778 --> 00:51:44,849
interesting sometimes to consider that

1256
00:51:42,420 --> 00:51:49,079
the what's available to the average

1257
00:51:44,849 --> 00:51:50,579
smell like me in Australia or an expert

1258
00:51:49,079 --> 00:51:53,579
in the field like you sitting here in

1259
00:51:50,579 --> 00:51:55,920
Bad Astronomy central we all have access

1260
00:51:53,579 --> 00:51:57,239
I have to say no no no come on my bad

1261
00:51:55,920 --> 00:51:59,579
astronomy central means you're sitting

1262
00:51:57,239 --> 00:52:01,440
in my home office you know I'm still

1263
00:51:59,579 --> 00:52:03,989
wearing my pajama bottoms oh you've just

1264
00:52:01,440 --> 00:52:05,400
bought the illusions now yeah you can

1265
00:52:03,989 --> 00:52:07,619
hear the computer clicking away a

1266
00:52:05,400 --> 00:52:09,449
crowned actually I'm making sure my dog

1267
00:52:07,619 --> 00:52:12,599
isn't scratching at the door and ruining

1268
00:52:09,449 --> 00:52:14,200
the interview this is that this this

1269
00:52:12,599 --> 00:52:16,420
image of you know

1270
00:52:14,199 --> 00:52:18,279
men and in behind glass screens and

1271
00:52:16,420 --> 00:52:19,659
white lab coats you know you could call

1272
00:52:18,280 --> 00:52:21,280
on but no honestly what oh there's a

1273
00:52:19,659 --> 00:52:24,159
picture of Stewie from family guy on

1274
00:52:21,280 --> 00:52:25,750
beyond that you're saying yeah um but

1275
00:52:24,159 --> 00:52:27,309
you can sit there and I can sit in

1276
00:52:25,750 --> 00:52:28,960
Australian all our listeners can do the

1277
00:52:27,309 --> 00:52:30,730
same thing go to this website and say oh

1278
00:52:28,960 --> 00:52:32,530
I wonder what satin would look like from

1279
00:52:30,730 --> 00:52:34,269
this angle prep is it ever you have a

1280
00:52:32,530 --> 00:52:37,690
pinch yourself and thinking my goodness

1281
00:52:34,269 --> 00:52:39,489
me yeah what's available to everybody on

1282
00:52:37,690 --> 00:52:41,679
the planet who has a half decent

1283

00:52:39,489 --> 00:52:43,719
internet connection are you crazy and

1284
00:52:41,679 --> 00:52:46,328
you can do this with Mars yeah Rovers

1285
00:52:43,719 --> 00:52:47,980
the data spoke um if if you're looking

1286
00:52:46,329 --> 00:52:50,380
at Hubble images if they're older than a

1287
00:52:47,980 --> 00:52:53,519
year there's a database called mast it's

1288
00:52:50,380 --> 00:52:56,769
the it's the something archive spaced

1289
00:52:53,519 --> 00:52:58,449
mast you look at mast and Hubble mas tu

1290
00:52:56,769 --> 00:53:00,429
find it you'll find the archive and you

1291
00:52:58,449 --> 00:53:03,088
can go in there and tight spiral

1292
00:53:00,429 --> 00:53:06,159
galaxies and you don't find a hundred

1293
00:53:03,088 --> 00:53:07,838
rod images of gift spiral galaxies from

1294
00:53:06,159 --> 00:53:09,328
Hubble it's incredible but 10 years ago

1295
00:53:07,838 --> 00:53:12,130
20 years ago this would have been

1296
00:53:09,329 --> 00:53:14,289
fantasy just 20 years ago 80 years ago

1297
00:53:12,130 --> 00:53:16,930

okay yeah 10 years ago when I was let's

1298

00:53:14,289 --> 00:53:19,059

see it's 2010 sister than 2,000 yeah I'd

1299

00:53:16,929 --> 00:53:22,210

already been working on Hubble for four

1300

00:53:19,059 --> 00:53:24,789

years ten years ago and and in 96 when

1301

00:53:22,210 --> 00:53:28,119

our camera finished building it it

1302

00:53:24,789 --> 00:53:30,219

launched in 97 so that archive was

1303

00:53:28,119 --> 00:53:32,200

already there were already public okay

1304

00:53:30,219 --> 00:53:33,909

data even in the mid-90s more really

1305

00:53:32,199 --> 00:53:35,559

yeah from Hubble that you could look up

1306

00:53:33,909 --> 00:53:37,629

and do your own processing and all that

1307

00:53:35,559 --> 00:53:39,909

was incredible do i do you happen to

1308

00:53:37,630 --> 00:53:42,190

know because of the widespread

1309

00:53:39,909 --> 00:53:43,568

availability of this information are

1310

00:53:42,190 --> 00:53:44,970

there people sitting in their armchairs

1311

00:53:43,568 --> 00:53:47,619

making interesting discoveries

1312
00:53:44,969 --> 00:53:50,169
absolutely and and what's really funny

1313
00:53:47,619 --> 00:53:52,480
is is that it's a coincidence that you

1314
00:53:50,170 --> 00:53:54,990
would ask this right now but a press

1315
00:53:52,480 --> 00:53:57,369
release came out like an hour ago

1316
00:53:54,989 --> 00:53:58,719
there's a still in bed an hour ago yeah

1317
00:53:57,369 --> 00:54:01,599
well i mean and i was just reading

1318
00:53:58,719 --> 00:54:04,029
reading my email and there are these

1319
00:54:01,599 --> 00:54:06,730
objects well i need to back up there is

1320
00:54:04,030 --> 00:54:09,910
a there's a guy named chris linn taught

1321
00:54:06,730 --> 00:54:12,068
who is a stronger in england and he does

1322
00:54:09,909 --> 00:54:15,578
the sky at night with a weed a very

1323
00:54:12,068 --> 00:54:17,409
famous BBC production and patrick moore

1324
00:54:15,579 --> 00:54:19,630
doesn't do that anymore he does he does

1325
00:54:17,409 --> 00:54:22,118
and chris is there is co-host I see um

1326
00:54:19,630 --> 00:54:23,980
and so chris chris is a really good

1327
00:54:22,119 --> 00:54:25,809
astronomer he's a nice guy known him for

1328
00:54:23,980 --> 00:54:27,309
a few years and he and a few other

1329
00:54:25,809 --> 00:54:30,309
people started this idea called

1330
00:54:27,309 --> 00:54:32,049
Galaxy Zoo where there is a survey of

1331
00:54:30,309 --> 00:54:35,769
the sky that was taken years ago and all

1332
00:54:32,050 --> 00:54:37,600
that data is online and so they course

1333
00:54:35,769 --> 00:54:40,389
Davis plural so although all those data

1334
00:54:37,599 --> 00:54:42,400
are online whatever astronomers use data

1335
00:54:40,389 --> 00:54:44,710
plural and singular its grammar grammar

1336
00:54:42,400 --> 00:54:47,559
people who get all upset about it and I

1337
00:54:44,710 --> 00:54:49,570
don't I don't care but all of those

1338
00:54:47,559 --> 00:54:51,250
images all the spectra are online you

1339
00:54:49,570 --> 00:54:53,650
can grab them so what they did is they

1340

00:54:51,250 --> 00:54:56,349
wrote software that finds galaxies in

1341
00:54:53,650 --> 00:54:58,300
the data and then you can sign up to

1342
00:54:56,349 --> 00:55:01,059
register it's called Galaxy Zoo you can

1343
00:54:58,300 --> 00:55:02,620
find it online easily and then you after

1344
00:55:01,059 --> 00:55:04,599
a brief training period where you click

1345
00:55:02,619 --> 00:55:07,690
on a few galaxy pictures and say this is

1346
00:55:04,599 --> 00:55:09,130
a spiral it's it's rotating clockwise do

1347
00:55:07,690 --> 00:55:12,190
you say anti-clockwise muster their

1348
00:55:09,130 --> 00:55:13,480
counter clock oh but okay but we say

1349
00:55:12,190 --> 00:55:15,789
counterclockwise in America and in

1350
00:55:13,480 --> 00:55:17,320
England it's anti clockwise and if this

1351
00:55:15,789 --> 00:55:19,269
is an elliptical it's an irregular they

1352
00:55:17,320 --> 00:55:20,830
it trains you and tests you to make sure

1353
00:55:19,269 --> 00:55:22,059
you know what you're doing and then let

1354
00:55:20,829 --> 00:55:23,799

you go and you can sit there and

1355

00:55:22,059 --> 00:55:25,960
classify galaxies after galaxy for

1356

00:55:23,800 --> 00:55:27,970
galaxy it's hard for computers to do

1357

00:55:25,960 --> 00:55:30,400
this it's easy for humans to do it and

1358

00:55:27,969 --> 00:55:33,309
you're crowdsourcing it the more people

1359

00:55:30,400 --> 00:55:35,680
doing it the more classifications you

1360

00:55:33,309 --> 00:55:37,900
have and they tested it on tens of

1361

00:55:35,679 --> 00:55:39,969
thousands of galaxies is incredible

1362

00:55:37,900 --> 00:55:41,500
their statistics are really good and

1363

00:55:39,969 --> 00:55:43,269
what they found is that people are

1364

00:55:41,500 --> 00:55:44,469
really good at classifying galaxies with

1365

00:55:43,269 --> 00:55:46,090
very little training and they're not

1366

00:55:44,469 --> 00:55:47,349
going to run out of galaxies to class no

1367

00:55:46,090 --> 00:55:48,970
there are millions and millions millions

1368

00:55:47,349 --> 00:55:50,440
I've class and it's addicting I've

1369
00:55:48,969 --> 00:55:51,879
classified I'll even know how many

1370
00:55:50,440 --> 00:55:53,829
hundreds are you just sit down start

1371
00:55:51,880 --> 00:55:55,150
doing it yeah it's just you know oh my

1372
00:55:53,829 --> 00:55:57,400
god it's been eight hours and i'm hungry

1373
00:55:55,150 --> 00:55:58,809
and my you know my dog is so you you

1374
00:55:57,400 --> 00:56:01,690
know the carpet you know I need to get

1375
00:55:58,809 --> 00:56:04,119
out it's really easy to get lost do even

1376
00:56:01,690 --> 00:56:05,050
a region to work on is that I don't know

1377
00:56:04,119 --> 00:56:07,089
how I don't know how they pick the

1378
00:56:05,050 --> 00:56:09,910
galaxies actually I mean they have some

1379
00:56:07,090 --> 00:56:12,579
some software algorithm that they use to

1380
00:56:09,909 --> 00:56:13,929
do all this and once you classify it it

1381
00:56:12,579 --> 00:56:16,059
goes into a database with the other

1382
00:56:13,929 --> 00:56:18,549
classifications and it it checks it says

1383
00:56:16,059 --> 00:56:20,529
Wow 75 people have looked at this in 74

1384
00:56:18,550 --> 00:56:22,690
say it's anti clockwise and one guy says

1385
00:56:20,530 --> 00:56:24,640
it's clockwise can throw the clockwise

1386
00:56:22,690 --> 00:56:27,429
out right right so it does all that and

1387
00:56:24,639 --> 00:56:29,769
people have found stuff in this data

1388
00:56:27,429 --> 00:56:31,239
that that you can't that you know one

1389
00:56:29,769 --> 00:56:33,039
person looking at the data never would

1390
00:56:31,239 --> 00:56:37,149
have seen and the result there was a

1391
00:56:33,039 --> 00:56:40,179
woman at Brian May the the guitar clean

1392
00:56:37,150 --> 00:56:41,980
yeah Brian May dictatorship we enroll

1393
00:56:40,179 --> 00:56:43,539
we will rock you and we have a Champions

1394
00:56:41,980 --> 00:56:46,929
I mean you know relatively famous

1395
00:56:43,539 --> 00:56:49,480
relatively thing was an astronomer and

1396
00:56:46,929 --> 00:56:51,578
then he left to he left he left school

1397

00:56:49,480 --> 00:56:53,530
to join some rock band which worked out

1398
00:56:51,579 --> 00:56:56,769
fairly well for him I suppose and then

1399
00:56:53,530 --> 00:56:58,599
he just got his PhD recently and so he

1400
00:56:56,769 --> 00:57:00,280
he does some public outreach for

1401
00:56:58,599 --> 00:57:03,039
astronomy talks about it he writes about

1402
00:57:00,280 --> 00:57:04,809
it sometimes so he mentioned Galaxy Zoo

1403
00:57:03,039 --> 00:57:06,219
he works with chris linn taught and

1404
00:57:04,809 --> 00:57:08,319
patrick moore they do think so yeah they

1405
00:57:06,219 --> 00:57:11,078
wrote a book together and so they he

1406
00:57:08,318 --> 00:57:13,719
mentioned it some young woman in oh gosh

1407
00:57:11,079 --> 00:57:16,660
denmark oh i don't remember her name is

1408
00:57:13,719 --> 00:57:18,429
Hani or Hanny I don't know how she

1409
00:57:16,659 --> 00:57:22,598
pronounces her name but she found this

1410
00:57:18,429 --> 00:57:25,210
this sort of weird green smudgy thing

1411
00:57:22,599 --> 00:57:28,059

next to a galaxy which they were calling

1412

00:57:25,210 --> 00:57:31,358

Hanny's object which in Dutch is honey's

1413

00:57:28,059 --> 00:57:34,180

for fair and that's what they're calling

1414

00:57:31,358 --> 00:57:35,920

it and it turns out nobody knew it was

1415

00:57:34,179 --> 00:57:37,299

they want to looking at using Hubble to

1416

00:57:35,920 --> 00:57:38,680

look at if some professional astronomers

1417

00:57:37,300 --> 00:57:41,050

got involved and they found it it's a

1418

00:57:38,679 --> 00:57:44,318

cloud of gas that's being lit up by

1419

00:57:41,050 --> 00:57:46,480

nearby quasar so there's this black hole

1420

00:57:44,318 --> 00:57:48,489

a gazillion light-years away that's

1421

00:57:46,480 --> 00:57:50,349

sucking down material that material gets

1422

00:57:48,489 --> 00:57:52,328

hot and glows and that glow is bright

1423

00:57:50,349 --> 00:57:53,619

enough to have lit up this gas cloud

1424

00:57:52,329 --> 00:57:55,660

it's like a hundred thousand light years

1425

00:57:53,619 --> 00:57:57,460

away it looks like it's just floating

1426
00:57:55,659 --> 00:57:59,649
out there in space and she discovered it

1427
00:57:57,460 --> 00:58:01,119
it's her object I was thinking the old

1428
00:57:59,650 --> 00:58:04,240
Star Trek when you mention him is this

1429
00:58:01,119 --> 00:58:06,338
strange green blob in space in the notch

1430
00:58:04,239 --> 00:58:08,828
or was the end it winds up being a space

1431
00:58:06,338 --> 00:58:11,318
of evil it takes over Scottie you know

1432
00:58:08,829 --> 00:58:13,030
what else does it do yeah and so there's

1433
00:58:11,318 --> 00:58:15,420
a what I do just talked about earlier

1434
00:58:13,030 --> 00:58:17,829
there was a press release a lot of these

1435
00:58:15,420 --> 00:58:23,530
galaxies do people we're finding these

1436
00:58:17,829 --> 00:58:25,390
compact green disc-like objects and they

1437
00:58:23,530 --> 00:58:27,490
were calling him green pea galaxies and

1438
00:58:25,389 --> 00:58:28,808
nobody knew what they were and now there

1439
00:58:27,489 --> 00:58:31,449
was a press release came out literally

1440
00:58:28,809 --> 00:58:33,220
an hour ago that says that these are

1441
00:58:31,449 --> 00:58:34,899
compact galaxies are about a billion

1442
00:58:33,219 --> 00:58:37,959
light years away a billion with a be

1443
00:58:34,900 --> 00:58:41,108
1000 million light years away and they

1444
00:58:37,960 --> 00:58:43,150
are deficient in heavy elements they got

1445
00:58:41,108 --> 00:58:44,920
plenty of hydrogen and helium but very

1446
00:58:43,150 --> 00:58:46,720
little iron very little carbon oxygen

1447
00:58:44,920 --> 00:58:49,838
which is what's made those are made

1448
00:58:46,719 --> 00:58:51,548
inside of stars that then blow them out

1449
00:58:49,838 --> 00:58:53,590
into the galaxy through winds or they

1450
00:58:51,548 --> 00:58:56,800
explode and like a supernova

1451
00:58:53,590 --> 00:58:59,050
and evidently these galaxies just are

1452
00:58:56,800 --> 00:59:01,690
metal what astronomers call metals

1453
00:58:59,050 --> 00:59:03,010
they're metal deficient and when you

1454

00:59:01,690 --> 00:59:05,470
look at the spectrum of them that makes

1455
00:59:03,010 --> 00:59:07,990
them look green and it's a new type of

1456
00:59:05,469 --> 00:59:10,329
galaxies well not a new type of galaxies

1457
00:59:07,989 --> 00:59:12,129
it's just it's a it's a very brief phase

1458
00:59:10,329 --> 00:59:15,460
in a galaxy's life that had never been

1459
00:59:12,130 --> 00:59:16,450
seen before it because it's just like if

1460
00:59:15,460 --> 00:59:18,190
you were to go out on the street and

1461
00:59:16,449 --> 00:59:19,929
take a bunch of pictures it would be

1462
00:59:18,190 --> 00:59:22,360
very rare for you to see a baby one day

1463
00:59:19,929 --> 00:59:23,319
old but if you kept taking pictures kept

1464
00:59:22,360 --> 00:59:25,390
taking pictures kept taking pictures

1465
00:59:23,320 --> 00:59:27,730
eventually you will see loot those rare

1466
00:59:25,389 --> 00:59:28,989
instances and that's what happened here

1467
00:59:27,730 --> 00:59:31,269
this is a very brief moment in a

1468
00:59:28,989 --> 00:59:32,229

galaxy's life and not in every galaxy

1469

00:59:31,269 --> 00:59:33,610

but if you take enough pictures

1470

00:59:32,230 --> 00:59:35,380

eventually you see it and they've got

1471

00:59:33,610 --> 00:59:36,760

they found dozens of these things and

1472

00:59:35,380 --> 00:59:39,280

now they've got a published paper man

1473

00:59:36,760 --> 00:59:41,230

does it is in science it makes you mind

1474

00:59:39,280 --> 00:59:43,330

race when you stop to speculate well

1475

00:59:41,230 --> 00:59:45,519

what sort of life would this slightly

1476

00:59:43,329 --> 00:59:48,369

different sort of galaxies produce and

1477

00:59:45,519 --> 00:59:49,960

no wonder this good a wealth of

1478

00:59:48,369 --> 00:59:51,730

information for riders and science

1479

00:59:49,960 --> 00:59:54,039

fiction oh yeah well back then these

1480

00:59:51,730 --> 00:59:55,389

these plant these galaxies probably

1481

00:59:54,039 --> 00:59:58,210

don't have many planets because you need

1482

00:59:55,389 --> 00:59:59,409

iron and calcium and silicon and

1483
00:59:58,210 --> 01:00:01,750
everything to make planets at least

1484
00:59:59,409 --> 01:00:04,059
planets like the earth yeah well life in

1485
01:00:01,750 --> 01:00:05,829
the German yeah exactly you can make

1486
01:00:04,059 --> 01:00:07,139
Jupiter's gas giants and stuff out of

1487
01:00:05,829 --> 01:00:09,699
hydrogen to helium but that's about it

1488
01:00:07,139 --> 01:00:14,109
but that was a billion years ago so no

1489
01:00:09,699 --> 01:00:15,219
yes no no in these galaxies there's some

1490
01:00:14,110 --> 01:00:16,480
dude on the sitting on one of those

1491
01:00:15,219 --> 01:00:18,639
plans looking at us saying well that's

1492
01:00:16,480 --> 01:00:19,900
so strange woman yeah what is our galaxy

1493
01:00:18,639 --> 01:00:21,789
much like a million years ago probably

1494
01:00:19,900 --> 01:00:23,559
pretty much like it does now but yes

1495
01:00:21,789 --> 01:00:24,969
yeah you know there were there are

1496
01:00:23,559 --> 01:00:26,559
differences a million years is a long

1497
01:00:24,969 --> 01:00:29,919
time it's a ten percent of the galaxy's

1498
01:00:26,559 --> 01:00:31,980
life so the exchange and in look its

1499
01:00:29,920 --> 01:00:33,760
citizens found that and you know what

1500
01:00:31,980 --> 01:00:37,990
citizens have looked at pictures of

1501
01:00:33,760 --> 01:00:40,150
Saturn of Mars of the earth of the moon

1502
01:00:37,989 --> 01:00:42,609
and there's moon zoom now along with

1503
01:00:40,150 --> 01:00:44,710
Galaxy Zoo they're working on one for

1504
01:00:42,610 --> 01:00:48,070
the Sun didn't somebody recently

1505
01:00:44,710 --> 01:00:50,019
observed from Australia a an impact on

1506
01:00:48,070 --> 01:00:51,850
Jupiter yeah Anthony Wesley as an

1507
01:00:50,019 --> 01:00:55,090
Australian amateur astronomer and he

1508
01:00:51,849 --> 01:00:58,809
detected actually I think it's he's

1509
01:00:55,090 --> 01:01:00,519
detected two I can't remember I don't

1510
01:00:58,809 --> 01:01:03,880
care member who got the discovery

1511

01:01:00,519 --> 01:01:05,038
pictures last year in July there was an

1512
01:01:03,880 --> 01:01:06,959
impact on Jupiter

1513
01:01:05,039 --> 01:01:08,939
and I remember I came out and I looked

1514
01:01:06,958 --> 01:01:11,009
at it went well maybe maybe it's just a

1515
01:01:08,938 --> 01:01:12,358
little storm it's just a black spot and

1516
01:01:11,009 --> 01:01:13,498
then a couple of days later they

1517
01:01:12,358 --> 01:01:14,639
observed it with a big infrared

1518
01:01:13,498 --> 01:01:16,558
telescope and it was like this big

1519
01:01:14,639 --> 01:01:19,768
glowing hot spot on Jupiter's like holy

1520
01:01:16,559 --> 01:01:22,469
crap no Jupiter got hit and then again

1521
01:01:19,768 --> 01:01:24,268
just a few weeks ago the Jupiter

1522
01:01:22,469 --> 01:01:26,188
Jupiter's been hit twice this year and

1523
01:01:24,268 --> 01:01:28,889
it's been caught by amateur astronomers

1524
01:01:26,188 --> 01:01:31,228
both times they were taking video using

1525
01:01:28,889 --> 01:01:33,568

all basically off-the-shelf equipment

1526

01:01:31,228 --> 01:01:34,708

telescopes you would buy from the back

1527

01:01:33,568 --> 01:01:37,199

of a magazine I mean these are nice

1528

01:01:34,708 --> 01:01:39,838

fancy telescopes but you know they're

1529

01:01:37,199 --> 01:01:42,119

not professional you know five meter

1530

01:01:39,838 --> 01:01:45,949

mirror telescopes these are your 40

1531

01:01:42,119 --> 01:01:48,838

centimeter telescopes are smaller and

1532

01:01:45,949 --> 01:01:50,999

they had a video hooked up and you see a

1533

01:01:48,838 --> 01:01:53,219

flash of light on Jupiter and it could

1534

01:01:50,998 --> 01:01:54,988

be anything it could be a defect in the

1535

01:01:53,219 --> 01:01:56,458

camera could be this could be that but

1536

01:01:54,989 --> 01:01:59,759

then another one came up from another

1537

01:01:56,458 --> 01:02:01,048

astronomer in Japan I think it was Japan

1538

01:01:59,759 --> 01:02:02,219

and you can you can look all this up

1539

01:02:01,048 --> 01:02:04,588

I've even wrote about it when it

1540
01:02:02,219 --> 01:02:06,358
happened a few months ago confirming it

1541
01:02:04,588 --> 01:02:07,949
and so Jupiter's been hit twice both

1542
01:02:06,358 --> 01:02:09,808
times they pointed bigger telescopes and

1543
01:02:07,949 --> 01:02:11,249
see nothing so whatever this thing was

1544
01:02:09,809 --> 01:02:13,229
it just you know it exploded in

1545
01:02:11,248 --> 01:02:15,598
Jupiter's atmosphere and that was it but

1546
01:02:13,228 --> 01:02:17,418
last year's left a big impact and then

1547
01:02:15,599 --> 01:02:19,769
of course there was shoemaker-levy 9

1548
01:02:17,418 --> 01:02:21,179
will remember this comet that hit

1549
01:02:19,768 --> 01:02:22,738
Jupiter over and over again it broke up

1550
01:02:21,179 --> 01:02:24,809
into pieces and slammed it they named

1551
01:02:22,739 --> 01:02:28,019
all the pieces yeah Andrew you know

1552
01:02:24,809 --> 01:02:29,640
whatever a letter and heck uh you know

1553
01:02:28,018 --> 01:02:30,778
amateur astronomers are doing this now

1554
01:02:29,639 --> 01:02:32,969
because the amateur astronomers have

1555
01:02:30,778 --> 01:02:34,829
good equipment and they can discover

1556
01:02:32,969 --> 01:02:37,108
stuff away and there's only that is she

1557
01:02:34,829 --> 01:02:38,729
a number of people who at any given time

1558
01:02:37,108 --> 01:02:40,918
we've got their equipment trained on

1559
01:02:38,728 --> 01:02:43,018
sages yeah Jupiter is being observed you

1560
01:02:40,918 --> 01:02:45,449
know essentially 24 hours a day when

1561
01:02:43,018 --> 01:02:47,548
it's when it's in a position like it is

1562
01:02:45,449 --> 01:02:51,778
now or it's up all night so right now

1563
01:02:47,548 --> 01:02:54,329
we're work it's it's what 930am and

1564
01:02:51,778 --> 01:02:56,400
Boulder so it's it's like two in the

1565
01:02:54,329 --> 01:02:58,499
morning roughly in Australia so right

1566
01:02:56,400 --> 01:03:00,449
now the Sun is up here but on Australia

1567
01:02:58,498 --> 01:03:01,738
for somebody Jupiter's overhead they can

1568

01:03:00,449 --> 01:03:03,568
get serving we have sets there it's

1569
01:03:01,739 --> 01:03:04,918
rising here yeah so people can observe

1570
01:03:03,568 --> 01:03:07,349
it all the time you're bound to see it

1571
01:03:04,918 --> 01:03:09,868
but you can't see anything if nothing's

1572
01:03:07,349 --> 01:03:12,749
happening so what this has taught us is

1573
01:03:09,869 --> 01:03:14,789
that since 1994 we've seen four separate

1574
01:03:12,748 --> 01:03:16,179
impact events 3 of which have happened

1575
01:03:14,789 --> 01:03:17,380
in the past year and

1576
01:03:16,179 --> 01:03:20,078
and when something when you start seeing

1577
01:03:17,380 --> 01:03:22,539
more of something as time goes on you

1578
01:03:20,079 --> 01:03:25,210
start the thing is it happening more

1579
01:03:22,539 --> 01:03:27,279
often probably not but what else has

1580
01:03:25,210 --> 01:03:29,650
changed is that the equipment's getting

1581
01:03:27,280 --> 01:03:31,780
better and you can buy video cameras for

1582
01:03:29,650 --> 01:03:34,088

cheap you know you can go to you can go

1583

01:03:31,780 --> 01:03:35,019

to some store for 200 bucks by a video

1584

01:03:34,088 --> 01:03:37,358

camera that you can hook on your

1585

01:03:35,019 --> 01:03:39,699

telescope people are doing that now and

1586

01:03:37,358 --> 01:03:41,619

they're catching this stuff and so

1587

01:03:39,699 --> 01:03:43,058

they're still missing a lot you have to

1588

01:03:41,619 --> 01:03:45,190

look through hours of videotape to see

1589

01:03:43,059 --> 01:03:47,680

it so you sought to coincidentally catch

1590

01:03:45,190 --> 01:03:49,150

it but the point here is that citizen

1591

01:03:47,679 --> 01:03:50,980

science is taking off and it's

1592

01:03:49,150 --> 01:03:52,619

especially in astronomy it's happening

1593

01:03:50,980 --> 01:03:56,740

in other fields too but in astronomy its

1594

01:03:52,619 --> 01:03:58,539

skies the way the sky is not the limit

1595

01:03:56,739 --> 01:04:00,368

in this case but we're going to see more

1596

01:03:58,539 --> 01:04:02,349

of this and we're going to see we're

1597
01:04:00,369 --> 01:04:04,000
gonna see impacts on the moon we know

1598
01:04:02,349 --> 01:04:05,349
that meteorites hit the moon we've got

1599
01:04:04,000 --> 01:04:06,818
video tape of that but it's very rare

1600
01:04:05,349 --> 01:04:10,150
we're gonna start seeing more of that

1601
01:04:06,818 --> 01:04:12,550
the more you see the better your

1602
01:04:10,150 --> 01:04:14,170
statistical database gets and then at

1603
01:04:12,550 --> 01:04:15,280
some point instead of its being a super

1604
01:04:14,170 --> 01:04:17,108
rare event that you don't know that much

1605
01:04:15,280 --> 01:04:19,540
about suddenly you've got thousands of

1606
01:04:17,108 --> 01:04:21,730
cases and you can start doing statistics

1607
01:04:19,539 --> 01:04:23,349
how what's the average size of an object

1608
01:04:21,730 --> 01:04:24,548
what's the average speed when it's

1609
01:04:23,349 --> 01:04:26,230
hitting can you tell the difference

1610
01:04:24,548 --> 01:04:28,059
between a chunk of ice on a chunk of

1611
01:04:26,230 --> 01:04:30,880
rock and a chunk of metal hitting the

1612
01:04:28,059 --> 01:04:32,230
surface of another world and this is all

1613
01:04:30,880 --> 01:04:33,490
important stuff we're gonna start

1614
01:04:32,230 --> 01:04:35,108
traveling to other planets we need to

1615
01:04:33,489 --> 01:04:36,729
know what's out there and if it turns

1616
01:04:35,108 --> 01:04:39,009
out that there's way too much debris out

1617
01:04:36,730 --> 01:04:40,000
there and we build a big ship yeah we're

1618
01:04:39,010 --> 01:04:42,609
going to have to deal with it yeah

1619
01:04:40,000 --> 01:04:44,650
deflective deflector shields up I can

1620
01:04:42,608 --> 01:04:46,869
exist on track references this is real

1621
01:04:44,650 --> 01:04:49,150
science and real explorers a great segue

1622
01:04:46,869 --> 01:04:51,700
of course talking about dangers from

1623
01:04:49,150 --> 01:04:53,530
space last time we interviewed you you

1624
01:04:51,699 --> 01:04:57,489
weren't at liberty to say too much or

1625

01:04:53,530 --> 01:04:59,619
too much about of course your television

1626
01:04:57,489 --> 01:05:03,519
show which I didn't even know was called

1627
01:04:59,619 --> 01:05:05,740
this bad universe which ad just the

1628
01:05:03,519 --> 01:05:08,588
other week it's actually fill plates bad

1629
01:05:05,739 --> 01:05:11,048
you know oh excuse mom that was not my

1630
01:05:08,588 --> 01:05:14,858
idea I didn't object too strenuously

1631
01:05:11,048 --> 01:05:18,280
when they suggested that but in fact um

1632
01:05:14,858 --> 01:05:20,230
I the reason I went for it it's it's

1633
01:05:18,280 --> 01:05:23,589
awfully self-serving even for me to have

1634
01:05:20,230 --> 01:05:27,460
my name in a TV show title but in fact I

1635
01:05:23,588 --> 01:05:29,980
liked it because the show is supposed to

1636
01:05:27,460 --> 01:05:32,409
be personal it's not one of the

1637
01:05:29,980 --> 01:05:34,090
is interviewing scientists where they're

1638
01:05:32,409 --> 01:05:35,259
in a hotel room with a splash of light

1639
01:05:34,090 --> 01:05:37,930

behind them and they're looking off to

1640

01:05:35,260 --> 01:05:39,760
the side of the camera I wanted to make

1641

01:05:37,929 --> 01:05:41,199
a TV show where I'm involved are you

1642

01:05:39,760 --> 01:05:42,970
addressed the camera don't you oh yeah

1643

01:05:41,199 --> 01:05:45,460
explaining yeah I'm talking to the

1644

01:05:42,969 --> 01:05:47,469
audience here look at this or I mean I'm

1645

01:05:45,460 --> 01:05:49,389
having fun yeah you know when running

1646

01:05:47,469 --> 01:05:51,219
around interviewing people we we blow a

1647

01:05:49,389 --> 01:05:52,989
lot of stuff up we made maybe we blow up

1648

01:05:51,219 --> 01:05:55,419
too much stuff in the first episode oh I

1649

01:05:52,989 --> 01:05:57,459
hope well the first episode is about

1650

01:05:55,420 --> 01:05:58,930
asteroid impact that I had some I had

1651

01:05:57,460 --> 01:06:00,010
some friends of mine who do asteroid

1652

01:05:58,929 --> 01:06:02,409
stuff and they're like really did you

1653

01:06:00,010 --> 01:06:04,810
have to have that many explosion is it

1654
01:06:02,409 --> 01:06:06,608
will Janna because we were showing I

1655
01:06:04,809 --> 01:06:08,590
mean we were showing first of all what

1656
01:06:06,608 --> 01:06:10,929
an impact is like and you need a big

1657
01:06:08,590 --> 01:06:12,760
bomb for that and then it turns out that

1658
01:06:10,929 --> 01:06:15,309
to push these things out of the way

1659
01:06:12,760 --> 01:06:17,320
we're talking about blowing up nuclear

1660
01:06:15,309 --> 01:06:19,389
weapons near them or smacking them at

1661
01:06:17,320 --> 01:06:21,550
high speed with what are called kinetic

1662
01:06:19,389 --> 01:06:24,089
impactors we're talking about asteroids

1663
01:06:21,550 --> 01:06:27,190
and comets another yeah I'm sorry

1664
01:06:24,090 --> 01:06:29,289
devastating objects right ways that

1665
01:06:27,190 --> 01:06:30,940
could impact with the earth you see a

1666
01:06:29,289 --> 01:06:32,230
rock 300 meters across and it's going to

1667
01:06:30,940 --> 01:06:33,670
hit the earth and you know what do you

1668
01:06:32,230 --> 01:06:35,679
do well you got to keep it from hitting

1669
01:06:33,670 --> 01:06:37,590
you know it's hard to move the earth out

1670
01:06:35,679 --> 01:06:39,849
of the way you go into the basement

1671
01:06:37,590 --> 01:06:42,070
exactly yeah you run is what you do or

1672
01:06:39,849 --> 01:06:43,659
you panic um but we want to push these

1673
01:06:42,070 --> 01:06:45,490
things out of the way how do you do that

1674
01:06:43,659 --> 01:06:46,839
so you can blow up a bomb near them or

1675
01:06:45,489 --> 01:06:49,149
you can impact them with a space probe

1676
01:06:46,840 --> 01:06:52,210
at high speed and it's like it's like

1677
01:06:49,150 --> 01:06:53,289
you know if you can imagine somebody

1678
01:06:52,210 --> 01:06:55,329
standing in the middle of the road in a

1679
01:06:53,289 --> 01:06:56,650
car is coming what do you do you run and

1680
01:06:55,329 --> 01:06:58,000
grab them and push them out of the way

1681
01:06:56,650 --> 01:07:00,010
and that's kind of what we're doing here

1682

01:06:58,000 --> 01:07:02,079
you know you hit the the asteroid with

1683
01:07:00,010 --> 01:07:03,760
it with a space probe it impacts a

1684
01:07:02,079 --> 01:07:06,069
little little bit of momentum momentum

1685
01:07:03,760 --> 01:07:07,840
and moves in this case if the cars

1686
01:07:06,070 --> 01:07:09,789
coming for the person you you run and

1687
01:07:07,840 --> 01:07:11,440
push the person yeah it's sort of the

1688
01:07:09,789 --> 01:07:13,000
opposite of awkward on kiddos the car

1689
01:07:11,440 --> 01:07:14,470
but it's all relative what do that mean

1690
01:07:13,000 --> 01:07:15,789
the earth is moving the asteroids moving

1691
01:07:14,469 --> 01:07:17,079
your spaceships moving so whatever

1692
01:07:15,789 --> 01:07:19,960
whatever frame of reference you know

1693
01:07:17,079 --> 01:07:23,019
take you take your pick but we're

1694
01:07:19,960 --> 01:07:24,460
talking about a basically explosion so

1695
01:07:23,019 --> 01:07:28,570
we blow a lot of stuff up in the episode

1696
01:07:24,460 --> 01:07:30,639

including sadly oh yes Sydney oh yeah

1697

01:07:28,570 --> 01:07:33,670

now must tell your story about this dr.

1698

01:07:30,639 --> 01:07:36,129

ray and I'm flying out to to drag him

1699

01:07:33,670 --> 01:07:38,108

come the other week we're sitting in the

1700

01:07:36,130 --> 01:07:40,430

plane they haven't shut the doors yet

1701

01:07:38,108 --> 01:07:42,500

we're waiting to taxi up to our

1702

01:07:40,429 --> 01:07:44,449

and Sydney Airport and we're looking at

1703

01:07:42,500 --> 01:07:45,739

our tweets and few last-minute emails

1704

01:07:44,449 --> 01:07:48,139

he's suddenly getting all these tweets

1705

01:07:45,739 --> 01:07:50,319

Richard Rachel get out of Sydney now get

1706

01:07:48,139 --> 01:07:54,079

out get what Sydney's being destroyed by

1707

01:07:50,320 --> 01:07:57,019

asteroids and comets it wasn't until I

1708

01:07:54,079 --> 01:07:58,639

was visiting Brian Dunning the next day

1709

01:07:57,019 --> 01:08:00,889

and we watched it we were just rolling

1710

01:07:58,639 --> 01:08:03,379

on the floor watching Sydney get creamed

1711
01:08:00,889 --> 01:08:04,670
degree again and again but it's so well

1712
01:08:03,380 --> 01:08:06,860
done I have somebody pull the

1713
01:08:04,670 --> 01:08:08,780
special-effects crew really good in the

1714
01:08:06,860 --> 01:08:10,730
show and they did some they did some

1715
01:08:08,780 --> 01:08:12,920
astonishing stuff and we you know we

1716
01:08:10,730 --> 01:08:15,559
blew up Sydney and then when I was

1717
01:08:12,920 --> 01:08:18,319
talking with the the producer who was

1718
01:08:15,559 --> 01:08:20,420
running the show basically and making it

1719
01:08:18,319 --> 01:08:21,859
he's the person who sort of in charge of

1720
01:08:20,420 --> 01:08:23,659
everything and he and I worked together

1721
01:08:21,859 --> 01:08:25,880
very closely of course on the science

1722
01:08:23,659 --> 01:08:27,170
and the narrative of all this and he

1723
01:08:25,880 --> 01:08:29,270
said we're going to do Sydney and I said

1724
01:08:27,170 --> 01:08:33,649
well why Sydney I love Sydney I was in

1725
01:08:29,270 --> 01:08:34,940
Sydney in 2001 for for the the skeptics

1726
01:08:33,649 --> 01:08:39,199
conference and I had a terrific time

1727
01:08:34,939 --> 01:08:40,579
there and and I felt bad you know it's

1728
01:08:39,199 --> 01:08:42,710
like oh we're blowing up the Opera House

1729
01:08:40,579 --> 01:08:44,989
I went to the Opera House with Richard

1730
01:08:42,710 --> 01:08:47,300
we walked all over Sydney went to the

1731
01:08:44,989 --> 01:08:49,550
botanical gardens entering and he said

1732
01:08:47,300 --> 01:08:52,250
well you know we're look we need a major

1733
01:08:49,550 --> 01:08:53,570
city because you know the odds of a

1734
01:08:52,250 --> 01:08:57,710
major city getting hit by the guy really

1735
01:08:53,569 --> 01:08:59,329
really slim even you know how big is

1736
01:08:57,710 --> 01:09:02,390
Sydney even if it's the own three

1737
01:08:59,329 --> 01:09:04,279
kilometres across the planet is you know

1738
01:09:02,390 --> 01:09:05,930
a hundred million square incoming or

1739

01:09:04,279 --> 01:09:07,670
something crazy like that so the odds

1740
01:09:05,930 --> 01:09:09,230
are low but you want something visually

1741
01:09:07,670 --> 01:09:10,609
interesting for somebody if it impacts

1742
01:09:09,229 --> 01:09:14,000
over the ocean it's not that interesting

1743
01:09:10,609 --> 01:09:15,799
and we needed a big city with a major

1744
01:09:14,000 --> 01:09:18,470
landmark something iconic he would

1745
01:09:15,800 --> 01:09:20,630
recognize instantly and Paris has the

1746
01:09:18,470 --> 01:09:22,730
Eiffel Tower and New York has the

1747
01:09:20,630 --> 01:09:24,140
stature literally Washington Monument

1748
01:09:22,729 --> 01:09:25,669
they've been done over and over again

1749
01:09:24,140 --> 01:09:28,310
every movie blows up the Golden Gate

1750
01:09:25,670 --> 01:09:29,420
Bridge so we went international and we

1751
01:09:28,310 --> 01:09:31,550
weren't we said Nina it's like well

1752
01:09:29,420 --> 01:09:32,630
alright but i'm still getting tweets

1753
01:09:31,550 --> 01:09:34,820

from people saying what do you have

1754

01:09:32,630 --> 01:09:36,230

against sin really because you guys

1755

01:09:34,819 --> 01:09:38,840

don't send me enough Minty's that's what

1756

01:09:36,229 --> 01:09:40,819

I have against in film India no but I'm

1757

01:09:38,840 --> 01:09:42,140

apart from the fact that I've seen

1758

01:09:40,819 --> 01:09:44,509

things I know very well getting

1759

01:09:42,140 --> 01:09:46,280

completely smashed and destroyed it did

1760

01:09:44,510 --> 01:09:47,780

serve you well because a little bit

1761

01:09:46,279 --> 01:09:49,609

later in the episode where you use

1762

01:09:47,779 --> 01:09:52,519

mock-ups of the bridge in the Opera

1763

01:09:49,609 --> 01:09:53,699

House when you yeah that was a bit of

1764

01:09:52,520 --> 01:09:55,200

fun I mean we usually got the

1765

01:09:53,699 --> 01:09:58,109

scale but they were just basically cut

1766

01:09:55,199 --> 01:10:00,059

off my god but the it was actually

1767

01:09:58,109 --> 01:10:02,489

plywood plywood it might look like

1768
01:10:00,060 --> 01:10:05,039
cardboard and the explosion heavy wasn't

1769
01:10:02,489 --> 01:10:07,349
but we blew up I mean we blew up 7,500

1770
01:10:05,039 --> 01:10:09,899
pounds what's called it an pho it's

1771
01:10:07,350 --> 01:10:14,180
ammonium nitrate fuel oil mix and it's

1772
01:10:09,899 --> 01:10:16,500
it's it's a incredibly explosive a

1773
01:10:14,180 --> 01:10:17,850
chemical compound that was it's actually

1774
01:10:16,500 --> 01:10:19,739
some terrorists have used it with the

1775
01:10:17,850 --> 01:10:22,650
Oklahoma City bombing a few years back

1776
01:10:19,739 --> 01:10:25,109
yes yes they used that same mix it was

1777
01:10:22,649 --> 01:10:27,779
the equivalent of 3,000 pounds a ton and

1778
01:10:25,109 --> 01:10:32,250
a half you know a thousand what is that

1779
01:10:27,779 --> 01:10:35,099
1500 kilos of TNT and it was a huge

1780
01:10:32,250 --> 01:10:36,720
explosion Hugh you press the button them

1781
01:10:35,100 --> 01:10:38,160
I actually pulled the trigger on that I

1782
01:10:36,720 --> 01:10:39,900
didn't he was going to let me and I

1783
01:10:38,159 --> 01:10:41,519
asked it was a running joke up to that

1784
01:10:39,899 --> 01:10:42,539
point that I would ask the explosives

1785
01:10:41,520 --> 01:10:44,790
guy can I pull the trigger and they'd

1786
01:10:42,539 --> 01:10:46,649
say no it's too dangerous no but this

1787
01:10:44,789 --> 01:10:50,819
guy's like yeah sure what do I care all

1788
01:10:46,649 --> 01:10:52,529
right and it was it was amazing and did

1789
01:10:50,819 --> 01:10:54,630
a huge amount of devastation because the

1790
01:10:52,529 --> 01:10:56,639
freighter was very real it was it was it

1791
01:10:54,630 --> 01:10:58,739
was stunning was let me know it's a real

1792
01:10:56,640 --> 01:11:00,360
crater I mean if i knew-- up you know

1793
01:10:58,739 --> 01:11:02,819
you can see the shockwave on the

1794
01:11:00,359 --> 01:11:04,679
slow-motion reality that was astonishing

1795
01:11:02,819 --> 01:11:07,109
yeah it did a huge amount of damage you

1796

01:11:04,680 --> 01:11:08,520
know the debris field the way the crater

1797
01:11:07,109 --> 01:11:10,319
was shaped everything with just like an

1798
01:11:08,520 --> 01:11:12,360
asteroid impact was perfect and we're

1799
01:11:10,319 --> 01:11:13,859
really wedding out the appetite of the

1800
01:11:12,359 --> 01:11:16,829
listeners out there who haven't seen

1801
01:11:13,859 --> 01:11:18,689
your eye and lucky people in Canada I

1802
01:11:16,829 --> 01:11:20,430
hear that's going to be played in Canada

1803
01:11:18,689 --> 01:11:22,019
right it's it's a discovery channel show

1804
01:11:20,430 --> 01:11:23,970
the way we did it is it's a three part

1805
01:11:22,020 --> 01:11:26,100
you could call it a pilot we made a

1806
01:11:23,970 --> 01:11:28,530
three-part show the first ones about

1807
01:11:26,100 --> 01:11:30,060
asteroid impacts the next two I don't

1808
01:11:28,529 --> 01:11:31,619
you know I don't know if they if I'm

1809
01:11:30,060 --> 01:11:32,910
allowed to actually say in public what

1810
01:11:31,619 --> 01:11:35,189

they're about but I you know i'll let

1811

01:11:32,909 --> 01:11:37,050

you i'll let you see your zune i'm not

1812

01:11:35,189 --> 01:11:39,000

you'll see it soon enough it's based on

1813

01:11:37,050 --> 01:11:42,270

my book death from the skies so you can

1814

01:11:39,000 --> 01:11:43,979

you can kind of look even see it and the

1815

01:11:42,270 --> 01:11:45,900

it aired on discovery channel here in

1816

01:11:43,979 --> 01:11:51,359

the States a couple of weeks ago it's

1817

01:11:45,899 --> 01:11:53,009

going to air on our Tober Oh drat I

1818

01:11:51,359 --> 01:11:55,799

october twenty third now i can't

1819

01:11:53,010 --> 01:11:57,300

remember in october in canada yeah and i

1820

01:11:55,800 --> 01:11:58,989

just wrote about it but now i can't

1821

01:11:57,300 --> 01:12:01,300

remember the day but people in canada

1822

01:11:58,988 --> 01:12:03,879

run to the discovery website right

1823

01:12:01,300 --> 01:12:06,130

discovery canada and and it's going to

1824

01:12:03,880 --> 01:12:08,078

show on discovery asia in november and

1825
01:12:06,130 --> 01:12:10,960
actually do you get discovery age you

1826
01:12:08,078 --> 01:12:13,328
know i am strand listeners may know i

1827
01:12:10,960 --> 01:12:15,969
don't i don't get the well got a channel

1828
01:12:13,328 --> 01:12:19,509
yes male listen is it i will listen is

1829
01:12:15,969 --> 01:12:21,698
in australia I've seen the show and I'm

1830
01:12:19,510 --> 01:12:22,989
gonna see it again I'm going to get as

1831
01:12:21,698 --> 01:12:25,868
many people as I can to see it's

1832
01:12:22,988 --> 01:12:27,488
fabulous I thank you i know it seriously

1833
01:12:25,868 --> 01:12:29,259
it's not because i'm sitting in your

1834
01:12:27,488 --> 01:12:30,638
house drinking your coffee playing with

1835
01:12:29,260 --> 01:12:32,409
your dogs drinking right y'all get

1836
01:12:30,639 --> 01:12:35,109
another sip here safe stay away from my

1837
01:12:32,408 --> 01:12:37,479
own interview it's um rachel i watch it

1838
01:12:35,109 --> 01:12:39,639
with the brian and Lisa Dunning and we

1839
01:12:37,479 --> 01:12:41,529
were just enthralled and we were

1840
01:12:39,639 --> 01:12:44,590
laughing when Sydney was getting creamed

1841
01:12:41,529 --> 01:12:47,198
and we're admiring that the effects and

1842
01:12:44,590 --> 01:12:48,849
the science behind it and then there's

1843
01:12:47,198 --> 01:12:50,649
some selling us in this cereal is this

1844
01:12:48,849 --> 01:12:52,538
some silliness at one stage Rachel and I

1845
01:12:50,649 --> 01:12:54,339
got up to the TV we froze a picture

1846
01:12:52,538 --> 01:12:57,969
viewer we're both like praying save this

1847
01:12:54,340 --> 01:13:02,230
for later but listen is in Australia um

1848
01:12:57,969 --> 01:13:05,019
look if it's not coming up right email

1849
01:13:02,229 --> 01:13:07,359
the discovery channel sure because it is

1850
01:13:05,019 --> 01:13:09,789
discovery Australia is there a separate

1851
01:13:07,359 --> 01:13:11,348
honestly we probably do we probably do

1852
01:13:09,788 --> 01:13:12,998
but but listeners in Australia who get

1853

01:13:11,349 --> 01:13:15,460
that would certainly know about it it's

1854
01:13:12,998 --> 01:13:18,130
called bad universe and right in

1855
01:13:15,460 --> 01:13:20,170
demanding demand to be nice sweet be

1856
01:13:18,130 --> 01:13:22,840
nice and that does work because what

1857
01:13:20,170 --> 01:13:25,300
happened was when it aired here in the

1858
01:13:22,840 --> 01:13:27,159
States I was live-tweeting it the east

1859
01:13:25,300 --> 01:13:30,309
coast feed which was on at a certain

1860
01:13:27,158 --> 01:13:31,779
time and I was sitting there watching it

1861
01:13:30,309 --> 01:13:35,050
and tweeting about it I was getting so

1862
01:13:31,779 --> 01:13:37,689
many people in Canada saying when do we

1863
01:13:35,050 --> 01:13:40,630
get to see it and I didn't know so I

1864
01:13:37,689 --> 01:13:42,428
asked my the PR person that discovery

1865
01:13:40,630 --> 01:13:43,630
channel and said Wednesday are in Canada

1866
01:13:42,429 --> 01:13:47,199
she said well look they're their own

1867
01:13:43,630 --> 01:13:48,969

separate channel you know we're we don't

1868

01:13:47,198 --> 01:13:50,768

we don't dictate to them when they get

1869

01:13:48,969 --> 01:13:53,828

to what water when they show stuff so

1870

01:13:50,769 --> 01:13:55,449

ask them so I basically tweeted to

1871

01:13:53,828 --> 01:13:58,658

Discovery Channel Canada and said what's

1872

01:13:55,448 --> 01:14:01,538

going on and a bunch of people sent nice

1873

01:13:58,658 --> 01:14:03,729

tweets you know at mentioning using the

1874

01:14:01,538 --> 01:14:05,319

at you know at Discovery Canada and sure

1875

01:14:03,729 --> 01:14:09,879

enough discovery Canada picked it up

1876

01:14:05,319 --> 01:14:12,049

because they got enough outcry that's

1877

01:14:09,880 --> 01:14:13,730

we're not the right word to you is

1878

01:14:12,050 --> 01:14:15,409

you know it's like that by man but by

1879

01:14:13,729 --> 01:14:17,178

public demand right they got hundreds of

1880

01:14:15,408 --> 01:14:18,319

tweets and emails from people saying we

1881

01:14:17,179 --> 01:14:20,179

wanted to see this and so they're

1882
01:14:18,319 --> 01:14:21,828
running it so tweet is sort of came to

1883
01:14:20,179 --> 01:14:24,260
the rescue a little bit it's it's the

1884
01:14:21,828 --> 01:14:26,328
new paradigm of you know user demanding

1885
01:14:24,260 --> 01:14:28,340
content and so if you tweet to a channel

1886
01:14:26,328 --> 01:14:29,899
and say I want to see this especially if

1887
01:14:28,340 --> 01:14:31,610
its discovery channel because they're

1888
01:14:29,899 --> 01:14:33,799
all under the same umbrella of discovery

1889
01:14:31,609 --> 01:14:36,078
communications network they can talk to

1890
01:14:33,800 --> 01:14:38,599
each other you know you maybe you can't

1891
01:14:36,078 --> 01:14:40,429
get Firefly a second season but but

1892
01:14:38,599 --> 01:14:44,210
maybe you can get you know this show and

1893
01:14:40,429 --> 01:14:45,618
if if it's popular enough maybe the

1894
01:14:44,210 --> 01:14:47,118
discovery channel will pick it up as a

1895
01:14:45,618 --> 01:14:49,098
full-fledged series i have not heard

1896
01:14:47,118 --> 01:14:50,569
from the network yet i'm hoping they

1897
01:14:49,099 --> 01:14:52,639
will of course i want to turn you send

1898
01:14:50,569 --> 01:14:54,618
the whole show ya where we can analyze

1899
01:14:52,639 --> 01:14:56,900
science of all sorts of things it was

1900
01:14:54,618 --> 01:14:59,328
really i'd love to sit down every week

1901
01:14:56,899 --> 01:15:01,339
and watch bad universe they look thanks

1902
01:14:59,328 --> 01:15:02,988
right after Mythbusters yeah and yeah

1903
01:15:01,340 --> 01:15:04,309
did you know there's a similarity to

1904
01:15:02,988 --> 01:15:05,539
Mythbusters but we're trying to make it

1905
01:15:04,309 --> 01:15:07,969
different the first episode has a lot of

1906
01:15:05,539 --> 01:15:10,130
explosions yeah we don't have quite so

1907
01:15:07,969 --> 01:15:13,219
many in the next episodes but I know i'd

1908
01:15:10,130 --> 01:15:14,659
love to make it was a lot of work oh but

1909
01:15:13,219 --> 01:15:16,429
it is a lot of fun and it's something I

1910

01:15:14,658 --> 01:15:18,828
wanted to do my whole life especially

1911
01:15:16,429 --> 01:15:20,389
over the past 10 or 12 years and its

1912
01:15:18,828 --> 01:15:23,058
really really nice to be able to go out

1913
01:15:20,389 --> 01:15:25,159
and have the backing of an actual

1914
01:15:23,059 --> 01:15:26,719
network in a production company saying

1915
01:15:25,158 --> 01:15:30,888
you know what do you want to make a show

1916
01:15:26,719 --> 01:15:32,328
about like oh well wow yeah and at one

1917
01:15:30,889 --> 01:15:34,609
point actually there was there was an

1918
01:15:32,328 --> 01:15:37,819
executive who said you know what other

1919
01:15:34,609 --> 01:15:39,198
what other ideas she was totally honest

1920
01:15:37,819 --> 01:15:40,759
about this she just didn't know she said

1921
01:15:39,198 --> 01:15:42,198
is that we know what else could you talk

1922
01:15:40,760 --> 01:15:44,510
about if this were to get picked up as a

1923
01:15:42,198 --> 01:15:46,460
series and I was like are you kidding

1924
01:15:44,510 --> 01:15:48,230

and I was like bam bam bam mmm Hannah

1925

01:15:46,460 --> 01:15:49,730

it's listing all these things and she

1926

01:15:48,229 --> 01:15:51,439

was kind of shell-shocked her eyes got

1927

01:15:49,729 --> 01:15:52,578

wide she's like oh well and I could see

1928

01:15:51,439 --> 01:15:54,649

her exchanging glances with this other

1929

01:15:52,578 --> 01:15:56,118

guy like oh I see maybe there are other

1930

01:15:54,649 --> 01:16:00,109

topics we could do in a show like this

1931

01:15:56,118 --> 01:16:01,189

yeah I think so so we'll see i have no

1932

01:16:00,109 --> 01:16:02,929

idea what they're gonna do it's a

1933

01:16:01,189 --> 01:16:05,509

television they could they maybe would

1934

01:16:02,929 --> 01:16:07,039

want to replace me with some you know 16

1935

01:16:05,510 --> 01:16:08,989

year old girl for all I know but we'll

1936

01:16:07,039 --> 01:16:10,670

see what happens when I'm a bolt head

1937

01:16:08,988 --> 01:16:11,868

will it be yeah I know just I mean just

1938

01:16:10,670 --> 01:16:13,849

but you know I mean they just make these

1939
01:16:11,868 --> 01:16:16,039
these random decisions and yeah and so

1940
01:16:13,849 --> 01:16:18,110
there are other there are other hosts

1941
01:16:16,039 --> 01:16:20,210
out there there are who are doing shows

1942
01:16:18,109 --> 01:16:22,219
similar this there's Neil Tyson and me

1943
01:16:20,210 --> 01:16:23,510
shukaku and you don't come to think of

1944
01:16:22,219 --> 01:16:25,180
it I was think about this the other day

1945
01:16:23,510 --> 01:16:27,610
there are shows like this out there

1946
01:16:25,180 --> 01:16:30,280
not with my take on it but it's all men

1947
01:16:27,609 --> 01:16:33,250
now Neil Tyson african-american Misha

1948
01:16:30,279 --> 01:16:35,679
kako is Asian I'm your standard balding

1949
01:16:33,250 --> 01:16:38,109
white guy with beard but there I haven't

1950
01:16:35,680 --> 01:16:40,150
seen any hosted just by women or

1951
01:16:38,109 --> 01:16:42,039
anything like that which is which is

1952
01:16:40,149 --> 01:16:44,409
interesting to me I don't know what to

1953
01:16:42,039 --> 01:16:47,109
make of that I think I know a guy could

1954
01:16:44,409 --> 01:16:48,430
do one ano Pamela obviously oh my gosh

1955
01:16:47,109 --> 01:16:50,589
I'll have to do something with her of

1956
01:16:48,430 --> 01:16:51,520
course but yeah I love Pamela but it's

1957
01:16:50,590 --> 01:16:53,350
interesting i don't know if that's on

1958
01:16:51,520 --> 01:16:55,000
the network side of some science side of

1959
01:16:53,350 --> 01:16:56,440
its on the consumer side or what these

1960
01:16:55,000 --> 01:16:58,779
are complicated issues but it just it

1961
01:16:56,439 --> 01:17:00,039
occurred to me the other day that it's

1962
01:16:58,779 --> 01:17:01,809
interesting to watch television and

1963
01:17:00,039 --> 01:17:03,750
suddenly realize what you're being what

1964
01:17:01,810 --> 01:17:06,250
you what you're seeing and not knowing

1965
01:17:03,750 --> 01:17:08,409
what we don't why why did they choose

1966
01:17:06,250 --> 01:17:10,720
this person no I'm an astronomer and

1967

01:17:08,409 --> 01:17:11,859
I've done this kind of stuff but okay

1968
01:17:10,720 --> 01:17:13,539
you know but it's interesting

1969
01:17:11,859 --> 01:17:14,949
interesting i don't know let's let's

1970
01:17:13,539 --> 01:17:18,399
wrap up the interview with a few

1971
01:17:14,949 --> 01:17:20,470
thoughts about something that was

1972
01:17:18,399 --> 01:17:22,059
certainly an introduction to me about

1973
01:17:20,470 --> 01:17:24,130
who you were and what you were doing

1974
01:17:22,060 --> 01:17:25,750
your first book and one of the major

1975
01:17:24,130 --> 01:17:29,739
concerns you had in the skeptical field

1976
01:17:25,750 --> 01:17:32,470
was themed moon hoax what's the current

1977
01:17:29,739 --> 01:17:34,869
state well we it's sort of like yo yo

1978
01:17:32,470 --> 01:17:38,050
crazy you know i mean the five six seven

1979
01:17:34,869 --> 01:17:39,939
years ago it was all the Fox thing I

1980
01:17:38,050 --> 01:17:41,650
never walked to the dog that's you know

1981
01:17:39,939 --> 01:17:44,139

never around the world I'm afraid of

1982

01:17:41,649 --> 01:17:46,359

yoyo tricks it comes in goods but I

1983

01:17:44,140 --> 01:17:48,190

haven't heard any moon hoax is popping

1984

01:17:46,359 --> 01:17:50,559

up lately it's almost like it's its

1985

01:17:48,189 --> 01:17:52,899

beginning you get nostalgic for the days

1986

01:17:50,560 --> 01:17:54,250

when people's Oh carrying on about this

1987

01:17:52,899 --> 01:17:55,629

but it's still out there i'm back in the

1988

01:17:54,250 --> 01:17:57,760

day when it was so easy to debunk

1989

01:17:55,630 --> 01:17:59,619

something is so ridiculously you know

1990

01:17:57,760 --> 01:18:00,880

there's like oh you're making this claim

1991

01:17:59,619 --> 01:18:02,920

well you know turn around because

1992

01:18:00,880 --> 01:18:05,079

there's an enormous tsunami of evidence

1993

01:18:02,920 --> 01:18:07,960

about to the pets around you that you're

1994

01:18:05,079 --> 01:18:13,359

wrong nope i yearn for the face on Mars

1995

01:18:07,960 --> 01:18:16,239

days and all maybe the days um yeah the

1996
01:18:13,359 --> 01:18:19,630
moon hoax had its heyday it had been

1997
01:18:16,239 --> 01:18:23,260
around in small terms ever since Apollo

1998
01:18:19,630 --> 01:18:24,730
and yeah yeah bill casing the guy who is

1999
01:18:23,260 --> 01:18:26,409
basically the father of the moon host

2000
01:18:24,729 --> 01:18:27,969
was actually involved in the Apollo

2001
01:18:26,409 --> 01:18:29,800
program and he said he had all these

2002
01:18:27,970 --> 01:18:31,390
Bologna things he used to say I have a

2003
01:18:29,800 --> 01:18:33,970
top secret clearance well yeah you were

2004
01:18:31,390 --> 01:18:35,619
file clerk basically you had to have top

2005
01:18:33,970 --> 01:18:37,630
secret clearance by law to be able to

2006
01:18:35,619 --> 01:18:38,319
take a file somebody hands you and put

2007
01:18:37,630 --> 01:18:40,600
it into a lock

2008
01:18:38,319 --> 01:18:42,460
cabinet it doesn't mean you have any

2009
01:18:40,600 --> 01:18:44,560
real inside information on what's going

2010
01:18:42,460 --> 01:18:46,029
on but he made all these outrageous

2011
01:18:44,560 --> 01:18:48,850
claims about the moon landings being

2012
01:18:46,029 --> 01:18:52,239
fake that were ridiculous it got a

2013
01:18:48,850 --> 01:18:54,490
little bit of media attention there's a

2014
01:18:52,239 --> 01:18:55,899
James Bond movie where you see there's a

2015
01:18:54,489 --> 01:18:58,750
chase scene where he's running through a

2016
01:18:55,899 --> 01:19:01,179
set where they're filming a moon landing

2017
01:18:58,750 --> 01:19:03,039
being faked the diamonds are forever i

2018
01:19:01,180 --> 01:19:04,210
think so i think that's right up

2019
01:19:03,039 --> 01:19:06,939
something must been a while suggesting

2020
01:19:04,210 --> 01:19:08,350
it um there's there been a movies here

2021
01:19:06,939 --> 01:19:10,869
and there where they've mentioned it I

2022
01:19:08,350 --> 01:19:13,840
know that movie dan Aykroyd mentions it

2023
01:19:10,869 --> 01:19:14,800
in sneakers I think where he says all

2024

01:19:13,840 --> 01:19:17,140
you know they were they faked the moon

2025
01:19:14,800 --> 01:19:18,699
landing and then there's caprica 11

2026
01:19:17,140 --> 01:19:19,960
that's the movie they take to Mars lane

2027
01:19:18,699 --> 01:19:24,729
which is actually pretty good positive

2028
01:19:19,960 --> 01:19:30,069
is a good movie um but uh it wasn't

2029
01:19:24,729 --> 01:19:32,459
until 2001 when fox and and and again

2030
01:19:30,069 --> 01:19:34,989
Thank You Australia for Rupert Murdoch

2031
01:19:32,460 --> 01:19:37,239
when Fox aired a show called conspiracy

2032
01:19:34,989 --> 01:19:38,889
theory did we land on the moon and then

2033
01:19:37,239 --> 01:19:39,880
this thing exploded and it isn't right

2034
01:19:38,890 --> 01:19:42,490
at the time when the internet was

2035
01:19:39,880 --> 01:19:47,109
getting really popular in the year 2000

2036
01:19:42,489 --> 01:19:49,840
2001 and so it spread like Ebola but

2037
01:19:47,109 --> 01:19:51,729
like Ebola burned itself out relatively

2038
01:19:49,840 --> 01:19:53,829

I think so you know were a few people

2039

01:19:51,729 --> 01:19:55,869

out there who were promoting a really

2040

01:19:53,829 --> 01:20:00,519

hard bart sibrel who made his ridiculous

2041

01:19:55,869 --> 01:20:03,039

videos I mean when your most famous act

2042

01:20:00,520 --> 01:20:07,210

is getting punched in the head by Buzz

2043

01:20:03,039 --> 01:20:09,210

Aldrin in September 2002 you know maybe

2044

01:20:07,210 --> 01:20:12,279

you should rethink your career choices

2045

01:20:09,210 --> 01:20:14,109

um but you know and I knew it would

2046

01:20:12,279 --> 01:20:16,019

eventually I put up a website about it

2047

01:20:14,109 --> 01:20:19,179

my friend Jay Windley who was an

2048

01:20:16,020 --> 01:20:21,010

aerospace engineer he put up a very

2049

01:20:19,180 --> 01:20:24,310

detailed analysis of all these claims

2050

01:20:21,010 --> 01:20:27,190

and you know once it's on the web people

2051

01:20:24,310 --> 01:20:28,510

could find it and it just started dying

2052

01:20:27,189 --> 01:20:29,799

off and there are still a couple of

2053
01:20:28,510 --> 01:20:31,690
diehard guys there's this guy in

2054
01:20:29,800 --> 01:20:34,210
Australia who makes YouTube videos he

2055
01:20:31,689 --> 01:20:36,419
was at a mate oh I remember him yes he

2056
01:20:34,210 --> 01:20:39,489
accosted me and he accosted Adam Savage

2057
01:20:36,420 --> 01:20:42,369
Adam smacked him down pretty good in

2058
01:20:39,489 --> 01:20:44,739
public and I he actually wanted to

2059
01:20:42,369 --> 01:20:47,619
interview me but I I agreed at first but

2060
01:20:44,739 --> 01:20:50,559
then changed my mind because he he was

2061
01:20:47,619 --> 01:20:51,819
completely impervious to evidence hmm he

2062
01:20:50,560 --> 01:20:52,989
would ask me questions and when

2063
01:20:51,819 --> 01:20:54,908
answer them he would either change the

2064
01:20:52,988 --> 01:20:57,789
subject or bring up something to have

2065
01:20:54,908 --> 01:21:00,368
nothing to do with what was going on and

2066
01:20:57,789 --> 01:21:01,750
and it was you know it was clearly and

2067
01:21:00,368 --> 01:21:03,698
I've seen his videos it's clear to me

2068
01:21:01,750 --> 01:21:05,319
that that evidence is not something he's

2069
01:21:03,698 --> 01:21:07,269
interested in unless it supports what

2070
01:21:05,319 --> 01:21:10,529
he's claiming yeah if he can find he's

2071
01:21:07,270 --> 01:21:12,639
an anomaly hunter he looks through

2072
01:21:10,529 --> 01:21:13,750
10,000 pieces of evidence which shall we

2073
01:21:12,639 --> 01:21:15,670
go to the moon and if there's one thing

2074
01:21:13,750 --> 01:21:17,979
that looks a little fishy he talks about

2075
01:21:15,670 --> 01:21:19,389
that and it's like well maybe you just

2076
01:21:17,979 --> 01:21:20,919
don't understand what's going on and you

2077
01:21:19,389 --> 01:21:23,050
should look at these other thousands of

2078
01:21:20,920 --> 01:21:25,060
things that show that we did go to move

2079
01:21:23,050 --> 01:21:26,949
that's not how he operates and so I was

2080
01:21:25,060 --> 01:21:29,170
like I don't I don't I don't trust him I

2081

01:21:26,948 --> 01:21:30,250
figure he's going to edit me and you

2082
01:21:29,170 --> 01:21:31,480
know make me look like I don't know what

2083
01:21:30,250 --> 01:21:33,279
I'm talking about so i just said nap

2084
01:21:31,479 --> 01:21:35,529
screw it these days you don't have to

2085
01:21:33,279 --> 01:21:38,109
give these people air time do you no no

2086
01:21:35,529 --> 01:21:39,550
yoga the day is gone then in the media

2087
01:21:38,109 --> 01:21:41,408
loves to do that they like to bring in

2088
01:21:39,550 --> 01:21:44,110
quiet throw in somebody con it's like

2089
01:21:41,408 --> 01:21:46,500
but why do that you know we know I could

2090
01:21:44,109 --> 01:21:48,848
claim that they're there pink unicorns

2091
01:21:46,500 --> 01:21:51,340
floating in the sky and why should you

2092
01:21:48,849 --> 01:21:54,460
bring in an expert in aerial phenomena

2093
01:21:51,340 --> 01:21:56,650
saying no to argue against this it's

2094
01:21:54,460 --> 01:21:58,420
ridiculous you're giving credence to the

2095
01:21:56,649 --> 01:22:00,158

precious what to me do you do but that

2096

01:21:58,420 --> 01:22:03,250

is what the media do ya to them it's

2097

01:22:00,158 --> 01:22:05,710

been totally understandable and I at the

2098

01:22:03,250 --> 01:22:07,569

example I typically uses abortion it's a

2099

01:22:05,710 --> 01:22:10,118

very hot topic it brings up a lot of

2100

01:22:07,569 --> 01:22:12,069

emotions I can argue persuasively on

2101

01:22:10,118 --> 01:22:14,799

both sides pro and con should we have a

2102

01:22:12,069 --> 01:22:18,429

horse in should we should we not and the

2103

01:22:14,800 --> 01:22:20,429

point is people of good moral stance can

2104

01:22:18,429 --> 01:22:24,069

come down in either side of this issue

2105

01:22:20,429 --> 01:22:25,630

it's a so to have a balanced you want to

2106

01:22:24,069 --> 01:22:26,889

have this open discussion but when

2107

01:22:25,630 --> 01:22:28,420

you're talking about something that is

2108

01:22:26,889 --> 01:22:30,639

clearly real and something that clearly

2109

01:22:28,420 --> 01:22:33,039

isn't there is no fair and balanced to

2110
01:22:30,639 --> 01:22:36,578
be that what's ours my dog going outside

2111
01:22:33,039 --> 01:22:38,109
that's okay for you you Ozzy some must

2112
01:22:36,578 --> 01:22:39,908
be another like we're all or there's a

2113
01:22:38,109 --> 01:22:42,279
there's another one hoax person ah

2114
01:22:39,908 --> 01:22:47,229
listen listening in a cumbia squirrel

2115
01:22:42,279 --> 01:22:48,759
hang on all cores on top for those of

2116
01:22:47,229 --> 01:22:51,009
you who follow my blog that was canis

2117
01:22:48,760 --> 01:22:52,719
minor the black and white dog i had i

2118
01:22:51,010 --> 01:22:55,300
put pictures of her up on the block

2119
01:22:52,719 --> 01:22:57,670
sometimes but you know it's just this

2120
01:22:55,300 --> 01:22:58,779
idea of you have to have both sides of

2121
01:22:57,670 --> 01:23:01,239
an issue and everything like that it's

2122
01:22:58,779 --> 01:23:03,489
baloney that's just not true if you want

2123
01:23:01,238 --> 01:23:06,519
to be fair then

2124
01:23:03,489 --> 01:23:08,349
then the newscast should be here's why

2125
01:23:06,520 --> 01:23:10,570
the moonlight is real you know it's a

2126
01:23:08,350 --> 01:23:13,150
matter of historical fact being fair is

2127
01:23:10,569 --> 01:23:15,849
showing their real not having some some

2128
01:23:13,149 --> 01:23:18,369
crackpot or somebody who's sincere but

2129
01:23:15,850 --> 01:23:21,010
wrong yeah but that sells that sells the

2130
01:23:18,369 --> 01:23:23,529
the paper or Zen Australia puts bums on

2131
01:23:21,010 --> 01:23:26,140
seats yeah you know the LHC is going to

2132
01:23:23,529 --> 01:23:27,460
create a black hole there's an asteroid

2133
01:23:26,140 --> 01:23:29,920
that's going to kill us because of

2134
01:23:27,460 --> 01:23:32,319
electromagnetic effects by on paper and

2135
01:23:29,920 --> 01:23:33,909
find out why exactly and it's all

2136
01:23:32,319 --> 01:23:36,039
baloney and it's see well it's our job

2137
01:23:33,909 --> 01:23:37,569
to make sure that you know freedom of

2138

01:23:36,039 --> 01:23:38,949
the press they can do that but it's up

2139
01:23:37,569 --> 01:23:41,590
to us to make sure that they don't get

2140
01:23:38,949 --> 01:23:43,090
away with it our Phil what a what a

2141
01:23:41,590 --> 01:23:44,529
wonderful pleasure it's been to catch up

2142
01:23:43,090 --> 01:23:46,810
with you again we don't see each other

2143
01:23:44,529 --> 01:23:48,130
very often not as often as we should no

2144
01:23:46,810 --> 01:23:49,450
I'm great Ashley Richards been staying

2145
01:23:48,130 --> 01:23:52,510
here the past couple of days you have no

2146
01:23:49,449 --> 01:23:54,519
disclosure here we are and we went for a

2147
01:23:52,510 --> 01:23:55,840
while min Allah al puta follows would

2148
01:23:54,520 --> 01:23:58,240
know that we went for a hike because we

2149
01:23:55,840 --> 01:23:59,949
were posting photographs of man that was

2150
01:23:58,239 --> 01:24:01,869
great and we spent a day yesterday

2151
01:23:59,949 --> 01:24:03,550
goofing off around boulder which was fun

2152
01:24:01,869 --> 01:24:05,439

just walking around down boulders an

2153

01:24:03,550 --> 01:24:07,390

awesome time it is it's it's similar to

2154

01:24:05,439 --> 01:24:09,219

Sydney in some ways it's not as

2155

01:24:07,390 --> 01:24:11,740

cosmopolitan it's much smaller tennis

2156

01:24:09,220 --> 01:24:13,240

laid back though but yeah a lot of smart

2157

01:24:11,739 --> 01:24:16,000

folks here so really this is a great

2158

01:24:13,239 --> 01:24:20,619

place to live so Phil Plait the the bad

2159

01:24:16,000 --> 01:24:23,590

astronomer and TV star oh if you'll play

2160

01:24:20,619 --> 01:24:27,099

a scene of us before you go I'll get you

2161

01:24:23,590 --> 01:24:28,569

to oh I've got a sign oh well I should

2162

01:24:27,100 --> 01:24:30,910

use you know look you're gonna hand me a

2163

01:24:28,569 --> 01:24:32,649

pen it should at least be a names randi

2164

01:24:30,909 --> 01:24:35,590

educational ish because you could sign

2165

01:24:32,649 --> 01:24:38,109

that to the skeptic zone to ebay winner

2166

01:24:35,590 --> 01:24:40,329

to me buddy winner and will option that

2167
01:24:38,109 --> 01:24:42,399
off actually CJ is assigned by Phil

2168
01:24:40,329 --> 01:24:49,090
Plait while being interviewed on the

2169
01:24:42,399 --> 01:24:51,069
skeptical zone for the skeptical zone and

2170
01:24:49,090 --> 01:24:53,020
I'll just sign it yeah my Australian

2171
01:24:51,069 --> 01:24:55,899
accent but we had this discussion or

2172
01:24:53,020 --> 01:24:57,850
troubling my Australian accent is just

2173
01:24:55,899 --> 01:25:02,409
as bad as your American accent yeah

2174
01:24:57,850 --> 01:25:05,140
whatever you talk like an American Phil

2175
01:25:02,409 --> 01:25:07,750
Plait and give you my pin back thank you

2176
01:25:05,140 --> 01:25:08,980
thanks very much thanks Richard and and

2177
01:25:07,750 --> 01:25:10,569
don't forget to listen to the skeptic

2178
01:25:08,979 --> 01:25:12,099
zone because this is a good podcast I

2179
01:25:10,569 --> 01:25:15,159
like this don't forget to watch bad

2180
01:25:12,100 --> 01:25:15,590
universe the skeptic zone I can't reckon

2181
01:25:15,159 --> 01:25:19,059
ever

2182
01:25:15,590 --> 01:25:19,060
remember the theme there you go

2183
01:25:34,270 --> 01:25:38,990
well thank you for listening to the

2184
01:25:36,380 --> 01:25:42,310
skeptic zone our special reports from

2185
01:25:38,989 --> 01:25:44,599
dragoncon now we're still here and

2186
01:25:42,310 --> 01:25:48,350
believe it or not Phil's wife is still

2187
01:25:44,600 --> 01:25:50,360
stuck over there on the logs but coming

2188
01:25:48,350 --> 01:25:52,190
up on next week's episode of the skeptic

2189
01:25:50,359 --> 01:25:54,349
zone it's the big one Phil it's our

2190
01:25:52,189 --> 01:25:56,539
100th episode in our two-year

2191
01:25:54,350 --> 01:25:58,220
anniversary well that's just based n if

2192
01:25:56,539 --> 01:26:01,640
you were base 12 you have 44 more to go

2193
01:25:58,220 --> 01:26:04,430
yeah there's always one and we have a

2194
01:26:01,640 --> 01:26:05,930
live we did the skeptic zone live at

2195

01:26:04,430 --> 01:26:08,659
dragoncon our special guests will be

2196
01:26:05,930 --> 01:26:10,159
Brian Dunning and Brian brushwood it was

2197
01:26:08,659 --> 01:26:13,670
a fantastic time for those people who

2198
01:26:10,159 --> 01:26:16,550
were there hello what is it sorry I see

2199
01:26:13,670 --> 01:26:17,810
a fish but just about two meters away

2200
01:26:16,550 --> 01:26:19,760
from a seam swimming right there right

2201
01:26:17,810 --> 01:26:21,289
in front of us right with it I did

2202
01:26:19,760 --> 01:26:22,909
wasn't sure there were any fish in this

2203
01:26:21,289 --> 01:26:29,239
uh this lake but there yeah yeah there

2204
01:26:22,909 --> 01:26:31,609
do ya do Oh God oh yeah but i'm popeye

2205
01:26:29,239 --> 01:26:33,199
no more so until next week show this is

2206
01:26:31,609 --> 01:26:36,549
Richard Saunders and Phil Plait signing

2207
01:26:33,199 --> 01:26:39,859
off from what does it black black leg oh

2208
01:26:36,550 --> 01:26:42,170
this isn't likely oh this is Mills Lake

2209
01:26:39,859 --> 01:26:45,439

signing off oh well from from another

2210

01:26:42,170 --> 01:26:48,609

Lake entirely in in Colorado where I'm

2211

01:26:45,439 --> 01:26:48,609

sure we're in Colorado de

2212

01:26:51,550 --> 01:26:57,550

you've been listening to the skeptic

2213

01:26:53,560 --> 01:27:01,360

zone visit our website at wwc a petting

2214

01:26:57,550 --> 01:27:04,020

zoo TV for comments contacts and extra

2215

01:27:01,359 --> 01:27:07,019

video reports

2216

01:27:04,020 --> 01:27:07,020

yes

2217

01:27:09,350 --> 01:27:11,680

check

2218

01:27:22,689 --> 01:27:24,719

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