

The Skeptic Zone
Show 356 - 16 August 2015



Mystery Investigators

1
00:00:22,250 --> 00:00:09,110
welcome to the skeptic zone the podcast

2
00:00:27,359 --> 00:00:25,410
roll up roll up roll up folks if you

3
00:00:28,500 --> 00:00:27,369
worried about pseudoscience if you're

4
00:00:30,420 --> 00:00:28,510
wondering what that thing in the sky is

5
00:00:32,640 --> 00:00:30,430
you've come to the right place it's the

6
00:00:34,410 --> 00:00:32,650
skeptic zone as pattern science week

7
00:00:36,119 --> 00:00:34,420
here in Sydney New South Wales at the

8
00:00:40,500 --> 00:00:36,129
Australian Museum and it's over to

9
00:00:42,689 --> 00:00:40,510
Richard's like Saunders Richard Soyka

10
00:00:44,280 --> 00:00:42,699
Saunders after we have Stefan's like

11
00:00:46,290 --> 00:00:44,290
ribbon not every once in a while you

12
00:00:48,780 --> 00:00:46,300
know he's in cycle our co-host to our

13
00:00:50,579 --> 00:00:48,790

who isn't here you'll hear he co-hosted

14

00:00:52,110 --> 00:00:50,589

last week of course the live show wasn't

15

00:00:53,460 --> 00:00:52,120

that fun that was great and thanks to

16

00:00:55,229 --> 00:00:53,470

everybody who had things to say about

17

00:00:57,750 --> 00:00:55,239

that and to the people who wrote it

18

00:01:01,590 --> 00:00:57,760

about my performance to you I say

19

00:01:03,420 --> 00:01:01,600

exactly right I mean I tan I are here at

20

00:01:04,859 --> 00:01:03,430

the little theatre edit the Australian

21

00:01:06,510 --> 00:01:04,869

Museum because we're doing the mystery

22

00:01:08,580 --> 00:01:06,520

investigators as part of science week

23

00:01:11,640 --> 00:01:08,590

before us we have the double trestle

24

00:01:15,090 --> 00:01:11,650

table with the water dividing things set

25

00:01:16,560 --> 00:01:15,100

up and hear us finding rods ready to go

26
00:01:18,030 --> 00:01:16,570
for later in the show we did two shows

27
00:01:19,800 --> 00:01:18,040
and there was an interesting show

28
00:01:22,380 --> 00:01:19,810
yesterday where we had I think year 12

29
00:01:23,580 --> 00:01:22,390
and we had infants kids all in the one

30
00:01:25,590 --> 00:01:23,590
audience it was quite a wide range

31
00:01:27,749 --> 00:01:25,600
should work too it was all the author

32
00:01:29,099 --> 00:01:27,759
all the younger kids were screaming and

33
00:01:30,480 --> 00:01:29,109
yelling out and all the older kids were

34
00:01:32,490 --> 00:01:30,490
quite reserved at the back of the room

35
00:01:34,830 --> 00:01:32,500
now trying to look cool until you went

36
00:01:36,480 --> 00:01:34,840
up and did some spoon bending and then

37
00:01:38,249 --> 00:01:36,490
they weren't worth they weren't work

38
00:01:40,800 --> 00:01:38,259

that is what they said they said were

39

00:01:44,789 --> 00:01:40,810

they didn't anyway welcome to the

40

00:01:46,739 --> 00:01:44,799

skeptic zone episode number 356 I think

41

00:01:48,450 --> 00:01:46,749

it is for the whatever-it-is of August

42

00:01:49,950 --> 00:01:48,460

out we're setting up the mystery

43

00:01:51,450 --> 00:01:49,960

investigators show so we're a bit of

44

00:01:52,620 --> 00:01:51,460

scatterbrained at the moment coming up

45

00:01:54,989 --> 00:01:52,630

on this week's show may not we're going

46

00:01:57,660 --> 00:01:54,999

to be here at the Museum interviewing

47

00:01:59,309 --> 00:01:57,670

scientists at signs week that's right I

48

00:02:01,289 --> 00:01:59,319

went around the science fair speaking to

49

00:02:03,539 --> 00:02:01,299

a whole bunch of people about very diff

50

00:02:06,300 --> 00:02:03,549

very different scientific disciplines I

51
00:02:08,969 --> 00:02:06,310
spoke to physicists botanists marine

52
00:02:11,250 --> 00:02:08,979
biologists who wasn't Fred Costanza that

53
00:02:13,080 --> 00:02:11,260
was a throg lady band and the frog leg

54
00:02:15,180 --> 00:02:13,090
doctor Jodi will be talking to her about

55
00:02:16,680 --> 00:02:15,190
what is the go what's the big word on

56
00:02:19,110 --> 00:02:16,690
frogs in Australia and around the world

57
00:02:23,070 --> 00:02:19,120
right now what is the big word ribbit

58
00:02:25,020 --> 00:02:23,080
ribbit eiii why yeah a device ever look

59
00:02:26,490 --> 00:02:25,030
look across the breaking news about Miss

60
00:02:28,020 --> 00:02:26,500
Piggy and Kermit breaking up I mean

61
00:02:30,360 --> 00:02:28,030
that's all so big in the frog world as

62
00:02:31,080 --> 00:02:30,370
well as we can in Pig weekly to it is

63
00:02:33,780 --> 00:02:31,090

indeed

64

00:02:36,630 --> 00:02:33,790
and it's amazing because everyone would

65

00:02:38,309 --> 00:02:36,640
one F word keeps coming up with all the

66

00:02:41,430 --> 00:02:38,319
scientists I've spoken to today and that

67

00:02:43,020 --> 00:02:41,440
word would be funding funding is a word

68

00:02:44,610 --> 00:02:43,030
that keeps coming up in Australia and I

69

00:02:46,860 --> 00:02:44,620
imagined around the world because of the

70

00:02:48,780 --> 00:02:46,870
economic crisis at various places

71

00:02:50,729 --> 00:02:48,790
funding is a bit harder to get than

72

00:02:52,650 --> 00:02:50,739
usual and a lot of people are going all

73

00:02:55,259 --> 00:02:52,660
really all that time at University and

74

00:02:56,520 --> 00:02:55,269
now you're saying funding find your

75

00:02:59,309 --> 00:02:56,530
local scientists folks that's the

76
00:03:00,960 --> 00:02:59,319
message and coming up also on this week

77
00:03:03,240 --> 00:03:00,970
skeptic zone we can be chatting to Susan

78
00:03:04,650 --> 00:03:03,250
Kovac from guerrilla skepticism now

79
00:03:06,120 --> 00:03:04,660
Susan someone you don't want to get off

80
00:03:07,259 --> 00:03:06,130
side because you won't believe what if

81
00:03:08,910 --> 00:03:07,269
she doesn't like you you don't believe

82
00:03:11,250 --> 00:03:08,920
what photo she puts up on your wiki page

83
00:03:12,720 --> 00:03:11,260
you won't believe that it or may not so

84
00:03:14,039 --> 00:03:12,730
yes as we say we're setting up for the

85
00:03:15,569 --> 00:03:14,049
mystery investigators show we're going

86
00:03:17,729 --> 00:03:15,579
to be looking at optical illusions we've

87
00:03:20,940 --> 00:03:17,739
got a bed of nails we do water divining

88
00:03:22,710 --> 00:03:20,950

you play the trombone on my back while

89

00:03:24,839 --> 00:03:22,720

I'm lying on the bed of nails which is

90

00:03:26,490 --> 00:03:24,849

something to be seen that's right i'm

91

00:03:28,050 --> 00:03:26,500

inspired a bit by Penn & Teller there I

92

00:03:29,130 --> 00:03:28,060

thought look if you've got to stand on

93

00:03:31,170 --> 00:03:29,140

someone's back while they're on the bed

94

00:03:32,400 --> 00:03:31,180

of nails why not play a trombone while

95

00:03:33,930 --> 00:03:32,410

you're doing it we're going to be having

96

00:03:36,199 --> 00:03:33,940

some highlights later in the show about

97

00:03:38,250 --> 00:03:36,209

you doing exactly that journey mr.

98

00:03:40,949 --> 00:03:38,260

investigators highlights that's a new

99

00:03:43,229 --> 00:03:40,959

word for it that's a new word for it so

100

00:03:45,509 --> 00:03:43,239

it's um Richard Saunders and main out

101
00:03:46,979 --> 00:03:45,519
here bringing science to school students

102
00:03:48,870 --> 00:03:46,989
here at the Australian Museum we do it

103
00:03:50,849 --> 00:03:48,880
as often as we can it's a lot of fun

104
00:03:53,250 --> 00:03:50,859
well I'm going to run downstairs right

105
00:03:54,569 --> 00:03:53,260
now get into the Godzilla costume go out

106
00:03:55,920 --> 00:03:54,579
into william street and see if I can

107
00:03:58,440 --> 00:03:55,930
scare some money out up some Japanese

108
00:04:00,150 --> 00:03:58,450
tourists hey that's my stick isn't it

109
00:04:02,039 --> 00:04:00,160
running down so well I'm going to run

110
00:04:03,210 --> 00:04:02,049
down here and dan your own stairs I'm

111
00:04:04,650 --> 00:04:03,220
gonna run down my own stairs i'm going

112
00:04:07,530 --> 00:04:04,660
to go down the street and get some more

113
00:04:09,960 --> 00:04:07,540

Minty's for the show well always the

114

00:04:11,610 --> 00:04:09,970

popular 'used always a populist while

115

00:04:34,379 --> 00:04:11,620

we're doing all that we hope you enjoy

116

00:04:40,360 --> 00:04:37,570

joining me now all the way from Salinas

117

00:04:42,400 --> 00:04:40,370

in California which is not far from San

118

00:04:45,100 --> 00:04:42,410

Francisco but quite close to Monterey

119

00:04:47,770 --> 00:04:45,110

you can look it up on your google maps

120

00:04:49,060 --> 00:04:47,780

if you want to and it's somebody a good

121

00:04:51,400 --> 00:04:49,070

friend of the skeptics own somebody I

122

00:04:53,620 --> 00:04:51,410

only saw a couple of weeks ago at the

123

00:04:57,580 --> 00:04:53,630

amazing meeting its Susan Grbac hello

124

00:04:59,290 --> 00:04:57,590

Susan hi Richard hello and it's nice to

125

00:05:01,780 --> 00:04:59,300

see you for the benefit of Allison as we

126

00:05:04,300 --> 00:05:01,790

are skyping away so I can see your

127

00:05:07,900 --> 00:05:04,310

smiling face I can wearing one of my

128

00:05:09,730 --> 00:05:07,910

origami earrings a dinosaur so I see

129

00:05:12,640 --> 00:05:09,740

thank you very much and they suit you

130

00:05:14,860 --> 00:05:12,650

very well I think all right now we are

131

00:05:17,080 --> 00:05:14,870

catching up with you today because

132

00:05:18,939 --> 00:05:17,090

you're going to fill us in on the latest

133

00:05:21,310 --> 00:05:18,949

goings-on there with the guerrilla

134

00:05:22,600 --> 00:05:21,320

skepticism and a bit later on in the

135

00:05:24,430 --> 00:05:22,610

interview we can chat about your

136

00:05:28,659 --> 00:05:24,440

upcoming trip to Australia which is very

137

00:05:31,120 --> 00:05:28,669

exciting you have been concentrating of

138

00:05:33,159 --> 00:05:31,130

late on an issue which is close to the

139

00:05:35,740 --> 00:05:33,169

heart of the skeptic zone and of course

140

00:05:38,110 --> 00:05:35,750

dr. Rachel goes to her heart and of

141

00:05:39,969 --> 00:05:38,120

course Joe alabasta mentions it to and

142

00:05:42,700 --> 00:05:39,979

Heidi Robinson of course talks about it

143

00:05:44,760 --> 00:05:42,710

to its vaccinations vaccinations Susan

144

00:05:48,430 --> 00:05:44,770

can you tell me what have you been up to

145

00:05:52,450 --> 00:05:48,440

well starting about March of this last

146

00:05:54,909 --> 00:05:52,460

year 2015 the gso w project decided it

147

00:05:58,540 --> 00:05:54,919

would kind of focus all of our efforts

148

00:06:03,040 --> 00:05:58,550

on working on a theme and we decided

149

00:06:04,659 --> 00:06:03,050

that we would pick vaccinations so we

150

00:06:06,640 --> 00:06:04,669

did we've been we were going to

151

00:06:07,810 --> 00:06:06,650

concentrate on it for six months six

152

00:06:10,120 --> 00:06:07,820

months it was supposed to go from

153

00:06:12,310 --> 00:06:10,130

februari to july but it took us a while

154

00:06:16,480 --> 00:06:12,320

to get started so we started about March

155

00:06:19,629 --> 00:06:16,490

and we just finished off our main focus

156

00:06:21,670 --> 00:06:19,639

of vaccinations what does that entail so

157

00:06:24,100 --> 00:06:21,680

you're concentrating on vaccinations

158

00:06:25,779 --> 00:06:24,110

which is great what does that mean in a

159

00:06:28,000 --> 00:06:25,789

practical sense and where can people go

160

00:06:30,219 --> 00:06:28,010

and actually see the differences you've

161

00:06:32,200 --> 00:06:30,229

made well that's a really great question

162

00:06:36,460 --> 00:06:32,210

we did not work

163

00:06:40,529 --> 00:06:36,470

on the Wikipedia pages that are vax a

164

00:06:43,350 --> 00:06:40,539

vaccination medical you know like the

165

00:06:45,400 --> 00:06:43,360

chemical compound of certain

166

00:06:47,710 --> 00:06:45,410

vaccinations or anything like that what

167

00:06:51,040 --> 00:06:47,720

we were focusing on are the people

168

00:06:53,950 --> 00:06:51,050

associated around vaccinations and the

169

00:06:56,409 --> 00:06:53,960

groups so that when when people are in

170

00:06:58,300 --> 00:06:56,419

the news talking about vaccinations and

171

00:07:00,969 --> 00:06:58,310

why it's important to vaccinate and so

172

00:07:03,760 --> 00:07:00,979

on we have their backs so when the media

173

00:07:06,100 --> 00:07:03,770

interview someone they have more

174

00:07:07,870 --> 00:07:06,110

notability more more respectability

175

00:07:09,730 --> 00:07:07,880

because they can look at the Wikipedia

176

00:07:10,719 --> 00:07:09,740

page and that's what the public is going

177

00:07:12,909 --> 00:07:10,729

to do is they're going to look at the

178

00:07:15,580 --> 00:07:12,919

Wikipedia page and find out more

179

00:07:19,810 --> 00:07:15,590

information about people that so for

180

00:07:22,060 --> 00:07:19,820

example doctor doctor rachy is one of

181

00:07:24,879 --> 00:07:22,070

the people that we had built a Wikipedia

182

00:07:27,219 --> 00:07:24,889

page for so that when she is in the

183

00:07:29,529 --> 00:07:27,229

media's I speaking about vaccinations or

184

00:07:31,510 --> 00:07:29,539

whatever she is speaking about people

185

00:07:33,070 --> 00:07:31,520

will google her they'll say who's this

186

00:07:35,379 --> 00:07:33,080

person you know what is this person's

187

00:07:37,330 --> 00:07:35,389

qualifications and why should I respect

188

00:07:39,790 --> 00:07:37,340

her opinion about anything that she does

189

00:07:41,980 --> 00:07:39,800

they'll be able to google her more

190

00:07:44,499 --> 00:07:41,990

likely they will get her Wikipedia page

191

00:07:47,499 --> 00:07:44,509

and on that Wikipedia page they will

192

00:07:51,339 --> 00:07:47,509

find quite good citations a well-written

193

00:07:53,170 --> 00:07:51,349

article photos maybe some audio of her

194

00:07:54,700 --> 00:07:53,180

voice and they'll be able to find out

195

00:07:56,439 --> 00:07:54,710

what her qualifications are they'll be

196

00:07:58,270 --> 00:07:56,449

able to look at what her work is her

197

00:08:00,969 --> 00:07:58,280

body of work they'll be able to see what

198

00:08:04,240 --> 00:08:00,979

her expertise is and not only dr. rachy

199

00:08:06,999 --> 00:08:04,250

but we we have worked on many pages the

200

00:08:08,709 --> 00:08:07,009

people who are speaking out about the

201
00:08:12,870 --> 00:08:08,719
importance of vaccinations like mark

202
00:08:16,089 --> 00:08:12,880
Crispin who has the quack cast podcast

203
00:08:18,520 --> 00:08:16,099
Steven novella we had rewritten his

204
00:08:20,830 --> 00:08:18,530
Wikipedia page in English and we've also

205
00:08:25,360 --> 00:08:20,840
translated it into Portuguese and Dutch

206
00:08:29,680 --> 00:08:25,370
and other people like wendy sue Swanson

207
00:08:32,949 --> 00:08:29,690
who is a is better known as the Seattle

208
00:08:35,639 --> 00:08:32,959
mama doc and she's an educator and a

209
00:08:38,290 --> 00:08:35,649
pediatrician who really advocates that

210
00:08:40,480 --> 00:08:38,300
the medical profession should be on

211
00:08:44,290 --> 00:08:40,490
social media trying to help educate in

212
00:08:46,090 --> 00:08:44,300
trying to get them on facebook and blogs

213
00:08:47,620 --> 00:08:46,100

and doing things online using

214

00:08:50,530 --> 00:08:47,630

social media that they're trying to

215

00:08:51,850 --> 00:08:50,540

that's what she advocates so those are

216

00:08:58,059 --> 00:08:51,860

some of the people that we've worked on

217

00:09:01,240 --> 00:08:58,069

that are in our community people who are

218

00:09:04,749 --> 00:09:01,250

also scientist like Leandra off who has

219

00:09:06,670 --> 00:09:04,759

now passed on but he was a very

220

00:09:08,319 --> 00:09:06,680

important part of the skeptical

221

00:09:10,840 --> 00:09:08,329

organization for many years he was an

222

00:09:14,410 --> 00:09:10,850

editor of the science magazine discover

223

00:09:17,949 --> 00:09:14,420

he's also a co-founder of CSI COP sigh

224

00:09:19,870 --> 00:09:17,959

cop brian dear who was a Wikipedia page

225

00:09:21,970 --> 00:09:19,880

we had to rewrite because it was in

226
00:09:24,900 --> 00:09:21,980
horrible shape you might remember Brian

227
00:09:28,319 --> 00:09:24,910
deer was the person who exposed

228
00:09:30,430 --> 00:09:28,329
wakefield andrew wakefield and the

229
00:09:34,620 --> 00:09:30,440
autism link that he was trying to

230
00:09:38,199 --> 00:09:34,630
establish was related to vaccinations so

231
00:09:42,100 --> 00:09:38,209
by beefing up Brian dears Wikipedia page

232
00:09:44,499 --> 00:09:42,110
that shows that he's a noteworthy person

233
00:09:46,059 --> 00:09:44,509
he's a respectable person and we're not

234
00:09:49,569 --> 00:09:46,069
making anything up these are all

235
00:09:52,059 --> 00:09:49,579
legitimate citations but basically what

236
00:09:54,550 --> 00:09:52,069
gso w is trying to say is we've got your

237
00:09:56,350 --> 00:09:54,560
back that's very good and you're just

238
00:10:00,850 --> 00:09:56,360

mentioning to me before we went on air

239

00:10:02,710 --> 00:10:00,860

actually that you were responsible that

240

00:10:05,710 --> 00:10:02,720

the guerrilla skepticism is responsible

241

00:10:09,220 --> 00:10:05,720

for the Northern Rivers vaccination

242

00:10:12,460 --> 00:10:09,230

supporters Wikipedia entry right I'm

243

00:10:14,559 --> 00:10:12,470

avid listener to the skeptic zone myself

244

00:10:16,840 --> 00:10:14,569

it's I never miss an episode sometimes I

245

00:10:18,610 --> 00:10:16,850

do run a little behind I always

246

00:10:20,410 --> 00:10:18,620

listening to the skeptic zoning you guys

247

00:10:22,480 --> 00:10:20,420

have been doing such wonderful work

248

00:10:24,490 --> 00:10:22,490

keeping everybody educated about

249

00:10:25,870 --> 00:10:24,500

homeopathy and vaccinations that was

250

00:10:27,850 --> 00:10:25,880

part of the reason why we chose

251
00:10:29,379 --> 00:10:27,860
vaccinations because it's so in the news

252
00:10:32,379 --> 00:10:29,389
and we could see there was so much going

253
00:10:35,079 --> 00:10:32,389
on but the Northern Rivers vaccination

254
00:10:37,240 --> 00:10:35,089
supporters were on the skeptic zone so

255
00:10:39,699 --> 00:10:37,250
often that I felt like I knew the people

256
00:10:41,800 --> 00:10:39,709
and they were doing such wonderful work

257
00:10:43,870 --> 00:10:41,810
I wanted to see if it was possible to

258
00:10:46,749 --> 00:10:43,880
write them a Wikipedia page because

259
00:10:48,550 --> 00:10:46,759
there's a criteria you can't just write

260
00:10:51,129 --> 00:10:48,560
a Wikipedia page for anybody because

261
00:10:53,439 --> 00:10:51,139
anybody would have a Wikipedia page so

262
00:10:55,720 --> 00:10:53,449
there's a level of criteria that they

263
00:10:57,850 --> 00:10:55,730

have to meet and because they were often

264

00:10:58,940 --> 00:10:57,860

in the news and being interviewed for

265

00:11:01,910 --> 00:10:58,950

different

266

00:11:03,860 --> 00:11:01,920

news stations and things like that I was

267

00:11:05,570 --> 00:11:03,870

able to say you know I think they're

268

00:11:07,250 --> 00:11:05,580

ready to have a page even though they're

269

00:11:09,620 --> 00:11:07,260

brand new they've just been doing a

270

00:11:12,530 --> 00:11:09,630

phenomenal job eating themselves in the

271

00:11:15,560 --> 00:11:12,540

media's I and one of my editor is James

272

00:11:17,870 --> 00:11:15,570

Williams who lives in the UK wrote the

273

00:11:19,550 --> 00:11:17,880

wikipedia page for the Northern Rivers

274

00:11:22,100 --> 00:11:19,560

vaccination supporters and we were able

275

00:11:24,950 --> 00:11:22,110

to launch it and surprise everybody at

276

00:11:26,960 --> 00:11:24,960

the Brisbane skeptic camp that was so

277

00:11:30,800 --> 00:11:26,970

exciting because they did not know this

278

00:11:32,870 --> 00:11:30,810

page was going to be created and i

279

00:11:35,300 --> 00:11:32,880

believe it is Heidi Heidi was she in the

280

00:11:39,170 --> 00:11:35,310

audience Heidi is yeah she was at the

281

00:11:43,310 --> 00:11:39,180

audience and if somebody was filming her

282

00:11:47,360 --> 00:11:43,320

as it popped up on the screen myself and

283

00:11:50,540 --> 00:11:47,370

James Williams on a remote remote video

284

00:11:52,340 --> 00:11:50,550

that we sent him saying hey you know

285

00:11:54,170 --> 00:11:52,350

there's this Wikipedia there's this

286

00:11:56,150 --> 00:11:54,180

group and all stretched in this really

287

00:11:58,190 --> 00:11:56,160

great job and we just we just wrote him

288

00:12:02,330 --> 00:11:58,200

a Wikipedia page and she was just like

289

00:12:04,420 --> 00:12:02,340

her jaw drop she was totally shocked she

290

00:12:06,680 --> 00:12:04,430

was she said she wrote me an email or a

291

00:12:08,780 --> 00:12:06,690

message later she says it took about an

292

00:12:13,130 --> 00:12:08,790

hour to soak in what actually happened

293

00:12:14,960 --> 00:12:13,140

to us we was pretty fun they know it so

294

00:12:17,270 --> 00:12:14,970

nicely that you're able to do that for

295

00:12:19,790 --> 00:12:17,280

some someone like Heidi and her group

296

00:12:21,590 --> 00:12:19,800

who are so worthy of the attention and

297

00:12:23,090 --> 00:12:21,600

the attention of course is it's very

298

00:12:24,950 --> 00:12:23,100

flattering but it serves a very useful

299

00:12:27,080 --> 00:12:24,960

purpose because people looking up

300

00:12:28,760 --> 00:12:27,090

information will find the Northern

301
00:12:31,190 --> 00:12:28,770
Rivers vaccination supporters and people

302
00:12:32,960 --> 00:12:31,200
like that but it's not only people on

303
00:12:37,940 --> 00:12:32,970
our side of the fence we might say that

304
00:12:41,270 --> 00:12:37,950
you be interested in tell me about some

305
00:12:44,210 --> 00:12:41,280
of the the other people the the the

306
00:12:48,920 --> 00:12:44,220
counter-argument we might say mm-hmm and

307
00:12:50,930 --> 00:12:48,930
another the yes and also because I

308
00:12:53,980 --> 00:12:50,940
listened to the skeptic zone I heard a

309
00:12:59,780 --> 00:12:53,990
lot about what was going on with this

310
00:13:03,200 --> 00:12:59,790
Australian tour by anti-vaxxers sherry

311
00:13:05,750 --> 00:13:03,210
Tenpenny and us Americans would like to

312
00:13:08,960 --> 00:13:05,760
apologize to the Australians in a way

313
00:13:12,290 --> 00:13:08,970

for sending her to to you

314

00:13:15,439 --> 00:13:12,300

but yeah it's important for people to

315

00:13:18,860 --> 00:13:15,449

get the information on the opposite side

316

00:13:21,350 --> 00:13:18,870

as well so we updated the sherry

317

00:13:23,990 --> 00:13:21,360

Tenpenny wikipedia page which was a very

318

00:13:26,600 --> 00:13:24,000

small page but we were able to update it

319

00:13:28,699 --> 00:13:26,610

with her views on anti vax and her

320

00:13:33,949 --> 00:13:28,709

credentials which are I believe she's an

321

00:13:35,329 --> 00:13:33,959

osteopath and her her schooling I can't

322

00:13:37,759 --> 00:13:35,339

even remember if she had any schooling

323

00:13:39,050 --> 00:13:37,769

or not off the top of my head because

324

00:13:42,740 --> 00:13:39,060

it's been many months since I've written

325

00:13:44,809 --> 00:13:42,750

that page but we were able to update it

326

00:13:46,699 --> 00:13:44,819

so that people would know who we were

327

00:13:48,949 --> 00:13:46,709

talking about what was going on so when

328

00:13:50,689 --> 00:13:48,959

the again when the media would look at

329

00:13:52,850 --> 00:13:50,699

it and say who is this sherry Tenpenny

330

00:13:54,379 --> 00:13:52,860

person they'd be able to go and they had

331

00:13:56,420 --> 00:13:54,389

a place to go to besides their own

332

00:14:01,579 --> 00:13:56,430

website and it would have really good

333

00:14:03,199 --> 00:14:01,589

information we also just because when

334

00:14:04,999 --> 00:14:03,209

you're working on one page it's kind of

335

00:14:07,220 --> 00:14:05,009

a lot easier to work on other pages as

336

00:14:09,879 --> 00:14:07,230

well you've already got all the links

337

00:14:13,699 --> 00:14:09,889

open so I wrote a Wikipedia page for

338

00:14:17,119 --> 00:14:13,709

melodies marvelous measles and that's a

339

00:14:20,019 --> 00:14:17,129

book that sherry Jen Penny's friend

340

00:14:23,420 --> 00:14:20,029

stephanie messenger wrote and it's

341

00:14:25,460 --> 00:14:23,430

supposably for children to embrace the

342

00:14:27,470 --> 00:14:25,470

measles to actually go get the measles

343

00:14:30,170 --> 00:14:27,480

from their friends and and it'll make

344

00:14:32,600 --> 00:14:30,180

you healthy and you eat carrots and get

345

00:14:34,999 --> 00:14:32,610

lots of sunshine and you'll be healthy

346

00:14:37,639 --> 00:14:35,009

so I wanted to make sure that that book

347

00:14:39,769 --> 00:14:37,649

had a great Wikipedia page and it does

348

00:14:43,309 --> 00:14:39,779

one of the things I learned while

349

00:14:47,710 --> 00:14:43,319

writing it is that it was very similar

350

00:14:52,309 --> 00:14:47,720

to a book written by a famous author

351

00:14:57,350 --> 00:14:52,319

Roald Dahl had written a book many years

352

00:15:00,799 --> 00:14:57,360

ago and it had a lot of similarities in

353

00:15:02,990 --> 00:15:00,809

the title name as the melodies marvelous

354

00:15:05,509 --> 00:15:03,000

measles which was George's marvelous

355

00:15:06,889 --> 00:15:05,519

medicine yeah and another thing that

356

00:15:11,240 --> 00:15:06,899

most people didn't know and I surely

357

00:15:14,449 --> 00:15:11,250

didn't know is that Roland doll was a

358

00:15:16,939 --> 00:15:14,459

strong advocate of vaccinations because

359

00:15:19,579 --> 00:15:16,949

his daughter Olivia died from the

360

00:15:22,610 --> 00:15:19,589

measles in 1962 and he wrote about her

361

00:15:25,790 --> 00:15:22,620

death and how horrible it was

362

00:15:27,680 --> 00:15:25,800

and how she there was some a measles

363

00:15:30,830 --> 00:15:27,690

outbreak in his town he was able to get

364

00:15:32,930 --> 00:15:30,840

a hold of a vaccination pretty much only

365

00:15:35,390 --> 00:15:32,940

one and he gave it to his son who was

366

00:15:37,820 --> 00:15:35,400

much younger and they thought that the

367

00:15:41,060 --> 00:15:37,830

daughter Olivia would probably be okay

368

00:15:44,750 --> 00:15:41,070

because she was older and robust and she

369

00:15:46,880 --> 00:15:44,760

ended up dying so it was very sad he

370

00:15:52,130 --> 00:15:46,890

didn't live to see the melodies

371

00:15:53,780 --> 00:15:52,140

marvelous measles book but he had

372

00:15:55,190 --> 00:15:53,790

written quite a bit about this kind of

373

00:15:58,040 --> 00:15:55,200

thing and I found it just reprehensible

374

00:16:00,680 --> 00:15:58,050

that this woman stephanie messenger

375

00:16:03,620 --> 00:16:00,690

would write a book about embracing the

376

00:16:06,440 --> 00:16:03,630

measles and she made the book sound the

377

00:16:08,450 --> 00:16:06,450

title sounds so similar to his book so

378

00:16:12,830 --> 00:16:08,460

that was one of the things we wrote

379

00:16:15,170 --> 00:16:12,840

another book I another wikipedia page I

380

00:16:18,020 --> 00:16:15,180

wrote was for Stephanie messenger who is

381

00:16:20,300 --> 00:16:18,030

the author of melodies marvelous measles

382

00:16:22,100 --> 00:16:20,310

the reason why I did that is because I

383

00:16:24,880 --> 00:16:22,110

wanted people to be able to understand

384

00:16:29,200 --> 00:16:24,890

where she was getting her information

385

00:16:31,610 --> 00:16:29,210

why she was so anti vax what was her

386

00:16:35,770 --> 00:16:31,620

from as close as we could find out what

387

00:16:40,400 --> 00:16:35,780

is her mindset why is she so rabid about

388

00:16:42,260 --> 00:16:40,410

this embracing the measles and so I

389

00:16:43,910 --> 00:16:42,270

think I made that fairly clear on the

390

00:16:47,390 --> 00:16:43,920

wikipedia page if you look at Stephanie

391

00:16:50,210 --> 00:16:47,400

messengers Wikipedia page you'll be its

392

00:16:54,260 --> 00:16:50,220

kind of eye-opening and she is she does

393

00:16:55,490 --> 00:16:54,270

live in brisbane australia and she was

394

00:16:58,100 --> 00:16:55,500

the person who was responsible for

395

00:17:00,590 --> 00:16:58,110

trying to bring sherry tenpin no yeah

396

00:17:03,980 --> 00:17:00,600

sherry Tenpenny to on a tour of

397

00:17:06,890 --> 00:17:03,990

Australia so it all comes around you

398

00:17:09,440 --> 00:17:06,900

know the skeptics and listeners may well

399

00:17:11,420 --> 00:17:09,450

recall there was a big campaign on

400

00:17:13,460 --> 00:17:11,430

social media to stop this ridiculous

401
00:17:16,040 --> 00:17:13,470
tour going ahead and we were successful

402
00:17:18,110 --> 00:17:16,050
we actually stopped this ridiculous tour

403
00:17:20,480 --> 00:17:18,120
going ahead which was a great thing for

404
00:17:23,300 --> 00:17:20,490
our side and a huge win for the children

405
00:17:24,920 --> 00:17:23,310
of Australia of course but you mentioned

406
00:17:26,360 --> 00:17:24,930
Brisbane a couple of times now you've

407
00:17:28,250 --> 00:17:26,370
mentioned Brisbane a couple times let's

408
00:17:31,520 --> 00:17:28,260
talk now briefly about the fact that you

409
00:17:34,850 --> 00:17:31,530
will be here in Australia well not not

410
00:17:36,450 --> 00:17:34,860
so far away heading for of course the

411
00:17:38,250 --> 00:17:36,460
Australian skeptics national can

412
00:17:39,660 --> 00:17:38,260
engine in Brisbane which is for the

413
00:17:42,900 --> 00:17:39,670

benefit of those people who may not know

414

00:17:45,210 --> 00:17:42,910

or remember it's October the sixteenth

415

00:17:49,340 --> 00:17:45,220

to the eighteenth and more information

416

00:17:52,470 --> 00:17:49,350

is at convention Brisbane skeptics org

417

00:17:54,600 --> 00:17:52,480

Susan we can't wait to see you what what

418

00:17:57,690 --> 00:17:54,610

will you be doing in Australia apart

419

00:18:00,060 --> 00:17:57,700

from appearing at the convention I will

420

00:18:03,150 --> 00:18:00,070

be taking a lot of photographs and doing

421

00:18:06,540 --> 00:18:03,160

lots of interviews and lots of I'm there

422

00:18:07,920 --> 00:18:06,550

as a skeptic to meet the people of

423

00:18:09,960 --> 00:18:07,930

Australia that I haven't already met

424

00:18:11,820 --> 00:18:09,970

that have come to the United States is

425

00:18:14,300 --> 00:18:11,830

my first trip there I am super excited

426

00:18:17,340 --> 00:18:14,310

I'm going to be flying into Melbourne

427

00:18:21,270 --> 00:18:17,350

and I will be speaking at a couple

428

00:18:23,010 --> 00:18:21,280

different places in that area and I'm

429

00:18:24,540 --> 00:18:23,020

sure the dates will probably change a

430

00:18:27,420 --> 00:18:24,550

little bit so if people kind of want to

431

00:18:30,150 --> 00:18:27,430

just keep their ears open but I'm going

432

00:18:32,040 --> 00:18:30,160

to be in Ballarat which I'm really

433

00:18:35,580 --> 00:18:32,050

exciting decided to go to because I

434

00:18:37,800 --> 00:18:35,590

remember that ballarat from a Sherlock

435

00:18:41,280 --> 00:18:37,810

Holmes story that I'm a big Sherlock

436

00:18:42,810 --> 00:18:41,290

Holmes fan so yeah there was a story

437

00:18:45,210 --> 00:18:42,820

with somebody who came from Ballarat

438

00:18:47,040 --> 00:18:45,220

because a part of the plot actually a

439

00:18:49,980 --> 00:18:47,050

part of the part of the way they solved

440

00:18:51,870 --> 00:18:49,990

the mystery was a holler at I won't give

441

00:18:53,640 --> 00:18:51,880

any more and another town i'm going to

442

00:18:56,160 --> 00:18:53,650

be speaking in and i'm sure i'm going to

443

00:19:00,830 --> 00:18:56,170

mispronounce it it was it's a nearer

444

00:19:05,490 --> 00:19:00,840

Melbourne is called mordialloc mor dia

445

00:19:07,050 --> 00:19:05,500

Ilo see Modi Alec hello you guys Modi is

446

00:19:09,420 --> 00:19:07,060

gonna be laughing at me the whole real

447

00:19:10,980 --> 00:19:09,430

we are right and but it's delightful

448

00:19:12,750 --> 00:19:10,990

Modi Alex skeptics of course they do a

449

00:19:14,250 --> 00:19:12,760

wonderful job down there I've had the

450

00:19:16,170 --> 00:19:14,260

pleasure of going down to speak to the

451
00:19:18,870 --> 00:19:16,180
more d alec skeptics from time to time l

452
00:19:20,790 --> 00:19:18,880
you'll enjoy yourself immensely ballarat

453
00:19:24,120 --> 00:19:20,800
very famous city of course very

454
00:19:25,530 --> 00:19:24,130
historical city in australia looks like

455
00:19:29,310 --> 00:19:25,540
you're going to be visiting quite a few

456
00:19:31,760 --> 00:19:29,320
places yeah Canberra yeah um I'm also

457
00:19:34,860 --> 00:19:31,770
going to Melbourne I'm going to Sydney

458
00:19:37,620 --> 00:19:34,870
and I'm supposably going to be going to

459
00:19:40,860 --> 00:19:37,630
Tasmania to go over to see the skeptics

460
00:19:42,600 --> 00:19:40,870
down there in some place it starts with

461
00:19:44,810 --> 00:19:42,610
an L that i know i would just totally

462
00:19:48,780 --> 00:19:44,820
embarrass myself by trying to say lop

463
00:19:50,290 --> 00:19:48,790

loxton lund system oh my goodness this

464

00:19:54,450 --> 00:19:50,300

is going to be horrible

465

00:19:58,420 --> 00:19:54,460

I'm from everybody speaks Spanish so I

466

00:20:02,470 --> 00:19:58,430

you know australian in English and

467

00:20:04,810 --> 00:20:02,480

Spanish are nothing alike so you know

468

00:20:08,740 --> 00:20:04,820

pardon me I do want to remind everybody

469

00:20:10,360 --> 00:20:08,750

that before the skeptic conference there

470

00:20:13,150 --> 00:20:10,370

is going to be a skeptic camp in

471

00:20:16,450 --> 00:20:13,160

Brisbane and that is going to be I

472

00:20:18,550 --> 00:20:16,460

believe the hundred skeptic camp and I'm

473

00:20:20,200 --> 00:20:18,560

super excited to be in svenska picking

474

00:20:23,530 --> 00:20:20,210

up and I want to be able to take photos

475

00:20:25,060 --> 00:20:23,540

and and be able to put the information

476

00:20:27,100 --> 00:20:25,070

that I learned up on the wikipedia page

477

00:20:28,990 --> 00:20:27,110

for skeptic amp and then i'm heading

478

00:20:30,820 --> 00:20:29,000

over to hong kong and i'm going to be

479

00:20:32,980 --> 00:20:30,830

hosted by the hong kong skeptics wow

480

00:20:35,260 --> 00:20:32,990

yeah decided to be talking to them I

481

00:20:38,410 --> 00:20:35,270

have two lectures there and I'm going

482

00:20:41,200 --> 00:20:38,420

into china and i'll be talking to a I

483

00:20:44,470 --> 00:20:41,210

believe a school but not about Wikipedia

484

00:20:47,200 --> 00:20:44,480

I'm going to be talking about my using

485

00:20:50,010 --> 00:20:47,210

science and science-based medicine when

486

00:20:52,840 --> 00:20:50,020

I had gone through all my cancer

487

00:20:54,610 --> 00:20:52,850

treatments so that should be very

488

00:20:56,530 --> 00:20:54,620

interesting in a talk I've never done

489

00:20:58,360 --> 00:20:56,540

before so I have a lot of work to do to

490

00:21:00,340 --> 00:20:58,370

start concentrating on that so if you're

491

00:21:03,120 --> 00:21:00,350

in the Hong Kong area I will be there

492

00:21:08,250 --> 00:21:03,130

for a couple days this is all happening

493

00:21:10,330 --> 00:21:08,260

october first through october 25th

494

00:21:12,970 --> 00:21:10,340

you're going to be very busy now

495

00:21:15,490 --> 00:21:12,980

listeners can keep keep tuned into the

496

00:21:17,650 --> 00:21:15,500

skeptic zone as your details as the

497

00:21:20,410 --> 00:21:17,660

finer details of your tour come to light

498

00:21:22,420 --> 00:21:20,420

will let our listeners know where they

499

00:21:24,700 --> 00:21:22,430

can see you around australia especially

500

00:21:26,500 --> 00:21:24,710

in victoria it seems to me and also not

501
00:21:28,960 --> 00:21:26,510
forgetting of course your appearance at

502
00:21:30,310 --> 00:21:28,970
the National Convention the Australian

503
00:21:31,810 --> 00:21:30,320
skeptics National Convention we're going

504
00:21:33,250 --> 00:21:31,820
to be chatting more about the National

505
00:21:36,010 --> 00:21:33,260
Convention in the in the in the coming

506
00:21:38,260 --> 00:21:36,020
weeks of course so lots of opportunities

507
00:21:39,730 --> 00:21:38,270
to meet you Susan coming up and more

508
00:21:42,430 --> 00:21:39,740
importantly maybe hear you talk about

509
00:21:44,980 --> 00:21:42,440
guerrilla skepticism and what you're

510
00:21:46,330 --> 00:21:44,990
doing well Susan go back thank you for

511
00:21:48,580 --> 00:21:46,340
sparing some time for the skeptic zone

512
00:21:50,620 --> 00:21:48,590
yet again it was lovely to see you on

513
00:21:53,590 --> 00:21:50,630

skype but it's more lovely to see you in

514

00:21:55,840 --> 00:21:53,600

person since thank you so much Richard

515

00:21:58,840 --> 00:21:55,850

and good luck with your endeavors and

516

00:22:02,110 --> 00:21:58,850

where can people go to learn more about

517

00:22:04,240 --> 00:22:02,120

guerrilla skepticism you can write to us

518

00:22:07,330 --> 00:22:04,250

at the GS owt

519

00:22:09,850 --> 00:22:07,340

team @ gmail.com but we asked people to

520

00:22:11,980 --> 00:22:09,860

go to our YouTube channel first and

521

00:22:14,350 --> 00:22:11,990

listen to the interviews from our

522

00:22:17,470 --> 00:22:14,360

editors who will tell you in their own

523

00:22:20,260 --> 00:22:17,480

words about what training is like what

524

00:22:24,550 --> 00:22:20,270

to expect how passionate they are about

525

00:22:26,680 --> 00:22:24,560

this this project and so on we really

526

00:22:29,080 --> 00:22:26,690

want people to come to our project with

527

00:22:32,140 --> 00:22:29,090

some background of what to expect and

528

00:22:35,620 --> 00:22:32,150

then probably write to us at GS o w team

529

00:22:37,810 --> 00:22:35,630

@ gmail.com okay and I'll add a link to

530

00:22:40,090 --> 00:22:37,820

your YouTube channel in the show notes

531

00:22:41,950 --> 00:22:40,100

for this episode so once again Susan go

532

00:22:45,060 --> 00:22:41,960

back great to see you and I look forward

533

00:22:47,710 --> 00:22:45,070

to seeing you in a couple of months

534

00:22:55,210 --> 00:22:47,720

thank you Richard I'm really looking

535

00:22:58,270 --> 00:22:55,220

forward to seeing all of you as well on

536

00:23:03,490 --> 00:22:58,280

minor calmed are you it's time for Tim

537

00:23:06,010 --> 00:23:03,500

ferguson's right of reply don't expect

538

00:23:08,740 --> 00:23:06,020

you know those people who are wearing

539

00:23:10,870 --> 00:23:08,750

the V for Vendetta masks anonymous

540

00:23:12,670 --> 00:23:10,880

anonymous they call themselves anonymous

541

00:23:16,300 --> 00:23:12,680

which really should be calling

542

00:23:19,300 --> 00:23:16,310

themselves but they had to actually put

543

00:23:21,640 --> 00:23:19,310

a label to it look anonymous people this

544

00:23:24,250 --> 00:23:21,650

is this is great good on you for

545

00:23:25,960 --> 00:23:24,260

carrying on like a pack of 14 year olds

546

00:23:28,650 --> 00:23:25,970

in your bedroom who are having a little

547

00:23:31,920 --> 00:23:28,660

tantrum about the things you don't like

548

00:23:34,570 --> 00:23:31,930

good on you for hacking good on you for

549

00:23:36,910 --> 00:23:34,580

downloading good on you for doing all

550

00:23:39,730 --> 00:23:36,920

the things that decent people regard as

551
00:23:43,000 --> 00:23:39,740
you know mildly annoying a naughty the

552
00:23:45,190 --> 00:23:43,010
fact is if you are going to stand up if

553
00:23:47,920 --> 00:23:45,200
you're going to protest put your own

554
00:23:49,270 --> 00:23:47,930
personal name on it otherwise shut up

555
00:23:52,660 --> 00:23:49,280
cuz nobody needs to worry about

556
00:23:54,880 --> 00:23:52,670
something called anonymous it's not like

557
00:23:57,460 --> 00:23:54,890
you're Isis walking around a whole bunch

558
00:24:00,700 --> 00:23:57,470
of black masks you're just a bunch of

559
00:24:03,040 --> 00:24:00,710
dweebs banding together hoping that

560
00:24:05,890 --> 00:24:03,050
wearing a v for vendetta mask is somehow

561
00:24:08,380 --> 00:24:05,900
threatening anybody a protester puts

562
00:24:11,170 --> 00:24:08,390
their name on it otherwise they go back

563
00:24:13,180 --> 00:24:11,180

inside and do their homework that's Tim

564

00:24:17,050 --> 00:24:13,190

Ferguson's write a reply letting you

565

00:24:30,920 --> 00:24:20,030

that said i think natalie portman's just

566

00:24:32,990 --> 00:24:30,930

wonderful don't expect too much welcome

567

00:24:34,970 --> 00:24:33,000

to a week in science from our IRS

568

00:24:37,400 --> 00:24:34,980

bringing you the science you need to

569

00:24:39,710 --> 00:24:37,410

know humans might be smart have

570

00:24:41,330 --> 00:24:39,720

opposable thumbs and be able to talk but

571

00:24:43,790 --> 00:24:41,340

we've got nothing on the animal kingdom

572

00:24:51,920 --> 00:24:43,800

let's wander into the world of weird and

573

00:24:54,770 --> 00:24:51,930

wacky wildlife the great expanses of the

574

00:24:56,600 --> 00:24:54,780

Australian desert a dry and barren makes

575

00:24:58,760 --> 00:24:56,610

me thirsty just thinking about it but

576
00:25:01,820 --> 00:24:58,770
for the thorny devil a refreshing

577
00:25:03,700 --> 00:25:01,830
beverage is just a step away thorny

578
00:25:06,140 --> 00:25:03,710
Devils can drink through their feet

579
00:25:08,360 --> 00:25:06,150
capillary action works to draw water

580
00:25:11,300 --> 00:25:08,370
along their skin two grooves on either

581
00:25:14,270 --> 00:25:11,310
side of their mouth to another spiky

582
00:25:17,030 --> 00:25:14,280
animal or is it the Australian giant

583
00:25:18,980 --> 00:25:17,040
cuttlefish is nature's shapeshifter not

584
00:25:21,650 --> 00:25:18,990
only do they change their color and

585
00:25:23,690 --> 00:25:21,660
texture but small mal cuddlefish will

586
00:25:25,490 --> 00:25:23,700
outwit their larger competitors by

587
00:25:27,350 --> 00:25:25,500
drawing in their tentacles to appear

588
00:25:29,960 --> 00:25:27,360

feminine and get up close and personal

589

00:25:32,750 --> 00:25:29,970

with their lady loves right under the

590

00:25:34,490 --> 00:25:32,760

big guys noses well the cuttlefish so

591

00:25:38,720 --> 00:25:34,500

from right under the big guys

592

00:25:41,240 --> 00:25:38,730

chromatophores and the award for the

593

00:25:43,670 --> 00:25:41,250

ickiest self healing ability has to go

594

00:25:45,530 --> 00:25:43,680

to the green tree frog when they get

595

00:25:47,690 --> 00:25:45,540

debris lodged in their skin their

596

00:25:50,180 --> 00:25:47,700

bladder sends out a sort of finger to

597

00:25:52,670 --> 00:25:50,190

enclose the object draw it back into

598

00:25:55,100 --> 00:25:52,680

their bladder and then they just pee it

599

00:25:56,930 --> 00:25:55,110

out we know about this freaky feature

600

00:25:59,330 --> 00:25:56,940

through a combination of science and

601
00:26:00,770 --> 00:25:59,340
luck researchers were finding the

602
00:26:02,330 --> 00:26:00,780
transmitters they had surgically

603
00:26:05,000 --> 00:26:02,340
implanted on the rainforest floor

604
00:26:06,620 --> 00:26:05,010
wanting to find out more and thinking

605
00:26:08,990 --> 00:26:06,630
there may be a problem with the surgery

606
00:26:11,150 --> 00:26:09,000
process they took the project back to

607
00:26:13,610 --> 00:26:11,160
the lab and before long discovered the

608
00:26:15,440 --> 00:26:13,620
bizarre bladders and if you haven't

609
00:26:18,890 --> 00:26:15,450
noticed all of these amazing animals

610
00:26:23,209 --> 00:26:18,900
call australia home and now for fast

611
00:26:25,979 --> 00:26:23,219
facts about researching wild animals

612
00:26:28,369 --> 00:26:25,989
population studies of nocturnal or shy

613
00:26:30,659 --> 00:26:28,379

animals can prove difficult so instead

614

00:26:33,899 --> 00:26:30,669

researchers can simply keep track of

615

00:26:35,729 --> 00:26:33,909

animal poo animal poo or scat as it's

616

00:26:38,299 --> 00:26:35,739

known in the scientific community can

617

00:26:41,219 --> 00:26:38,309

also be used to sample DNA and diets

618

00:26:43,409 --> 00:26:41,229

camera traps have revolutionized wild

619

00:26:46,109 --> 00:26:43,419

animal research these durable

620

00:26:48,329 --> 00:26:46,119

motion-activated cameras can give vital

621

00:26:50,549 --> 00:26:48,339

data about animal populations and

622

00:26:52,919 --> 00:26:50,559

behavior but sometimes the animals

623

00:26:55,259 --> 00:26:52,929

aren't so happy to see them chlorine

624

00:26:57,749 --> 00:26:55,269

biting or otherwise destroying the

625

00:27:00,089 --> 00:26:57,759

cameras that's it for this week in

626
00:27:03,169 --> 00:27:00,099
science for more information on animal

627
00:27:07,589 --> 00:27:03,179
superpowers go to the rirs website RI

628
00:27:10,559 --> 00:27:07,599
aus org a you follow us on twitter at

629
00:27:12,719 --> 00:27:10,569
our iOS and like us on Facebook I'm

630
00:27:32,129 --> 00:27:12,729
Casey Harrigan and we'll catch you next

631
00:27:35,910 --> 00:27:32,139
week here's may not spooky action at the

632
00:27:40,150 --> 00:27:38,230
we here at science week and we're in the

633
00:27:42,190 --> 00:27:40,160
main big room where everyone's got their

634
00:27:44,470 --> 00:27:42,200
own little panels spruiking all areas of

635
00:27:46,750 --> 00:27:44,480
science we've got everybody from

636
00:27:49,150 --> 00:27:46,760
companies like 3m to government

637
00:27:51,310 --> 00:27:49,160
organizations to carbon emission people

638
00:27:53,140 --> 00:27:51,320

to robot people not people that are

639

00:27:54,520 --> 00:27:53,150

robots people talking about robotics I

640

00:27:55,750 --> 00:27:54,530

think they are they could be robot

641

00:27:59,470 --> 00:27:55,760

people I don't know but let's go have a

642

00:28:01,240 --> 00:27:59,480

talk to people in the big room well it's

643

00:28:02,560 --> 00:28:01,250

science week here at the Australian

644

00:28:03,940 --> 00:28:02,570

Museum and lots of things are going on

645

00:28:05,470 --> 00:28:03,950

here there's lots of kids looking at

646

00:28:08,230 --> 00:28:05,480

things poking and looking around and who

647

00:28:10,360 --> 00:28:08,240

we got here so I'm Erin I'm from Sydney

648

00:28:11,800 --> 00:28:10,370

Sea Life Aquarium now what are you

649

00:28:14,590 --> 00:28:11,810

showing people you got a few things he

650

00:28:16,030 --> 00:28:14,600

got a lot of a bit of dried coral and

651
00:28:17,830 --> 00:28:16,040
you've got a reptile over there what do

652
00:28:19,300 --> 00:28:17,840
you mean wow and with here so we have

653
00:28:20,860 --> 00:28:19,310
lots of different things on the sea left

654
00:28:22,480 --> 00:28:20,870
side we've got ourselves lots of

655
00:28:25,090 --> 00:28:22,490
different corals will also go out three

656
00:28:26,440 --> 00:28:25,100
different types of shark eggs so yes we

657
00:28:28,930 --> 00:28:26,450
have plenty of sharks to show around

658
00:28:31,060 --> 00:28:28,940
we've also got a lovely great Big Blue

659
00:28:32,530 --> 00:28:31,070
Tongue lizard here they are great to

660
00:28:35,560 --> 00:28:32,540
have in your backyard they're fantastic

661
00:28:37,510 --> 00:28:35,570
they eat snails a little sleep I they go

662
00:28:39,910 --> 00:28:37,520
food are they big fan of dog food

663
00:28:41,800 --> 00:28:39,920

actually yeah absolutely if you leave

664

00:28:43,510 --> 00:28:41,810

your dog food out and what type although

665

00:28:44,850 --> 00:28:43,520

but they're not active at night are they

666

00:28:46,900 --> 00:28:44,860

because that's when a reptile the cold

667

00:28:48,820 --> 00:28:46,910

absolutely so these guys you'll find

668

00:28:50,560 --> 00:28:48,830

them sometimes at night if after a long

669

00:28:52,270 --> 00:28:50,570

hot day they'll be sitting out on the

670

00:28:54,310 --> 00:28:52,280

concrete or the asphalt trying to soak

671

00:28:55,660 --> 00:28:54,320

up the rest of that energy that's been

672

00:28:57,220 --> 00:28:55,670

left around you got a pool they might

673

00:28:59,290 --> 00:28:57,230

hang around the pool area where the

674

00:29:01,420 --> 00:28:59,300

rocks are absolutely sometimes you might

675

00:29:02,830 --> 00:29:01,430

even find them just dipping themselves

676

00:29:04,330 --> 00:29:02,840

in a shallow bit of that water just to

677

00:29:05,950 --> 00:29:04,340

get that skin off if they are shedding

678

00:29:07,510 --> 00:29:05,960

now a lot of people freak out when they

679

00:29:08,950 --> 00:29:07,520

see em because at first you might think

680

00:29:10,840 --> 00:29:08,960

they were snake just briefly couldn't

681

00:29:13,480 --> 00:29:10,850

you oh yeah definitely they got such

682

00:29:15,370 --> 00:29:13,490

short legs and they've got a great big

683

00:29:17,890 --> 00:29:15,380

head that resembles that of a Python it

684

00:29:19,780 --> 00:29:17,900

they got need teeth it all yeah actually

685

00:29:21,160 --> 00:29:19,790

they have found some nice big sharp

686

00:29:23,890 --> 00:29:21,170

teeth in the back of their mouth which

687

00:29:25,180 --> 00:29:23,900

helps them crush those snails I'm but to

688

00:29:27,160 --> 00:29:25,190

actually make sure you are looking at a

689

00:29:28,510 --> 00:29:27,170

lizard and not a snake these guys have

690

00:29:30,610 --> 00:29:28,520

these nice big holes on the side of

691

00:29:32,890 --> 00:29:30,620

their head which are there is snakes

692

00:29:34,870 --> 00:29:32,900

don't have external ears and what's your

693

00:29:37,000 --> 00:29:34,880

what's your blue tongue zone Timmy and

694

00:29:39,200 --> 00:29:37,010

you got a lot to keep him warm so he

695

00:29:40,430 --> 00:29:39,210

thinks it's a Sun get some nice and warm

696

00:29:42,260 --> 00:29:40,440

warmth obviously these guys don't

697

00:29:43,370 --> 00:29:42,270

produce their own heat so we need to be

698

00:29:45,380 --> 00:29:43,380

able to help them keep them nice and

699

00:29:47,120 --> 00:29:45,390

warm that's why obviously out in a wild

700

00:29:48,799 --> 00:29:47,130

I'll sit out on the road keep nice and

701
00:29:50,810 --> 00:29:48,809
warm that way on my some nice hot rocks

702
00:29:52,460 --> 00:29:50,820
yeah they're solar powered animals

703
00:29:55,130 --> 00:29:52,470
aren't they yeah pretty much that's how

704
00:29:56,779 --> 00:29:55,140
it works okay now have the kids been

705
00:29:59,330 --> 00:29:56,789
reacting here have they been going with

706
00:30:01,130 --> 00:29:59,340
the sharks they're actually huge fans of

707
00:30:03,200 --> 00:30:01,140
those a lot of kids don't realize that

708
00:30:05,600 --> 00:30:03,210
some sharks actually do in fact lay eggs

709
00:30:07,250 --> 00:30:05,610
and so it's a whole new experience for

710
00:30:09,830 --> 00:30:07,260
some people which is fantastic to see

711
00:30:11,539 --> 00:30:09,840
it's also nice and fun to get them

712
00:30:13,100 --> 00:30:11,549
throwing the hands in the water and

713
00:30:14,570 --> 00:30:13,110

getting a bit wet you know the Bill of

714

00:30:17,870 --> 00:30:14,580

the day it's a good experience for them

715

00:30:19,820 --> 00:30:17,880

I look whenever I see a Van de Graaff

716

00:30:21,620 --> 00:30:19,830

generator I think the banded the same

717

00:30:23,149 --> 00:30:21,630

name but I got to say the actual Van de

718

00:30:25,100 --> 00:30:23,159

Graaff generator is more interesting

719

00:30:26,299 --> 00:30:25,110

than the band of the same name what are

720

00:30:28,250 --> 00:30:26,309

you doing here in a bit of static

721

00:30:29,840 --> 00:30:28,260

electricity name to Laura my name is

722

00:30:31,730 --> 00:30:29,850

Laura and you'll hear from you want to

723

00:30:33,769 --> 00:30:31,740

study physics ok and what are your

724

00:30:36,649 --> 00:30:33,779

teaching is here so we're teaching a

725

00:30:38,000 --> 00:30:36,659

little bit of static electricity so same

726

00:30:39,560 --> 00:30:38,010

kind of thing when you rub a balloon on

727

00:30:41,240 --> 00:30:39,570

your head and your hair sticks to the

728

00:30:42,590 --> 00:30:41,250

balloon and to your hand and stuff like

729

00:30:44,330 --> 00:30:42,600

that same kind of thing is happening

730

00:30:46,430 --> 00:30:44,340

here we're dumping a heck of a lot of

731

00:30:48,529 --> 00:30:46,440

charge on the top of the van de graaff

732

00:30:50,539 --> 00:30:48,539

generator their thing is that charge

733

00:30:52,490 --> 00:30:50,549

doesn't really like to be next to other

734

00:30:55,010 --> 00:30:52,500

charge so it's going to try and get away

735

00:30:58,279 --> 00:30:55,020

as best it can either through the string

736

00:31:01,549 --> 00:30:58,289

here and up into my hand or if I can get

737

00:31:03,139 --> 00:31:01,559

a little spark happening whoo Hey and of

738

00:31:04,730 --> 00:31:03,149

course with the static electricity the

739

00:31:07,039 --> 00:31:04,740

voltage is incredibly high but the

740

00:31:09,320 --> 00:31:07,049

amperage is really low yeah so you get a

741

00:31:11,360 --> 00:31:09,330

little bit of a shock and you know it's

742

00:31:14,360 --> 00:31:11,370

not pleasant um but yeah it doesn't

743

00:31:15,950 --> 00:31:14,370

really harm you badly so what's it like

744

00:31:17,180 --> 00:31:15,960

having a gig where gets shocked a couple

745

00:31:18,529 --> 00:31:17,190

of different times a day with static

746

00:31:21,409 --> 00:31:18,539

electricity it's bad enough walking on

747

00:31:23,510 --> 00:31:21,419

carpet it's not too bad to get used to

748

00:31:25,340 --> 00:31:23,520

it i'm mostly okay with getting shocked

749

00:31:26,659 --> 00:31:25,350

now and one of the kids really getting

750

00:31:28,279 --> 00:31:26,669

into here on the physics table is

751
00:31:30,320 --> 00:31:28,289
anybody like have we got as the word

752
00:31:31,940 --> 00:31:30,330
quantum been mentioned yet we're not

753
00:31:33,710 --> 00:31:31,950
quite getting into the quantum stage

754
00:31:35,000 --> 00:31:33,720
maybe next next week with the high

755
00:31:36,740 --> 00:31:35,010
school kids

756
00:31:38,780 --> 00:31:36,750
loving the vandegraaff they're loving

757
00:31:40,460 --> 00:31:38,790
we've got some cool polarisers over

758
00:31:42,260 --> 00:31:40,470
there as well we polarize or what some

759
00:31:44,750 --> 00:31:42,270
people like it some people don't oh yeah

760
00:31:46,910 --> 00:31:44,760
that's it that's great it's a great

761
00:31:48,620 --> 00:31:46,920
table you got happening here Jamaican

762
00:31:49,970 --> 00:31:48,630
you've inspired some kids to actually go

763
00:31:52,070 --> 00:31:49,980

into science or in just a little bit

764

00:31:53,930 --> 00:31:52,080

more because physics physics always

765

00:31:56,420 --> 00:31:53,940

threw me because to me physics is just

766

00:31:57,830 --> 00:31:56,430

really hard maths and so as soon as I

767

00:31:59,750 --> 00:31:57,840

came up against that it was like in

768

00:32:01,550 --> 00:31:59,760

chemistry valency levels forget that I

769

00:32:03,200 --> 00:32:01,560

lost all interest in chemistry when I

770

00:32:04,400 --> 00:32:03,210

couldn't understand valency levels and

771

00:32:06,290 --> 00:32:04,410

my maths weren't good enough to do

772

00:32:07,730 --> 00:32:06,300

physics so how do you overcome that I

773

00:32:10,070 --> 00:32:07,740

think you just have to show them that

774

00:32:11,390 --> 00:32:10,080

science is actually everywhere in your

775

00:32:13,670 --> 00:32:11,400

everyday life and doesn't have to be

776

00:32:15,140 --> 00:32:13,680

hard it doesn't have to be dry I think a

777

00:32:17,330 --> 00:32:15,150

lot of people find signs to be really

778

00:32:18,920 --> 00:32:17,340

boring I think it's just amazing that

779

00:32:20,810 --> 00:32:18,930

any time I walk down the street I can

780

00:32:22,220 --> 00:32:20,820

see hundreds of different little physics

781

00:32:24,410 --> 00:32:22,230

experiments happening you start to look

782

00:32:26,660 --> 00:32:24,420

around Newton's laws of motion you can

783

00:32:28,850 --> 00:32:26,670

just see in most car accidents exactly

784

00:32:30,410 --> 00:32:28,860

yeah and what is the area that

785

00:32:32,570 --> 00:32:30,420

fascinates you with their future

786

00:32:34,220 --> 00:32:32,580

discoveries or an area I believe you're

787

00:32:35,990 --> 00:32:34,230

personally working on a Grand United

788

00:32:38,180 --> 00:32:36,000

theory of everything out yes definitely

789

00:32:39,920 --> 00:32:38,190

yeah well I guess because I've been

790

00:32:41,780 --> 00:32:39,930

talking with my students lately because

791

00:32:44,030 --> 00:32:41,790

I teach physics that'd like tutoring

792

00:32:44,660 --> 00:32:44,040

place I'm really interested to see

793

00:32:46,910 --> 00:32:44,670

what's going to happen with

794

00:32:48,830 --> 00:32:46,920

superconductivity okay if we can get

795

00:32:50,660 --> 00:32:48,840

like room temperature superconductivity

796

00:32:53,150 --> 00:32:50,670

I think that'll be really really

797

00:32:54,410 --> 00:32:53,160

interesting and do it they kept just

798

00:32:56,720 --> 00:32:54,420

saying five years of ways that what they

799

00:32:58,460 --> 00:32:56,730

keep saying five years away like

800

00:32:59,960 --> 00:32:58,470

batteries batteries five years away I

801
00:33:01,430 --> 00:32:59,970
think there is a running joke with

802
00:33:04,160 --> 00:33:01,440
fusion reactions at the moment that it's

803
00:33:05,390 --> 00:33:04,170
always 30 years away always so dude

804
00:33:06,920 --> 00:33:05,400
that's gonna happen do you think they'll

805
00:33:10,310 --> 00:33:06,930
get the fusion reaction with chemical

806
00:33:11,870 --> 00:33:10,320
lasers or optical lasers oh I don't know

807
00:33:13,250 --> 00:33:11,880
I don't know the answer that question I

808
00:33:17,960 --> 00:33:13,260
will go home and work on that right now

809
00:33:20,570 --> 00:33:17,970
okay good day thank you thank you Wow

810
00:33:22,580 --> 00:33:20,580
well we're here and frogs are not on the

811
00:33:24,230 --> 00:33:22,590
menu doing it naturally get frogs in

812
00:33:25,910 --> 00:33:24,240
australia i will explain to you why

813
00:33:27,710 --> 00:33:25,920

you're going to speak about frogs i'm

814

00:33:29,690 --> 00:33:27,720

dr. jody rally from the australian

815

00:33:31,490 --> 00:33:29,700

museum and i'm an amphibian expert so

816

00:33:33,230 --> 00:33:31,500

that covers the world of frogs the

817

00:33:35,210 --> 00:33:33,240

indigenous population get into our frogs

818

00:33:37,280 --> 00:33:35,220

much here or where our frogs not edible

819

00:33:40,880 --> 00:33:37,290

I'm not sure I frogs are certainly

820

00:33:42,320 --> 00:33:40,890

edible most frogs edible toads are the

821

00:33:43,790 --> 00:33:42,330

things that you have to worry a little

822

00:33:46,250 --> 00:33:43,800

bit but there are people around the

823

00:33:48,650 --> 00:33:46,260

world that do eat or use toads as little

824

00:33:49,700 --> 00:33:48,660

again yeah yeah so they are uses

825

00:33:51,860 --> 00:33:49,710

traditional medicine but they can also

826
00:33:53,840 --> 00:33:51,870
kill you sometimes accidentally so there

827
00:33:55,520 --> 00:33:53,850
are cases yeah people will be based on

828
00:33:56,930 --> 00:33:55,530
color like some animals of color as a

829
00:33:58,490 --> 00:33:56,940
warning color because it will kill you

830
00:34:00,980 --> 00:33:58,500
is that the go wood frogs or not it is

831
00:34:02,990 --> 00:34:00,990
is the go with frogs but not all of the

832
00:34:05,930 --> 00:34:03,000
frogs with the venom or the not that I'm

833
00:34:07,730 --> 00:34:05,940
the poison glands are actually brightly

834
00:34:10,220 --> 00:34:07,740
colored so the cane toad for example has

835
00:34:12,080 --> 00:34:10,230
some pretty bad toxins in the glands

836
00:34:13,790 --> 00:34:12,090
above its ears and they are pretty

837
00:34:15,830 --> 00:34:13,800
boring brown so they don't warn you with

838
00:34:17,300 --> 00:34:15,840

their color like some frogs and toads do

839

00:34:18,830 --> 00:34:17,310

you get sick of people asking me about

840

00:34:21,110 --> 00:34:18,840

the cane toad because that's that's the

841

00:34:23,060 --> 00:34:21,120

hot go to issue with frogs is not really

842

00:34:25,340 --> 00:34:23,070

no in Australia the cane toad is a real

843

00:34:28,010 --> 00:34:25,350

big problem so we definitely should be

844

00:34:29,390 --> 00:34:28,020

asking about it one of the questions I

845

00:34:31,430 --> 00:34:29,400

get most commonly is what is the

846

00:34:33,920 --> 00:34:31,440

difference between a frog and a toad and

847

00:34:36,410 --> 00:34:33,930

actually the answer is is not much

848

00:34:38,750 --> 00:34:36,420

there's 55 different families of frogs

849

00:34:41,510 --> 00:34:38,760

and toads and and toads it is one of the

850

00:34:43,940 --> 00:34:41,520

55 different family so we don't have any

851
00:34:45,740 --> 00:34:43,950
native toads which is the problem is the

852
00:34:48,050 --> 00:34:45,750
European thing about the difference um

853
00:34:49,520 --> 00:34:48,060
well the name toad and frog I think

854
00:34:50,990 --> 00:34:49,530
originally came from Europe when we

855
00:34:53,030 --> 00:34:51,000
really they really only had like a

856
00:34:54,620 --> 00:34:53,040
couple of frogs and a couple of toads

857
00:34:55,880 --> 00:34:54,630
and they look pretty distinct but then

858
00:34:57,320 --> 00:34:55,890
when you start going to Central America

859
00:34:58,730 --> 00:34:57,330
different parts of the world you get

860
00:35:00,500 --> 00:34:58,740
frogs that look like toads toads it look

861
00:35:02,840 --> 00:35:00,510
like frogs and it's really hard to

862
00:35:04,520 --> 00:35:02,850
figure out what's the most exciting part

863
00:35:06,320 --> 00:35:04,530

of the world frog wise you've been to

864

00:35:08,030 --> 00:35:06,330

Asia of course South America has very

865

00:35:11,090 --> 00:35:08,040

colorful frogs what's the area that gets

866

00:35:12,800 --> 00:35:11,100

frog people excited for appearances at

867

00:35:14,510 --> 00:35:12,810

Central and South America that's where

868

00:35:16,610 --> 00:35:14,520

you get the amazing colors a little dent

869

00:35:18,500 --> 00:35:16,620

abated frogs that

870

00:35:19,700 --> 00:35:18,510

have incredible diversity of colors in

871

00:35:21,650 --> 00:35:19,710

there some places where different

872

00:35:22,940 --> 00:35:21,660

islands just very small islands along

873

00:35:25,280 --> 00:35:22,950

the coast have a different colored

874

00:35:26,720 --> 00:35:25,290

version of that frog is that to fit in

875

00:35:28,610 --> 00:35:26,730

with that they evolved to fit in with

876

00:35:30,290 --> 00:35:28,620

the plant life is that way no these are

877

00:35:31,550 --> 00:35:30,300

warning colors so I guess it's a little

878

00:35:33,080 --> 00:35:31,560

bit warning and maybe it's a little bit

879

00:35:34,910 --> 00:35:33,090

of trusting the opposite sex that they

880

00:35:36,410 --> 00:35:34,920

mix up the colors and sometimes they're

881

00:35:38,210 --> 00:35:36,420

green sometimes they're blue sometimes

882

00:35:40,370 --> 00:35:38,220

they're red it's pretty spectacular but

883

00:35:42,890 --> 00:35:40,380

southeast asian and australian frogs

884

00:35:44,960 --> 00:35:42,900

while often not as colorful have some

885

00:35:46,880 --> 00:35:44,970

really amazing cave yrs and adaptations

886

00:35:49,490 --> 00:35:46,890

that make them just as fascinating from

887

00:35:50,540 --> 00:35:49,500

a biological standpoint jodie one of the

888

00:35:51,560 --> 00:35:50,550

things you told me about frogs that

889

00:35:53,750 --> 00:35:51,570

really excited me is that there are

890

00:35:55,370 --> 00:35:53,760

warning colored frogs in South America

891

00:35:57,200 --> 00:35:55,380

but there's other frogs have evolved

892

00:35:58,790 --> 00:35:57,210

that aren't that kind of frog and

893

00:36:00,050 --> 00:35:58,800

they've evolved to learn that if you

894

00:36:01,580 --> 00:36:00,060

have that color the birds don't eat you

895

00:36:04,400 --> 00:36:01,590

so you actually aren't poisonous but you

896

00:36:05,780 --> 00:36:04,410

look like you are yes a copying is in

897

00:36:08,600 --> 00:36:05,790

the animal world as well and sometimes

898

00:36:10,100 --> 00:36:08,610

it works out if they can just mimic the

899

00:36:12,500 --> 00:36:10,110

one that's poisonous and hope that all

900

00:36:14,360 --> 00:36:12,510

the Predators don't cotton on and go oh

901
00:36:15,860 --> 00:36:14,370
you're the one that made me feel sick

902
00:36:17,950 --> 00:36:15,870
and donate them when they're actually

903
00:36:20,180 --> 00:36:17,960
not poisonous at all now do frogs

904
00:36:22,340 --> 00:36:20,190
operate in a mean way like the cuckoo

905
00:36:23,750 --> 00:36:22,350
bird does like it lays its eggs in other

906
00:36:25,940 --> 00:36:23,760
birds nest and then takes over their

907
00:36:27,470 --> 00:36:25,950
nests to other frogs do nasty demeaning

908
00:36:29,660 --> 00:36:27,480
behavior like that not that we're aware

909
00:36:31,520 --> 00:36:29,670
of but we still have so much to learn

910
00:36:33,020 --> 00:36:31,530
about frogs and every productive

911
00:36:34,880 --> 00:36:33,030
behavior as creepy as that sounds

912
00:36:36,680 --> 00:36:34,890
there's a lot to be observed with frog

913
00:36:38,930 --> 00:36:36,690

reproductive havis only last year we

914

00:36:42,890 --> 00:36:38,940

found the first frog that actually gives

915

00:36:45,170 --> 00:36:42,900

birth to tadpoles instead of eggs so

916

00:36:47,150 --> 00:36:45,180

picking up these things from Indonesia

917

00:36:49,250 --> 00:36:47,160

you would see their bellies sort of

918

00:36:51,020 --> 00:36:49,260

wiggling with the things inside them and

919

00:36:53,480 --> 00:36:51,030

we realized that actually full of

920

00:36:54,800 --> 00:36:53,490

tadpoles so there's all these crazy

921

00:36:56,120 --> 00:36:54,810

things and we don't know how they get in

922

00:36:59,150 --> 00:36:56,130

there because frogs usually have

923

00:37:01,340 --> 00:36:59,160

external fertilization so how do the

924

00:37:03,110 --> 00:37:01,350

tadpoles get inside the frog and they're

925

00:37:04,700 --> 00:37:03,120

in the overdubs so it look really crazy

926

00:37:06,440 --> 00:37:04,710

stuff there's some frogs that transport

927

00:37:08,510 --> 00:37:06,450

tadpoles on their backs to different

928

00:37:10,310 --> 00:37:08,520

ponds sometimes a really awesome parents

929

00:37:12,530 --> 00:37:10,320

some frogs that build nests for them on

930

00:37:14,030 --> 00:37:12,540

the forest floor like until you know

931

00:37:16,250 --> 00:37:14,040

maybe five years ago I never heard of a

932

00:37:17,930 --> 00:37:16,260

frog that built nests you know that's a

933

00:37:19,820 --> 00:37:17,940

bird thing and also it sounds like

934

00:37:21,380 --> 00:37:19,830

that's a great place to get eating me on

935

00:37:23,570 --> 00:37:21,390

the floor the florist yeah there's a lot

936

00:37:25,010 --> 00:37:23,580

less fish and invertebrate predators

937

00:37:26,780 --> 00:37:25,020

there so if you make your own little

938

00:37:28,310 --> 00:37:26,790

hole you don't get giant fish eating

939

00:37:29,900 --> 00:37:28,320

your tadpoles especially if you stick

940

00:37:32,120 --> 00:37:29,910

around and defend those little nests

941

00:37:35,210 --> 00:37:32,130

like the male's do then they actually

942

00:37:36,710 --> 00:37:35,220

they do some serious parental can defend

943

00:37:38,360 --> 00:37:36,720

their nests what what's the Frog going

944

00:37:40,280 --> 00:37:38,370

to give you give you a nasty gum or what

945

00:37:42,650 --> 00:37:40,290

what do they do the frogs I'm talking

946

00:37:44,450 --> 00:37:42,660

about actually fanged frogs so the males

947

00:37:46,280 --> 00:37:44,460

have tiny little they're not actually

948

00:37:48,050 --> 00:37:46,290

teeth but little bone projections on

949

00:37:50,090 --> 00:37:48,060

their bottom jaw and actually give you a

950

00:37:52,010 --> 00:37:50,100

little nip I've never been bitten and I

951
00:37:53,600 --> 00:37:52,020
don't know if they would try a human but

952
00:37:54,980 --> 00:37:53,610
if it was you know another frog coming

953
00:37:57,080 --> 00:37:54,990
along or a snake they might give it a go

954
00:37:58,730 --> 00:37:57,090
now which science week what it takes a

955
00:38:00,770 --> 00:37:58,740
big challenge of science in Australia at

956
00:38:03,620 --> 00:38:00,780
the moment that's a really tough

957
00:38:05,960 --> 00:38:03,630
question funding and and obviously the

958
00:38:07,520 --> 00:38:05,970
public appreciation of science is you

959
00:38:09,290 --> 00:38:07,530
know understanding of how important it

960
00:38:11,480 --> 00:38:09,300
is how while is and how exciting it is

961
00:38:15,230 --> 00:38:11,490
so I think we need to do a lot better

962
00:38:17,420 --> 00:38:15,240
job as scientists to communicate what we

963
00:38:19,070 --> 00:38:17,430

do why it's important and why it's

964

00:38:22,100 --> 00:38:19,080

exciting to get people a little bit more

965

00:38:23,780 --> 00:38:22,110

passionate about it and this passionate

966

00:38:25,520 --> 00:38:23,790

is we are okay but what about the

967

00:38:28,640 --> 00:38:25,530

encroachment of pseudoscience is that

968

00:38:29,990 --> 00:38:28,650

worried at all yeah definitely I mean

969

00:38:32,210 --> 00:38:30,000

especially with the internet social

970

00:38:34,880 --> 00:38:32,220

media and the inability to see what's

971

00:38:36,560 --> 00:38:34,890

real information versus made-up stuff it

972

00:38:37,940 --> 00:38:36,570

is a little bit tricky so I don't think

973

00:38:39,080 --> 00:38:37,950

that that is a problem and where can

974

00:38:40,910 --> 00:38:39,090

people go and find out more about what

975

00:38:43,940 --> 00:38:40,920

you get up to check out the Australian

976

00:38:45,140 --> 00:38:43,950

Museum website and if you've you look

977

00:38:46,940 --> 00:38:45,150

four frogs on there you'll find

978

00:38:50,210 --> 00:38:46,950

something about me thank you dr. Joe D

979

00:38:51,950 --> 00:38:50,220

thank you very much so I wonder along

980

00:38:54,320 --> 00:38:51,960

here and I'm seeing some what looks like

981

00:38:56,030 --> 00:38:54,330

some lego robots doing something quite

982

00:38:58,640 --> 00:38:56,040

complicated who've we got here and what

983

00:39:02,090 --> 00:38:58,650

are you doing so this is tableware

984

00:39:04,160 --> 00:39:02,100

showing off FIRST LEGO League work group

985

00:39:06,830 --> 00:39:04,170

from Macquarie University and first

986

00:39:09,050 --> 00:39:06,840

Australia first is the organization that

987

00:39:12,170 --> 00:39:09,060

runs first lego league so this is using

988

00:39:14,480 --> 00:39:12,180

lego mindstorms robots and kids build

989

00:39:17,230 --> 00:39:14,490

the robots program them and have them

990

00:39:19,490 --> 00:39:17,240

achieve series of tasks autonomously

991

00:39:21,560 --> 00:39:19,500

mine song actually runs over linux-based

992

00:39:23,720 --> 00:39:21,570

operating systems it is its own custom

993

00:39:25,400 --> 00:39:23,730

lego operating system so there's no

994

00:39:26,780 --> 00:39:25,410

there's no like clone normal windows

995

00:39:28,250 --> 00:39:26,790

operating system running out that it's

996

00:39:30,680 --> 00:39:28,260

kind of about a hardware level or runs

997

00:39:33,590 --> 00:39:30,690

out and and how hard or easy is it to

998

00:39:35,810 --> 00:39:33,600

code for oh there's two main ways you

999

00:39:38,150 --> 00:39:35,820

can program this you can code in the

1000

00:39:40,010 --> 00:39:38,160

typical style which is like a word or

1001
00:39:41,720 --> 00:39:40,020
language based programming language you

1002
00:39:45,050 --> 00:39:41,730
can also use a graphical language called

1003
00:39:46,370 --> 00:39:45,060
the ev3 software suite for the young

1004
00:39:48,020 --> 00:39:46,380
years we recommend that because it's

1005
00:39:49,430 --> 00:39:48,030
more about the graphical thing and it's

1006
00:39:50,960 --> 00:39:49,440
easy to help you along the lines of the

1007
00:39:53,090 --> 00:39:50,970
visual sort of context about programming

1008
00:39:55,730 --> 00:39:53,100
is about so the wire loops and moving

1009
00:39:57,980 --> 00:39:55,740
motors or sensories are based on color

1010
00:39:59,570 --> 00:39:57,990
so it's very easy for young mind to get

1011
00:40:01,849 --> 00:39:59,580
around that yeah I'm just looking here

1012
00:40:04,430 --> 00:40:01,859
and you've got green and red and black

1013
00:40:06,859 --> 00:40:04,440

stripes on a large table and what is the

1014

00:40:09,470 --> 00:40:06,869

what is the device the robot being

1015

00:40:10,880 --> 00:40:09,480

taught to do and asked to do yeah so in

1016

00:40:13,460 --> 00:40:10,890

this case we're running sort of two main

1017

00:40:14,750 --> 00:40:13,470

programs the first one is that you can

1018

00:40:15,920 --> 00:40:14,760

see here unfortunately audience on the

1019

00:40:18,740 --> 00:40:15,930

other side can't see this but we have a

1020

00:40:20,030 --> 00:40:18,750

door here and the robot is actually

1021

00:40:22,070 --> 00:40:20,040

programmed to open this door and

1022

00:40:23,120 --> 00:40:22,080

navigate to what we call is searching

1023

00:40:24,770 --> 00:40:23,130

over there which is just pushing a

1024

00:40:26,390 --> 00:40:24,780

little bar and those colors you see

1025

00:40:28,160 --> 00:40:26,400

they've got the three colors they're red

1026

00:40:30,320 --> 00:40:28,170

yellow blue it's going to spin that

1027

00:40:31,340 --> 00:40:30,330

around and from that we can figure out

1028

00:40:33,800 --> 00:40:31,350

which of those colors we need to

1029

00:40:35,000 --> 00:40:33,810

retrieve from the holes underneath so

1030

00:40:36,530 --> 00:40:35,010

that's the first thought of challenges

1031

00:40:38,660 --> 00:40:36,540

robot does it uses the red and black

1032

00:40:40,460 --> 00:40:38,670

lines on the table here to help it

1033

00:40:42,470 --> 00:40:40,470

navigate around the table as well as

1034

00:40:44,090 --> 00:40:42,480

using the touch sensors on the walls so

1035

00:40:46,070 --> 00:40:44,100

it's a very useful use of sensors and

1036

00:40:48,349 --> 00:40:46,080

you've seen the kids light up when they

1037

00:40:49,640 --> 00:40:48,359

see the whole thing do you think many of

1038

00:40:51,290 --> 00:40:49,650

them will make the leak to actually

1039

00:40:53,450 --> 00:40:51,300

doing something with it or they find it

1040

00:40:55,400 --> 00:40:53,460

a bit daunting it can be very daunting

1041

00:40:57,109 --> 00:40:55,410

for a lot of the younger ages at first

1042

00:40:59,990 --> 00:40:57,119

there are a lot of complicated side

1043

00:41:00,830 --> 00:41:00,000

challenges in the field here what we try

1044

00:41:02,720 --> 00:41:00,840

and recommend is you look for the

1045

00:41:04,070 --> 00:41:02,730

easiest ones because if you start from

1046

00:41:05,420 --> 00:41:04,080

his simple basis you can always make

1047

00:41:08,150 --> 00:41:05,430

things more complicated on a simple

1048

00:41:10,130 --> 00:41:08,160

stance and really if you're looking to

1049

00:41:11,180 --> 00:41:10,140

make a reliable complex system what are

1050

00:41:12,830 --> 00:41:11,190

you really looking for is add a lot of

1051
00:41:14,330 --> 00:41:12,840
simple things together to make them in

1052
00:41:16,280 --> 00:41:14,340
complicated but still relying on those

1053
00:41:18,710 --> 00:41:16,290
sort of simple processes okay i guess

1054
00:41:20,270 --> 00:41:18,720
most kids want the robots to fight yeah

1055
00:41:21,980 --> 00:41:20,280
that seems to be a very common fight

1056
00:41:24,650 --> 00:41:21,990
fight fight and yeah will they do that

1057
00:41:27,109 --> 00:41:24,660
or is that discouraged well on this

1058
00:41:28,340 --> 00:41:27,119
order competition it's not they don't

1059
00:41:30,109 --> 00:41:28,350
have any interaction between other

1060
00:41:33,590 --> 00:41:30,119
robots but we do have other to tears

1061
00:41:36,260 --> 00:41:33,600
with FTC and frc those two are better

1062
00:41:37,430 --> 00:41:36,270
news laker there if you step up so they

1063
00:41:38,839 --> 00:41:37,440

have interactions when ft

1064

00:41:41,059 --> 00:41:38,849

see you have four robots on revealed at

1065

00:41:42,710 --> 00:41:41,069

one time instead of the one you have two

1066

00:41:44,720 --> 00:41:42,720

modes you have autonomous and you've got

1067

00:41:46,819 --> 00:41:44,730

something called tell you up so at this

1068

00:41:48,559 --> 00:41:46,829

level at our f alone you really only

1069

00:41:50,300 --> 00:41:48,569

have the autonomous sort of programs we

1070

00:41:53,030 --> 00:41:50,310

you hit it once and it goes and if it

1071

00:41:56,059 --> 00:41:53,040

doesn't get back to base oops ooh ok but

1072

00:41:57,319 --> 00:41:56,069

with a sec you get to a period where you

1073

00:41:59,059 --> 00:41:57,329

can actually control it using a joystick

1074

00:42:01,910 --> 00:41:59,069

if people want to find out more about

1075

00:42:03,050 --> 00:42:01,920

the the processing in the and the leader

1076

00:42:05,870 --> 00:42:03,060

in here where can people find this

1077

00:42:08,000 --> 00:42:05,880

online and about you guys yep so so my

1078

00:42:10,220 --> 00:42:08,010

name is Griff worm from vs australia our

1079

00:42:11,870 --> 00:42:10,230

website is first australia org you can

1080

00:42:14,390 --> 00:42:11,880

find the programs that we do here in

1081

00:42:16,940 --> 00:42:14,400

australia online that's junior FLL FLL

1082

00:42:19,400 --> 00:42:16,950

FTC and frc you can find more about the

1083

00:42:21,500 --> 00:42:19,410

international program at us first dog or

1084

00:42:23,720 --> 00:42:21,510

us first dog and we have all of our

1085

00:42:25,400 --> 00:42:23,730

programs up their own line and get on to

1086

00:42:26,990 --> 00:42:25,410

youtube and have a look at the big dog

1087

00:42:33,920 --> 00:42:27,000

in the mule programs yeah they're very

1088

00:42:36,290 --> 00:42:33,930

impressive piece of the kit I may not

1089

00:42:37,819 --> 00:42:36,300

here we are the school kids are coming

1090

00:42:39,230 --> 00:42:37,829

in now for the next mystery

1091

00:42:40,370 --> 00:42:39,240

investigators show the first performer

1092

00:42:41,380 --> 00:42:40,380

turn very well this is going to be an

1093

00:42:44,750 --> 00:42:41,390

interesting show because we've got

1094

00:42:47,030 --> 00:42:44,760

infant school kids and we've got private

1095

00:42:48,349 --> 00:42:47,040

school senior kids together so you know

1096

00:42:49,849 --> 00:42:48,359

they could start a fight I don't know

1097

00:42:52,849 --> 00:42:49,859

who's going to win it's a big mixture of

1098

00:42:54,380 --> 00:42:52,859

it time for us to perform and the

1099

00:42:55,730 --> 00:42:54,390

private school kids that the private

1100

00:42:57,349 --> 00:42:55,740

school kids look like they've extras

1101
00:42:59,210 --> 00:42:57,359
from Picnic at Hanging Rock don't they I

1102
00:43:01,880 --> 00:42:59,220
do they've got the classic happen

1103
00:43:16,460 --> 00:43:01,890
uniform happening yep hats it's

1104
00:43:16,470 --> 00:43:39,430
that's where

1105
00:43:47,060 --> 00:43:44,360
first time ministry investigator later

1106
00:43:50,470 --> 00:43:47,070
these were in strangely unusual and

1107
00:44:00,710 --> 00:43:50,480
we're going to be looking at how old

1108
00:44:03,500 --> 00:44:00,720
fool shall we we have to be shooting

1109
00:44:05,960 --> 00:44:03,510
this is my name juju saunas and over

1110
00:44:13,370 --> 00:44:05,970
there is my range may die and I the

1111
00:44:15,650 --> 00:44:13,380
occupation just the supplementary show

1112
00:44:18,020 --> 00:44:15,660
it very well and we did lots of things

1113
00:44:21,110 --> 00:44:18,030

like water divining and we talked about

1114

00:44:23,960 --> 00:44:21,120

optical illusions and then came the bed

1115

00:44:34,309 --> 00:44:23,970

of nails which we pulled out I lay down

1116

00:44:54,459 --> 00:44:38,569

okay Maura can you come on down there

1117

00:44:54,469 --> 00:45:41,730

one thing

1118

00:45:48,910 --> 00:45:45,280

and now we have some news and events

1119

00:45:50,320 --> 00:45:48,920

from around the world Christ Church in

1120

00:45:53,380 --> 00:45:50,330

New Zealand the beautiful city of

1121

00:45:56,260 --> 00:45:53,390

christchurch new zealand will be hosting

1122

00:45:58,720 --> 00:45:56,270

this year's New Zealand skeptics

1123

00:46:02,140 --> 00:45:58,730

conference now that's on from November

1124

00:46:04,240 --> 00:46:02,150

the 20th to the 22nd and it's an event

1125

00:46:07,810 --> 00:46:04,250

not to be missed if you're in New

1126
00:46:10,600 --> 00:46:07,820
Zealand or if you wanna wear well cross

1127
00:46:13,600 --> 00:46:10,610
the ditch from australia for more

1128
00:46:17,680 --> 00:46:13,610
information just head to conference dot

1129
00:46:21,130 --> 00:46:17,690
skeptics dot and z that's the new

1130
00:46:24,460 --> 00:46:21,140
zealand skeptics conference for 2015 in

1131
00:46:29,320 --> 00:46:24,470
christchurch from the 20th to the 22nd

1132
00:46:32,620 --> 00:46:29,330
of November I'm delighted to say that

1133
00:46:35,890 --> 00:46:32,630
the discovery center in Bendigo reached

1134
00:46:38,170 --> 00:46:35,900
their funding goal and can carry on for

1135
00:46:39,730 --> 00:46:38,180
the moment and they want you to know

1136
00:46:42,550 --> 00:46:39,740
that they have an interesting event

1137
00:46:44,770 --> 00:46:42,560
coming up to celebrate science week they

1138
00:46:46,960 --> 00:46:44,780

are holding an adults-only evening on

1139

00:46:49,410 --> 00:46:46,970

the twenty first of August now this

1140

00:46:53,590 --> 00:46:49,420

includes Ashley Burnett Show appearance

1141

00:46:59,230 --> 00:46:53,600

versus reality and a dinner details can

1142

00:47:02,440 --> 00:46:59,240

be found wws coverage asna you and just

1143

00:47:04,840 --> 00:47:02,450

click the events link and don't forget

1144

00:47:07,300 --> 00:47:04,850

for our friends in camera in the

1145

00:47:09,640 --> 00:47:07,310

Australian Capital Territory there's a

1146

00:47:12,490 --> 00:47:09,650

free screening of an honest liar on

1147

00:47:15,640 --> 00:47:12,500

Sunday the 23rd of August at King

1148

00:47:18,550 --> 00:47:15,650

o'malley's irish pub also that weekend

1149

00:47:22,810 --> 00:47:18,560

on the twenty first there's the Canberra

1150

00:47:25,690 --> 00:47:22,820

psychic Expo who I guess it's their

1151
00:47:28,600 --> 00:47:25,700
version of mind-body wallet for more

1152
00:47:31,630 --> 00:47:28,610
information head to meetup com

1153
00:47:47,269 --> 00:47:31,640
and look for social skeptics Canberra

1154
00:47:54,289 --> 00:47:52,279
ah well that was a big show may not

1155
00:47:56,120 --> 00:47:54,299
thank you for again for being part of

1156
00:47:57,529 --> 00:47:56,130
the mystery investigators and thank you

1157
00:47:58,759 --> 00:47:57,539
everybody it's science we call the

1158
00:48:00,349 --> 00:47:58,769
scientists who spoke to me all the

1159
00:48:01,880 --> 00:48:00,359
people that spoke to me all the kids

1160
00:48:02,899 --> 00:48:01,890
that spoke to me and Chuck stuff at me

1161
00:48:04,130 --> 00:48:02,909
in the street and thank you to the

1162
00:48:05,719 --> 00:48:04,140
Japanese tourists that were very

1163
00:48:07,249 --> 00:48:05,729

generous when I was out there in the

1164

00:48:09,289 --> 00:48:07,259

Godzilla costume it's amazing it really

1165

00:48:11,269 --> 00:48:09,299

it really resonates with the culture it

1166

00:48:13,759 --> 00:48:11,279

really does we have to pack up now we

1167

00:48:16,759 --> 00:48:13,769

have to get these divining rods and look

1168

00:48:19,999 --> 00:48:16,769

I still got some left over which I

1169

00:48:22,459 --> 00:48:20,009

haven't broken yet but yeah check up the

1170

00:48:24,019 --> 00:48:22,469

show and then hopefully do it again soon

1171

00:48:26,329 --> 00:48:24,029

that's for those people who are

1172

00:48:27,679 --> 00:48:26,339

interested we do it in Sydney it's mr.

1173

00:48:30,079 --> 00:48:27,689

investigators and you can find that at

1174

00:48:32,059 --> 00:48:30,089

mystery investigators com yeah because I

1175

00:48:34,130 --> 00:48:32,069

have to have some fun doing some science

1176

00:48:35,209 --> 00:48:34,140

educating and also have we broken the

1177

00:48:37,339 --> 00:48:35,219

news to the people that were going to be

1178

00:48:38,959 --> 00:48:37,349

at the skeptics conference we have

1179

00:48:41,899 --> 00:48:38,969

indeed yes the Australian skeptics

1180

00:48:43,339 --> 00:48:41,909

National Convention are the well the

1181

00:48:45,079 --> 00:48:43,349

sixteenth seventeenth and eighteenth I

1182

00:48:47,839 --> 00:48:45,089

think we can check that of October in

1183

00:48:49,699 --> 00:48:47,849

Brisbane you and i'll be there are Joe

1184

00:48:51,019 --> 00:48:49,709

alabaster will be there Heidi will be

1185

00:48:53,479 --> 00:48:51,029

there lots of people from the skeptics

1186

00:48:55,130 --> 00:48:53,489

owner answer give and look out that

1187

00:48:56,870 --> 00:48:55,140

should be a lot of fun and the main

1188

00:48:58,999 --> 00:48:56,880

reason I'm traveling across straight

1189

00:49:00,349 --> 00:48:59,009

lines to go to Brisbane for the skeptic

1190

00:49:02,179 --> 00:49:00,359

compasses I really want to have a

1191

00:49:04,489 --> 00:49:02,189

bourbon or perhaps he's a scotch drinker

1192

00:49:07,249 --> 00:49:04,499

with joe Nichols I'm sure you will and

1193

00:49:10,390 --> 00:49:07,259

it's a big thank you again to skeptics

1194

00:49:12,259 --> 00:49:10,400

on listeners your small weekly

1195

00:49:14,539 --> 00:49:12,269

contributions to the skeptics own via

1196

00:49:16,849 --> 00:49:14,549

paypal actually mean we can fund

1197

00:49:18,469 --> 00:49:16,859

Maynard's trip to visit the conference

1198

00:49:19,640 --> 00:49:18,479

and I'll be paying for the drinks myself

1199

00:49:22,189 --> 00:49:19,650

none of your money will be going on that

1200

00:49:23,959 --> 00:49:22,199

sort of frivolous behavior but look to

1201
00:49:25,549 --> 00:49:23,969
borrow a line from some of the podcasts

1202
00:49:28,219 --> 00:49:25,559
that I listened to if you don't

1203
00:49:30,199 --> 00:49:28,229
contribute to podcasting even a small

1204
00:49:33,079 --> 00:49:30,209
way you can't automatically expect it to

1205
00:49:34,909 --> 00:49:33,089
be there tomorrow yeah it's true we do

1206
00:49:36,439 --> 00:49:34,919
our best and again it's thank you to

1207
00:49:38,209 --> 00:49:36,449
listeners who do contribute that the

1208
00:49:41,870 --> 00:49:38,219
show keeps going we can buy equipment

1209
00:49:43,489 --> 00:49:41,880
for our reporters and as I say we can do

1210
00:49:45,409 --> 00:49:43,499
things like fly you up to Brisbane to be

1211
00:49:47,539 --> 00:49:45,419
part of the convention and interview

1212
00:49:49,789 --> 00:49:47,549
listeners and as a side effect it does

1213
00:49:51,559 --> 00:49:49,799

make you feel slightly morally superior

1214

00:49:55,039 --> 00:49:51,569

to other people who don't contribute

1215

00:49:57,669 --> 00:49:55,049

there is always that may not I wouldn't

1216

00:50:00,100 --> 00:49:57,679

know what morally superior feels like

1217

00:50:01,930 --> 00:50:00,110

thanks for being here may not end

1218

00:50:03,730 --> 00:50:01,940

everybody foot but for now this is

1219

00:50:05,740 --> 00:50:03,740

Richard Saunders and may not signing off

1220

00:50:11,890 --> 00:50:05,750

from the Australian Museum here in

1221

00:50:13,990 --> 00:50:11,900

Sydney you've been listening to the

1222

00:50:18,220 --> 00:50:14,000

skeptics own podcast visit our website

1223

00:50:21,580 --> 00:50:18,230

at wwc a petting zoo TV for contacts an

1224

00:50:24,670 --> 00:50:21,590

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1225

00:50:26,740 --> 00:50:24,680

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1226

00:50:30,100 --> 00:50:26,750

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1227

00:50:33,610 --> 00:50:30,110

at skeptic zone liking us on facebook

1228

00:50:35,110 --> 00:50:33,620

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1229

00:50:38,950 --> 00:50:35,120

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1230

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via paypal for as little as 99 cents a

1231

00:50:43,600 --> 00:50:41,990

week the skeptic zone is an independent

1232

00:50:46,060 --> 00:50:43,610

production the views and opinions

1233

00:50:48,130 --> 00:50:46,070

expressed on the skeptic zone and not