

1
00:00:06,009 --> 00:00:13,679
welcome to the skeptic zone the podcast

2
00:00:09,099 --> 00:00:13,679
from Australia for science and reason

3
00:00:22,309 --> 00:00:26,519
hello and welcome to the skeptic Sir

4
00:00:24,899 --> 00:00:29,009
Richard Saunders here with you from the

5
00:00:26,519 --> 00:00:33,479
Bay Area San Francisco this is shown

6
00:00:29,010 --> 00:00:36,059
number 328 for the 30th of January 2015

7
00:00:33,479 --> 00:00:38,219
and for those of you who take notice of

8
00:00:36,058 --> 00:00:40,589
this sort of thing yes this show is out

9
00:00:38,219 --> 00:00:42,390
a couple of days early that's because

10
00:00:40,590 --> 00:00:44,489
then the show should be normally going

11
00:00:42,390 --> 00:00:46,739
out I'm going to be somewhere I want to

12
00:00:44,488 --> 00:00:49,049
know between Hawaii and Fiji flying back

13
00:00:46,738 --> 00:00:51,479
to Sydney coming up on this week's show

14
00:00:49,049 --> 00:00:54,000
gonna kick off with evidence please with

15
00:00:51,479 --> 00:00:58,279
Joe alabasta Joe will bring us up to

16
00:00:54,000 --> 00:01:00,988
date on the Tenpenny debacle fiasco

17
00:00:58,280 --> 00:01:04,948
ludicrous situation the tour has been

18
00:01:00,988 --> 00:01:06,149
canceled it seems Nova Cherie Tenpenny

19
00:01:04,948 --> 00:01:08,429
who's going to come out and tell people

20
00:01:06,150 --> 00:01:12,960
why they shouldn't vaccinate Oh dearie

21
00:01:08,430 --> 00:01:14,880
me latest news with Joe alabaster coming

22
00:01:12,959 --> 00:01:17,309
up and I can tell you in the United

23
00:01:14,879 --> 00:01:21,390
States right now more and more outbreaks

24
00:01:17,310 --> 00:01:23,460
of measles the anti-vaxxers must be so

25
00:01:21,390 --> 00:01:25,799
happy following that I visit the

26
00:01:23,459 --> 00:01:27,659
National Center for Science Education in

27
00:01:25,799 --> 00:01:30,329
Oakland and chat to my old friend

28
00:01:27,659 --> 00:01:33,840
Eugenie Scott and the new executive

29

00:01:30,329 --> 00:01:36,719
director of the the center and read a

30
00:01:33,840 --> 00:01:39,060
really interesting interview I spend

31
00:01:36,719 --> 00:01:41,459
time with these two fascinating women at

32
00:01:39,060 --> 00:01:44,189
the National Center for Science

33
00:01:41,459 --> 00:01:46,199
Education find out more with that

34
00:01:44,189 --> 00:01:47,549
interview coming up following that it's

35
00:01:46,200 --> 00:01:51,270
a week in science from the Royal

36
00:01:47,549 --> 00:01:53,969
Institution of Australia w WR I a u.s.

37
00:01:51,269 --> 00:01:57,030
dog may you then to round off the show

38
00:01:53,969 --> 00:02:00,769
Maynard spooky action main our chats to

39
00:01:57,030 --> 00:02:02,640
Dr Grant Hill courthorne a medical

40
00:02:00,769 --> 00:02:05,969
microbiologist and lecturer in

41
00:02:02,640 --> 00:02:09,628
communicable diseases good grief he's

42
00:02:05,969 --> 00:02:11,580
going to be chatting about Ebola find

43
00:02:09,628 --> 00:02:13,799

out about Ebola coming up at the end of

44

00:02:11,580 --> 00:02:17,280

the show but before we get on I'm really

45

00:02:13,800 --> 00:02:19,290

really pleased to see that the more tea

46

00:02:17,280 --> 00:02:21,390

skeptics down there in Victoria just

47

00:02:19,289 --> 00:02:24,299

sort of south of melbourne wow they are

48

00:02:21,389 --> 00:02:26,969

so active and I've got a great lineup of

49

00:02:24,300 --> 00:02:29,099

speakers this year already in fact on

50

00:02:26,969 --> 00:02:30,818

februari the third they've got dr. ken

51

00:02:29,098 --> 00:02:34,509

harvey talking about homeopathy

52

00:02:30,818 --> 00:02:37,179

on March the 16th is our old friend

53

00:02:34,509 --> 00:02:39,429

Joanne Ben amoud talking about human

54

00:02:37,180 --> 00:02:41,950

rights and then on July the seventh will

55

00:02:39,430 --> 00:02:44,799

be dr. Meredith stoic so many good

56

00:02:41,949 --> 00:02:48,608

people look just Google Morty skeptics

57

00:02:44,799 --> 00:02:50,620

no RDI skeptics in the pub to visit

58
00:02:48,609 --> 00:02:52,780
their meetup page and if you're in that

59
00:02:50,620 --> 00:02:55,688
neck of the woods I reckon you should go

60
00:02:52,780 --> 00:02:57,968
along but now it's time for me to hmm

61
00:02:55,688 --> 00:03:01,328
run to the fridge and see if there's any

62
00:02:57,968 --> 00:03:04,090
clam chowder left Wow if you ever visit

63
00:03:01,329 --> 00:03:07,510
the san francisco bay area folks the

64
00:03:04,090 --> 00:03:09,479
clam chowder in the sourdough bowl you

65
00:03:07,509 --> 00:03:12,459
eat the chowder than you eat the bowl

66
00:03:09,479 --> 00:03:16,348
pretty damn good well I'm doing that I

67
00:03:12,459 --> 00:03:16,348
hope you enjoy the skeptics

68
00:03:32,219 --> 00:03:40,189
what we want is some more evidence

69
00:03:34,349 --> 00:03:40,189
please is Joe alabaster

70
00:03:41,650 --> 00:03:45,939
hello this is Joe alabaster

71
00:03:47,189 --> 00:03:51,780
a couple of weeks ago I reported on and

72
00:03:49,860 --> 00:03:54,000
he that seemed advocate sherry ten

73
00:03:51,780 --> 00:03:57,900
pennies plan speaking tour of Australia

74
00:03:54,000 --> 00:04:00,030
and the stock Tenpenny campaign well

75
00:03:57,900 --> 00:04:01,800
there are been some developments and at

76
00:04:00,030 --> 00:04:04,110
the risk of breaking continuity and

77
00:04:01,800 --> 00:04:06,719
potentially the space-time continuum who

78
00:04:04,110 --> 00:04:09,660
knows the big news first on the

79
00:04:06,719 --> 00:04:11,939
twenty-eighth of January 2015 cherry

80
00:04:09,659 --> 00:04:13,770
Tenpenny and tour organizer Stephanie

81
00:04:11,939 --> 00:04:15,689
messenger announced that they had

82
00:04:13,770 --> 00:04:18,030
cancelled their series of Australian

83
00:04:15,689 --> 00:04:20,219
seminars I left off my report on the

84
00:04:18,029 --> 00:04:22,169
11th of January with news that all but

85
00:04:20,220 --> 00:04:23,760
two of the venue's scheduled to host ten

86

00:04:22,170 --> 00:04:27,509
pennies events had cancelled their

87
00:04:23,759 --> 00:04:29,730
bookings on January the 14th Michael's

88
00:04:27,509 --> 00:04:31,230
oriental restaurant in Brisbane made the

89
00:04:29,730 --> 00:04:34,170
announcement that they're no longer be

90
00:04:31,230 --> 00:04:36,090
hosting sherry Tenpenny then on January

91
00:04:34,170 --> 00:04:37,830
nineteenth an announcement appeared on

92
00:04:36,089 --> 00:04:39,569
the event page for the seminar to be

93
00:04:37,829 --> 00:04:41,669
held at rydges South Park Adelaide

94
00:04:39,569 --> 00:04:45,110
saying that the venue had cancelled the

95
00:04:41,670 --> 00:04:48,569
booking from the eventbrite page quote

96
00:04:45,110 --> 00:04:50,370
important notice the venue has cancelled

97
00:04:48,569 --> 00:04:52,860
our booking due to bullying by vested

98
00:04:50,370 --> 00:04:55,290
interests who do not believe in informed

99
00:04:52,860 --> 00:04:57,330
consent free speech and respect for

100
00:04:55,290 --> 00:04:59,669

others rights and who appear to support

101

00:04:57,329 --> 00:05:02,310

censorship of thought and science and

102

00:04:59,668 --> 00:05:04,589

new venue is being sought now so please

103

00:05:02,310 --> 00:05:07,379

book your ticket you'll be notified of

104

00:05:04,589 --> 00:05:11,639

the new venue in due time thank you and

105

00:05:07,379 --> 00:05:13,529

quote indeed the organizers of the event

106

00:05:11,639 --> 00:05:15,719

was still encouraging people to buy

107

00:05:13,529 --> 00:05:18,899

tickets despite the fact that every

108

00:05:15,720 --> 00:05:20,430

venue had pulled out meanwhile those

109

00:05:18,899 --> 00:05:21,989

who'd already bought tickets to the

110

00:05:20,430 --> 00:05:24,600

seminars were left with little

111

00:05:21,990 --> 00:05:26,699

information as to what was going on no

112

00:05:24,600 --> 00:05:28,830

emails were sent nor announcements made

113

00:05:26,699 --> 00:05:32,639

beyond the one i just read which was

114

00:05:28,829 --> 00:05:35,149

placed on each Eventbrite event page the

115
00:05:32,639 --> 00:05:37,379
media coverage was equally as ambiguous

116
00:05:35,149 --> 00:05:39,689
Tenpenny herself appeared on The Today

117
00:05:37,379 --> 00:05:41,430
Show in which he referred to those who

118
00:05:39,689 --> 00:05:44,339
have campaigned against her seminars in

119
00:05:41,430 --> 00:05:46,970
Australia as extremists and mentioned

120
00:05:44,339 --> 00:05:49,589
that bomb threats had been received in

121
00:05:46,970 --> 00:05:52,230
fact sherry Tenpenny as mentioned bomb

122
00:05:49,589 --> 00:05:54,000
threats repeatedly to the media bomb

123
00:05:52,230 --> 00:05:55,650
threats are rather serious and ought to

124
00:05:54,000 --> 00:05:57,449
be treated as such and of course

125
00:05:55,649 --> 00:06:00,060
reported to the authorities for

126
00:05:57,449 --> 00:06:00,930
investigation the bomb threat that I

127
00:06:00,060 --> 00:06:02,610
have witnessed

128
00:06:00,930 --> 00:06:04,800
and several people have made screenshots

129
00:06:02,610 --> 00:06:07,020
of was left in a comment on the facebook

130
00:06:04,800 --> 00:06:10,168
page of michael's oriental restaurant

131
00:06:07,019 --> 00:06:11,698
i'm going to read it verbatim here so

132
00:06:10,168 --> 00:06:15,779
i'll need richard to step in with the

133
00:06:11,699 --> 00:06:18,750
bleep here we go quote nature will take

134
00:06:15,779 --> 00:06:22,079
its cause in you psychopath you dead

135
00:06:18,750 --> 00:06:26,100
troll walking too bad if the place gets

136
00:06:22,079 --> 00:06:28,370
blown up with a bomb and quote now

137
00:06:26,100 --> 00:06:30,689
that's not an okay thing to say

138
00:06:28,370 --> 00:06:32,579
unfortunately when Tenpenny is referred

139
00:06:30,689 --> 00:06:35,219
to the bomb threat she's admitted

140
00:06:32,579 --> 00:06:38,609
mentioning who it came from one of her

141
00:06:35,220 --> 00:06:40,470
supporters the gentleman in question has

142
00:06:38,610 --> 00:06:43,038
a rather substantial history of making

143

00:06:40,470 --> 00:06:45,389
threats to vaccination advocates

144
00:06:43,038 --> 00:06:46,589
presumably he was angry at the prospect

145
00:06:45,389 --> 00:06:48,449
of Michael's oriental restaurant

146
00:06:46,589 --> 00:06:51,269
potentially cancelling 10 pennies

147
00:06:48,449 --> 00:06:53,310
booking now I'm not willing to judge all

148
00:06:51,269 --> 00:06:55,918
of Tampines supporters by the actions of

149
00:06:53,310 --> 00:06:57,899
one person all sorts of people take up

150
00:06:55,918 --> 00:06:59,609
causes without necessarily behaving in

151
00:06:57,899 --> 00:07:02,788
ways that are approved off by others who

152
00:06:59,610 --> 00:07:05,430
they campaign alongside however I am

153
00:07:02,788 --> 00:07:07,288
extremely disappointed that sherry tone

154
00:07:05,430 --> 00:07:08,848
penny has decided it's acceptable to

155
00:07:07,288 --> 00:07:10,829
tell the media the bomb threats have

156
00:07:08,848 --> 00:07:13,620
been made without disclosing that they

157
00:07:10,829 --> 00:07:15,629

were made by one of her supporters this

158

00:07:13,620 --> 00:07:17,550

omission alongside claims that those

159

00:07:15,629 --> 00:07:20,490

have campaigned against her seminars are

160

00:07:17,550 --> 00:07:22,199

extremists and terrorists suggest to the

161

00:07:20,490 --> 00:07:24,689

public that one of her critics made the

162

00:07:22,199 --> 00:07:27,770

bomb threat and I find this disingenuous

163

00:07:24,689 --> 00:07:29,879

to the extreme some media outlets have

164

00:07:27,769 --> 00:07:32,418

unfortunately run with the bomb threat

165

00:07:29,879 --> 00:07:34,469

story without diligent investigation I'm

166

00:07:32,418 --> 00:07:36,508

heartened though that others have looked

167

00:07:34,470 --> 00:07:38,490

into the issue further witnessed the

168

00:07:36,509 --> 00:07:41,220

threat itself in its context and have

169

00:07:38,490 --> 00:07:42,990

reported accurately the bomb threat was

170

00:07:41,220 --> 00:07:44,789

featured in a press release made by

171

00:07:42,990 --> 00:07:48,840

sherry Tenpenny on the twenty-eighth of

172
00:07:44,788 --> 00:07:51,269
january titled quote dr. sherry Tenpenny

173
00:07:48,839 --> 00:07:54,899
speaking to her canceled for reasons of

174
00:07:51,269 --> 00:07:56,758
safety and security and quote you know

175
00:07:54,899 --> 00:07:59,158
I've been watching the stock temp any

176
00:07:56,759 --> 00:08:01,020
campaign fairly closely and I've not

177
00:07:59,158 --> 00:08:03,870
witnessed any threats of violence coming

178
00:08:01,019 --> 00:08:05,728
from vaccination advocates if I ever do

179
00:08:03,870 --> 00:08:08,189
witness such or condemn it incredibly

180
00:08:05,728 --> 00:08:11,098
strongly threats and intimidation are

181
00:08:08,189 --> 00:08:14,300
utterly unacceptable any such behaviors

182
00:08:11,098 --> 00:08:14,300
should be reported to authorities

183
00:08:14,490 --> 00:08:17,848
but I have witnessed our community

184
00:08:16,019 --> 00:08:20,698
members coming together to campaign

185
00:08:17,848 --> 00:08:22,409
against anti-vaccination seminars which

186
00:08:20,699 --> 00:08:24,900
would have miss informed parents and

187
00:08:22,410 --> 00:08:27,750
parents-to-be on how to best protect the

188
00:08:24,899 --> 00:08:29,609
health of their children they've done so

189
00:08:27,750 --> 00:08:31,879
via social media petitions

190
00:08:29,610 --> 00:08:34,050
letter-writing to venues and MPs

191
00:08:31,879 --> 00:08:36,689
collating publicly available information

192
00:08:34,049 --> 00:08:40,468
and blocking it and engaging with the

193
00:08:36,690 --> 00:08:42,779
media to then have that characterized as

194
00:08:40,469 --> 00:08:45,300
a hateful campaign involving terrorism

195
00:08:42,778 --> 00:08:47,189
and extremism to be compared with the

196
00:08:45,299 --> 00:08:51,149
Charlie Hebdo killers in Paris and the

197
00:08:47,190 --> 00:08:52,589
gunman behind the Sydney siege well how

198
00:08:51,149 --> 00:08:54,799
else are those who have had to back down

199
00:08:52,589 --> 00:08:57,510
going to frame their decision to do so

200

00:08:54,799 --> 00:08:59,189
claiming persecution perhaps fits their

201
00:08:57,509 --> 00:09:00,838
self and public images better than

202
00:08:59,190 --> 00:09:02,339
having to admit that an overwhelming

203
00:09:00,839 --> 00:09:04,380
number of Australians are willing to

204
00:09:02,339 --> 00:09:09,149
stand up and say no to the spread of

205
00:09:04,379 --> 00:09:11,009
misinformation that harms children I'd

206
00:09:09,149 --> 00:09:12,720
like to finish off with a few excerpts

207
00:09:11,009 --> 00:09:13,950
from Stephanie messengers public

208
00:09:12,720 --> 00:09:17,399
announcement that the tour has been

209
00:09:13,950 --> 00:09:19,890
canceled to be frank I find some a bit

210
00:09:17,399 --> 00:09:21,899
of little bizarre and I'm glad that she

211
00:09:19,889 --> 00:09:23,699
posted it as perhaps a few people who

212
00:09:21,899 --> 00:09:25,379
came to hear of sherry Tenpenny and

213
00:09:23,700 --> 00:09:27,329
stephanie messenger via the media

214
00:09:25,379 --> 00:09:29,129

coverage of the now-canceled to her

215

00:09:27,328 --> 00:09:31,259

we'll have a look at where stephanie

216

00:09:29,129 --> 00:09:34,278

messenger is coming from and find it a

217

00:09:31,259 --> 00:09:40,379

little less likely to be evidence-based

218

00:09:34,278 --> 00:09:42,480

from stephanie messenger quote with the

219

00:09:40,379 --> 00:09:44,879

pro vaccine extremists running their

220

00:09:42,480 --> 00:09:47,278

campaign of hate intimidation bullying

221

00:09:44,879 --> 00:09:49,409

sabotage of businesses and threats of

222

00:09:47,278 --> 00:09:52,289

violence we could not in good conscience

223

00:09:49,409 --> 00:09:54,000

put the attendees speakers and new venue

224

00:09:52,289 --> 00:09:57,328

owners at risk of violence and

225

00:09:54,000 --> 00:09:59,278

harassment we are mindful that at each

226

00:09:57,328 --> 00:10:01,019

seminar they were already people booked

227

00:09:59,278 --> 00:10:02,939

in who are bringing babies and children

228

00:10:01,019 --> 00:10:04,919

along and as we were all about

229
00:10:02,940 --> 00:10:06,720
protecting babies and children we are

230
00:10:04,919 --> 00:10:08,939
not willing to go ahead and risk their

231
00:10:06,720 --> 00:10:10,950
safety when you are dealing with

232
00:10:08,940 --> 00:10:12,839
extremists you just never know what

233
00:10:10,950 --> 00:10:15,000
they're capable of doing as we have

234
00:10:12,839 --> 00:10:17,700
recently seen with the Sydney siege and

235
00:10:15,000 --> 00:10:21,570
also the Paris violence against free

236
00:10:17,700 --> 00:10:24,440
speech these Pro vaccine extremists are

237
00:10:21,570 --> 00:10:26,910
actually terrorists against free speech

238
00:10:24,440 --> 00:10:27,750
they're against people accessing all

239
00:10:26,909 --> 00:10:29,399
information

240
00:10:27,750 --> 00:10:32,190
make an informed decision regarding this

241
00:10:29,399 --> 00:10:34,919
medical procedure they are in favor of

242
00:10:32,190 --> 00:10:36,840
human sacrifice as they know some babies

243
00:10:34,919 --> 00:10:38,819
are injured and killed by vaccines but

244
00:10:36,840 --> 00:10:41,820
think this is okay for the perceived

245
00:10:38,820 --> 00:10:43,590
good of the community they are against

246
00:10:41,820 --> 00:10:45,840
people sharing whatever information they

247
00:10:43,590 --> 00:10:49,259
want and therefore they are in favor of

248
00:10:45,840 --> 00:10:52,019
censorship they believe bullying is

249
00:10:49,259 --> 00:10:53,460
acceptable when they do it venue owners

250
00:10:52,019 --> 00:10:55,949
were threatened harassed and intimidated

251
00:10:53,460 --> 00:10:59,970
to cancel the contracts we had in place

252
00:10:55,950 --> 00:11:02,160
this is bullying of course they deny all

253
00:10:59,970 --> 00:11:04,139
this but please look to their actions

254
00:11:02,159 --> 00:11:06,620
they speak louder than the words that

255
00:11:04,139 --> 00:11:09,000
they speak with their forked tongues

256
00:11:06,620 --> 00:11:11,009
what you doin say in this world is a

257

00:11:09,000 --> 00:11:13,230
declaration of who you really are and

258
00:11:11,009 --> 00:11:15,899
these people certainly made plenty of

259
00:11:13,230 --> 00:11:18,450
statements about themselves basically

260
00:11:15,899 --> 00:11:21,269
they are low vibrating souls who have

261
00:11:18,450 --> 00:11:23,759
behaved in rude arrogant violin tolerant

262
00:11:21,269 --> 00:11:26,460
controlling abusive manipulative and

263
00:11:23,759 --> 00:11:29,429
ignorant ways and so have declared this

264
00:11:26,460 --> 00:11:31,290
is who they really are they are so far

265
00:11:29,429 --> 00:11:33,029
away from the truth that they are trying

266
00:11:31,289 --> 00:11:36,389
to hold on to their ignorance and

267
00:11:33,029 --> 00:11:38,879
fearful position no matter what just

268
00:11:36,389 --> 00:11:41,009
know as higher vibrating souls who have

269
00:11:38,879 --> 00:11:43,830
learned the truth you can do much more

270
00:11:41,009 --> 00:11:45,539
to advance the truth for Otto learn by

271
00:11:43,830 --> 00:11:49,889

speaking out whenever you have an

272

00:11:45,539 --> 00:11:51,449

opportunity end quote that's about of it

273

00:11:49,889 --> 00:11:53,669

you can read the rest at your own

274

00:11:51,450 --> 00:11:57,000

leisure on the gang Kim and foundations

275

00:11:53,669 --> 00:12:00,088

Facebook page and for anyone wondering

276

00:11:57,000 --> 00:12:01,919

this lure vibrating saw received an

277

00:12:00,089 --> 00:12:05,490

automatic refund for the full purchase

278

00:12:01,919 --> 00:12:07,649

price of the ticket \$79 92 from

279

00:12:05,490 --> 00:12:10,850

Stephanie messenger via Eventbrite and

280

00:12:07,649 --> 00:12:10,850

PayPal yesterday

281

00:12:11,080 --> 00:12:13,110

Oh

282

00:12:15,029 --> 00:12:20,110

my name is Carrie papi hi I'm Steve

283

00:12:18,009 --> 00:12:23,710

Cogan this is Richard Saunders fight

284

00:12:20,110 --> 00:12:25,570

George Rob here I'm Jay novella I can

285

00:12:23,710 --> 00:12:27,790

tell you what I hate about QD would I

286
00:12:25,570 --> 00:12:30,760
really hate is that it comes to an end

287
00:12:27,789 --> 00:12:33,370
each year QED for me it's just a

288
00:12:30,759 --> 00:12:36,490
wonderful opportunity to hear lots of

289
00:12:33,370 --> 00:12:38,289
speakers hearing the crunch of 350

290
00:12:36,490 --> 00:12:40,600
people purposely and simultaneously

291
00:12:38,289 --> 00:12:43,209
overdosing on homeopathic pills for the

292
00:12:40,600 --> 00:12:45,840
10 23 event was a sound I will never

293
00:12:43,210 --> 00:12:45,840
forget

294
00:12:48,220 --> 00:12:54,560
it's simply one of the better skeptical

295
00:12:51,620 --> 00:12:56,299
conventions anywhere in the world and

296
00:12:54,559 --> 00:13:00,259
you're you're asking me what I think a

297
00:12:56,299 --> 00:13:02,659
QED I haven't been the QED and also

298
00:13:00,259 --> 00:13:03,860
because it's such a personable event to

299
00:13:02,659 --> 00:13:05,870
actually meet quite a few of these

300
00:13:03,860 --> 00:13:08,839
people for the first time because you

301
00:13:05,870 --> 00:13:11,659
will meet many many fun and interesting

302
00:13:08,839 --> 00:13:14,779
people you will see great talks by some

303
00:13:11,659 --> 00:13:16,789
of the best thinkers and you'll also

304
00:13:14,778 --> 00:13:19,189
meet people who have a drive and a

305
00:13:16,789 --> 00:13:21,949
passion for making the world better by

306
00:13:19,190 --> 00:13:24,649
protecting people and not being dicks

307
00:13:21,950 --> 00:13:26,149
about it you know right down to people

308
00:13:24,649 --> 00:13:29,269
who I maybe wouldn't have heard of

309
00:13:26,149 --> 00:13:31,399
without QED calm I would be an epic

310
00:13:29,269 --> 00:13:34,940
guest because I could speak in a

311
00:13:31,399 --> 00:13:37,129
flawless British accent hello everyone

312
00:13:34,940 --> 00:13:40,220
like that and everyone would be like who

313
00:13:37,129 --> 00:13:45,019
is this English guy I are you invading

314

00:13:40,220 --> 00:13:47,750
me he'd love to go QED 2015 April the 24

315
00:13:45,019 --> 00:13:50,000
to the 26th in Manchester England 12

316
00:13:47,750 --> 00:13:53,149
main stage speakers eight panels three

317
00:13:50,000 --> 00:13:56,509
comedians and 500 friends and the

318
00:13:53,149 --> 00:13:58,070
massive party tickets on 99 pounds or 69

319
00:13:56,509 --> 00:14:01,458
pounds for students for the weekend

320
00:13:58,070 --> 00:14:04,970
including the Saturday night www QED

321
00:14:01,458 --> 00:14:07,359
coorg to get your ticket hurry it's in

322
00:14:04,970 --> 00:14:07,360
April

323
00:14:22,409 --> 00:14:26,919
once again I found myself in Oakland i'm

324
00:14:25,179 --> 00:14:29,169
visiting the National Center for Science

325
00:14:26,919 --> 00:14:30,909
Education and as listeners know I've

326
00:14:29,169 --> 00:14:34,389
been visiting this wonderful place now

327
00:14:30,909 --> 00:14:37,000
for many years and I always come and see

328
00:14:34,389 --> 00:14:39,220

my old friend Eugenie Scott hello Jeanie

329

00:14:37,000 --> 00:14:40,629

hi there good to see you again good to

330

00:14:39,220 --> 00:14:43,300

see you again and it's good to hear your

331

00:14:40,629 --> 00:14:45,610

voice again but today I'm very pleased

332

00:14:43,299 --> 00:14:49,088

to be here to meet and read hello hello

333

00:14:45,610 --> 00:14:51,278

nice to meet you and you're the new kid

334

00:14:49,089 --> 00:14:56,380

on the block can I say that absolutely

335

00:14:51,278 --> 00:14:58,179

it's only the truth and I see you've

336

00:14:56,379 --> 00:15:01,600

settled into this office very well and

337

00:14:58,179 --> 00:15:03,309

you've got quite a big job in front of

338

00:15:01,600 --> 00:15:06,310

you I can imagine oh I can't imagine

339

00:15:03,309 --> 00:15:08,528

what it must be like Jeanne you've

340

00:15:06,309 --> 00:15:10,569

passed the baton so to speak well Anne

341

00:15:08,528 --> 00:15:13,360

is not really the new kid on the block

342

00:15:10,570 --> 00:15:14,800

she's been here for almost a year in

343

00:15:13,360 --> 00:15:17,919

fact i think the anniversary is coming

344

00:15:14,799 --> 00:15:20,049

up the the passing of said baton the

345

00:15:17,919 --> 00:15:22,659

baton was not dropped it was grabbed and

346

00:15:20,049 --> 00:15:24,250

run with down the black so no aunt has

347

00:15:22,659 --> 00:15:26,110

been doing a great job this last year

348

00:15:24,250 --> 00:15:28,720

it's really been it's really been fun to

349

00:15:26,110 --> 00:15:30,700

see the organization developing in new

350

00:15:28,720 --> 00:15:33,009

ways and new ideas popping up all the

351

00:15:30,700 --> 00:15:34,120

time it's been terrific I'm so pleased

352

00:15:33,009 --> 00:15:35,980

to hear that I'm so pleased to hear that

353

00:15:34,120 --> 00:15:38,200

because last time we spoke you were just

354

00:15:35,980 --> 00:15:41,409

sort of telling us all about your

355

00:15:38,200 --> 00:15:42,839

retirement coming up which it did and I

356

00:15:41,409 --> 00:15:45,669

guess you're handling that quite well

357
00:15:42,839 --> 00:15:47,680
I'm getting better at retirement I mean

358
00:15:45,669 --> 00:15:49,409
the thing that people don't understand

359
00:15:47,679 --> 00:15:53,588
at least I didn't understand is that

360
00:15:49,409 --> 00:15:55,689
retirement takes practice you have you

361
00:15:53,589 --> 00:15:58,420
have to figure out how to not do things

362
00:15:55,690 --> 00:16:00,520
and you know if at least somebody like

363
00:15:58,419 --> 00:16:02,079
me I mean I but I'm actually you'll be

364
00:16:00,519 --> 00:16:04,539
shocked you will be shocked to hear this

365
00:16:02,080 --> 00:16:07,509
my daughter was shocked I have been

366
00:16:04,539 --> 00:16:09,490
watching television I'm shocked I told

367
00:16:07,509 --> 00:16:11,740
you don't you like I say I'm getting

368
00:16:09,490 --> 00:16:13,299
better at retirement good for you

369
00:16:11,740 --> 00:16:15,789
Jeannie are you looking well till you're

370
00:16:13,299 --> 00:16:18,099
looking fabulous so let's get down to

371

00:16:15,789 --> 00:16:20,230
the business Otis began you're here

372
00:16:18,100 --> 00:16:23,230
you've been here from roughly a year I

373
00:16:20,230 --> 00:16:24,850
guess and um well I guess it's a pretty

374
00:16:23,230 --> 00:16:26,649
open question but how are you finding it

375
00:16:24,850 --> 00:16:28,250
I mean is it as challenging as you

376
00:16:26,649 --> 00:16:30,110
thought it would be

377
00:16:28,250 --> 00:16:31,490
it is challenging and obviously it's

378
00:16:30,110 --> 00:16:34,009
difficult to step into the shoes of

379
00:16:31,490 --> 00:16:36,980
someone like Jeanne and to step into an

380
00:16:34,009 --> 00:16:39,559
organization that has had such a strong

381
00:16:36,980 --> 00:16:42,139
identity over the years and try to

382
00:16:39,559 --> 00:16:47,209
figure out how can I what I keep saying

383
00:16:42,139 --> 00:16:48,889
is how do I not break it a good point is

384
00:16:47,210 --> 00:16:50,660
the old expression if it's if it works

385
00:16:48,889 --> 00:16:52,309

don't fix it right sorry that if it

386

00:16:50,659 --> 00:16:54,909

ain't broke don't fix it I think yeah

387

00:16:52,309 --> 00:16:58,029

exactly so really a very strong

388

00:16:54,909 --> 00:17:02,059

imperative not to not to screw things up

389

00:16:58,029 --> 00:17:04,459

but also to try to see how we can move

390

00:17:02,059 --> 00:17:05,869

forward knowing that what I heard during

391

00:17:04,459 --> 00:17:07,640

the interview process and what I heard

392

00:17:05,869 --> 00:17:10,789

it in my first months with the staff is

393

00:17:07,640 --> 00:17:12,500

that we know that we're only hearing the

394

00:17:10,789 --> 00:17:15,709

tip of the iceberg of what's going on

395

00:17:12,500 --> 00:17:17,720

and in US schools with respect to bad

396

00:17:15,709 --> 00:17:19,759

science being taught or sign settled

397

00:17:17,720 --> 00:17:21,470

science being taught as controversial so

398

00:17:19,759 --> 00:17:25,250

how do we get out ahead of that how do

399

00:17:21,470 --> 00:17:27,019

we how do we get out of the situation of

400
00:17:25,250 --> 00:17:29,000
just waiting for people to tell us the

401
00:17:27,019 --> 00:17:32,930
mad things are happening and find out

402
00:17:29,000 --> 00:17:34,279
about them make sure more people know

403
00:17:32,930 --> 00:17:36,230
about us make sure we find out about

404
00:17:34,279 --> 00:17:38,240
more things happening and ideally

405
00:17:36,230 --> 00:17:40,339
prevent them from happening in the first

406
00:17:38,240 --> 00:17:42,620
place so that's really been what I've

407
00:17:40,339 --> 00:17:44,750
been working with the staff on for the

408
00:17:42,619 --> 00:17:47,209
last year's how do we do that I think

409
00:17:44,750 --> 00:17:50,480
that's fantastic i'm and we can't drop a

410
00:17:47,210 --> 00:17:52,519
stitch in time saves nine and announce

411
00:17:50,480 --> 00:17:54,799
it what is it on scientific inventions

412
00:17:52,519 --> 00:17:56,269
worth a pound of cure you've really been

413
00:17:54,799 --> 00:17:59,569
you could really been reading your Ben

414
00:17:56,269 --> 00:18:01,450
Franklin what did you know that he wrote

415
00:17:59,569 --> 00:18:04,849
under the name of Richard Saunders

416
00:18:01,450 --> 00:18:07,759
that's right i forgot of that a poor

417
00:18:04,849 --> 00:18:10,639
richard's almanack i'd forgotten in

418
00:18:07,759 --> 00:18:14,470
everett we digress but than usual in

419
00:18:10,640 --> 00:18:16,790
this interview is I think that's

420
00:18:14,470 --> 00:18:19,399
absolutely right and just before the

421
00:18:16,789 --> 00:18:22,548
interview we were just chatting about

422
00:18:19,398 --> 00:18:24,858
anti-vaccination which is a big issue of

423
00:18:22,548 --> 00:18:27,769
course in other spheres and that's the

424
00:18:24,858 --> 00:18:30,558
attitude there too I mean if we can in

425
00:18:27,769 --> 00:18:32,329
that fight if we can we stop the damage

426
00:18:30,558 --> 00:18:34,908
before it starts it saves us running

427
00:18:32,329 --> 00:18:37,788
around trying to fix it kids in that

428

00:18:34,909 --> 00:18:39,409
respect so that's that's I think that's

429
00:18:37,788 --> 00:18:41,509
absolutely the right attitude to have

430
00:18:39,409 --> 00:18:44,299
and how do you think you've been going

431
00:18:41,509 --> 00:18:46,639
over the last year of that attitude well

432
00:18:44,298 --> 00:18:50,690
it would be nice to say oh well we've we

433
00:18:46,638 --> 00:18:51,738
fixed it um we haven't but I just want

434
00:18:50,690 --> 00:18:54,409
to throw out some numbers because I

435
00:18:51,739 --> 00:18:58,369
think they're very striking so there was

436
00:18:54,409 --> 00:19:00,739
a study by burkman and plus her about

437
00:18:58,368 --> 00:19:02,988
five years ago now that looked at how

438
00:19:00,739 --> 00:19:06,440
many biology teachers were teaching

439
00:19:02,989 --> 00:19:08,950
either creationism or teaching straight

440
00:19:06,440 --> 00:19:11,719
up teaching creationism or teaching

441
00:19:08,950 --> 00:19:13,940
creationism as a valid alternative to

442
00:19:11,719 --> 00:19:16,249

evolutions or teaching both sides and

443

00:19:13,940 --> 00:19:18,950

the numbers were really shocking the

444

00:19:16,249 --> 00:19:21,528

very large number of biology teachers I

445

00:19:18,950 --> 00:19:22,759

forget that exact percentage yet the

446

00:19:21,528 --> 00:19:24,648

third kind of depending on how the

447

00:19:22,759 --> 00:19:26,929

question a quarter to a third it was a

448

00:19:24,648 --> 00:19:29,058

little bit shocking yeah Wow but even if

449

00:19:26,929 --> 00:19:30,649

you took that the really worst case

450

00:19:29,058 --> 00:19:32,868

scenario of their teaching creationism I

451

00:19:30,648 --> 00:19:35,088

believe was 16 yeah her son was lowered

452

00:19:32,868 --> 00:19:37,189

and if you but even if you just take

453

00:19:35,088 --> 00:19:38,658

that and you multiply it you say sixteen

454

00:19:37,190 --> 00:19:41,899

percent of American biology teachers

455

00:19:38,659 --> 00:19:43,729

which is 53,000 and how many millions of

456

00:19:41,898 --> 00:19:46,038

American high school students there are

457
00:19:43,729 --> 00:19:47,778
there are and you divide evenly which is

458
00:19:46,038 --> 00:19:49,788
not necessarily the case because some

459
00:19:47,778 --> 00:19:53,298
classes are bigger than others it works

460
00:19:49,788 --> 00:19:55,158
out to about 420,000 biology students a

461
00:19:53,298 --> 00:19:57,618
year in the United States learning

462
00:19:55,159 --> 00:20:01,519
creationism instead of evolution it's

463
00:19:57,618 --> 00:20:04,128
absolutely stunning number and we hear

464
00:20:01,519 --> 00:20:06,440
about maybe a hundred cases a year yeah

465
00:20:04,128 --> 00:20:09,428
so we're not clearly only dealing with

466
00:20:06,440 --> 00:20:13,580
the tip of the iceberg so how do we

467
00:20:09,429 --> 00:20:16,548
flush those teachers out how do we

468
00:20:13,579 --> 00:20:18,168
identify the community well we certainly

469
00:20:16,548 --> 00:20:21,048
know where some of these communities are

470
00:20:18,169 --> 00:20:26,119
but how do we get at that how do we make

471
00:20:21,048 --> 00:20:28,668
it so unacceptable that we start shaming

472
00:20:26,118 --> 00:20:32,189
these communities into not allowing that

473
00:20:28,669 --> 00:20:34,769
to happen so we're going at it and

474
00:20:32,190 --> 00:20:38,669
three pronged effort reaching out to

475
00:20:34,769 --> 00:20:40,440
teachers directly knowing that most

476
00:20:38,669 --> 00:20:41,940
science teachers doing a great job yeah

477
00:20:40,440 --> 00:20:44,220
and they're doing a great job with very

478
00:20:41,940 --> 00:20:47,220
limited resources and with increasingly

479
00:20:44,220 --> 00:20:48,899
high demands on what they're expected to

480
00:20:47,220 --> 00:20:51,058
get across and how they're going to be

481
00:20:48,898 --> 00:20:53,339
assessed for it they need to be propped

482
00:20:51,058 --> 00:20:55,888
up they need to be told you guys are the

483
00:20:53,339 --> 00:20:58,619
best you are you are the foundation of

484
00:20:55,888 --> 00:21:00,619
fixing this problem in the u.s. of

485

00:20:58,619 --> 00:21:02,219
science illiteracy and and and

486
00:21:00,619 --> 00:21:05,128
vulnerability to that kind of

487
00:21:02,220 --> 00:21:06,929
anti-vaxxers and other yes anti science

488
00:21:05,128 --> 00:21:09,719
people it's amazing how it all ties in

489
00:21:06,929 --> 00:21:11,100
somehow yeah yeah because auntie vax

490
00:21:09,720 --> 00:21:12,269
doesn't it that doesn't show up in

491
00:21:11,099 --> 00:21:14,099
textbooks it's not something that

492
00:21:12,269 --> 00:21:15,778
teachers teach in schools but it's the

493
00:21:14,099 --> 00:21:17,398
same phenomenon it's a slipping of the

494
00:21:15,778 --> 00:21:19,409
standards it's it's once you let

495
00:21:17,398 --> 00:21:21,000
something in the door like that it's

496
00:21:19,409 --> 00:21:22,200
easy for the rest of it to come in I

497
00:21:21,000 --> 00:21:24,000
guess well once you start saying

498
00:21:22,200 --> 00:21:26,038
scientists are just like any other group

499
00:21:24,000 --> 00:21:28,730

and they just say whatever is in their

500

00:21:26,038 --> 00:21:31,440

best interests and Sciences is not

501

00:21:28,730 --> 00:21:34,079

dissenters disinterested sciences not

502

00:21:31,440 --> 00:21:36,389

impartial then you really are on a

503

00:21:34,079 --> 00:21:37,710

slippery slope Oh scientists believe

504

00:21:36,388 --> 00:21:39,869

this but here's another point of view

505

00:21:37,710 --> 00:21:42,720

that's sort of thinking right well in

506

00:21:39,869 --> 00:21:44,638

that sort of equal time kind of thinking

507

00:21:42,720 --> 00:21:48,110

or something that we battled for a long

508

00:21:44,638 --> 00:21:50,038

time and but I think I think Anna's is

509

00:21:48,109 --> 00:21:53,788

talking about something that's a little

510

00:21:50,038 --> 00:21:55,919

bit a little bit deeper it's about what

511

00:21:53,788 --> 00:21:58,138

i would like to think in the most

512

00:21:55,919 --> 00:22:00,929

generous attitude and misunderstanding

513

00:21:58,138 --> 00:22:03,269

of the scientific process and how

514
00:22:00,929 --> 00:22:05,580
scientists go about doing their jobs but

515
00:22:03,269 --> 00:22:08,548
i'm becoming more and more convinced

516
00:22:05,579 --> 00:22:12,298
that they're there really we're on the

517
00:22:08,548 --> 00:22:14,548
cusp of a shift to an attitude in a

518
00:22:12,298 --> 00:22:18,179
substantial portion of the population in

519
00:22:14,548 --> 00:22:21,148
which just to use anne's phrase science

520
00:22:18,179 --> 00:22:24,509
is you know just another way of knowing

521
00:22:21,148 --> 00:22:27,329
at me it's it's no better or any worse

522
00:22:24,509 --> 00:22:30,659
than any other kind of way of coming to

523
00:22:27,329 --> 00:22:33,298
a decision about something and you know

524
00:22:30,659 --> 00:22:35,370
for a lot of things that may be true i

525
00:22:33,298 --> 00:22:36,960
mean science isn't going to tell us

526
00:22:35,369 --> 00:22:38,638
whether the democrats the health plan or

527
00:22:36,960 --> 00:22:41,159
the republicans health plan is better

528
00:22:38,638 --> 00:22:44,819
but if you're talking about something

529
00:22:41,159 --> 00:22:47,429
like vaccinations or how better to teach

530
00:22:44,819 --> 00:22:50,609
change in schools or the reality of

531
00:22:47,429 --> 00:22:52,169
evolution yah to render unto science I

532
00:22:50,609 --> 00:22:54,359
mean science really does the best way of

533
00:22:52,169 --> 00:22:56,929
knowing produces and to the extent that

534
00:22:54,359 --> 00:22:59,788
there may be in American culture

535
00:22:56,929 --> 00:23:03,149
currents that are attacking that

536
00:22:59,788 --> 00:23:04,919
fundamental foundation of confidence in

537
00:23:03,148 --> 00:23:06,719
science notice I didn't say faith in

538
00:23:04,919 --> 00:23:09,028
science that's different but the

539
00:23:06,720 --> 00:23:11,940
confidence in science that I think has

540
00:23:09,028 --> 00:23:13,710
been traditional in America we've you

541
00:23:11,940 --> 00:23:16,679
know all of the surveys have shown for

542

00:23:13,710 --> 00:23:18,360
decades that Americans like science they

543
00:23:16,679 --> 00:23:19,860
appreciate what science does for them

544
00:23:18,359 --> 00:23:22,740
they like their science gadgets they

545
00:23:19,859 --> 00:23:24,058
like grandma's new hip transplant and

546
00:23:22,740 --> 00:23:27,359
you know they like the midlife

547
00:23:24,058 --> 00:23:30,690
technology but when science impinges

548
00:23:27,359 --> 00:23:32,729
upon their ideological and emotional

549
00:23:30,690 --> 00:23:34,679
concerns I mean I want I don't want my

550
00:23:32,730 --> 00:23:36,089
baby to get sick when somebody comes up

551
00:23:34,679 --> 00:23:37,740
and tells me that vaccines are going to

552
00:23:36,089 --> 00:23:39,528
make my baby sick and those scientists

553
00:23:37,740 --> 00:23:41,548
are all in the payroll of the big

554
00:23:39,528 --> 00:23:45,089
pharmaceutical companies anyway old

555
00:23:41,548 --> 00:23:47,819
arguments yeah you know my my concern

556
00:23:45,089 --> 00:23:50,038

for my child's welfare is going to make

557

00:23:47,819 --> 00:23:53,339

me listen very seriously to that

558

00:23:50,038 --> 00:23:54,658

alternate point of view even though if

559

00:23:53,339 --> 00:23:56,189

you know somebody came up and said Oh

560

00:23:54,659 --> 00:23:58,379

what they're saying about photosynthesis

561

00:23:56,190 --> 00:24:00,538

is wrong because all of the signs all of

562

00:23:58,378 --> 00:24:02,128

the botanists are only in the pockets of

563

00:24:00,538 --> 00:24:03,990

big sigh whatever they would say about

564

00:24:02,128 --> 00:24:06,538

foot ascend no it wouldn't matter to me

565

00:24:03,990 --> 00:24:08,909

but my kids health is important yeah so

566

00:24:06,538 --> 00:24:10,769

I've got an emotional concomitant to

567

00:24:08,909 --> 00:24:12,330

that and it's the same way with climate

568

00:24:10,769 --> 00:24:15,450

change it's the same way with evolution

569

00:24:12,329 --> 00:24:18,388

too well that we get back to the matter

570

00:24:15,450 --> 00:24:20,069

of creationism especially and I could

571
00:24:18,388 --> 00:24:22,709
imagine some parents would say well my

572
00:24:20,069 --> 00:24:24,480
kids or my religion is important to me

573
00:24:22,710 --> 00:24:25,950
and therefore it's important to my kids

574
00:24:24,480 --> 00:24:28,349
and this is what I want taught to them

575
00:24:25,950 --> 00:24:30,028
in in the schools it's the old battle

576
00:24:28,349 --> 00:24:31,528
isn't one of the reasons we know that

577
00:24:30,028 --> 00:24:33,628
there are so many hundreds of thousands

578
00:24:31,528 --> 00:24:35,638
of students learning about creationism

579
00:24:33,628 --> 00:24:36,990
is because teachers were surveyed

580
00:24:35,638 --> 00:24:39,028
biology teachers were surveyed about

581
00:24:36,990 --> 00:24:40,409
what they were teaching and we found as

582
00:24:39,028 --> 00:24:42,329
we were trying to figure out what to do

583
00:24:40,409 --> 00:24:44,009
about climate change denial in the

584
00:24:42,329 --> 00:24:47,398
classroom that we didn't have any good

585
00:24:44,009 --> 00:24:50,339
data on what was being taught and and

586
00:24:47,398 --> 00:24:52,258
how it was being taught so we are just

587
00:24:50,339 --> 00:24:54,599
now gathering the results of a survey

588
00:24:52,259 --> 00:24:55,919
that was done in the fall of 8000 middle

589
00:24:54,599 --> 00:24:57,589
school and high school science teachers

590
00:24:55,919 --> 00:25:01,909
about what they're teaching

591
00:24:57,589 --> 00:25:03,949
about climate change and we are hopeful

592
00:25:01,909 --> 00:25:05,600
that that will give us the kind of deep

593
00:25:03,950 --> 00:25:07,490
information that we need to know what

594
00:25:05,599 --> 00:25:10,009
what is what problem are we facing in

595
00:25:07,490 --> 00:25:12,769
classrooms where is it happening is it a

596
00:25:10,009 --> 00:25:15,859
problem of people being children being

597
00:25:12,769 --> 00:25:18,408
taught that climate science that climate

598
00:25:15,859 --> 00:25:20,028
change isn't happening or is it children

599

00:25:18,409 --> 00:25:21,830
are being taught that it's not settled

600
00:25:20,028 --> 00:25:25,220
science and that its controversial or

601
00:25:21,829 --> 00:25:26,899
are they being taught good solid science

602
00:25:25,220 --> 00:25:28,250
on the topic we just we just don't know

603
00:25:26,900 --> 00:25:30,230
but we hope the survey will give us

604
00:25:28,250 --> 00:25:32,028
those answers it's interesting because

605
00:25:30,230 --> 00:25:34,548
back home I get the impression a lot of

606
00:25:32,028 --> 00:25:37,099
the opposition why they'll catch it is

607
00:25:34,548 --> 00:25:39,259
that oh it's not settled oh and some

608
00:25:37,099 --> 00:25:40,969
scientists this is dis creationism all

609
00:25:39,259 --> 00:25:42,829
over again isn't it it's it's

610
00:25:40,970 --> 00:25:44,649
fascinating it's like it's almost like

611
00:25:42,829 --> 00:25:47,269
history repeating itself it's the same

612
00:25:44,648 --> 00:25:49,009
we call it the science denial playbook

613
00:25:47,269 --> 00:25:51,500

and you can practically follow along

614

00:25:49,009 --> 00:25:53,119

with each kind of objection that they're

615

00:25:51,500 --> 00:25:55,009

going to come up with whatever that kind

616

00:25:53,119 --> 00:25:57,829

of science it is and and that one is you

617

00:25:55,009 --> 00:25:59,629

can never have enough evidence yeah yeah

618

00:25:57,829 --> 00:26:01,939

to convince some absolute and the same

619

00:25:59,630 --> 00:26:03,559

with the vaccine right it's it's amazing

620

00:26:01,940 --> 00:26:07,090

what do you call the science in our

621

00:26:03,558 --> 00:26:09,710

playbook oh that should be a real book

622

00:26:07,089 --> 00:26:11,209

that should be latex book for skeptics

623

00:26:09,710 --> 00:26:13,278

that's good I like that okay there's an

624

00:26:11,210 --> 00:26:14,778

idea for you listeners out there get to

625

00:26:13,278 --> 00:26:17,269

it I don't just backtrack a little bit

626

00:26:14,778 --> 00:26:18,919

because I only talked about 11 leg of

627

00:26:17,269 --> 00:26:22,000

this stool that three like it's going is

628
00:26:18,919 --> 00:26:25,538
building so that that being the teachers

629
00:26:22,000 --> 00:26:27,798
that they we would like them to know

630
00:26:25,538 --> 00:26:29,569
that we have their backs and that we

631
00:26:27,798 --> 00:26:33,079
understand the role that they play in

632
00:26:29,569 --> 00:26:35,418
the in the scientific enterprise and

633
00:26:33,079 --> 00:26:37,579
support them in that and at the same

634
00:26:35,419 --> 00:26:38,690
time make sure that they are doing the

635
00:26:37,579 --> 00:26:40,308
right thing make sure that they know

636
00:26:38,690 --> 00:26:42,470
that it's not appropriate to teach

637
00:26:40,308 --> 00:26:45,168
climate change as a debate over the

638
00:26:42,470 --> 00:26:47,210
science so that's one like the other leg

639
00:26:45,169 --> 00:26:48,799
is the scientists themselves and not

640
00:26:47,210 --> 00:26:49,970
just the evolutionary biologists and not

641
00:26:48,798 --> 00:26:52,519
just the climate scientists but the

642
00:26:49,970 --> 00:26:54,558
entire scientific community needs to

643
00:26:52,519 --> 00:26:56,028
recognize that when as we've just been

644
00:26:54,558 --> 00:26:59,139
saying when science is attacked in one

645
00:26:56,028 --> 00:27:01,940
sphere it affects faith and science

646
00:26:59,140 --> 00:27:03,710
confidence in science in general it

647
00:27:01,940 --> 00:27:07,070
hurts the brand to use sermon

648
00:27:03,710 --> 00:27:09,380
advertising term and so the the Society

649
00:27:07,069 --> 00:27:10,789
of you know the American Chemical

650
00:27:09,380 --> 00:27:13,910
Society which is a supporting

651
00:27:10,789 --> 00:27:18,109
organization of NCSE the physicists the

652
00:27:13,910 --> 00:27:20,690
molecular biologists the meteorologists

653
00:27:18,109 --> 00:27:23,750
the dentist everybody who uses science

654
00:27:20,690 --> 00:27:25,820
in their profession needs to recognize

655
00:27:23,750 --> 00:27:27,769
that this kind of anti-science talk

656

00:27:25,819 --> 00:27:30,049
hurts them even if they're not attacking

657
00:27:27,769 --> 00:27:32,450
their particular area of science and a

658
00:27:30,049 --> 00:27:35,509
lot of scientists really don't know how

659
00:27:32,450 --> 00:27:40,580
to help they don't even know how to talk

660
00:27:35,509 --> 00:27:43,069
to deniers big point good point now we

661
00:27:40,579 --> 00:27:45,649
discover this absolutely back home with

662
00:27:43,069 --> 00:27:48,139
with getting the message across and you

663
00:27:45,650 --> 00:27:49,640
can know you stuff I know a lot of good

664
00:27:48,140 --> 00:27:51,140
skeptics and good scientists who

665
00:27:49,640 --> 00:27:53,840
certainly know their stuff but it's that

666
00:27:51,140 --> 00:27:56,170
but communication is what it's called

667
00:27:53,839 --> 00:27:59,269
ethereal communication that a skill that

668
00:27:56,170 --> 00:28:01,460
technique which is practice as well I

669
00:27:59,269 --> 00:28:06,740
imagine it's practice but it's also a

670
00:28:01,460 --> 00:28:09,920

set of its that's hard to say it's it's

671

00:28:06,740 --> 00:28:12,170

a skill there may be some people who are

672

00:28:09,920 --> 00:28:13,400

just inherently clearer communicators

673

00:28:12,170 --> 00:28:16,190

and others but it's something that

674

00:28:13,400 --> 00:28:18,680

everyone can learn and and there are

675

00:28:16,190 --> 00:28:21,110

certain phrasings that you need to think

676

00:28:18,680 --> 00:28:22,640

about which communicate the way you want

677

00:28:21,109 --> 00:28:28,579

the information to be transmitted

678

00:28:22,640 --> 00:28:31,190

without communicating a bunch of of may

679

00:28:28,579 --> 00:28:35,629

be uncorrelated ideas that actually lead

680

00:28:31,190 --> 00:28:38,150

a person into into misunderstanding so

681

00:28:35,630 --> 00:28:40,490

yeah I think there's a even more

682

00:28:38,150 --> 00:28:42,400

fundamental than the fact that a lot of

683

00:28:40,490 --> 00:28:45,799

scientists are not terrific

684

00:28:42,400 --> 00:28:47,660

communicators is that they erroneously

685
00:28:45,799 --> 00:28:51,319
think that what they need to communicate

686
00:28:47,660 --> 00:28:54,620
is science and that's not the case in

687
00:28:51,319 --> 00:28:56,839
these in these instances that the way to

688
00:28:54,619 --> 00:28:59,209
convince a creationist that evolution is

689
00:28:56,839 --> 00:29:02,149
real is not to sit that person down and

690
00:28:59,210 --> 00:29:05,450
hammer them with evolution you know it's

691
00:29:02,150 --> 00:29:09,080
it's to take that step back and say this

692
00:29:05,450 --> 00:29:10,910
is about your faith isn't it you feel

693
00:29:09,079 --> 00:29:13,279
that evolution threatens your faith yeah

694
00:29:10,910 --> 00:29:15,620
did you know that there are hundreds of

695
00:29:13,279 --> 00:29:17,720
thousands of Christians who don't see it

696
00:29:15,619 --> 00:29:20,239
as threatening their faith can you think

697
00:29:17,720 --> 00:29:22,309
about it as a as something outside of

698
00:29:20,240 --> 00:29:24,289
your religion kind of the way the

699

00:29:22,309 --> 00:29:25,819
analogy that I've used that that p

700

00:29:24,289 --> 00:29:29,839
makes people laugh but I think it is

701

00:29:25,819 --> 00:29:31,700
helpful is that it's like playing soccer

702

00:29:29,839 --> 00:29:34,279
you're not allowed to pick up the ball

703

00:29:31,700 --> 00:29:37,850
and in science you're not allowed to

704

00:29:34,279 --> 00:29:39,529
invoke God you can invoke God it at

705

00:29:37,849 --> 00:29:41,299
church you can invoke God in the way you

706

00:29:39,529 --> 00:29:42,470
understand the Bible that's all fine but

707

00:29:41,299 --> 00:29:44,240
if you're going to talk about science

708

00:29:42,470 --> 00:29:47,450
you can't do that it's not allowed and

709

00:29:44,240 --> 00:29:49,069
so when you learn about evolution you're

710

00:29:47,450 --> 00:29:52,970
going to learn about how scientists

711

00:29:49,069 --> 00:29:55,970
explain what's going on in biological

712

00:29:52,970 --> 00:29:59,329
diversity and without being able to

713

00:29:55,970 --> 00:30:02,690
invoke a supernatural influence hmm salt

714
00:29:59,329 --> 00:30:04,879
it is it's separate this is an old old

715
00:30:02,690 --> 00:30:07,190
argument that genie is a past master at

716
00:30:04,880 --> 00:30:09,110
making but it's it's real news to

717
00:30:07,190 --> 00:30:11,900
scientist you can sort of see this sort

718
00:30:09,109 --> 00:30:14,689
of light bulb go on in their heads it oh

719
00:30:11,900 --> 00:30:17,120
oh i get it and climate change is

720
00:30:14,690 --> 00:30:21,529
similar it's not religion but but people

721
00:30:17,119 --> 00:30:23,599
who is almost yes I do is I try to get

722
00:30:21,529 --> 00:30:26,539
politics its economics it's there are a

723
00:30:23,599 --> 00:30:28,069
couple of issues that we touch upon in

724
00:30:26,539 --> 00:30:30,200
the Australian skeptics in the skeptics

725
00:30:28,069 --> 00:30:33,109
and podcasts from time to time which get

726
00:30:30,200 --> 00:30:34,670
a reaction like none other and climate

727
00:30:33,109 --> 00:30:37,639

change is one of them because people

728

00:30:34,670 --> 00:30:40,730

will write in absolutely livid that we

729

00:30:37,640 --> 00:30:42,110

dare to be on the side of what we

730

00:30:40,730 --> 00:30:44,630

consider to be the scientific consensus

731

00:30:42,109 --> 00:30:47,059

and I've had people bail me up in our

732

00:30:44,630 --> 00:30:48,920

pub meetings demand that we take on this

733

00:30:47,059 --> 00:30:50,329

issue and say well you know it's sort of

734

00:30:48,920 --> 00:30:53,180

an issue are interested in but that's

735

00:30:50,329 --> 00:30:55,339

not where out of heart lies and they get

736

00:30:53,180 --> 00:30:57,680

terribly offended you know but I think

737

00:30:55,339 --> 00:31:00,649

that's the same with it were there any

738

00:30:57,680 --> 00:31:02,180

passion any interest like that so when

739

00:31:00,650 --> 00:31:04,460

you ask about am I going to get out and

740

00:31:02,180 --> 00:31:06,019

about the one community that I have

741

00:31:04,460 --> 00:31:07,579

started to get out and about with and

742
00:31:06,019 --> 00:31:09,680
will do more is the scientific community

743
00:31:07,579 --> 00:31:12,679
which is really the world that I came

744
00:31:09,680 --> 00:31:15,590
from before coming here so talking to

745
00:31:12,680 --> 00:31:19,100
scientists about how they can be helpful

746
00:31:15,589 --> 00:31:23,389
in this issue and not counterproductive

747
00:31:19,099 --> 00:31:25,759
you know seems to reach fall on willing

748
00:31:23,390 --> 00:31:27,350
ears and then the third leg of the stool

749
00:31:25,759 --> 00:31:30,349
which are just getting started in fact I

750
00:31:27,349 --> 00:31:32,569
just listed the position and the

751
00:31:30,349 --> 00:31:35,119
chronicle of higher education is to do a

752
00:31:32,569 --> 00:31:36,889
pilot project to start cyan't community

753
00:31:35,119 --> 00:31:38,809
science booster clubs

754
00:31:36,890 --> 00:31:40,910
in local communities where parents and

755
00:31:38,809 --> 00:31:43,730
local businesses that care about an

756
00:31:40,910 --> 00:31:45,860
educated workforce skeptics humanists

757
00:31:43,730 --> 00:31:47,180
anybody who's interested in the science

758
00:31:45,859 --> 00:31:50,209
education their kids are getting could

759
00:31:47,180 --> 00:31:53,390
get involved in these clubs and support

760
00:31:50,210 --> 00:31:56,360
their local teachers and informal

761
00:31:53,390 --> 00:31:59,360
science educators so whether that means

762
00:31:56,359 --> 00:32:00,409
raising money to send their local

763
00:31:59,359 --> 00:32:02,929
teachers to the National Science

764
00:32:00,410 --> 00:32:04,910
Teachers Association meeting or have a

765
00:32:02,930 --> 00:32:08,810
community science fair where all of the

766
00:32:04,910 --> 00:32:10,670
schools can bring to a local auditorium

767
00:32:08,809 --> 00:32:13,220
what their classes are learning just

768
00:32:10,670 --> 00:32:15,500
some way to make sure that people have a

769
00:32:13,220 --> 00:32:16,700
have a connection to what their science

770

00:32:15,500 --> 00:32:18,619
teachers are doing and what their kids

771
00:32:16,700 --> 00:32:20,990
are learning in the hope again of

772
00:32:18,619 --> 00:32:23,509
flushing out the situations where it's

773
00:32:20,990 --> 00:32:24,980
not going well but more importantly

774
00:32:23,509 --> 00:32:26,059
supporting the places where it really is

775
00:32:24,980 --> 00:32:29,960
going all which is going to be the

776
00:32:26,059 --> 00:32:31,309
majority of places so I hope that that

777
00:32:29,960 --> 00:32:33,920
will really get me out to lots of

778
00:32:31,309 --> 00:32:36,409
communities that are interested in

779
00:32:33,920 --> 00:32:38,720
improving the science education in their

780
00:32:36,410 --> 00:32:41,029
towns it's interesting because I guess

781
00:32:38,720 --> 00:32:42,500
you're being on the front line so to

782
00:32:41,029 --> 00:32:44,269
speak and this is something that you're

783
00:32:42,500 --> 00:32:46,069
vitaly interested in when I think of

784
00:32:44,269 --> 00:32:50,799

the situation back in Australia this was

785

00:32:46,069 --> 00:32:54,200

a big issue for us well 25 years ago

786

00:32:50,799 --> 00:32:56,299

even up to 15 10 years ago was sort of

787

00:32:54,200 --> 00:32:59,960

still there but to be honest with you

788

00:32:56,299 --> 00:33:02,149

today it is we could go for a long time

789

00:32:59,960 --> 00:33:04,400

not even hear this issue I'm in

790

00:33:02,150 --> 00:33:08,720

Queensland even in Queensland you know

791

00:33:04,400 --> 00:33:11,720

what we call the deep north um and I'm

792

00:33:08,720 --> 00:33:13,400

wondering whether that's because if the

793

00:33:11,720 --> 00:33:15,710

cultural thing we're because we're

794

00:33:13,400 --> 00:33:18,230

winning I don't know what would you be

795

00:33:15,710 --> 00:33:19,970

your take Gennie well you know it's kind

796

00:33:18,230 --> 00:33:21,950

of hard for me to pontificate about

797

00:33:19,970 --> 00:33:25,069

Australia I'm not there you're much

798

00:33:21,950 --> 00:33:29,240

better informed than I am but it's a

799

00:33:25,069 --> 00:33:33,649

it's a country with a small population

800

00:33:29,240 --> 00:33:36,019

relative Joe devours and I think when

801

00:33:33,650 --> 00:33:38,600

you have smaller communities like that

802

00:33:36,019 --> 00:33:41,089

the presence of charismatic leaders is

803

00:33:38,599 --> 00:33:44,929

extremely important and you sent ken ham

804

00:33:41,089 --> 00:33:48,789

to us and seriously he was he was a

805

00:33:44,930 --> 00:33:52,660

major force in Australian creationism

806

00:33:48,789 --> 00:33:55,269

he was there and stimulating others to

807

00:33:52,660 --> 00:33:57,580

you know to become active as and of

808

00:33:55,269 --> 00:34:01,480

course he did stuff too but yeah and

809

00:33:57,579 --> 00:34:04,149

then he then he went east and came to

810

00:34:01,480 --> 00:34:08,500

the US and cut his teeth at the icr you

811

00:34:04,150 --> 00:34:11,050

will turn to him yeah thanks thanks well

812

00:34:08,500 --> 00:34:13,059

if we have a joke Biko we've sent Canham

813
00:34:11,050 --> 00:34:16,919
here but you sent us Meryl Dory who's

814
00:34:13,059 --> 00:34:20,168
the Australia's number one ant evac sir

815
00:34:16,918 --> 00:34:22,418
we do owe you an apology but actually

816
00:34:20,168 --> 00:34:24,609
it's even worse than that yes you sent

817
00:34:22,418 --> 00:34:28,779
us Ken Ham but that was payback because

818
00:34:24,610 --> 00:34:30,519
we sent you the gift and Morris from the

819
00:34:28,780 --> 00:34:32,890
insta generation research and they're

820
00:34:30,519 --> 00:34:35,679
the ones who's got everybody all excited

821
00:34:32,889 --> 00:34:37,779
about creationism in Australia and then

822
00:34:35,679 --> 00:34:41,050
the rest is history but you're right i

823
00:34:37,780 --> 00:34:43,470
get the feeling also from talking with

824
00:34:41,050 --> 00:34:45,910
other australian friends and my

825
00:34:43,469 --> 00:34:47,589
infrequent visits they wish they were

826
00:34:45,909 --> 00:34:50,349
more frequent visits to australia that

827

00:34:47,590 --> 00:34:52,780
the creationism issue isn't really the

828
00:34:50,349 --> 00:34:54,429
big deal not anything less what it used

829
00:34:52,780 --> 00:34:57,040
to be when the Australian skeptic

830
00:34:54,429 --> 00:34:58,690
started in the very early 80s it was one

831
00:34:57,039 --> 00:35:00,880
of the biggest one of the bigger issues

832
00:34:58,690 --> 00:35:03,579
of the organization yeah it was one of

833
00:35:00,880 --> 00:35:05,740
the organizing conflicts I think the guy

834
00:35:03,579 --> 00:35:07,150
you guys stuck oh yeah yeah yeah but

835
00:35:05,739 --> 00:35:08,709
then there's plenty of other woo to keep

836
00:35:07,150 --> 00:35:11,559
track I mean one of the things that you

837
00:35:08,710 --> 00:35:13,990
guys do marvelously and I should really

838
00:35:11,559 --> 00:35:17,139
sit down with an someday and drag out

839
00:35:13,989 --> 00:35:21,250
those videotapes but is your your work

840
00:35:17,139 --> 00:35:24,670
with dowsers because that is such a

841
00:35:21,250 --> 00:35:27,400

wonderful example of it can be used as

842

00:35:24,670 --> 00:35:29,349

such a wonderful example of how science

843

00:35:27,400 --> 00:35:31,360

works yeah yeah because what the

844

00:35:29,349 --> 00:35:34,630

Australian skeptics did on more than one

845

00:35:31,360 --> 00:35:37,870

occasion is they worked with the

846

00:35:34,630 --> 00:35:39,579

committed dowsers in Australia to set up

847

00:35:37,869 --> 00:35:41,619

controlled experiments the dowsers

848

00:35:39,579 --> 00:35:43,329

agreed with the protocol oh of course we

849

00:35:41,619 --> 00:35:45,940

can find water under those circumstances

850

00:35:43,329 --> 00:35:49,029

and this you know they range from very

851

00:35:45,940 --> 00:35:52,809

elaborate two very simple protocols but

852

00:35:49,030 --> 00:35:54,760

in all of the tests that were done there

853

00:35:52,809 --> 00:35:56,710

was double blinding which of course is

854

00:35:54,760 --> 00:36:00,460

such an important principle because it's

855

00:35:56,710 --> 00:36:01,380

so easy to kill yourself we're human

856

00:36:00,460 --> 00:36:03,150

beings and we're going to

857

00:36:01,380 --> 00:36:05,450

we want to see but these were all

858

00:36:03,150 --> 00:36:08,430

double-blinded tests of whether these

859

00:36:05,449 --> 00:36:10,319

dowsers who were you know find water all

860

00:36:08,429 --> 00:36:12,659

the time could do so under controlled

861

00:36:10,320 --> 00:36:15,330

circumstances and of course the

862

00:36:12,659 --> 00:36:19,049

wonderful results is that in every

863

00:36:15,329 --> 00:36:21,449

single case the dowsers did only as well

864

00:36:19,050 --> 00:36:23,100

as expected by chance which we knew they

865

00:36:21,449 --> 00:36:26,699

would do but which it's lovely to

866

00:36:23,099 --> 00:36:29,789

demonstrate I have used and recommended

867

00:36:26,699 --> 00:36:31,649

the Australian dowsing protocol shall we

868

00:36:29,789 --> 00:36:33,480

say and and the lovely thing is that you

869

00:36:31,650 --> 00:36:34,889

can find videos of what went on and how

870
00:36:33,480 --> 00:36:36,869
they set it all up and these are all I

871
00:36:34,889 --> 00:36:38,699
go to it made them available very nicely

872
00:36:36,869 --> 00:36:39,989
well just benefit out and quickly for

873
00:36:38,699 --> 00:36:43,980
the benefit of our listeners if you

874
00:36:39,989 --> 00:36:46,139
google james randi in australia which is

875
00:36:43,980 --> 00:36:47,699
the name of the documentary made in 1980

876
00:36:46,139 --> 00:36:50,670
which is a famous set of water divining

877
00:36:47,699 --> 00:36:53,909
tests or if you google the mighty mitter

878
00:36:50,670 --> 00:36:55,470
muster water divining test the meter

879
00:36:53,909 --> 00:36:57,599
meter meter is a little country town

880
00:36:55,469 --> 00:36:59,489
it's beautiful but every year they have

881
00:36:57,599 --> 00:37:01,199
a fair and we've gone there a couple of

882
00:36:59,489 --> 00:37:03,000
times to test the local water diviners

883
00:37:01,199 --> 00:37:04,469
and that's quite fun or if you google my

884

00:37:03,000 --> 00:37:06,179
name Richard Saunders and water divining

885
00:37:04,469 --> 00:37:08,099
you'll see some tests up like that but

886
00:37:06,179 --> 00:37:09,569
thank you GD yes and we're quite pleased

887
00:37:08,099 --> 00:37:12,329
with those because they are a great way

888
00:37:09,570 --> 00:37:14,580
to teach people basic science actually

889
00:37:12,329 --> 00:37:16,319
and the other thing that that I've

890
00:37:14,579 --> 00:37:19,409
recommended them I've recommended them

891
00:37:16,320 --> 00:37:22,760
to teachers as a way for teachers to

892
00:37:19,409 --> 00:37:27,230
teach things like can scientifically

893
00:37:22,760 --> 00:37:30,480
variables constant double blinding

894
00:37:27,230 --> 00:37:34,070
hypothesis formation and testing because

895
00:37:30,480 --> 00:37:36,599
you can you can you know have the kids

896
00:37:34,070 --> 00:37:38,340
think through themselves show them a

897
00:37:36,599 --> 00:37:40,500
little bit of a clip and then well why

898
00:37:38,340 --> 00:37:42,480

did they do it this way why did they why

899

00:37:40,500 --> 00:37:44,519

did they cover the bags of sand or the

900

00:37:42,480 --> 00:37:46,349

bags of water so that nobody could see

901

00:37:44,519 --> 00:37:48,269

them and why did they have bags of sand

902

00:37:46,349 --> 00:37:51,150

as well as bags of water and the

903

00:37:48,269 --> 00:37:53,070

students should look at well because if

904

00:37:51,150 --> 00:37:54,690

it's a heavy bag is going to press down

905

00:37:53,070 --> 00:37:56,730

on the grass and then that would might

906

00:37:54,690 --> 00:37:58,950

qu that's what I mean you can have the

907

00:37:56,730 --> 00:38:02,880

kids work through the ideas controls

908

00:37:58,949 --> 00:38:04,169

were set up and teachers teachers can

909

00:38:02,880 --> 00:38:06,150

really benefit from this sort of thing

910

00:38:04,170 --> 00:38:08,309

because teaching science as a way of

911

00:38:06,150 --> 00:38:10,710

knowing is usually done so didactically

912

00:38:08,309 --> 00:38:13,289

and so boringly that kids just sort of

913
00:38:10,710 --> 00:38:14,369
memorize the you know seventh grade

914
00:38:13,289 --> 00:38:17,259
science

915
00:38:14,369 --> 00:38:18,789
forget about him the next week when we

916
00:38:17,260 --> 00:38:20,440
do that at schools we do this water

917
00:38:18,789 --> 00:38:23,170
binding test in schools the kids love it

918
00:38:20,440 --> 00:38:24,909
they get to stand up with the rods and

919
00:38:23,170 --> 00:38:26,680
they walk along and see if they can find

920
00:38:24,909 --> 00:38:28,269
the water then it's blinded and the kids

921
00:38:26,679 --> 00:38:30,009
are screaming from the audience go on

922
00:38:28,269 --> 00:38:33,338
find it and all this sort of thing so I

923
00:38:30,010 --> 00:38:35,950
I get a big kick out of doing what what

924
00:38:33,338 --> 00:38:39,279
and doesn't know is that Richard and and

925
00:38:35,949 --> 00:38:42,699
some of his partners will have a show

926
00:38:39,280 --> 00:38:45,040
that they do for public schools it's

927
00:38:42,699 --> 00:38:46,838
obviously an assertive yeah mystery

928
00:38:45,039 --> 00:38:48,519
mystery investigators right it's like

929
00:38:46,838 --> 00:38:51,730
middle school and high school years yeah

930
00:38:48,519 --> 00:38:54,460
and they have this great school assembly

931
00:38:51,730 --> 00:38:56,889
that they do it that's really fun oh you

932
00:38:54,460 --> 00:38:59,679
can come on my show anytime ginger well

933
00:38:56,889 --> 00:39:01,690
Jeannie nn thank you so much for letting

934
00:38:59,679 --> 00:39:04,239
me come by once again to the National

935
00:39:01,690 --> 00:39:06,940
Center for Science Education I've loved

936
00:39:04,239 --> 00:39:09,098
dropping by every time you continue to

937
00:39:06,940 --> 00:39:10,720
do so I certainly could he couldn't keep

938
00:39:09,099 --> 00:39:13,150
me away you could not keep me away and

939
00:39:10,719 --> 00:39:16,389
i'll leave the final word to you you've

940
00:39:13,150 --> 00:39:17,950
got a big job ahead of you there's no

941

00:39:16,389 --> 00:39:19,960
doubt about it this is not an easy thing

942
00:39:17,949 --> 00:39:22,989
to do it's not a high and easy not to

943
00:39:19,960 --> 00:39:25,690
crack is it it isn't easy but the vast

944
00:39:22,989 --> 00:39:28,348
majority of people support it and I have

945
00:39:25,690 --> 00:39:30,909
been so stunned during this year that

946
00:39:28,349 --> 00:39:33,338
anyone who asked me and not just

947
00:39:30,909 --> 00:39:35,559
scientists what do you do and I say well

948
00:39:33,338 --> 00:39:37,630
we try to keep bad stuff out of science

949
00:39:35,559 --> 00:39:40,480
classrooms then they say oh thank you

950
00:39:37,630 --> 00:39:42,309
thank you for doing that so that's very

951
00:39:40,480 --> 00:39:45,130
very heartening and I know that if we

952
00:39:42,309 --> 00:39:46,630
can just figure out a way to engage and

953
00:39:45,130 --> 00:39:48,910
to enlist more and more the people who

954
00:39:46,630 --> 00:39:50,980
already agree with us I think we'll be

955
00:39:48,909 --> 00:39:53,409

able to make a dent in that problem I

956

00:39:50,980 --> 00:39:55,119

think so and this is exactly what the

957

00:39:53,409 --> 00:39:56,889

National Center for Science Education to

958

00:39:55,119 --> 00:39:59,440

be doing for many years and if people

959

00:39:56,889 --> 00:40:02,699

want to find out more what's the URL

960

00:39:59,440 --> 00:40:17,559

they can visit NCSE

961

00:40:02,699 --> 00:40:19,868

NCSE calm thank you again hi this is

962

00:40:17,559 --> 00:40:22,210

column Ryan from Cork skeptics in the

963

00:40:19,869 --> 00:40:24,519

Republic of Ireland here our next event

964

00:40:22,210 --> 00:40:26,230

skeptics in the castle features Michael

965

00:40:24,519 --> 00:40:29,130

Marshall recounting his ongoing

966

00:40:26,230 --> 00:40:31,389

adventures in the world of pseudoscience

967

00:40:29,130 --> 00:40:34,570

Michael needs no introduction to

968

00:40:31,389 --> 00:40:36,579

skeptics he is the organizer of the QED

969

00:40:34,570 --> 00:40:38,500

conference in the UK as well as the vice

970
00:40:36,579 --> 00:40:40,420
president of the Merseyside skeptics

971
00:40:38,500 --> 00:40:42,608
society and the project director of the

972
00:40:40,420 --> 00:40:44,409
good thinking society he regularly

973
00:40:42,608 --> 00:40:47,650
speaks with proponents of pseudoscience

974
00:40:44,409 --> 00:40:49,509
for the be reasonable podcast as well as

975
00:40:47,650 --> 00:40:52,960
co-hosting the skeptics with a cave

976
00:40:49,510 --> 00:40:56,080
podcast his talk begins at eight pm on

977
00:40:52,960 --> 00:40:58,358
Thursday the fifth of february the venue

978
00:40:56,079 --> 00:41:01,150
is Black Rock castle Observatory near

979
00:40:58,358 --> 00:41:03,039
Cork City it's free to attend and all

980
00:41:01,150 --> 00:41:05,108
are welcome we look forward to seeing

981
00:41:03,039 --> 00:41:08,650
you there the skeptic sign is brought to

982
00:41:05,108 --> 00:41:12,159
you by dr. Bob's trivia quiz visit dr.

983
00:41:08,650 --> 00:41:16,990
Bob's quiz wordpress.com and see if you

984
00:41:12,159 --> 00:41:19,598
can match wits with dr. Bob welcome to a

985
00:41:16,989 --> 00:41:23,019
week in science from arias bring you the

986
00:41:19,599 --> 00:41:25,420
science you need to know 2014 was a

987
00:41:23,019 --> 00:41:27,940
massive year in science but there's also

988
00:41:25,420 --> 00:41:31,530
some weird stuff this week we're looking

989
00:41:27,940 --> 00:41:31,530
at the strange things that cause hair I

990
00:41:35,429 --> 00:41:40,779
kicking off at top five is the ancient

991
00:41:38,079 --> 00:41:42,940
crustacean whose sperm is six times the

992
00:41:40,780 --> 00:41:44,650
size of its body the tiny ostracod

993
00:41:42,940 --> 00:41:47,349
measures around one millimeter in length

994
00:41:44,650 --> 00:41:49,570
but as sperm is nearly a centimeter long

995
00:41:47,349 --> 00:41:52,150
the way it fits inside the miniature

996
00:41:49,570 --> 00:41:54,510
crustacean is by coiling itself up like

997
00:41:52,150 --> 00:41:54,510
a rope

998

00:41:54,619 --> 00:41:59,869
and what I like to call hygienic homies

999
00:41:57,048 --> 00:42:01,420
comes in at number four the fist bump is

1000
00:41:59,869 --> 00:42:03,680
the most hygienic of greetings

1001
00:42:01,420 --> 00:42:05,930
transferring up to ninety percent less

1002
00:42:03,679 --> 00:42:08,748
bacteria between people than a handshake

1003
00:42:05,929 --> 00:42:11,028
a high-five was also more hygienic than

1004
00:42:08,748 --> 00:42:12,858
the traditional handshake so all this

1005
00:42:11,028 --> 00:42:17,358
time Barack Obama wasn't only being

1006
00:42:12,858 --> 00:42:19,308
super cool is also being hygienic ever

1007
00:42:17,358 --> 00:42:21,259
wondered how much bacteria passes

1008
00:42:19,309 --> 00:42:23,539
between people when they kiss well now

1009
00:42:21,259 --> 00:42:25,699
we know dutch researchers studied

1010
00:42:23,539 --> 00:42:28,009
kissing couples and found that a six

1011
00:42:25,699 --> 00:42:30,108
second kiss transfers around 80 million

1012
00:42:28,009 --> 00:42:32,690

bacteria from mouth to mouth and

1013

00:42:30,108 --> 00:42:34,788

unsurprisingly this transfer means

1014

00:42:32,690 --> 00:42:37,130

couples have a more similar profile of

1015

00:42:34,789 --> 00:42:39,769

oral bacteria than two randomly paired

1016

00:42:37,130 --> 00:42:42,140

people and kind of disturbingly they've

1017

00:42:39,768 --> 00:42:44,028

opened a display in an Amsterdam museum

1018

00:42:42,139 --> 00:42:48,068

where you can kiss your partner and find

1019

00:42:44,028 --> 00:42:51,170

out your own bacteria transfer profile

1020

00:42:48,068 --> 00:42:54,079

at number two is a study which found the

1021

00:42:51,170 --> 00:42:56,180

ideal cheese for pizza now we can't say

1022

00:42:54,079 --> 00:42:58,579

move over mozzarella because it still

1023

00:42:56,179 --> 00:43:01,009

took top gong but we found out way more

1024

00:42:58,579 --> 00:43:03,920

than we really needed to about how

1025

00:43:01,009 --> 00:43:06,980

cheese's melt bubble release water and

1026

00:43:03,920 --> 00:43:09,019

oil and brown under heat it did develop

1027
00:43:06,980 --> 00:43:11,480
new techniques for studying food and

1028
00:43:09,018 --> 00:43:13,548
cheese characteristics and also gave us

1029
00:43:11,480 --> 00:43:18,259
information on how to customize our own

1030
00:43:13,548 --> 00:43:21,079
cheese blend for pizza and the number

1031
00:43:18,259 --> 00:43:23,028
one weird science story for 2014 is the

1032
00:43:21,079 --> 00:43:25,430
revelation we might be hitting peak

1033
00:43:23,028 --> 00:43:27,349
beard this stems from a study that found

1034
00:43:25,429 --> 00:43:29,929
that the most attractive facial hair a

1035
00:43:27,349 --> 00:43:31,940
man can have is heavy stubble but this

1036
00:43:29,929 --> 00:43:34,548
raises the question do these preferences

1037
00:43:31,940 --> 00:43:36,619
change researchers found that as a

1038
00:43:34,548 --> 00:43:38,869
particular facial hair style gets more

1039
00:43:36,619 --> 00:43:42,108
popular in the population it becomes

1040
00:43:38,869 --> 00:43:46,099
less attractive overall so rare is best

1041
00:43:42,108 --> 00:43:49,159
if you want to be most attractive that's

1042
00:43:46,099 --> 00:43:51,410
our top 5 weird science stories for 2014

1043
00:43:49,159 --> 00:43:55,909
there's more information on the RLS

1044
00:43:51,409 --> 00:43:58,278
websites are I aus org to a you follow

1045
00:43:55,909 --> 00:44:00,588
us on twitter at arias and like us on

1046
00:43:58,278 --> 00:44:03,130
facebook i'm ben lewis and we'll catch

1047
00:44:00,588 --> 00:44:03,130
you next week

1048
00:44:10,289 --> 00:44:15,608
ad hominem begging the question factoid

1049
00:44:13,480 --> 00:44:17,740
propagation false analogy false cause

1050
00:44:15,608 --> 00:44:19,568
false dichotomy gibberish immunized

1051
00:44:17,739 --> 00:44:21,129
hypothesis moral equivalence poison the

1052
00:44:19,568 --> 00:44:23,739
well simple modern certitude stacking a

1053
00:44:21,130 --> 00:44:25,660
deck and WTF are just some of the

1054
00:44:23,739 --> 00:44:28,149
fallacies we provide real life examples

1055

00:44:25,659 --> 00:44:32,049
of in hunting humbug 101 a podcast about

1056
00:44:28,150 --> 00:44:46,000
bad arguments check it out at WWF text

1057
00:44:32,050 --> 00:44:50,099
field guide net here's main art spooky

1058
00:44:46,000 --> 00:44:50,099
action at a distance

1059
00:44:51,110 --> 00:44:55,019
well it's time to get really paranoid

1060
00:44:52,980 --> 00:44:56,219
now it's paranoid corner would Maynard

1061
00:44:55,019 --> 00:44:58,139
here we have a doctor who is a

1062
00:44:56,219 --> 00:45:00,329
specialist in actually what is your name

1063
00:44:58,139 --> 00:45:02,759
why did you get your degree and what are

1064
00:45:00,329 --> 00:45:05,549
you a specialist in so my name is Grant

1065
00:45:02,760 --> 00:45:07,470
Hill Cawthon I did my original degree in

1066
00:45:05,550 --> 00:45:09,510
medicine because I wanted to become a

1067
00:45:07,469 --> 00:45:11,939
doctor I then became another type of

1068
00:45:09,510 --> 00:45:13,200
doctor so I did my PhD and I specialized

1069
00:45:11,940 --> 00:45:15,539

in infectious disease that's a

1070

00:45:13,199 --> 00:45:17,699

microbiology so I ask why why were you

1071

00:45:15,539 --> 00:45:19,679

drawn to that as a field it was

1072

00:45:17,699 --> 00:45:22,139

originally I was very interested in

1073

00:45:19,679 --> 00:45:24,210

neurology so I was interesting brains in

1074

00:45:22,139 --> 00:45:25,889

general and how they work and then I had

1075

00:45:24,210 --> 00:45:27,780

a few cases when I was a junior doctor

1076

00:45:25,889 --> 00:45:29,909

where it was quite clear that people

1077

00:45:27,780 --> 00:45:32,310

with viral infections of the brains or

1078

00:45:29,909 --> 00:45:33,649

fell through the gaps infectious disease

1079

00:45:32,309 --> 00:45:35,759

people didn't know what to do with them

1080

00:45:33,650 --> 00:45:37,950

neurologists didn't sigh one I then

1081

00:45:35,760 --> 00:45:40,140

specialize in infectious diseases to try

1082

00:45:37,949 --> 00:45:41,549

and fill some of that gap in okay and

1083

00:45:40,139 --> 00:45:43,049

you're going to be talking about a

1084
00:45:41,550 --> 00:45:44,850
boldly here today because that's getting

1085
00:45:43,050 --> 00:45:46,380
all the headlines and everything is is

1086
00:45:44,849 --> 00:45:48,269
that really anything we should even be

1087
00:45:46,380 --> 00:45:50,579
vaguely worried about in this country at

1088
00:45:48,269 --> 00:45:52,530
this time in this country there really

1089
00:45:50,579 --> 00:45:54,090
isn't much point being worried it you

1090
00:45:52,530 --> 00:45:56,730
might we might get an occasional

1091
00:45:54,090 --> 00:45:58,559
imported case here but really because we

1092
00:45:56,730 --> 00:46:00,719
have a first-rate health care system we

1093
00:45:58,559 --> 00:46:02,519
have good infection control and people

1094
00:46:00,719 --> 00:46:04,829
would be identified quickly you wouldn't

1095
00:46:02,519 --> 00:46:06,269
see any kind of forward transmission so

1096
00:46:04,829 --> 00:46:08,460
you won't see additional cases within

1097
00:46:06,269 --> 00:46:09,809
Australia although that didn't happen in

1098
00:46:08,460 --> 00:46:11,519
Texas there was someone to another

1099
00:46:09,809 --> 00:46:13,170
hospital in Texas and I didn't recognize

1100
00:46:11,519 --> 00:46:15,239
they had them based on their symptoms

1101
00:46:13,170 --> 00:46:17,670
what happened there so there they had a

1102
00:46:15,239 --> 00:46:19,289
very different set up in the US so they

1103
00:46:17,670 --> 00:46:21,510
the person that presented to the

1104
00:46:19,289 --> 00:46:23,519
hospital mr. Duncan went to his local

1105
00:46:21,510 --> 00:46:25,500
hospital and then was treated at his

1106
00:46:23,519 --> 00:46:27,239
local hospital the problem with doing

1107
00:46:25,500 --> 00:46:28,889
that is your healthcare staff for every

1108
00:46:27,239 --> 00:46:30,989
hospital in your country isn't going to

1109
00:46:28,889 --> 00:46:32,339
be trained to the same degree to use

1110
00:46:30,989 --> 00:46:35,250
different types of personal protective

1111
00:46:32,340 --> 00:46:37,019
equipment so in particular the nurses

1112

00:46:35,250 --> 00:46:38,699
that were involved in his hemodialysis

1113
00:46:37,019 --> 00:46:40,710
hadn't had any training so they had seen

1114
00:46:38,699 --> 00:46:42,239
a half an hour video on what they're

1115
00:46:40,710 --> 00:46:44,579
supposed to do and therefore weren't

1116
00:46:42,239 --> 00:46:46,739
prepared okay and we're better than that

1117
00:46:44,579 --> 00:46:48,358
generally in this country so in this

1118
00:46:46,739 --> 00:46:50,879
country we took a different approach we

1119
00:46:48,358 --> 00:46:52,829
decided to designate special quality in

1120
00:46:50,880 --> 00:46:54,630
hospitals in each state so if you

1121
00:46:52,829 --> 00:46:56,460
present to the wrong North Shore

1122
00:46:54,630 --> 00:46:58,140
Hospital and they think you might have a

1123
00:46:56,460 --> 00:46:59,550
bowler they'll isolate you and

1124
00:46:58,139 --> 00:47:02,190
immediately send you to Westmead

1125
00:46:59,550 --> 00:47:05,789
Hospital in Sydney for identify

1126
00:47:02,190 --> 00:47:07,980

treatment etc because in westmead we've

1127

00:47:05,789 --> 00:47:09,840

spent lots of time setting up two rooms

1128

00:47:07,980 --> 00:47:11,639

to contain these patients we've trained

1129

00:47:09,840 --> 00:47:14,070

all the staff are practiced and

1130

00:47:11,639 --> 00:47:17,400

practiced and so there's not the same

1131

00:47:14,070 --> 00:47:18,809

risk that you saw in the u.s. look I

1132

00:47:17,400 --> 00:47:21,000

would imagine the most dangerous thing

1133

00:47:18,809 --> 00:47:22,529

would be an airborne avian flu would

1134

00:47:21,000 --> 00:47:25,289

that be one the most dangerous things we

1135

00:47:22,530 --> 00:47:27,150

we could face as it as a human race some

1136

00:47:25,289 --> 00:47:28,800

some kind of flu so it doesn't

1137

00:47:27,150 --> 00:47:31,530

necessarily have to be avian flu but

1138

00:47:28,800 --> 00:47:33,420

certainly flu we know undergoes these

1139

00:47:31,530 --> 00:47:36,210

huge genetic changes to what we call

1140

00:47:33,420 --> 00:47:37,829

genetic shifts where you suddenly have a

1141
00:47:36,210 --> 00:47:39,449
version of flu that none of us have ever

1142
00:47:37,829 --> 00:47:41,340
seen so our immune systems don't know

1143
00:47:39,449 --> 00:47:44,039
how to respond to that and if it is

1144
00:47:41,340 --> 00:47:46,860
capable of being highly transmitted like

1145
00:47:44,039 --> 00:47:48,570
the 1918 Spanish flu for example then

1146
00:47:46,860 --> 00:47:51,420
that can have a dramatic effect on

1147
00:47:48,570 --> 00:47:54,360
humans so 1918 flu killed more people

1148
00:47:51,420 --> 00:47:56,280
than the First World War but isn't as

1149
00:47:54,360 --> 00:47:58,710
recognized by people and isn't as well

1150
00:47:56,280 --> 00:48:00,960
known so flu and viruses like that are

1151
00:47:58,710 --> 00:48:04,019
the ones to be worried about and what

1152
00:48:00,960 --> 00:48:05,760
makes a virus so infectious in layman's

1153
00:48:04,019 --> 00:48:07,409
terms I was talking about how it's

1154
00:48:05,760 --> 00:48:10,020
similar to hepatitis in transmission but

1155
00:48:07,409 --> 00:48:12,119
it's much more infective why is it so

1156
00:48:10,019 --> 00:48:13,469
what you tend to seem people who have a

1157
00:48:12,119 --> 00:48:15,299
bowler particularly when they're at the

1158
00:48:13,469 --> 00:48:16,949
stage where they're vomiting diarrhea or

1159
00:48:15,300 --> 00:48:20,190
even have the kind of bleeding symptoms

1160
00:48:16,949 --> 00:48:22,259
is I have very high viral loads so in

1161
00:48:20,190 --> 00:48:24,659
each milliliter of blood there's huge

1162
00:48:22,260 --> 00:48:27,120
amounts of virus and that virus if you

1163
00:48:24,659 --> 00:48:28,949
then transmit get some of that blood in

1164
00:48:27,119 --> 00:48:32,849
your eye or in your mouth or your nose

1165
00:48:28,949 --> 00:48:35,339
or four metal diarrhea or after they've

1166
00:48:32,849 --> 00:48:38,190
died and there's virus on the body then

1167
00:48:35,340 --> 00:48:40,470
it doesn't take much blood to actually

1168
00:48:38,190 --> 00:48:43,530
get infected by that virus the other key

1169

00:48:40,469 --> 00:48:46,049
thing with Ebola versus a HIV is it

1170
00:48:43,530 --> 00:48:48,090
takes very few virus particles to

1171
00:48:46,050 --> 00:48:50,070
actually set up an infection was in HIV

1172
00:48:48,090 --> 00:48:52,440
you need far more of the virus to

1173
00:48:50,070 --> 00:48:54,930
actually set it up in your body and they

1174
00:48:52,440 --> 00:48:56,970
got a cleared cause as to how this virus

1175
00:48:54,929 --> 00:48:58,949
came about as a due to the eating of

1176
00:48:56,969 --> 00:49:01,529
bush meat or some sort of transmutation

1177
00:48:58,949 --> 00:49:04,109
that way we know that Ebola lives within

1178
00:49:01,530 --> 00:49:06,150
bat populations in Africa and certainly

1179
00:49:04,110 --> 00:49:07,920
it looks like the bats have migrated

1180
00:49:06,150 --> 00:49:11,010
from Central Africa where they were

1181
00:49:07,920 --> 00:49:13,019
before over to West Africa so all of the

1182
00:49:11,010 --> 00:49:14,609
genetic information and the epidemiology

1183
00:49:13,019 --> 00:49:17,429

that's been done in Guinea where this

1184

00:49:14,608 --> 00:49:20,548

started points to a small town called

1185

00:49:17,429 --> 00:49:23,489

Millie and II where the parents were

1186

00:49:20,548 --> 00:49:25,920

preparing raw bat and their two-year-old

1187

00:49:23,489 --> 00:49:28,170

child inadvertently got infected with

1188

00:49:25,920 --> 00:49:30,059

Ebola and so that was patient zero if

1189

00:49:28,170 --> 00:49:31,829

you like and it's from there from

1190

00:49:30,059 --> 00:49:33,329

looking after that child the impact on

1191

00:49:31,829 --> 00:49:35,519

the family and then other people being

1192

00:49:33,329 --> 00:49:37,349

infected that this has then spread and

1193

00:49:35,518 --> 00:49:39,149

we've seen that with every Ebola

1194

00:49:37,349 --> 00:49:41,130

outbreak is it seems to have spilled

1195

00:49:39,150 --> 00:49:43,559

over from what we call the sylvatic

1196

00:49:41,130 --> 00:49:46,858

cycle so animals out there in nature and

1197

00:49:43,559 --> 00:49:49,289

this happens as we move into animals

1198
00:49:46,858 --> 00:49:51,028
territories so in guinea they realized

1199
00:49:49,289 --> 00:49:52,619
after the war finished and they had a

1200
00:49:51,028 --> 00:49:54,150
stable government they could now chop

1201
00:49:52,619 --> 00:49:56,670
down the trees and they have a good

1202
00:49:54,150 --> 00:49:58,289
source of income mining moved in cleared

1203
00:49:56,670 --> 00:50:00,059
lots of areas so you're suddenly getting

1204
00:49:58,289 --> 00:50:02,489
animals constrained in one small area

1205
00:50:00,059 --> 00:50:04,499
you getting people becoming more reliant

1206
00:50:02,489 --> 00:50:06,900
on that kind of meat and so you set up

1207
00:50:04,498 --> 00:50:08,998
these systems for getting what we call

1208
00:50:06,900 --> 00:50:11,220
zoonotic infections so infections from

1209
00:50:08,998 --> 00:50:13,348
animals to humans could ask you the

1210
00:50:11,219 --> 00:50:15,659
historical question as an infectious

1211
00:50:13,349 --> 00:50:17,460
diseases doctor I've heard that the

1212
00:50:15,659 --> 00:50:19,139
bubonic plague doesn't always match up

1213
00:50:17,460 --> 00:50:20,639
with some of the symptoms what the black

1214
00:50:19,139 --> 00:50:23,129
death was do you have any do you have

1215
00:50:20,639 --> 00:50:25,230
you heard about that at all yeah so what

1216
00:50:23,130 --> 00:50:28,170
we call plague yesenia's pestis which is

1217
00:50:25,230 --> 00:50:30,119
a bacteria has actually crossed over

1218
00:50:28,170 --> 00:50:31,950
into humans multiple times so there's

1219
00:50:30,119 --> 00:50:34,108
been some very recent genetic studies

1220
00:50:31,949 --> 00:50:35,939
that Sean the very first Justinian's

1221
00:50:34,108 --> 00:50:38,308
plague for example that affected and

1222
00:50:35,940 --> 00:50:40,679
helped bring about the end of the Roman

1223
00:50:38,309 --> 00:50:43,829
Empire was a former plague but that came

1224
00:50:40,679 --> 00:50:45,629
from animals but very sip separately to

1225
00:50:43,829 --> 00:50:47,970
the Black Death which moved over into

1226

00:50:45,630 --> 00:50:49,798
humans which is separate to the current

1227
00:50:47,969 --> 00:50:51,509
episodes of plague that you see in

1228
00:50:49,798 --> 00:50:53,369
Madagascar at the moment for example

1229
00:50:51,509 --> 00:50:55,769
where there's a big outbreak so they're

1230
00:50:53,369 --> 00:50:57,358
all cross-species transmissions it's not

1231
00:50:55,768 --> 00:50:59,219
near that the plague sits around for

1232
00:50:57,358 --> 00:51:01,139
ages and so there's slightly different

1233
00:50:59,219 --> 00:51:03,419
forms yes so they're slightly different

1234
00:51:01,139 --> 00:51:05,818
forms each time and so they have

1235
00:51:03,420 --> 00:51:08,278
different propensity to spread human to

1236
00:51:05,818 --> 00:51:09,929
human and so we see now the plague isn't

1237
00:51:08,278 --> 00:51:11,699
as bad as say the black death or

1238
00:51:09,929 --> 00:51:14,639
Justinian's plague it's less virulent

1239
00:51:11,699 --> 00:51:16,139
nowadays and as an infectious diseases

1240
00:51:14,639 --> 00:51:17,940

doctor you bit nervous when you go to a

1241

00:51:16,139 --> 00:51:20,639

salad bar in a public area and that sort

1242

00:51:17,940 --> 00:51:22,710

of thing no most of the time that's all

1243

00:51:20,639 --> 00:51:23,759

well controlled you don't wash your

1244

00:51:22,710 --> 00:51:27,730

hands a bit more than the average person

1245

00:51:23,759 --> 00:51:29,320

no I'm then part of the working in

1246

00:51:27,730 --> 00:51:30,789

just diseases you know what the risks

1247

00:51:29,320 --> 00:51:32,890

are you know that you have a good immune

1248

00:51:30,789 --> 00:51:35,230

system to fight these things if you eat

1249

00:51:32,889 --> 00:51:37,358

healthily you keep your immune system

1250

00:51:35,230 --> 00:51:39,159

fine to get enough sleep then you can

1251

00:51:37,358 --> 00:51:40,929

deal with those kind of infections as

1252

00:51:39,159 --> 00:51:42,549

they come along a bitch being to skip

1253

00:51:40,929 --> 00:51:44,199

big conference of it there's one phrase

1254

00:51:42,550 --> 00:51:47,019

you really hate that people say you can

1255
00:51:44,199 --> 00:51:48,429
strengthen your immune system yes and we

1256
00:51:47,019 --> 00:51:49,989
never quite know what that actually

1257
00:51:48,429 --> 00:51:52,000
means and actually it's interesting when

1258
00:51:49,989 --> 00:51:54,549
you think about things I pandemic flu or

1259
00:51:52,000 --> 00:51:57,099
Ebola that actually affects people with

1260
00:51:54,550 --> 00:51:58,900
strong immune systems were more than

1261
00:51:57,099 --> 00:52:01,179
people with weak immune systems because

1262
00:51:58,900 --> 00:52:02,980
it's really act against themselves yeah

1263
00:52:01,179 --> 00:52:04,868
it's there all of the symptoms are

1264
00:52:02,980 --> 00:52:06,340
because your immune system is reacting

1265
00:52:04,869 --> 00:52:09,340
to the virus it's not the virus itself

1266
00:52:06,340 --> 00:52:11,559
so actually in pandemic flu for example

1267
00:52:09,340 --> 00:52:13,780
or the deaths normally occur within the

1268
00:52:11,559 --> 00:52:15,489
18 to 40 age range where people have the

1269
00:52:13,780 --> 00:52:16,960
strongest immune system so yes

1270
00:52:15,489 --> 00:52:19,750
strengthening immune system doesn't

1271
00:52:16,960 --> 00:52:21,220
really mean that much yeah and taking

1272
00:52:19,750 --> 00:52:23,139
vitamin C doesn't mean that much is

1273
00:52:21,219 --> 00:52:24,759
nothing you can actually do to help is

1274
00:52:23,139 --> 00:52:27,069
there really no it's getting a good

1275
00:52:24,760 --> 00:52:29,530
balanced diet we know that vitamins in a

1276
00:52:27,070 --> 00:52:30,820
tablet form just don't really work in

1277
00:52:29,530 --> 00:52:32,320
the same way that they do if you get

1278
00:52:30,820 --> 00:52:34,119
them in fruit and veg and in a good

1279
00:52:32,320 --> 00:52:35,890
balanced diet so that's actually the

1280
00:52:34,119 --> 00:52:37,090
most important thing okay there's a

1281
00:52:35,889 --> 00:52:38,769
really frustrate you would some of the

1282
00:52:37,090 --> 00:52:40,600
popular media reports of the whole a

1283

00:52:38,769 --> 00:52:42,190
bowler thing or or anything really

1284
00:52:40,599 --> 00:52:43,690
because they they just tend to get the

1285
00:52:42,190 --> 00:52:45,760
wrong end of the stick and then beat

1286
00:52:43,690 --> 00:52:47,559
around the bush with it yeah and it is

1287
00:52:45,760 --> 00:52:49,690
always a big risk and actually with the

1288
00:52:47,559 --> 00:52:51,279
current Ebola outbreak the questions

1289
00:52:49,690 --> 00:52:52,809
have always been about what does it mean

1290
00:52:51,280 --> 00:52:54,280
for Australia what does it mean for the

1291
00:52:52,809 --> 00:52:57,279
United States there's very little

1292
00:52:54,280 --> 00:52:59,410
concentration on the 15,000 cases that

1293
00:52:57,280 --> 00:53:01,510
have occurred in West Africa the 5,000

1294
00:52:59,409 --> 00:53:04,118
deaths so that's where our attention

1295
00:53:01,510 --> 00:53:05,410
should be not what's the impact on us of

1296
00:53:04,119 --> 00:53:07,090
course I imagine you wouldn't be a big

1297
00:53:05,409 --> 00:53:09,399

supporter of her sending some homeopathy

1298

00:53:07,090 --> 00:53:10,809

over there really no and that's one of

1299

00:53:09,400 --> 00:53:12,670

the things we've we've actually seen

1300

00:53:10,809 --> 00:53:15,309

homeopathic practitioners go out there

1301

00:53:12,670 --> 00:53:16,960

and these countries have wised up to

1302

00:53:15,309 --> 00:53:18,969

this and are trying to stop visas

1303

00:53:16,960 --> 00:53:20,530

they're trying to bring about bands we

1304

00:53:18,969 --> 00:53:22,569

see the same thing with silver

1305

00:53:20,530 --> 00:53:25,150

preparations lots of going around about

1306

00:53:22,570 --> 00:53:27,070

that and the FDA has had to consistently

1307

00:53:25,150 --> 00:53:28,900

send out cease and desist letters to

1308

00:53:27,070 --> 00:53:31,420

these companies to try and stop this

1309

00:53:28,900 --> 00:53:32,920

misinformation from going about look get

1310

00:53:31,420 --> 00:53:34,750

out there on stage and spread the

1311

00:53:32,920 --> 00:53:36,400

critical thinking today yeah that's the

1312
00:53:34,750 --> 00:53:38,349
idea we're trying to dispel myths and

1313
00:53:36,400 --> 00:53:40,119
try and get the focus back on West

1314
00:53:38,349 --> 00:53:40,650
Africa and get an A to them rather than

1315
00:53:40,119 --> 00:53:42,690
why we know

1316
00:53:40,650 --> 00:53:45,450
about all of this these myths and

1317
00:53:42,690 --> 00:53:48,028
legends that surround Ebola I guess the

1318
00:53:45,449 --> 00:53:49,649
term is evidence-based yeah we won both

1319
00:53:48,028 --> 00:53:51,298
evidence-based medicine and that's what

1320
00:53:49,650 --> 00:53:53,309
we're pushing for in treatments but also

1321
00:53:51,298 --> 00:53:55,139
evidence-based policy so we need to

1322
00:53:53,309 --> 00:53:57,119
think and should we be banned in flight

1323
00:53:55,139 --> 00:53:59,159
should we be screening incoming

1324
00:53:57,119 --> 00:54:00,750
passengers should we be quarantine in

1325
00:53:59,159 --> 00:54:02,129
people when they don't have any signs of

1326
00:54:00,750 --> 00:54:04,170
infection these are the kind of things

1327
00:54:02,130 --> 00:54:05,400
that have been set up by certain

1328
00:54:04,170 --> 00:54:07,559
governments where there's no evidence

1329
00:54:05,400 --> 00:54:09,599
base for them and it's not good practice

1330
00:54:07,559 --> 00:54:12,260
so we need evidence based policy along

1331
00:54:09,599 --> 00:54:12,260
with medicine

1332
00:54:33,548 --> 00:54:38,000
thank you for listening to the skeptic

1333
00:54:36,139 --> 00:54:39,710
zone and thank you for the people

1334
00:54:38,000 --> 00:54:44,150
writing in saying how much you enjoy our

1335
00:54:39,710 --> 00:54:46,068
new reporters Joe alabaster and highly

1336
00:54:44,150 --> 00:54:48,380
robertson more from both of those

1337
00:54:46,068 --> 00:54:50,750
wonderful ladies coming up in the coming

1338
00:54:48,380 --> 00:54:53,869
weeks and thank you to those people who

1339
00:54:50,750 --> 00:54:59,298
are buying the vaccination chronicles

1340

00:54:53,869 --> 00:55:02,710
DVD by visiting www.mtv.com scrolling down

1341
00:54:59,298 --> 00:55:06,018
on the left there and finding the link

1342
00:55:02,710 --> 00:55:09,409
\$12 posted anywhere in the world you'll

1343
00:55:06,018 --> 00:55:12,169
get the DVD signed by me and then it's

1344
00:55:09,409 --> 00:55:15,108
up to you to watch it if you want copy

1345
00:55:12,170 --> 00:55:16,278
it oh yes copy it and copy it and copy

1346
00:55:15,108 --> 00:55:18,440
it and give it to your friends you can

1347
00:55:16,278 --> 00:55:20,809
copy it and copy it and copy it let's

1348
00:55:18,440 --> 00:55:24,440
get lots of copies out there for at the

1349
00:55:20,809 --> 00:55:27,410
moment now this measles outbreak here in

1350
00:55:24,440 --> 00:55:29,599
the United States I guess things like

1351
00:55:27,409 --> 00:55:31,699
these are really needed and as ever thank

1352
00:55:29,599 --> 00:55:34,068
you to the people who are show your

1353
00:55:31,699 --> 00:55:37,219
support for the skeptic zone by chipping

1354
00:55:34,068 --> 00:55:39,500

in with a paypal and you can do that at

1355

00:55:37,219 --> 00:55:43,098

the skeptics own website as well much

1356

00:55:39,500 --> 00:55:45,440

appreciated and necessary for the

1357

00:55:43,099 --> 00:55:49,759

continuation of the show but now it's

1358

00:55:45,440 --> 00:55:51,740

time for me to start looking at packing

1359

00:55:49,759 --> 00:55:54,528

my bags for that long trip across the

1360

00:55:51,739 --> 00:55:56,000

Pacific and until next week where i'll

1361

00:55:54,528 --> 00:55:58,579

be back in sydney australia this is

1362

00:55:56,000 --> 00:56:03,009

richard sodas signing off from the San

1363

00:55:58,579 --> 00:56:03,009

Francisco Bay Area California

1364

00:56:04,630 --> 00:56:12,050

you've been listening to the skeptic

1365

00:56:07,039 --> 00:56:15,829

zone visit our website at www.skeptics

1366

00:56:12,050 --> 00:56:18,760

on TV for comments contacts and extra

1367

00:56:15,829 --> 00:56:18,759

video reports

1368

00:56:21,860 --> 00:56:23,890

Oh

