

1  
00:00:05,939 --> 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  
00:00:22,699 --> 00:00:29,070  
hello and welcome to the skeptic zone

4  
00:00:25,528 --> 00:00:32,128  
episode number 368 for the 8th of

5  
00:00:29,070 --> 00:00:35,030  
November 2015 Richard Saunders here with

6  
00:00:32,128 --> 00:00:39,750  
you from Melbourne Melbourne Australia

7  
00:00:35,030 --> 00:00:42,030  
beautiful sunny rainy cold hot wintery

8  
00:00:39,750 --> 00:00:44,399  
summary and all the rest of it Melbourne

9  
00:00:42,030 --> 00:00:46,500  
I'm down here for a few days at the

10  
00:00:44,399 --> 00:00:49,289  
invitation of my good friend dr. Steve

11  
00:00:46,500 --> 00:00:51,539  
Roberts who's a longtime member of the

12  
00:00:49,289 --> 00:00:55,820  
skeptics and the Australian skeptic sell

13  
00:00:51,539 --> 00:00:59,280  
one of them UFO expert I brought with me

14  
00:00:55,820 --> 00:01:02,219  
60 kilos worth of UFO books for Steve

15  
00:00:59,280 --> 00:01:03,420  
Roberts and at the end of the show right

16  
00:01:02,219 --> 00:01:04,769  
at the end of the show we're going to be

17  
00:01:03,420 --> 00:01:08,969  
looking at some of these books and

18  
00:01:04,769 --> 00:01:11,070  
discussing UFOs should be interesting

19  
00:01:08,969 --> 00:01:12,599  
but before we do that before we do that

20  
00:01:11,069 --> 00:01:15,419  
we're going to kick off this week show

21  
00:01:12,599 --> 00:01:16,678  
the raw skeptic report with Heidi

22  
00:01:15,420 --> 00:01:20,129  
Robertson from the Northern Rivers

23  
00:01:16,679 --> 00:01:22,049  
vaccination supporters Heidi and some

24  
00:01:20,129 --> 00:01:23,549  
other people we know were asked to

25  
00:01:22,049 --> 00:01:28,399  
appear in front of a Senate committee

26  
00:01:23,549 --> 00:01:31,379  
last week looking at no jab no pay

27  
00:01:28,399 --> 00:01:34,978  
legislation here in Australia heidi's

28  
00:01:31,379 --> 00:01:36,689  
going to report on her presentation and

29

00:01:34,978 --> 00:01:39,390  
you'll hear a presentation to the senate

30  
00:01:36,689 --> 00:01:43,310  
committee also we're going to be hearing

31  
00:01:39,390 --> 00:01:46,709  
a little bit of the cacophony hoo-ha

32  
00:01:43,310 --> 00:01:49,289  
general miss be anything of the

33  
00:01:46,709 --> 00:01:52,978  
anti-vaccination crowd of the the

34  
00:01:49,289 --> 00:01:56,009  
hearing and it really drives home that a

35  
00:01:52,978 --> 00:01:59,239  
lot of these people are so wrapped up

36  
00:01:56,009 --> 00:02:02,939  
wound up in conspiracy theory and

37  
00:01:59,239 --> 00:02:06,270  
general distrust of the medical

38  
00:02:02,939 --> 00:02:08,219  
fraternity and the government it really

39  
00:02:06,269 --> 00:02:11,489  
comes across I'll play a little snippet

40  
00:02:08,219 --> 00:02:14,568  
of their their antics they're carrying

41  
00:02:11,489 --> 00:02:18,840  
on most undignified most unprofessional

42  
00:02:14,568 --> 00:02:22,560  
but it's their true colors and as

43  
00:02:18,840 --> 00:02:24,180

opposed to their carry-on Heidi and

44

00:02:22,560 --> 00:02:27,209

people from friends and science and

45

00:02:24,180 --> 00:02:30,030

medicine and stop the avian also gave

46

00:02:27,209 --> 00:02:32,979

presentations would calm were collected

47

00:02:30,030 --> 00:02:36,009

they had facts they were

48

00:02:32,979 --> 00:02:38,079

professional what a difference anyway

49

00:02:36,009 --> 00:02:40,090

you'll get a taste of all that coming up

50

00:02:38,080 --> 00:02:41,610

with a raw skeptic report with Heidi

51

00:02:40,090 --> 00:02:43,750

Robertson at the top of the show

52

00:02:41,610 --> 00:02:45,370

following that is a week in science from

53

00:02:43,750 --> 00:02:49,949

our friends at the Royal Institution of

54

00:02:45,370 --> 00:02:53,289

Australia www RI aus dog data you a find

55

00:02:49,949 --> 00:02:56,530

find scientific institution and they do

56

00:02:53,289 --> 00:02:59,439

good outreach to then it's Maynard

57

00:02:56,530 --> 00:03:01,598

spooky action Maynard with some Vox pops

58  
00:02:59,439 --> 00:03:03,489  
at the recent Australian skeptics

59  
00:03:01,598 --> 00:03:05,469  
national convention in Brisbane thank

60  
00:03:03,489 --> 00:03:07,170  
you to those are wonderful people in

61  
00:03:05,469 --> 00:03:10,870  
Brisbane who put that all together

62  
00:03:07,169 --> 00:03:13,809  
summer interviews here and there and the

63  
00:03:10,870 --> 00:03:16,180  
feature interview this week is with dr.

64  
00:03:13,810 --> 00:03:19,719  
Eugenie Scott from California who flew

65  
00:03:16,180 --> 00:03:22,299  
out for the convention now GD Scott has

66  
00:03:19,719 --> 00:03:24,598  
retired but she certainly has a lot to

67  
00:03:22,299 --> 00:03:27,609  
say about the current state of the

68  
00:03:24,598 --> 00:03:29,189  
creationism and evolution situation in

69  
00:03:27,609 --> 00:03:33,189  
the United States which is an ongoing

70  
00:03:29,189 --> 00:03:36,189  
concern all that coming up on this

71  
00:03:33,189 --> 00:03:39,009  
week's episode of the skeptic zone but

72  
00:03:36,189 --> 00:03:42,459  
now it's time for me to open up the door

73  
00:03:39,009 --> 00:03:44,409  
walk down the hall look in the fridge

74  
00:03:42,459 --> 00:03:48,189  
and see if there isn't some leftover

75  
00:03:44,409 --> 00:03:50,829  
cheesecake from a party that dr. Steve

76  
00:03:48,189 --> 00:03:53,019  
had the other night together with his

77  
00:03:50,829 --> 00:03:54,939  
wife Barbara they were celebrating the

78  
00:03:53,019 --> 00:03:59,019  
fact that Steve has built a new shed in

79  
00:03:54,939 --> 00:04:00,549  
his backyard hmm any excuse eh well I'm

80  
00:03:59,019 --> 00:04:03,489  
sure there's a bit of cheese cake left

81  
00:04:00,549 --> 00:04:07,950  
over if I'm lucky well I'm doing that I

82  
00:04:03,489 --> 00:04:07,950  
hope you enjoy the skeptic zone

83  
00:04:25,930 --> 00:04:39,410  
it's the raw skeptic report with Heidi

84  
00:04:29,899 --> 00:04:40,969  
Robertson hi everyone it's Heidi

85  
00:04:39,410 --> 00:04:44,330  
Robertson coming to you from the

86

00:04:40,970 --> 00:04:46,310  
northern rivers of New South Wales last

87  
00:04:44,329 --> 00:04:48,228  
Monday the second of November was a big

88  
00:04:46,310 --> 00:04:50,810  
day for the Northern Rivers vaccination

89  
00:04:48,228 --> 00:04:52,279  
supporters we were asked by a Senate

90  
00:04:50,810 --> 00:04:54,918  
committee to come and give a statement

91  
00:04:52,279 --> 00:04:57,679  
regarding our views on the proposed no

92  
00:04:54,918 --> 00:04:59,689  
jab nope a legislation that they are

93  
00:04:57,680 --> 00:05:02,329  
currently looking at passing here in

94  
00:04:59,689 --> 00:05:04,100  
Australia if you are unaware of this

95  
00:05:02,329 --> 00:05:06,560  
bill it is looking at removing

96  
00:05:04,100 --> 00:05:09,650  
conscientious and religious exemptions

97  
00:05:06,560 --> 00:05:12,228  
to vaccination leaving only medical

98  
00:05:09,649 --> 00:05:14,089  
exemptions religious exemptions are

99  
00:05:12,228 --> 00:05:16,219  
being removed as there are no mainstream

100  
00:05:14,089 --> 00:05:19,189

religions in Australia that oppose

101

00:05:16,220 --> 00:05:21,260  
vaccination currently in order to

102

00:05:19,189 --> 00:05:23,779  
receive certain government subsidies for

103

00:05:21,259 --> 00:05:26,199  
sending children to childcare a parent

104

00:05:23,779 --> 00:05:29,209  
has to have a form signed by adopter

105

00:05:26,199 --> 00:05:32,538  
indicating philosophical religious or

106

00:05:29,209 --> 00:05:34,879  
medical exemptions if those options are

107

00:05:32,538 --> 00:05:37,610  
now removed apart from the medical one

108

00:05:34,879 --> 00:05:40,490  
those families will miss out on certain

109

00:05:37,610 --> 00:05:42,410  
payments the Northern Rivers vaccination

110

00:05:40,490 --> 00:05:44,990  
supporters along with hundreds of others

111

00:05:42,410 --> 00:05:47,570  
put in a submission to the Senate about

112

00:05:44,990 --> 00:05:49,400  
this bill and we were very surprised

113

00:05:47,569 --> 00:05:51,379  
when we received an invitation to

114

00:05:49,399 --> 00:05:53,659  
Brisbane for the hearing and an

115  
00:05:51,379 --> 00:05:56,360  
opportunity to speak further about it in

116  
00:05:53,660 --> 00:06:00,110  
front of the Senate community affairs

117  
00:05:56,360 --> 00:06:02,930  
legislation committee also invited to

118  
00:06:00,110 --> 00:06:05,330  
speak was the stop the avn group and

119  
00:06:02,930 --> 00:06:07,910  
their representatives rang in via

120  
00:06:05,329 --> 00:06:10,269  
telephone they're excellent testimony

121  
00:06:07,910 --> 00:06:13,699  
was given by dr. John Cunningham

122  
00:06:10,269 --> 00:06:17,000  
epidemiologist dr. Dave Hawks virologist

123  
00:06:13,699 --> 00:06:19,939  
and dr. Patrick Stokes senior lecturer

124  
00:06:17,000 --> 00:06:22,218  
in philosophy other organizations

125  
00:06:19,939 --> 00:06:25,279  
represented on the day included the

126  
00:06:22,218 --> 00:06:27,500  
Australian Medical Association the Royal

127  
00:06:25,279 --> 00:06:30,109  
Australasian College of Physicians

128  
00:06:27,500 --> 00:06:32,509  
child care alliance Australia the

129  
00:06:30,110 --> 00:06:35,449  
Parenthood inspired family day care

130  
00:06:32,509 --> 00:06:37,969  
service the Public Health Association of

131  
00:06:35,449 --> 00:06:39,949  
Australia associate professor Julie

132  
00:06:37,970 --> 00:06:43,520  
leask the Department of Social Services

133  
00:06:39,949 --> 00:06:45,589  
and the Department of Health members of

134  
00:06:43,519 --> 00:06:47,659  
the public were also invited to speak in

135  
00:06:45,589 --> 00:06:51,739  
total for the day there were 20 of them

136  
00:06:47,660 --> 00:06:53,480  
at two minutes each for us it was

137  
00:06:51,740 --> 00:06:55,970  
slightly off-putting having the

138  
00:06:53,480 --> 00:06:59,150  
Australian vaccination skeptic networks

139  
00:06:55,970 --> 00:07:02,030  
former presidents Merrill dory and greg

140  
00:06:59,149 --> 00:07:05,149  
BTW in attendance who had also been

141  
00:07:02,029 --> 00:07:07,299  
invited to speak despite the H Triple C

142  
00:07:05,149 --> 00:07:10,879  
warning out against that particular

143

00:07:07,300 --> 00:07:13,879  
organization brett Smith naturopath and

144  
00:07:10,879 --> 00:07:16,639  
Debbie Kemp child care operator and both

145  
00:07:13,879 --> 00:07:20,719  
staunch anti-vaccination advocates also

146  
00:07:16,639 --> 00:07:22,939  
spoke just before US Senator Richard D

147  
00:07:20,720 --> 00:07:25,460  
natale was on the committee and ran in

148  
00:07:22,939 --> 00:07:27,610  
to ask a few questions and the hearing

149  
00:07:25,459 --> 00:07:30,349  
descended into a cacophony of

150  
00:07:27,610 --> 00:07:33,319  
anti-vaccination sentiment from members

151  
00:07:30,350 --> 00:07:35,660  
of the gallery and those on the panel it

152  
00:07:33,319 --> 00:07:37,939  
was frankly embarrassing to witness and

153  
00:07:35,660 --> 00:07:41,140  
almost certainly did not do anything

154  
00:07:37,939 --> 00:07:43,550  
positive for the anti-vaccination cause

155  
00:07:41,139 --> 00:07:45,860  
particularly when brett Smith basically

156  
00:07:43,550 --> 00:07:49,189  
accused senators of being Rupert

157  
00:07:45,860 --> 00:07:53,300

Murdoch's skills here's an example of

158

00:07:49,189 --> 00:07:55,129

how they carried on so I'm hoping that

159

00:07:53,300 --> 00:07:56,660

we can actually concentrate on the

160

00:07:55,129 --> 00:07:58,639

issues here and not worry about what

161

00:07:56,660 --> 00:08:01,520

Rupert Murdoch and news limited want you

162

00:07:58,639 --> 00:08:07,509

to so today at mrs. miss Sandra and

163

00:08:01,519 --> 00:08:10,099

Sally so unmannerly with no questions

164

00:08:07,509 --> 00:08:11,360

given that the hearing today hearing

165

00:08:10,100 --> 00:08:15,020

isn't actually about the effectiveness

166

00:08:11,360 --> 00:08:18,229

of back saying on more and more

167

00:08:15,019 --> 00:08:22,939

interested in the credibility of the

168

00:08:18,228 --> 00:08:26,870

witnesses here today now the in terms of

169

00:08:22,939 --> 00:08:30,199

the evidence provided by the Australian

170

00:08:26,870 --> 00:08:32,120

vaccination skeptics network there was a

171

00:08:30,199 --> 00:08:34,009

ruling made by the health complaints

172  
00:08:32,120 --> 00:08:35,009  
commission in New South Wales that the

173  
00:08:34,009 --> 00:08:37,139  
information

174  
00:08:35,009 --> 00:08:40,049  
they provide on vaccinations years and i

175  
00:08:37,139 --> 00:08:42,479  
quote misleading to the average reader

176  
00:08:40,049 --> 00:08:44,909  
because it's either incorrect in

177  
00:08:42,479 --> 00:08:46,530  
accurately represented or because it's

178  
00:08:44,909 --> 00:08:48,809  
been taken out of context that was a

179  
00:08:46,529 --> 00:08:52,500  
ruling or health complaints commission

180  
00:08:48,809 --> 00:08:55,919  
in New South Wales what has what is the

181  
00:08:52,500 --> 00:08:57,750  
organization done to correct the way in

182  
00:08:55,919 --> 00:09:00,899  
which they present that information how

183  
00:08:57,750 --> 00:09:02,610  
is that different today compared with

184  
00:09:00,899 --> 00:09:05,629  
the manner in which they've presented

185  
00:09:02,610 --> 00:09:08,399  
information on this issue in the past

186  
00:09:05,629 --> 00:09:10,860  
the ABN there's a lot of groups here

187  
00:09:08,399 --> 00:09:12,509  
that aren't represented by the avian and

188  
00:09:10,860 --> 00:09:14,430  
you're wasting a lot of our time I know

189  
00:09:12,509 --> 00:09:22,950  
mr. Murdock wants you to ask these

190  
00:09:14,429 --> 00:09:24,419  
questions a question it's going to be

191  
00:09:22,950 --> 00:09:27,660  
virtually impossible of people speak

192  
00:09:24,419 --> 00:09:29,610  
over one another now I can't I can't

193  
00:09:27,659 --> 00:09:31,889  
order send them tell you what questions

194  
00:09:29,610 --> 00:09:34,230  
to ask isn't time to ask these questions

195  
00:09:31,889 --> 00:09:35,939  
and you can choose to answer them in

196  
00:09:34,230 --> 00:09:38,580  
whatever way you like we are almost out

197  
00:09:35,940 --> 00:09:40,080  
of time and it is unhelpful so that so

198  
00:09:38,580 --> 00:09:48,450  
there was a question I missed most of it

199  
00:09:40,080 --> 00:09:49,620  
but if okay but they cannot know

200

00:09:48,450 --> 00:09:51,000  
instruct i'm not going to instruct

201  
00:09:49,620 --> 00:09:52,560  
senators how to ask their questions

202  
00:09:51,000 --> 00:09:54,750  
they're also laughs they ask their

203  
00:09:52,559 --> 00:09:56,969  
questions we are virtually out of times

204  
00:09:54,750 --> 00:10:00,090  
on would like to address the question

205  
00:09:56,970 --> 00:10:03,090  
the Senators how is more questions we

206  
00:10:00,090 --> 00:10:04,590  
don't know it sounds like that so it

207  
00:10:03,090 --> 00:10:06,540  
sounds like they will sorry sorry mrs.

208  
00:10:04,590 --> 00:10:10,700  
camp with your choice hold the time

209  
00:10:06,539 --> 00:10:10,699  
where we can say at the time so I

210  
00:10:11,370 --> 00:10:17,740  
order order order and now here is a

211  
00:10:15,580 --> 00:10:19,420  
recording of our statement the

212  
00:10:17,740 --> 00:10:27,850  
transcript can be found on our website

213  
00:10:19,419 --> 00:10:30,209  
at WWF is a info oh yes mrs. Robertson

214  
00:10:27,850 --> 00:10:32,290

thank you for inviting us here today

215

00:10:30,210 --> 00:10:34,090

we're here representing the Northern

216

00:10:32,289 --> 00:10:37,209

Rivers vaccination supporters we're an

217

00:10:34,090 --> 00:10:40,090

unfunded community advocacy group formed

218

00:10:37,210 --> 00:10:41,680

in 2013 as a result of concerns that we

219

00:10:40,090 --> 00:10:44,500

live in the region with Australia's

220

00:10:41,679 --> 00:10:46,719

lowest vaccination rates just under half

221

00:10:44,500 --> 00:10:49,870

of children aged 5 are fully vaccinated

222

00:10:46,720 --> 00:10:52,600

in mulund Bimby so the national average

223

00:10:49,870 --> 00:10:54,399

of over ninety percent vaccination

224

00:10:52,600 --> 00:10:58,149

coverage is pretty much irrelevant in

225

00:10:54,399 --> 00:10:59,829

pockets like ours we are in support of

226

00:10:58,149 --> 00:11:01,870

the proposed legislation for a number of

227

00:10:59,830 --> 00:11:03,220

reasons but we also have a couple of

228

00:11:01,870 --> 00:11:06,340

concerns about it that would like to

229  
00:11:03,220 --> 00:11:08,050  
share vaccinations don't only protect

230  
00:11:06,340 --> 00:11:10,930  
individuals they also protect

231  
00:11:08,049 --> 00:11:13,389  
communities and ricci vaccinating as a

232  
00:11:10,929 --> 00:11:14,979  
social responsibility it protects

233  
00:11:13,389 --> 00:11:17,049  
children and other members of society

234  
00:11:14,980 --> 00:11:18,519  
who are vulnerable to infectious disease

235  
00:11:17,049 --> 00:11:21,490  
such as babies too young to be

236  
00:11:18,519 --> 00:11:23,379  
vaccinated the elderly people with

237  
00:11:21,490 --> 00:11:25,750  
legitimate medical exemptions who cannot

238  
00:11:23,379 --> 00:11:28,870  
be vaccinated and immune suppressed

239  
00:11:25,750 --> 00:11:30,399  
people such as cancer patients child

240  
00:11:28,870 --> 00:11:32,620  
care facilities are where children are

241  
00:11:30,399 --> 00:11:35,470  
in close proximity with each other for

242  
00:11:32,620 --> 00:11:38,080  
extended periods of time putting them at

243  
00:11:35,470 --> 00:11:39,879  
greater risk of contagious disease this

244  
00:11:38,080 --> 00:11:42,430  
is even more concerning if a number of

245  
00:11:39,879 --> 00:11:44,200  
children there are not vaccinated as the

246  
00:11:42,429 --> 00:11:47,049  
disease's potentially being shared can

247  
00:11:44,200 --> 00:11:49,060  
be very dangerous we see it is

248  
00:11:47,049 --> 00:11:50,919  
particularly fitting then that the

249  
00:11:49,059 --> 00:11:52,750  
proposed legislation focuses on

250  
00:11:50,919 --> 00:11:54,879  
withholding a government subsidy that

251  
00:11:52,750 --> 00:11:56,980  
helps parents of unvaccinated children

252  
00:11:54,879 --> 00:11:59,919  
send their kids to attend childcare

253  
00:11:56,980 --> 00:12:01,990  
facilities we have heard one of the main

254  
00:11:59,919 --> 00:12:03,490  
concerns is that parents choices are

255  
00:12:01,990 --> 00:12:06,399  
being taken away from them if this

256  
00:12:03,490 --> 00:12:08,259  
legislation is passed our view is that

257

00:12:06,399 --> 00:12:10,480  
parents do in fact still have a choice

258  
00:12:08,259 --> 00:12:12,850  
but that choice not to vaccinate will

259  
00:12:10,480 --> 00:12:14,560  
now come with a consequence it is the

260  
00:12:12,850 --> 00:12:17,050  
parents choosing not to vaccinate their

261  
00:12:14,559 --> 00:12:18,729  
children not the legislation that will

262  
00:12:17,049 --> 00:12:19,029  
be disadvantaging their children and in

263  
00:12:18,730 --> 00:12:21,879  
dane

264  
00:12:19,029 --> 00:12:25,779  
the community is the legislation

265  
00:12:21,879 --> 00:12:27,429  
coercive yes but not unjustly so in our

266  
00:12:25,779 --> 00:12:29,319  
region our group has had an impact on

267  
00:12:27,429 --> 00:12:31,599  
some members of the community but

268  
00:12:29,320 --> 00:12:33,820  
vaccination rates remain dangerously low

269  
00:12:31,600 --> 00:12:36,430  
and we need a stronger incentive for

270  
00:12:33,820 --> 00:12:38,860  
people to vaccinate we believe that both

271  
00:12:36,429 --> 00:12:40,479

a carrot and a stick approach are needed

272

00:12:38,860 --> 00:12:42,789

we think that there needs to be more

273

00:12:40,480 --> 00:12:45,279

targeted educational campaigns and

274

00:12:42,789 --> 00:12:47,860

awareness raised and any access issues

275

00:12:45,279 --> 00:12:49,269

addressed but we also need consequences

276

00:12:47,860 --> 00:12:52,210

for those who make choices that put

277

00:12:49,269 --> 00:12:54,129

others at risk this is a public health

278

00:12:52,210 --> 00:12:57,160

issue there are consequences for

279

00:12:54,129 --> 00:12:58,840

speeding and for drink driving surely

280

00:12:57,159 --> 00:13:00,490

there should also be consequences if

281

00:12:58,840 --> 00:13:03,240

your actions leave the vulnerable at

282

00:13:00,490 --> 00:13:06,549

risk of preventable infectious disease

283

00:13:03,240 --> 00:13:09,009

the impact of pockets of low vaccination

284

00:13:06,549 --> 00:13:11,289

rates on the incidence of disease must

285

00:13:09,009 --> 00:13:12,759

be considered as babies and other

286  
00:13:11,289 --> 00:13:14,980  
vulnerable people are going to continue

287  
00:13:12,759 --> 00:13:18,549  
to get sick and die if something is not

288  
00:13:14,980 --> 00:13:22,830  
done as you may be aware Malachi

289  
00:13:18,549 --> 00:13:25,629  
Cockroft kayla smith Dana McCaffrey and

290  
00:13:22,830 --> 00:13:27,580  
Riley Hughes all passed away from

291  
00:13:25,629 --> 00:13:29,889  
whooping cough all too young to be

292  
00:13:27,580 --> 00:13:32,530  
vaccinated and all from areas with

293  
00:13:29,889 --> 00:13:34,840  
dangerously low vaccination rates there

294  
00:13:32,529 --> 00:13:38,500  
was no community immunity to shield them

295  
00:13:34,840 --> 00:13:39,970  
as in as another example one of the

296  
00:13:38,500 --> 00:13:41,529  
members of our group has a little girl

297  
00:13:39,970 --> 00:13:43,509  
who contracted whooping cough and a

298  
00:13:41,529 --> 00:13:46,509  
daycare center after an unvaccinated

299  
00:13:43,509 --> 00:13:47,919  
child attended with whooping cough this

300  
00:13:46,509 --> 00:13:50,200  
little girl now suffers from a condition

301  
00:13:47,919 --> 00:13:52,750  
called bronchiectasis with leaves which

302  
00:13:50,200 --> 00:13:54,160  
leaves her with lifelong lung damage she

303  
00:13:52,750 --> 00:13:56,860  
is another example of how this

304  
00:13:54,159 --> 00:13:59,069  
legislation can in the future prevent

305  
00:13:56,860 --> 00:14:01,180  
this from happening to other children

306  
00:13:59,070 --> 00:14:03,430  
we'd also like to point out that

307  
00:14:01,179 --> 00:14:05,589  
anecdotally this proposed legislation is

308  
00:14:03,429 --> 00:14:08,349  
already having a positive effect in our

309  
00:14:05,590 --> 00:14:09,910  
region we have had vaccine hesitant

310  
00:14:08,350 --> 00:14:11,860  
parents approached our group seeking

311  
00:14:09,909 --> 00:14:14,139  
more information about vaccination as a

312  
00:14:11,860 --> 00:14:16,480  
direct result of it and they have told

313  
00:14:14,139 --> 00:14:19,539  
us that they are now reconsidering their

314

00:14:16,480 --> 00:14:22,620  
stance local immunization providers have

315  
00:14:19,539 --> 00:14:25,319  
also reported similar stories

316  
00:14:22,620 --> 00:14:27,389  
one concern we do have specific for our

317  
00:14:25,320 --> 00:14:29,040  
region is that many people have an

318  
00:14:27,389 --> 00:14:31,080  
alternative health care provider rather

319  
00:14:29,039 --> 00:14:34,079  
than a GP as their primary health care

320  
00:14:31,080 --> 00:14:36,120  
practitioner this is problematic for a

321  
00:14:34,080 --> 00:14:37,290  
number of reasons it means that our

322  
00:14:36,120 --> 00:14:39,269  
notification rates of

323  
00:14:37,289 --> 00:14:42,179  
vaccine-preventable diseases may in fact

324  
00:14:39,269 --> 00:14:43,980  
be significantly underreported people

325  
00:14:42,179 --> 00:14:45,839  
are not being diagnosed or referred on

326  
00:14:43,980 --> 00:14:48,149  
by alternative health care practitioners

327  
00:14:45,840 --> 00:14:50,910  
and so notifications to public health

328  
00:14:48,149 --> 00:14:52,620

may not be happening in addition many

329

00:14:50,909 --> 00:14:54,480  
receive unproven remedies and

330

00:14:52,620 --> 00:14:57,090  
ineffective alternative vaccination

331

00:14:54,480 --> 00:14:59,700  
options such as homeopathy forgoing

332

00:14:57,090 --> 00:15:01,190  
proven preventive medicine effective

333

00:14:59,700 --> 00:15:03,330  
evidence-based treatments and

334

00:15:01,190 --> 00:15:06,720  
potentially remaining infectious for

335

00:15:03,330 --> 00:15:09,300  
longer as a result of all of this we

336

00:15:06,720 --> 00:15:10,860  
have parents in our group who are too

337

00:15:09,299 --> 00:15:13,109  
frightened to take their babies out in

338

00:15:10,860 --> 00:15:14,460  
public we have mothers not joining

339

00:15:13,110 --> 00:15:16,500  
mothers groups missing out on those

340

00:15:14,460 --> 00:15:19,259  
valuable social interactions and support

341

00:15:16,500 --> 00:15:21,179  
groups just yesterday a local dad

342

00:15:19,259 --> 00:15:22,980  
contacted us who is putting the family

343  
00:15:21,179 --> 00:15:24,479  
home on the market to move from the area

344  
00:15:22,980 --> 00:15:25,710  
because they can no longer cope with the

345  
00:15:24,480 --> 00:15:28,350  
prevailing sentiment regarding

346  
00:15:25,710 --> 00:15:30,629  
vaccination and the various conspiracy

347  
00:15:28,350 --> 00:15:32,430  
theories surrounding the issue we have

348  
00:15:30,629 --> 00:15:34,590  
parents contact us who have been told by

349  
00:15:32,429 --> 00:15:37,559  
other mums that vaccines cause autism or

350  
00:15:34,590 --> 00:15:39,480  
shaken baby syndrome doctors midwives

351  
00:15:37,559 --> 00:15:41,159  
and alternative healthcare practitioners

352  
00:15:39,480 --> 00:15:43,500  
in our region are giving conflicting

353  
00:15:41,159 --> 00:15:47,179  
advice leaving parents to wonder what

354  
00:15:43,500 --> 00:15:49,169  
the best thing is to do for their baby

355  
00:15:47,179 --> 00:15:52,889  
vaccination as you may have seen online

356  
00:15:49,169 --> 00:15:54,569  
has been equated to rape or said to be a

357  
00:15:52,889 --> 00:15:56,730  
government agenda to pander to

358  
00:15:54,570 --> 00:15:59,640  
pharmaceutical companies or as a form of

359  
00:15:56,730 --> 00:16:02,009  
population control the fear-mongering is

360  
00:15:59,639 --> 00:16:04,289  
relentless here we are fighting an

361  
00:16:02,009 --> 00:16:06,059  
uphill battle for our community and thus

362  
00:16:04,289 --> 00:16:08,370  
far there's been little research done in

363  
00:16:06,059 --> 00:16:10,109  
to our region as to what approaches may

364  
00:16:08,370 --> 00:16:12,659  
help people gain confidence in the

365  
00:16:10,110 --> 00:16:16,278  
vaccination schedule or in how to stop

366  
00:16:12,659 --> 00:16:18,379  
the relentless tired of misinformation

367  
00:16:16,278 --> 00:16:20,568  
to help counter these issues in addition

368  
00:16:18,379 --> 00:16:22,188  
to this legislation we would propose an

369  
00:16:20,568 --> 00:16:23,809  
annual reminder system linked to the

370  
00:16:22,188 --> 00:16:25,818  
Australian childhood immunization

371

00:16:23,809 --> 00:16:27,828  
register in order to keep the lines of

372  
00:16:25,818 --> 00:16:30,019  
communication open with vaccine hesitant

373  
00:16:27,828 --> 00:16:32,088  
parents we'd also like to see the money

374  
00:16:30,019 --> 00:16:33,828  
saved from the legislation go towards

375  
00:16:32,089 --> 00:16:36,050  
targeted education campaigns and

376  
00:16:33,828 --> 00:16:39,349  
research particularly into unique

377  
00:16:36,049 --> 00:16:41,568  
demographics like ours one last concern

378  
00:16:39,350 --> 00:16:43,430  
is the probability of vaccine refuses

379  
00:16:41,568 --> 00:16:45,708  
forming unregistered casual childcare

380  
00:16:43,429 --> 00:16:47,239  
alliances exposing the children in the

381  
00:16:45,708 --> 00:16:49,638  
wider community to outbreaks of

382  
00:16:47,240 --> 00:16:51,889  
preventable disease we would welcome any

383  
00:16:49,639 --> 00:16:54,980  
measures to have regulatory processes in

384  
00:16:51,889 --> 00:16:57,230  
place for such instances in conclusion

385  
00:16:54,980 --> 00:16:58,699

we do support this legislation as we

386

00:16:57,230 --> 00:17:01,129

believe that it will protect those who

387

00:16:58,698 --> 00:17:03,139

have no choice especially those kids in

388

00:17:01,129 --> 00:17:04,880

childcare who are vaccinated but

389

00:17:03,139 --> 00:17:06,439

continually exposed to disease that

390

00:17:04,880 --> 00:17:09,439

should be relegated to the history books

391

00:17:06,439 --> 00:17:11,298

by now the young the elderly and those

392

00:17:09,439 --> 00:17:13,579

to seek to be vaccinated themselves

393

00:17:11,298 --> 00:17:16,369

those are the people that deserve our

394

00:17:13,578 --> 00:17:18,859

protection thank you the committee will

395

00:17:16,369 --> 00:17:21,428

be reporting on this on Monday the

396

00:17:18,859 --> 00:17:25,609

nights of November we have been advised

397

00:17:21,429 --> 00:17:29,090

so we'll keep you posted that's all from

398

00:17:25,609 --> 00:17:31,250

me for this week until next time this is

399

00:17:29,089 --> 00:17:42,980

heidi robertson signing off

400  
00:17:31,250 --> 00:17:45,109  
bye welcome to a week in science from

401  
00:17:42,980 --> 00:17:47,569  
our iOS bringing you the science you

402  
00:17:45,109 --> 00:17:49,909  
need to know with features like parking

403  
00:17:47,569 --> 00:17:52,129  
assist automated breaking and adaptive

404  
00:17:49,910 --> 00:17:54,769  
cruise control we're already well on our

405  
00:17:52,130 --> 00:17:56,300  
way to having driverless cars in fact

406  
00:17:54,769 --> 00:18:01,180  
manufacturers say that they'll be in

407  
00:17:56,299 --> 00:18:01,180  
stores by 2020 so how do they work

408  
00:18:07,329 --> 00:18:12,799  
prototypes from nissen Volvo Audi and

409  
00:18:10,309 --> 00:18:14,809  
Google use a variety of sensors mounted

410  
00:18:12,799 --> 00:18:17,149  
on the car to build a detailed picture

411  
00:18:14,809 --> 00:18:19,609  
of its surroundings one of the main

412  
00:18:17,150 --> 00:18:22,340  
sensors is a type of laser called lidar

413  
00:18:19,609 --> 00:18:24,859  
it sends out rapid pulses of non visible

414  
00:18:22,339 --> 00:18:26,839  
light and measures the time they take to

415  
00:18:24,859 --> 00:18:29,000  
bounce off objects and return because

416  
00:18:26,839 --> 00:18:31,159  
light moves at a constant speed we can

417  
00:18:29,000 --> 00:18:33,769  
then calculate the cars distance from

418  
00:18:31,160 --> 00:18:36,200  
that object and build a 3d image of its

419  
00:18:33,769 --> 00:18:38,299  
environment the data from later is

420  
00:18:36,200 --> 00:18:40,250  
combined with video and radar sensor

421  
00:18:38,299 --> 00:18:42,349  
information and is processed by an

422  
00:18:40,250 --> 00:18:44,869  
on-board computer that makes decisions

423  
00:18:42,349 --> 00:18:47,750  
about steering braking and acceleration

424  
00:18:44,869 --> 00:18:50,059  
this sophisticated programming requires

425  
00:18:47,750 --> 00:18:52,130  
the computer to self learn so that it

426  
00:18:50,059 --> 00:18:56,069  
can still choose the correct action when

427  
00:18:52,130 --> 00:18:58,740  
it encounters unexpected scenarios

428

00:18:56,069 --> 00:19:00,329  
I can see the appeal of a driverless car

429  
00:18:58,740 --> 00:19:01,920  
allowing you to better use your

430  
00:19:00,329 --> 00:19:03,539  
commuting time and providing

431  
00:19:01,920 --> 00:19:06,090  
independence to people who couldn't

432  
00:19:03,539 --> 00:19:08,519  
otherwise drive plus they could save

433  
00:19:06,089 --> 00:19:10,349  
thousands of lives by removing human

434  
00:19:08,519 --> 00:19:12,690  
driver error which accounts for over

435  
00:19:10,349 --> 00:19:14,579  
ninety percent of crashes they could

436  
00:19:12,690 --> 00:19:17,039  
also benefit the environment by reducing

437  
00:19:14,579 --> 00:19:19,079  
the number of cars on the road one

438  
00:19:17,039 --> 00:19:20,849  
vehicle could serve the whole family by

439  
00:19:19,079 --> 00:19:23,699  
driving itself between pickups and

440  
00:19:20,849 --> 00:19:25,859  
drop-offs or in a reimagined taxi

441  
00:19:23,700 --> 00:19:28,319  
service rather than owning a car at all

442  
00:19:25,859 --> 00:19:30,409

you could lodge a transport request and

443

00:19:28,319 --> 00:19:32,909

whatever car is closest will pick you up

444

00:19:30,410 --> 00:19:35,250

smart braking and acceleration could

445

00:19:32,910 --> 00:19:37,470

potentially increase fuel efficiency by

446

00:19:35,250 --> 00:19:39,390

twenty-five percent and communication

447

00:19:37,470 --> 00:19:41,579

between cars will mean that road space

448

00:19:39,390 --> 00:19:43,830

is used better and commuting times

449

00:19:41,579 --> 00:19:46,109

become shorter but there are some

450

00:19:43,829 --> 00:19:50,730

concerns so let's take a look at the top

451

00:19:46,109 --> 00:19:53,099

four first are concerns about licensing

452

00:19:50,730 --> 00:19:56,370

and legal issues if your driver Lascar

453

00:19:53,099 --> 00:19:58,319

is in a crash who is liable viruses and

454

00:19:56,369 --> 00:20:00,779

malfunctions in the software are another

455

00:19:58,319 --> 00:20:02,849

worry if we can't have bug free internet

456

00:20:00,779 --> 00:20:05,700

browsers is it even possible to make a

457  
00:20:02,849 --> 00:20:07,740  
bug free car a third potential impact is

458  
00:20:05,700 --> 00:20:09,809  
that the technology will encourage urban

459  
00:20:07,740 --> 00:20:11,009  
sprawl with people tolerating long

460  
00:20:09,809 --> 00:20:14,099  
commutes when they're not actually

461  
00:20:11,009 --> 00:20:16,259  
driving and finally the idea of someone

462  
00:20:14,099 --> 00:20:18,719  
being able to remotely hack your car

463  
00:20:16,259 --> 00:20:21,390  
raises some scary safety and even

464  
00:20:18,720 --> 00:20:23,460  
terrorism concerns that's it for this

465  
00:20:21,390 --> 00:20:25,620  
week in science for more information on

466  
00:20:23,460 --> 00:20:29,400  
driverless cars go to the are ales

467  
00:20:25,619 --> 00:20:31,679  
website RI aus org dot a you follow us

468  
00:20:29,400 --> 00:20:33,960  
on twitter at our AOS and like us on

469  
00:20:31,680 --> 00:20:36,500  
facebook I'm curing room and we'll catch

470  
00:20:33,960 --> 00:20:36,500  
you next week

471  
00:20:45,960 --> 00:20:51,160  
on to help support the skeptic zone and

472  
00:20:48,819 --> 00:20:55,439  
look pretty damn stylish while you're

473  
00:20:51,160 --> 00:20:58,390  
about it visit mr. Katz origami jewelry

474  
00:20:55,440 --> 00:21:01,539  
wwc eggs on TV and click the link or

475  
00:20:58,390 --> 00:21:05,380  
simply Google mr. Katz origami jewelry

476  
00:21:01,539 --> 00:21:09,639  
also on Facebook pendants earrings and

477  
00:21:05,380 --> 00:21:22,570  
cufflinks support mr. cat support the

478  
00:21:09,640 --> 00:21:26,730  
skeptics own ears may not spooky action

479  
00:21:22,569 --> 00:21:30,750  
at the distance

480  
00:21:26,730 --> 00:21:31,890  
I look around a one here in our visiting

481  
00:21:30,750 --> 00:21:34,829  
American that you've already heard on

482  
00:21:31,890 --> 00:21:36,720  
the show we've got 0 ng rocky right now

483  
00:21:34,829 --> 00:21:38,548  
you've seen the Brisbane skeptics in

484  
00:21:36,720 --> 00:21:39,329  
action on stage how do you think if it

485

00:21:38,548 --> 00:21:40,740  
has its compared to the other ones

486  
00:21:39,329 --> 00:21:43,139  
you're being too around the world as you

487  
00:21:40,740 --> 00:21:44,308  
you are just traveling everywhere if

488  
00:21:43,140 --> 00:21:47,220  
there's a skeptical thing on you'll be

489  
00:21:44,308 --> 00:21:48,599  
there I love it i just love it the

490  
00:21:47,220 --> 00:21:53,630  
people are so wonderful and i love

491  
00:21:48,599 --> 00:21:55,949  
talking to people who have questioning

492  
00:21:53,630 --> 00:21:57,600  
mindset said well and it's a great venue

493  
00:21:55,950 --> 00:21:58,980  
to all this beautiful glass and the Sun

494  
00:21:57,599 --> 00:22:00,539  
shines coming in but got enough for your

495  
00:21:58,980 --> 00:22:03,120  
condition to keep it cool oh yeah the

496  
00:22:00,539 --> 00:22:05,789  
gardens are beautiful Joe Nickell

497  
00:22:03,119 --> 00:22:08,009  
cruising he's cruising boozing positive

498  
00:22:05,789 --> 00:22:09,509  
I reckon he'd be a tough guy if he goes

499  
00:22:08,009 --> 00:22:10,619

to buy like a washing machine and refrig

500

00:22:09,509 --> 00:22:12,869

she'd be the hardest guy to sell

501

00:22:10,619 --> 00:22:14,399

something to probably very likely he'd

502

00:22:12,869 --> 00:22:16,229

probably end up selling that person a

503

00:22:14,400 --> 00:22:19,169

wooden nickel yes something like that

504

00:22:16,230 --> 00:22:20,190

kind of guy and then kind of people have

505

00:22:19,169 --> 00:22:21,660

come to this long as you've been to a

506

00:22:20,190 --> 00:22:23,150

couple of different skeptics conventions

507

00:22:21,660 --> 00:22:26,009

in Australia is there a different

508

00:22:23,150 --> 00:22:27,360

Queenslander fields of this well I

509

00:22:26,009 --> 00:22:29,039

haven't been able to see as much of the

510

00:22:27,359 --> 00:22:30,479

city as i did when i was in Sydney but

511

00:22:29,039 --> 00:22:32,519

it looking because you've been going out

512

00:22:30,480 --> 00:22:34,529

at night you've been roaming the streets

513

00:22:32,519 --> 00:22:38,700

at night I wouldn't consider it roaming

514  
00:22:34,529 --> 00:22:40,889  
but whatever so anyway know that the

515  
00:22:38,700 --> 00:22:42,210  
people are just they're always wonderful

516  
00:22:40,890 --> 00:22:45,360  
and it's a little bit of a different

517  
00:22:42,210 --> 00:22:47,640  
feel to it it's a little less glitzy

518  
00:22:45,359 --> 00:22:50,979  
than it did down in Sydney but it but I

519  
00:22:47,640 --> 00:22:52,750  
just love that people are so genuine

520  
00:22:50,980 --> 00:22:54,970  
I'm here with one of the speakers I've

521  
00:22:52,750 --> 00:22:57,190  
just met what's your name sir Jim coin

522  
00:22:54,970 --> 00:22:59,558  
from Philadelphia ah Philadelphia that

523  
00:22:57,190 --> 00:23:01,179  
the city of that's brotherly love goes

524  
00:22:59,558 --> 00:23:03,099  
on there doesn't it that's right so they

525  
00:23:01,179 --> 00:23:08,380  
got same-sex marriage it or not oh yeah

526  
00:23:03,099 --> 00:23:10,119  
get a lively gay community also right is

527  
00:23:08,380 --> 00:23:12,340  
there a lively debate when it happened

528

00:23:10,119 --> 00:23:14,409  
or not no I think it was settled cool

529

00:23:12,339 --> 00:23:15,909  
yeah right yes so so why do you in the

530

00:23:14,410 --> 00:23:19,210  
desert we have grown up here when I like

531

00:23:15,910 --> 00:23:21,850  
this area I was attracted to university

532

00:23:19,210 --> 00:23:23,798  
of pennsylvania wow you're here this

533

00:23:21,849 --> 00:23:25,359  
weekend to talk about the pitfalls of

534

00:23:23,798 --> 00:23:26,889  
positive thinking would that be a good

535

00:23:25,359 --> 00:23:29,939  
way to say it's even better than that

536

00:23:26,890 --> 00:23:32,679  
the pseudoscience of positive psychology

537

00:23:29,940 --> 00:23:35,830  
there's no reason why we can't have a

538

00:23:32,679 --> 00:23:39,630  
science of how to lead a better life but

539

00:23:35,829 --> 00:23:42,879  
i think it's it's it's become such a

540

00:23:39,630 --> 00:23:46,419  
industry promoting self-help books in

541

00:23:42,880 --> 00:23:49,240  
coaching and it it's promoted by

542

00:23:46,419 --> 00:23:52,270  
undermining people sense of their

543  
00:23:49,240 --> 00:23:54,160  
comfortable in themselves throwing at

544  
00:23:52,269 --> 00:23:55,509  
you drew barrymore here now drew

545  
00:23:54,160 --> 00:23:57,640  
barrymore says it every morning she

546  
00:23:55,509 --> 00:23:59,769  
imagines her day going perfectly and her

547  
00:23:57,640 --> 00:24:01,450  
being successful and she creates her own

548  
00:23:59,769 --> 00:24:02,918  
reality by doing that would that be an

549  
00:24:01,450 --> 00:24:04,750  
example of what you're talking about

550  
00:24:02,919 --> 00:24:06,220  
Shirley and then it sets are up to be

551  
00:24:04,750 --> 00:24:07,630  
unhappy because it doesn't happen that

552  
00:24:06,220 --> 00:24:09,190  
way every day you know the fact that

553  
00:24:07,630 --> 00:24:11,950  
she's steven spielberg's goddaughter

554  
00:24:09,190 --> 00:24:13,870  
would help a lot that probably helps so

555  
00:24:11,950 --> 00:24:15,220  
what do you think we see successful

556  
00:24:13,869 --> 00:24:16,359

people doing this and we go oh well

557

00:24:15,220 --> 00:24:18,730

that's what I'm doing wrong that's why

558

00:24:16,359 --> 00:24:21,459

I'm not like Drew Barrymore absolutely I

559

00:24:18,730 --> 00:24:23,169

think it comes from being successful

560

00:24:21,460 --> 00:24:25,360

enough from doing those silly exercises

561

00:24:23,169 --> 00:24:26,950

hmm and so what should we be doing is

562

00:24:25,359 --> 00:24:28,359

there something where we think ok I'm

563

00:24:26,950 --> 00:24:30,519

going to do some positive thinking and

564

00:24:28,359 --> 00:24:32,289

how should we skeptically look at it ah

565

00:24:30,519 --> 00:24:34,089

we should be prepared for the

566

00:24:32,289 --> 00:24:38,079

possibility it won't be a good day and

567

00:24:34,089 --> 00:24:39,730

deal with it ok realism not optimism oh

568

00:24:38,079 --> 00:24:40,899

that's a neutral but realism is very

569

00:24:39,730 --> 00:24:42,400

good so you think people could set

570

00:24:40,900 --> 00:24:43,900

themselves up for perhaps being even

571  
00:24:42,400 --> 00:24:45,580  
more depressed when things don't go the

572  
00:24:43,900 --> 00:24:46,900  
way they want absolutely I think you can

573  
00:24:45,579 --> 00:24:49,629  
make yourself absolutely miserable

574  
00:24:46,900 --> 00:24:51,250  
trying too hard to be happy well so how

575  
00:24:49,630 --> 00:24:52,450  
do you find the happy medium how do you

576  
00:24:51,250 --> 00:24:54,250  
find that reality because for some

577  
00:24:52,450 --> 00:24:58,179  
people that can be difficult I think

578  
00:24:54,250 --> 00:24:59,919  
just suspend expectations runway the

579  
00:24:58,179 --> 00:25:01,560  
other and just deal with things as they

580  
00:24:59,919 --> 00:25:03,390  
come up positive or negative

581  
00:25:01,559 --> 00:25:05,429  
and I've been asking a few skeptics at

582  
00:25:03,390 --> 00:25:07,259  
this this weekend if there was one whew

583  
00:25:05,430 --> 00:25:09,450  
that was actually real if there was one

584  
00:25:07,259 --> 00:25:12,539  
sort of a pseudoscience it was real what

585  
00:25:09,450 --> 00:25:15,809  
would you like that one to be I think

586  
00:25:12,539 --> 00:25:17,430  
you can sir away oh right cuz I'd

587  
00:25:15,809 --> 00:25:20,250  
forgotten of course positive thinking

588  
00:25:17,430 --> 00:25:21,570  
goes into that so that can relay it oh

589  
00:25:20,250 --> 00:25:22,859  
that must be terrible for people because

590  
00:25:21,569 --> 00:25:24,869  
i think i've been doing the positive

591  
00:25:22,859 --> 00:25:26,429  
thinking the cans is not going away it's

592  
00:25:24,869 --> 00:25:30,419  
my fault you can get that early yeah

593  
00:25:26,430 --> 00:25:32,390  
yeah and and i think there's no evidence

594  
00:25:30,420 --> 00:25:35,640  
that attitude has anything to do with

595  
00:25:32,390 --> 00:25:37,440  
our physical outcomes of cancer and I

596  
00:25:35,640 --> 00:25:39,480  
think if people want to be angry and

597  
00:25:37,440 --> 00:25:41,309  
find no benefit it will find cancer

598  
00:25:39,480 --> 00:25:44,190  
inconvenient they should be free to do

599

00:25:41,309 --> 00:25:45,960  
that it won't affect their outcomes okay

600  
00:25:44,190 --> 00:25:47,850  
I'm what do you make of our skeptical

601  
00:25:45,960 --> 00:25:49,529  
movement here in Australia so far it's

602  
00:25:47,849 --> 00:25:51,839  
wonderful I think it's a bunch of

603  
00:25:49,529 --> 00:25:53,849  
citizen scientist going out in

604  
00:25:51,839 --> 00:25:55,529  
challenging people with evidence I I'd

605  
00:25:53,849 --> 00:25:57,619  
love to see more of that and where can

606  
00:25:55,529 --> 00:26:00,539  
we find your website read more about you

607  
00:25:57,619 --> 00:26:03,629  
just look at google coins of the realm

608  
00:26:00,539 --> 00:26:05,279  
one word wow ok great you have a great

609  
00:26:03,630 --> 00:26:06,690  
time here thank you very much i'm going

610  
00:26:05,279 --> 00:26:09,680  
to try and think positively but not too

611  
00:26:06,690 --> 00:26:09,680  
positive exactly

612  
00:26:14,039 --> 00:26:18,019  
new be here if I chechi from a skeptic

613  
00:26:16,750 --> 00:26:19,910

zone yes

614

00:26:18,019 --> 00:26:21,079

well everyone's rushing and hushing and

615

00:26:19,910 --> 00:26:22,670

pushing bit of coffee over in the corner

616

00:26:21,079 --> 00:26:24,710

and trying to get to the bananas before

617

00:26:22,670 --> 00:26:27,110

they run out but who we got here Ilana

618

00:26:24,710 --> 00:26:28,730

your first time in a skeptics event yes

619

00:26:27,109 --> 00:26:30,049

yes it is how did you get here these

620

00:26:28,730 --> 00:26:31,940

suspicious friends with you dragged you

621

00:26:30,049 --> 00:26:34,069

along well how did you get it yes cast

622

00:26:31,940 --> 00:26:35,870

is my chewed-up oh yeah and she was

623

00:26:34,069 --> 00:26:37,700

telling me about the society and she

624

00:26:35,869 --> 00:26:39,439

invited me along for the weekend what

625

00:26:37,700 --> 00:26:42,110

particular area of skepticism interest

626

00:26:39,440 --> 00:26:44,779

you um well we were talking about the

627

00:26:42,109 --> 00:26:47,119

anti-vaccine Lee and that's sort of what

628  
00:26:44,779 --> 00:26:49,430  
led us into there because my mother is

629  
00:26:47,119 --> 00:26:51,289  
very against vaccinations also you must

630  
00:26:49,430 --> 00:26:52,610  
have great Christmas dinners yeah so

631  
00:26:51,289 --> 00:26:54,920  
it's very amusing to talk to her about

632  
00:26:52,609 --> 00:26:57,109  
and Kass is giving me all the details on

633  
00:26:54,920 --> 00:26:59,000  
the background for it to hog you and

634  
00:26:57,109 --> 00:27:00,919  
create many fights with my mother yes I

635  
00:26:59,000 --> 00:27:02,119  
was gonna say yes because your parents

636  
00:27:00,920 --> 00:27:03,560  
know the buttons to push when they're

637  
00:27:02,119 --> 00:27:05,299  
arguing with the done thing and all that

638  
00:27:03,559 --> 00:27:07,700  
emotive stuff they break in your

639  
00:27:05,299 --> 00:27:09,829  
childhood and yeah so she's just been

640  
00:27:07,700 --> 00:27:11,809  
giving me the facts so I can have a very

641  
00:27:09,829 --> 00:27:13,579  
solid argument against her in her crazy

642  
00:27:11,809 --> 00:27:14,690  
ways so now what do you make of the

643  
00:27:13,579 --> 00:27:16,159  
people that come here they're there

644  
00:27:14,690 --> 00:27:17,779  
aren't many neckbeards normally you'd

645  
00:27:16,160 --> 00:27:20,180  
expect more neck neck beards than this

646  
00:27:17,779 --> 00:27:22,490  
but that yes yes as a good collection of

647  
00:27:20,180 --> 00:27:24,140  
jokers and jeans it's a fantastic I was

648  
00:27:22,490 --> 00:27:25,519  
also going to do joggers but I was told

649  
00:27:24,140 --> 00:27:27,530  
I wasn't allowed don't you dressed up

650  
00:27:25,519 --> 00:27:29,869  
yes I dressed up I thought I'd put my

651  
00:27:27,529 --> 00:27:31,549  
best foot forward for the first class

652  
00:27:29,869 --> 00:27:33,469  
convention I've only had the morning

653  
00:27:31,549 --> 00:27:34,879  
talk so we've had stuff about Wikipedia

654  
00:27:33,470 --> 00:27:36,440  
had stuff about diets is there anything

655  
00:27:34,880 --> 00:27:38,870  
you weren't oh yeah that's right in

656

00:27:36,440 --> 00:27:41,180  
other diet stuff was hilarious very well

657  
00:27:38,869 --> 00:27:42,889  
presented I was trying to hysterically

658  
00:27:41,180 --> 00:27:44,900  
laugh in the audience and break through

659  
00:27:42,890 --> 00:27:47,240  
and abuse have you been sucked into a

660  
00:27:44,900 --> 00:27:50,810  
fad diet at any stage hang on your

661  
00:27:47,240 --> 00:27:52,670  
friends laughing has she well we were

662  
00:27:50,809 --> 00:27:55,909  
both privately schooled and it comes

663  
00:27:52,670 --> 00:27:57,980  
with a lot of Pisces they get an engine

664  
00:27:55,910 --> 00:28:00,019  
from an early age crazy girls at lunches

665  
00:27:57,980 --> 00:28:01,640  
and what I'm definitely very familiar

666  
00:28:00,019 --> 00:28:03,170  
with lemon detox very mint formals

667  
00:28:01,640 --> 00:28:04,130  
coming you have to eat in a certain way

668  
00:28:03,170 --> 00:28:05,990  
and

669  
00:28:04,130 --> 00:28:07,580  
yes everybody scribbles away their

670  
00:28:05,990 --> 00:28:09,019

ritalin to take extra snout so they can

671

00:28:07,579 --> 00:28:12,049

thin down that sort of stuff oh yeah I

672

00:28:09,019 --> 00:28:13,970

know what goes on in the bra come on

673

00:28:12,049 --> 00:28:15,109

with it yes I which diet do you think

674

00:28:13,970 --> 00:28:17,180

was the funniest one there was some

675

00:28:15,109 --> 00:28:19,490

grapefruit ones the full moon diet

676

00:28:17,180 --> 00:28:21,259

definitely the werewolf start for those

677

00:28:19,490 --> 00:28:22,759

people werewolf that's right yeah it

678

00:28:21,259 --> 00:28:24,470

didn't actually say just said don't eat

679

00:28:22,759 --> 00:28:26,059

well as a full moon and then you'd eat

680

00:28:24,470 --> 00:28:28,670

other stuff at other cycles of the moon

681

00:28:26,059 --> 00:28:30,049

it's very specific bizarre what did you

682

00:28:28,670 --> 00:28:31,460

find out the weird diets which one did

683

00:28:30,049 --> 00:28:34,879

you think the strange I mean definitely

684

00:28:31,460 --> 00:28:36,950

yes the werewolf diet um I think the 55

685  
00:28:34,880 --> 00:28:39,380  
bites diet in general just hilarious

686  
00:28:36,950 --> 00:28:41,299  
since yeah exactly so much with your

687  
00:28:39,380 --> 00:28:43,310  
mouth sighs exactly as he argued i am

688  
00:28:41,299 --> 00:28:46,579  
also of Italian descent and I can eat a

689  
00:28:43,309 --> 00:28:47,929  
lot in five man tell me other southern

690  
00:28:46,579 --> 00:28:49,369  
Italians been looking in the northern

691  
00:28:47,930 --> 00:28:50,600  
Italians I thought it was that they're

692  
00:28:49,369 --> 00:28:52,489  
always arguing over there I think it's

693  
00:28:50,599 --> 00:28:56,389  
just more Sun more Sun you get tanner

694  
00:28:52,490 --> 00:28:57,380  
all right 10 ok let's go now what are

695  
00:28:56,390 --> 00:28:59,630  
you looking forward to for the rest of

696  
00:28:57,380 --> 00:29:02,420  
the weekend here with the skeptics um

697  
00:28:59,630 --> 00:29:03,500  
well I cheater Cassandra's talk we're

698  
00:29:02,420 --> 00:29:05,440  
looking forward to let I think it's on

699

00:29:03,500 --> 00:29:07,970

marijuana is it on yeah exactly

700

00:29:05,440 --> 00:29:09,440

wonderful well I heard this is the first

701

00:29:07,970 --> 00:29:10,850

of many skeptic events or have you been

702

00:29:09,440 --> 00:29:12,500

to many before have you know it's his

703

00:29:10,849 --> 00:29:14,899

first time but for both bathroom what do

704

00:29:12,500 --> 00:29:16,250

you make in the crowd um I think it's

705

00:29:14,900 --> 00:29:18,019

really interesting it's a great mix of

706

00:29:16,250 --> 00:29:19,190

people okay and it is really great to

707

00:29:18,019 --> 00:29:21,230

see more women getting involved in the

708

00:29:19,190 --> 00:29:22,370

movement too yes definitely well thank

709

00:29:21,230 --> 00:29:26,120

you very much to have some future

710

00:29:22,369 --> 00:29:28,189

activists here yes yes thank you and

711

00:29:26,119 --> 00:29:31,969

your names again hi Brina and a lot oh

712

00:29:28,190 --> 00:29:34,460

right I know so we're here in the cooler

713

00:29:31,970 --> 00:29:36,620  
section of the garden theater just down

714  
00:29:34,460 --> 00:29:38,539  
and I'm here that Eugenie Scott welcome

715  
00:29:36,619 --> 00:29:39,919  
to Australia yet again thank you of

716  
00:29:38,539 --> 00:29:41,659  
course when every year with the

717  
00:29:39,920 --> 00:29:43,820  
Australian skeptics you are with the

718  
00:29:41,660 --> 00:29:46,460  
cool people yeah well I'm glad we've got

719  
00:29:43,819 --> 00:29:47,899  
that worldwide reputation tell me when

720  
00:29:46,460 --> 00:29:50,390  
did you become a skeptic was there a

721  
00:29:47,900 --> 00:29:53,509  
moment where you said that's it I'm down

722  
00:29:50,390 --> 00:29:55,550  
with this stuff oh man that's a really

723  
00:29:53,509 --> 00:29:58,700  
hard question to it was a gradual

724  
00:29:55,549 --> 00:30:01,779  
process you know I maybe I'm getting old

725  
00:29:58,700 --> 00:30:06,350  
I don't remember I think certainly the

726  
00:30:01,779 --> 00:30:09,259  
the first glimpse that I got that there

727  
00:30:06,349 --> 00:30:10,969

actually was a can you call the skeptics

728

00:30:09,259 --> 00:30:12,920

organized that may not be the right but

729

00:30:10,970 --> 00:30:13,970

there was at there were actually a group

730

00:30:12,920 --> 00:30:17,810

of people who are

731

00:30:13,970 --> 00:30:20,509

cerned about crazy ideas that many

732

00:30:17,809 --> 00:30:22,429

people hold was back when I got

733

00:30:20,509 --> 00:30:24,289

interested in creationism which was as a

734

00:30:22,430 --> 00:30:25,700

graduate student and then one of my

735

00:30:24,289 --> 00:30:30,019

professor says well here's this

736

00:30:25,700 --> 00:30:32,930

organization called the you know a sigh

737

00:30:30,019 --> 00:30:34,639

cop and they're they're in there looking

738

00:30:32,930 --> 00:30:36,230

at all kinds of things including in

739

00:30:34,640 --> 00:30:38,480

creationism was one of the things on

740

00:30:36,230 --> 00:30:41,809

their list as well so I became aware

741

00:30:38,480 --> 00:30:43,940

that there was this whole universe out

742  
00:30:41,809 --> 00:30:48,230  
there of people who believed in things

743  
00:30:43,940 --> 00:30:52,160  
like astrology and so forth and and as

744  
00:30:48,230 --> 00:30:54,920  
it happens I have quite a few members of

745  
00:30:52,160 --> 00:30:58,700  
my own family who are quite enthusiastic

746  
00:30:54,920 --> 00:31:00,140  
about various woo topics so this has

747  
00:30:58,700 --> 00:31:02,150  
come up a bit this weekend but I've been

748  
00:31:00,140 --> 00:31:04,340  
talking to new skeptics old people

749  
00:31:02,150 --> 00:31:06,320  
people from University scientists

750  
00:31:04,339 --> 00:31:07,879  
there's someone in the family and what's

751  
00:31:06,319 --> 00:31:09,200  
the best way to handle that someone has

752  
00:31:07,880 --> 00:31:11,030  
had a bit of experience in this field

753  
00:31:09,200 --> 00:31:11,930  
obvious if you push too hard you're

754  
00:31:11,029 --> 00:31:14,269  
going to have a very unfriendly

755  
00:31:11,930 --> 00:31:16,759  
Christmas dinner well I don't think you

756  
00:31:14,269 --> 00:31:18,799  
can I mean I can talk to your crazy

757  
00:31:16,759 --> 00:31:20,599  
relative and maybe you can talk to my

758  
00:31:18,799 --> 00:31:23,450  
crazy relative but I can't talk to my

759  
00:31:20,599 --> 00:31:25,699  
crazy relative because they're just too

760  
00:31:23,450 --> 00:31:28,400  
many other things you've had a whole

761  
00:31:25,700 --> 00:31:31,779  
lifetime of relationships good better

762  
00:31:28,400 --> 00:31:34,460  
and different and to bring up a

763  
00:31:31,779 --> 00:31:36,649  
something like empirical evidence in

764  
00:31:34,460 --> 00:31:38,509  
logical ways of looking at things that's

765  
00:31:36,650 --> 00:31:40,160  
a completely different world than the

766  
00:31:38,509 --> 00:31:42,829  
kind of personal relationships you have

767  
00:31:40,160 --> 00:31:44,840  
with people so I'm quite serious it's

768  
00:31:42,829 --> 00:31:46,250  
like it's like debating politics and

769  
00:31:44,839 --> 00:31:49,099  
some if you're really serious about

770

00:31:46,250 --> 00:31:51,440  
politics you might want to persuade

771  
00:31:49,099 --> 00:31:53,869  
somebody else's goofy brother-in-law

772  
00:31:51,440 --> 00:31:56,999  
rather than your own and what's been the

773  
00:31:53,869 --> 00:32:01,708  
biggest battle you been fighting lately

774  
00:31:56,999 --> 00:32:03,509  
ah well I am retired now so technically

775  
00:32:01,709 --> 00:32:05,308  
speaking I don't have to fight the

776  
00:32:03,509 --> 00:32:06,598  
battles that my colleagues at the

777  
00:32:05,308 --> 00:32:11,038  
National Center for Science Education

778  
00:32:06,598 --> 00:32:14,128  
are doing quite well trying to keep lids

779  
00:32:11,038 --> 00:32:19,169  
on the creationism and anti climate

780  
00:32:14,128 --> 00:32:21,358  
change topics I I help where I can I'm

781  
00:32:19,169 --> 00:32:23,999  
still volunteering at NCSE I'm working

782  
00:32:21,358 --> 00:32:26,009  
in the archives but I'm not as on the

783  
00:32:23,999 --> 00:32:28,469  
front lines anymore have you started any

784  
00:32:26,009 --> 00:32:31,199

arguments on the internet lately no

785

00:32:28,469 --> 00:32:33,719

because I learned a long time ago that

786

00:32:31,199 --> 00:32:36,298

there are many more fruitful ways of

787

00:32:33,719 --> 00:32:39,509

spending my time mmm and it's

788

00:32:36,298 --> 00:32:41,278

creationism on the rise more or less and

789

00:32:39,509 --> 00:32:43,019

as the battle normally to be fought in

790

00:32:41,278 --> 00:32:44,959

Texas because of its power over the

791

00:32:43,019 --> 00:32:49,318

skills school book system in the US

792

00:32:44,959 --> 00:32:51,869

Texas is part of a conservative part of

793

00:32:49,318 --> 00:32:54,989

the country it's also a very large state

794

00:32:51,868 --> 00:32:56,608

it has a lot of students it has spends a

795

00:32:54,989 --> 00:32:59,509

lot of money on education there are many

796

00:32:56,608 --> 00:33:02,608

reasons why eyes tend to be on

797

00:32:59,509 --> 00:33:06,778

creationism and other education issues

798

00:33:02,608 --> 00:33:09,418

in Texas but it it shouldn't be tight

799  
00:33:06,778 --> 00:33:11,729  
the importance of Texas should not be

800  
00:33:09,419 --> 00:33:14,009  
overstated its actually waned over the

801  
00:33:11,729 --> 00:33:18,449  
years because there have been changes in

802  
00:33:14,009 --> 00:33:20,999  
the Texas regulations governing public

803  
00:33:18,449 --> 00:33:25,099  
public education they've also been

804  
00:33:20,999 --> 00:33:27,778  
changes in the textbook industry as well

805  
00:33:25,098 --> 00:33:30,259  
it used to be the case we would be

806  
00:33:27,778 --> 00:33:32,669  
extremely concerned about Texas because

807  
00:33:30,259 --> 00:33:34,858  
publishers would write for the very

808  
00:33:32,669 --> 00:33:37,259  
large Texas market and then everybody

809  
00:33:34,858 --> 00:33:40,769  
else would get their books now with

810  
00:33:37,259 --> 00:33:43,409  
modular publishing being so simple in

811  
00:33:40,769 --> 00:33:45,659  
the digital revolution etc etc you can

812  
00:33:43,409 --> 00:33:48,089  
write a book that's got goofball science

813  
00:33:45,659 --> 00:33:49,619  
for Texas and sorry about that for Texas

814  
00:33:48,088 --> 00:33:51,808  
students that's not so great but

815  
00:33:49,618 --> 00:33:54,028  
students in California don't have the

816  
00:33:51,808 --> 00:33:57,148  
grab don't have to have the crummy Texas

817  
00:33:54,028 --> 00:33:59,638  
book and so the power of Texas to

818  
00:33:57,148 --> 00:34:03,058  
influence textbooks across the board has

819  
00:33:59,638 --> 00:34:07,408  
waned considerably and with the power of

820  
00:34:03,058 --> 00:34:09,210  
religiosity with people driven and Phil

821  
00:34:07,409 --> 00:34:12,869  
they have to do some people's for hire

822  
00:34:09,210 --> 00:34:14,668  
does that make them a bit more bit more

823  
00:34:12,869 --> 00:34:15,750  
zealots than scientists would be because

824  
00:34:14,668 --> 00:34:17,368  
you're basically following the evidence

825  
00:34:15,750 --> 00:34:20,250  
where the people against you are

826  
00:34:17,369 --> 00:34:24,750  
following a higher power well I was used

827

00:34:20,250 --> 00:34:27,389  
to joke that we had a much tougher row

828  
00:34:24,750 --> 00:34:30,148  
to hoe those of us who support evolution

829  
00:34:27,389 --> 00:34:34,079  
than those who support creationism in

830  
00:34:30,148 --> 00:34:36,509  
public schools because you know Darwin

831  
00:34:34,079 --> 00:34:40,079  
did not die for anybody since we do not

832  
00:34:36,510 --> 00:34:43,320  
have that kind of existential if you

833  
00:34:40,079 --> 00:34:45,239  
will a power that goes along with

834  
00:34:43,320 --> 00:34:49,349  
salvation and many of these other

835  
00:34:45,239 --> 00:34:52,378  
religious beliefs that said it's I

836  
00:34:49,349 --> 00:34:55,080  
always also remind people that our best

837  
00:34:52,378 --> 00:34:57,630  
allies in keeping evolution in the

838  
00:34:55,079 --> 00:34:59,940  
schools in the American public schools

839  
00:34:57,630 --> 00:35:02,220  
is members of the mainstream clergy

840  
00:34:59,940 --> 00:35:04,980  
because they don't want somebody else's

841  
00:35:02,219 --> 00:35:09,259

religion taught in a science class so

842

00:35:04,980 --> 00:35:09,260

you have to be careful that you don't

843

00:35:09,500 --> 00:35:14,789

look at the creation and evolution

844

00:35:11,909 --> 00:35:16,649

problem in the United States is strictly

845

00:35:14,789 --> 00:35:19,409

uni-dimensional it isn't it's much more

846

00:35:16,650 --> 00:35:20,910

complicated than that well and what is

847

00:35:19,409 --> 00:35:25,649

something you see could arise a problem

848

00:35:20,909 --> 00:35:28,440

in the future well I'm waiting as it

849

00:35:25,650 --> 00:35:31,740

were I'm going to be giving a talk at

850

00:35:28,440 --> 00:35:34,019

the skeptics conference about the

851

00:35:31,739 --> 00:35:36,899

kitzmiller versus tovar intelligent

852

00:35:34,019 --> 00:35:39,900

design trial which was held now we're

853

00:35:36,900 --> 00:35:42,599

dating our broadcast here ten years ago

854

00:35:39,900 --> 00:35:47,880

this fall it's amazing that so much time

855

00:35:42,599 --> 00:35:50,809

has has passed and of course traditional

856  
00:35:47,880 --> 00:35:54,030  
young earth creationism is still around

857  
00:35:50,809 --> 00:35:56,940  
intelligent design is still around the

858  
00:35:54,030 --> 00:35:59,640  
fact that we defeat these people in

859  
00:35:56,940 --> 00:36:01,650  
court means that they have that doesn't

860  
00:35:59,639 --> 00:36:03,389  
mean that they just go away and change

861  
00:36:01,650 --> 00:36:07,349  
their ideas that means that they change

862  
00:36:03,389 --> 00:36:12,389  
their tactics the good news so far is

863  
00:36:07,349 --> 00:36:15,420  
that we've been able to keep ahead by

864  
00:36:12,389 --> 00:36:18,539  
and large because the anti evolutionist

865  
00:36:15,420 --> 00:36:21,119  
movement keeps making a lot of mistakes

866  
00:36:18,539 --> 00:36:23,759  
the major mistake that they have made

867  
00:36:21,119 --> 00:36:26,730  
through the many many decades is coming

868  
00:36:23,760 --> 00:36:30,750  
up with quote alternatives to evolution

869  
00:36:26,730 --> 00:36:33,440  
that all are too religious but the

870  
00:36:30,750 --> 00:36:36,090  
strategy that's being used right now is

871  
00:36:33,440 --> 00:36:37,860  
much more clever than those earlier

872  
00:36:36,090 --> 00:36:40,260  
strategies which were able to be

873  
00:36:37,860 --> 00:36:42,539  
defeated given our legal system because

874  
00:36:40,260 --> 00:36:44,550  
you cannot advocate school you cannot

875  
00:36:42,539 --> 00:36:46,679  
advocate religion in the public schools

876  
00:36:44,550 --> 00:36:48,960  
and we've been able to show that all of

877  
00:36:46,679 --> 00:36:52,019  
the various creationist or intelligent

878  
00:36:48,960 --> 00:36:53,820  
design efforts were attempts to get

879  
00:36:52,019 --> 00:36:56,489  
religion in the public school so we've

880  
00:36:53,820 --> 00:36:58,769  
succeeded there but now the effort is

881  
00:36:56,489 --> 00:37:01,439  
much more subtle it's sort of

882  
00:36:58,769 --> 00:37:04,349  
creationism by the back door rather than

883  
00:37:01,440 --> 00:37:06,360  
saying well let's teach evolution but

884

00:37:04,349 --> 00:37:08,309  
then balance it by teaching some kind of

885  
00:37:06,360 --> 00:37:10,920  
creationism or intelligent design

886  
00:37:08,309 --> 00:37:13,230  
they're saying we'll teach evolution but

887  
00:37:10,920 --> 00:37:15,750  
balance it by teaching the evidence

888  
00:37:13,230 --> 00:37:18,510  
against evolution and of course there

889  
00:37:15,750 --> 00:37:20,309  
isn't any mmm the only place you find

890  
00:37:18,510 --> 00:37:24,390  
the so-called evidence against evolution

891  
00:37:20,309 --> 00:37:26,779  
is in the creationist literature so it's

892  
00:37:24,389 --> 00:37:29,879  
a way of kind of slipping these ideas

893  
00:37:26,780 --> 00:37:35,190  
although not you know Frank creationism

894  
00:37:29,880 --> 00:37:37,230  
it's though a way of trying to teach

895  
00:37:35,190 --> 00:37:38,670  
students that evolution is really weak

896  
00:37:37,230 --> 00:37:41,369  
science they don't have to take it

897  
00:37:38,670 --> 00:37:43,380  
seriously with the assumption which is

898  
00:37:41,369 --> 00:37:45,420

probably fairly correct in a country

899

00:37:43,380 --> 00:37:49,920

like the United States that students

900

00:37:45,420 --> 00:37:52,860

will just automatically default if you

901

00:37:49,920 --> 00:37:55,079

will to the idea of creationism because

902

00:37:52,860 --> 00:37:56,970

they look at this dichotomy so it's

903

00:37:55,079 --> 00:37:59,130

either evolution or creationism with a

904

00:37:56,969 --> 00:38:01,319

few if evolution isn't any good then

905

00:37:59,130 --> 00:38:03,630

creation is a must've happened so it's a

906

00:38:01,320 --> 00:38:05,910

much more clever strategy in terms of

907

00:38:03,630 --> 00:38:09,440

the legal landscape in the United States

908

00:38:05,909 --> 00:38:11,699

and do who's who's been the toughest

909

00:38:09,440 --> 00:38:14,720

opponent you've come up against in your

910

00:38:11,699 --> 00:38:18,029

career of fighting creationism hmm

911

00:38:14,719 --> 00:38:21,089

interestingly enough I would say it was

912

00:38:18,030 --> 00:38:24,800

Henry Morris the founder of the creation

913  
00:38:21,090 --> 00:38:28,050  
science movement simply because he has

914  
00:38:24,800 --> 00:38:29,750  
he wrote so much he built this movement

915  
00:38:28,050 --> 00:38:34,510  
up out of nothing really

916  
00:38:29,750 --> 00:38:37,030  
he worked decades producing this idea of

917  
00:38:34,510 --> 00:38:38,780  
fled geology and young Earth Creationism

918  
00:38:37,030 --> 00:38:40,460  
imagine he has an answer for everything

919  
00:38:38,780 --> 00:38:44,000  
because he's experienced every question

920  
00:38:40,460 --> 00:38:46,730  
Henry Morris died and i think 2002 but

921  
00:38:44,000 --> 00:38:49,250  
he is still very very highly respected

922  
00:38:46,730 --> 00:38:51,050  
his books are still in print he has a

923  
00:38:49,250 --> 00:38:52,730  
huge amount of influence among

924  
00:38:51,050 --> 00:38:55,580  
conservative christians in the united

925  
00:38:52,730 --> 00:38:58,579  
states so as the founder of the movement

926  
00:38:55,579 --> 00:39:01,190  
he still is a force to be reckoned with

927  
00:38:58,579 --> 00:39:04,190  
even though he personally is not on the

928  
00:39:01,190 --> 00:39:06,740  
scene anymore but um with so many

929  
00:39:04,190 --> 00:39:08,420  
different sects like the Presbyterians

930  
00:39:06,739 --> 00:39:09,859  
and Methodists and the Anglicans and the

931  
00:39:08,420 --> 00:39:13,130  
Catholics they all believe in the same

932  
00:39:09,860 --> 00:39:14,870  
creationism myth not a bit pretty much

933  
00:39:13,130 --> 00:39:17,869  
every single one of the groups that you

934  
00:39:14,869 --> 00:39:19,880  
mentioned accepts evolution because

935  
00:39:17,869 --> 00:39:22,460  
their theology is something called

936  
00:39:19,880 --> 00:39:24,860  
theistic evolution which means we'll of

937  
00:39:22,460 --> 00:39:26,809  
course evolution took place living

938  
00:39:24,860 --> 00:39:28,820  
things descended with modification from

939  
00:39:26,809 --> 00:39:31,340  
earlier forms humans share common

940  
00:39:28,820 --> 00:39:35,059  
ancestors with other animals etc but

941

00:39:31,340 --> 00:39:39,019  
this was part of God's plan I what I

942  
00:39:35,059 --> 00:39:42,980  
found is that most religious people if

943  
00:39:39,019 --> 00:39:46,969  
you allow them to accommodate their

944  
00:39:42,980 --> 00:39:50,949  
religious views to science they can do

945  
00:39:46,969 --> 00:39:54,349  
it if you force people to make a

946  
00:39:50,949 --> 00:39:56,599  
dichotomous choice if you act like a

947  
00:39:54,349 --> 00:39:58,730  
creationist in other words force people

948  
00:39:56,599 --> 00:40:01,339  
to choose either between evolution or

949  
00:39:58,730 --> 00:40:03,889  
creation in the United States at least

950  
00:40:01,340 --> 00:40:07,010  
we're a very large percentage of the

951  
00:40:03,889 --> 00:40:10,329  
public is our people who believe in God

952  
00:40:07,010 --> 00:40:12,470  
and who have some religious affiliation

953  
00:40:10,329 --> 00:40:14,480  
people are going to say well if I have

954  
00:40:12,469 --> 00:40:17,000  
to choose obviously what I'm going to

955  
00:40:14,480 --> 00:40:19,429

choose is what gives my life meaning is

956

00:40:17,000 --> 00:40:24,139

what ties me to a community of people

957

00:40:19,429 --> 00:40:26,929

ties me to family ties me to my beliefs

958

00:40:24,139 --> 00:40:29,690

that I feel are very important why would

959

00:40:26,929 --> 00:40:32,599

I accept this idea that I don't really

960

00:40:29,690 --> 00:40:34,099

understand very well anyway by evolution

961

00:40:32,599 --> 00:40:37,069

I'm going to be I'm going to remain a

962

00:40:34,099 --> 00:40:38,960

creationist and what is Islam sit with

963

00:40:37,070 --> 00:40:40,800

creationism because there's would be

964

00:40:38,960 --> 00:40:43,530

very different again

965

00:40:40,800 --> 00:40:46,950

the basic story is very similar because

966

00:40:43,530 --> 00:40:50,400

in the three Middle Eastern monotheism's

967

00:40:46,949 --> 00:40:52,469

of Christianity Judaism and Islam you

968

00:40:50,400 --> 00:40:56,690

are still dealing with the basic genesis

969

00:40:52,469 --> 00:41:00,929

story Islam is fascinating because

970  
00:40:56,690 --> 00:41:05,730  
unlike Catholicism unlike Mormonism and

971  
00:41:00,929 --> 00:41:08,609  
like many Christian groups Islam is very

972  
00:41:05,730 --> 00:41:10,829  
decentralized there's no pope equivalent

973  
00:41:08,610 --> 00:41:12,809  
or president equivalent like with the

974  
00:41:10,829 --> 00:41:17,400  
Mormons there's no somebody there's no

975  
00:41:12,809 --> 00:41:19,710  
body that sets theology the Islam is

976  
00:41:17,400 --> 00:41:22,349  
sort of the original BYO theology I mean

977  
00:41:19,710 --> 00:41:26,220  
every little Imam can kind of interpret

978  
00:41:22,349 --> 00:41:29,819  
the Koran as he wants and as long as he

979  
00:41:26,219 --> 00:41:32,549  
can get a following he's going to have a

980  
00:41:29,820 --> 00:41:35,910  
group of people who will you know do

981  
00:41:32,550 --> 00:41:39,510  
what he says so what you find is a great

982  
00:41:35,909 --> 00:41:43,529  
deal of variation within Islam you find

983  
00:41:39,510 --> 00:41:45,660  
some better educated really Muslims who

984  
00:41:43,530 --> 00:41:48,000  
accept science and don't really have a

985  
00:41:45,659 --> 00:41:52,079  
problem but there really a minority the

986  
00:41:48,000 --> 00:41:53,989  
majority of of Imams out there are

987  
00:41:52,079 --> 00:41:56,389  
holding to a fairly literal

988  
00:41:53,989 --> 00:41:58,589  
interpretation of the Koran which

989  
00:41:56,389 --> 00:42:00,569  
whenever you have a literal

990  
00:41:58,590 --> 00:42:02,070  
interpretation of your holy sex you're

991  
00:42:00,570 --> 00:42:05,640  
going to have problems with science yeah

992  
00:42:02,070 --> 00:42:07,800  
and you in saying that that literal

993  
00:42:05,639 --> 00:42:11,699  
interpretation is wrong that the you got

994  
00:42:07,800 --> 00:42:14,220  
problems there yes exactly because you

995  
00:42:11,699 --> 00:42:18,149  
may be setting yourself up for a fatwa

996  
00:42:14,219 --> 00:42:19,500  
or some other kind of assault and so has

997  
00:42:18,150 --> 00:42:22,019  
have been any sort of issue with the

998

00:42:19,500 --> 00:42:24,239  
battle so far it has not so much in the

999  
00:42:22,019 --> 00:42:27,568  
United States more so in Great Britain

1000  
00:42:24,239 --> 00:42:29,848  
where you do have a fairly

1001  
00:42:27,568 --> 00:42:33,858  
large and increasingly vocal a

1002  
00:42:29,849 --> 00:42:37,559  
muslim-majority populum minority and

1003  
00:42:33,858 --> 00:42:41,130  
what I'm hearing and this is totally

1004  
00:42:37,559 --> 00:42:45,089  
anecdotal what I'm hearing from friends

1005  
00:42:41,130 --> 00:42:48,390  
of mine in who follow the education

1006  
00:42:45,088 --> 00:42:50,670  
situation in Great Britain is that there

1007  
00:42:48,389 --> 00:42:53,608  
are Muslim students who are causing

1008  
00:42:50,670 --> 00:42:55,318  
problems in class who don't want to be

1009  
00:42:53,608 --> 00:42:57,719  
taught evolution they're pushing back

1010  
00:42:55,318 --> 00:43:00,748  
against the teachers interestingly

1011  
00:42:57,719 --> 00:43:04,229  
enough although obviously Darwin was

1012  
00:43:00,748 --> 00:43:08,328

their guy right there's not a problem in

1013

00:43:04,228 --> 00:43:10,739

the United Kingdom with teachers or

1014

00:43:08,329 --> 00:43:13,769

citizenry in general who rejects

1015

00:43:10,739 --> 00:43:15,630

evolution that doesn't mean the teachers

1016

00:43:13,768 --> 00:43:18,568

really know enough about it to teach it

1017

00:43:15,630 --> 00:43:21,420

well and to feel confident that they can

1018

00:43:18,568 --> 00:43:24,058

answer some of the challenges that

1019

00:43:21,420 --> 00:43:26,548

Muslim students may be directing against

1020

00:43:24,059 --> 00:43:28,759

them so what I'm hearing and this is

1021

00:43:26,548 --> 00:43:33,690

just anecdotal and I would not want to

1022

00:43:28,759 --> 00:43:36,059

you know place a much faith in it

1023

00:43:33,690 --> 00:43:40,019

without more actual data but what I'm

1024

00:43:36,059 --> 00:43:44,249

hearing is that unfortunately the

1025

00:43:40,018 --> 00:43:45,568

situation in Great Britain is that many

1026

00:43:44,248 --> 00:43:48,208

of the teachers are just sort of

1027  
00:43:45,568 --> 00:43:50,969  
skipping evolution if they have a large

1028  
00:43:48,208 --> 00:43:52,739  
group of or at least an active group of

1029  
00:43:50,969 --> 00:43:54,449  
Muslim students because they just don't

1030  
00:43:52,739 --> 00:43:56,728  
want to put up with a hassle which is

1031  
00:43:54,449 --> 00:43:58,048  
exactly we understand that year this is

1032  
00:43:56,728 --> 00:44:00,419  
the problem we have in the United States

1033  
00:43:58,048 --> 00:44:02,670  
as well it's totally understandable and

1034  
00:44:00,420 --> 00:44:05,190  
the solution is fairly simple the full

1035  
00:44:02,670 --> 00:44:07,139  
solution is to make sure those teachers

1036  
00:44:05,190 --> 00:44:09,059  
know how to handle those kinds of

1037  
00:44:07,139 --> 00:44:12,179  
questions and make sure that those

1038  
00:44:09,059 --> 00:44:15,829  
teachers continue to teach good science

1039  
00:44:12,179 --> 00:44:18,298  
continue to teach evolution as a as a

1040  
00:44:15,829 --> 00:44:21,660  
non-controversial scientific explanation

1041  
00:44:18,298 --> 00:44:24,239  
look I'll look as good of a yet a naive

1042  
00:44:21,659 --> 00:44:26,159  
question here in that the theory of

1043  
00:44:24,239 --> 00:44:28,349  
evolution certainly proven but is this

1044  
00:44:26,159 --> 00:44:30,058  
bits of it that could be even added to

1045  
00:44:28,349 --> 00:44:31,769  
it to make it even more solid than is

1046  
00:44:30,059 --> 00:44:34,109  
already it was it such a done deal that

1047  
00:44:31,768 --> 00:44:37,409  
you can't deny it at all I always like

1048  
00:44:34,108 --> 00:44:39,748  
to help people understand that the way

1049  
00:44:37,409 --> 00:44:41,489  
to think about evolution is a sort of a

1050  
00:44:39,748 --> 00:44:44,500  
three-part

1051  
00:44:41,489 --> 00:44:47,529  
explanation the core idea of evolution

1052  
00:44:44,500 --> 00:44:49,750  
of biological evolution of common

1053  
00:44:47,530 --> 00:44:52,530  
ancestry living things of this this

1054  
00:44:49,750 --> 00:44:55,059  
branching and splitting Tree of Life a

1055

00:44:52,530 --> 00:45:00,099  
genealogical relationship among all

1056  
00:44:55,059 --> 00:45:02,530  
living things that is undeniable I mean

1057  
00:45:00,099 --> 00:45:04,298  
that is so well supported we're not

1058  
00:45:02,530 --> 00:45:06,910  
testing it anymore it would be

1059  
00:45:04,298 --> 00:45:09,670  
extraordinarily unusual if that were

1060  
00:45:06,909 --> 00:45:12,730  
overthrown because it just explains so

1061  
00:45:09,670 --> 00:45:15,579  
much so the core idea of common ancestry

1062  
00:45:12,730 --> 00:45:17,469  
is here to stay but we also have the

1063  
00:45:15,579 --> 00:45:20,440  
pattern of evolution how did that

1064  
00:45:17,469 --> 00:45:23,169  
genealogical relationship take place who

1065  
00:45:20,440 --> 00:45:25,150  
is related to home how closely what is

1066  
00:45:23,170 --> 00:45:27,430  
the Tree of Life really look at like

1067  
00:45:25,150 --> 00:45:29,440  
there's lots of unanswered questions in

1068  
00:45:27,429 --> 00:45:31,328  
that and that is where the real growth

1069  
00:45:29,440 --> 00:45:33,659

and evolution is taking place there

1070

00:45:31,329 --> 00:45:36,220

really is no missing link is there no

1071

00:45:33,659 --> 00:45:38,920

but then the third component is the

1072

00:45:36,219 --> 00:45:41,588

processor mechanisms of evolution how

1073

00:45:38,920 --> 00:45:44,170

does evolution take place not how does

1074

00:45:41,588 --> 00:45:46,179

this tree of life look but what are the

1075

00:45:44,170 --> 00:45:48,099

forces that bring about this branching

1076

00:45:46,179 --> 00:45:50,199

and splitting through time and there are

1077

00:45:48,099 --> 00:45:54,309

a lot of unanswered questions and that

1078

00:45:50,199 --> 00:45:57,068

as well so that is where gaps and

1079

00:45:54,309 --> 00:45:59,200

understanding if you will occur they

1080

00:45:57,068 --> 00:46:01,358

occur both in the pattern of evolution

1081

00:45:59,199 --> 00:46:04,269

as well as the process of evolution but

1082

00:46:01,358 --> 00:46:06,730

the big idea of common ancestry nobody's

1083

00:46:04,269 --> 00:46:09,519

arguing about that within the world of

1084  
00:46:06,730 --> 00:46:12,429  
science so we can't call in aliens to

1085  
00:46:09,519 --> 00:46:13,809  
explain the Cambrian explosion well you

1086  
00:46:12,429 --> 00:46:16,239  
can but you're going to be waiting a

1087  
00:46:13,809 --> 00:46:17,589  
long time for them to show up and the

1088  
00:46:16,239 --> 00:46:19,419  
evidence is a bit fit on the ground is

1089  
00:46:17,588 --> 00:46:20,828  
it yes indeed actually why did

1090  
00:46:19,420 --> 00:46:22,539  
everything happen bang at once and was

1091  
00:46:20,829 --> 00:46:24,519  
just all building up a bit pop why did

1092  
00:46:22,539 --> 00:46:27,639  
that happen then you know the Cambrian

1093  
00:46:24,519 --> 00:46:31,119  
explosion is pretty misunderstood for

1094  
00:46:27,639 --> 00:46:33,009  
one thing explosion is kind of a bad

1095  
00:46:31,119 --> 00:46:35,818  
term to use it's a term that's been

1096  
00:46:33,010 --> 00:46:38,380  
around really for decades but

1097  
00:46:35,818 --> 00:46:41,469  
paleontologists nowadays don't actually

1098  
00:46:38,380 --> 00:46:44,260  
think about it as something that takes

1099  
00:46:41,469 --> 00:46:46,539  
place in a very rapid period of time if

1100  
00:46:44,260 --> 00:46:47,900  
it's an explosion it's at a really slong

1101  
00:46:46,539 --> 00:46:51,558  
fuse okay

1102  
00:46:47,900 --> 00:46:53,660  
it's at least 30 million years relic a

1103  
00:46:51,559 --> 00:46:58,329  
lot can happen in 30 million years

1104  
00:46:53,659 --> 00:47:00,949  
exactly something 30 million years is

1105  
00:46:58,329 --> 00:47:04,849  
roughly the time that it took to get

1106  
00:47:00,949 --> 00:47:06,798  
from a land mammal to a whale okay so a

1107  
00:47:04,849 --> 00:47:11,119  
lot of stuff can take place in 30

1108  
00:47:06,798 --> 00:47:14,170  
million years on a geological scale it

1109  
00:47:11,119 --> 00:47:17,059  
was relatively quick but certainly not a

1110  
00:47:14,170 --> 00:47:19,490  
not a not an explosion and the way most

1111  
00:47:17,059 --> 00:47:21,410  
people think of it and really what the

1112

00:47:19,489 --> 00:47:24,558  
Cambrian why the Cambrian is so

1113  
00:47:21,409 --> 00:47:27,679  
fascinating to paleontologists is really

1114  
00:47:24,559 --> 00:47:30,470  
because some of the very basic body

1115  
00:47:27,679 --> 00:47:32,808  
plans of living things were laid down

1116  
00:47:30,469 --> 00:47:38,769  
the difference between a mollusk

1117  
00:47:32,809 --> 00:47:41,420  
something like a clam and a and insect

1118  
00:47:38,769 --> 00:47:43,250  
something that's got six legs or an

1119  
00:47:41,420 --> 00:47:46,130  
arachnid something with eight legs those

1120  
00:47:43,250 --> 00:47:49,039  
that that these basic body plans were

1121  
00:47:46,130 --> 00:47:52,778  
laid down in the Cambrian but then

1122  
00:47:49,039 --> 00:47:55,400  
there's been a huge amount of

1123  
00:47:52,778 --> 00:47:59,179  
development within those plans I mean

1124  
00:47:55,400 --> 00:48:01,608  
you know the basic coordinate body plan

1125  
00:47:59,179 --> 00:48:05,568  
of two legs in front two legs and back

1126  
00:48:01,608 --> 00:48:07,969

and a a spinal column kind of between

1127

00:48:05,568 --> 00:48:12,429

them and I had at one end and an anus at

1128

00:48:07,969 --> 00:48:15,469

the other that basic body plan has

1129

00:48:12,429 --> 00:48:18,048

developed into the huge range of

1130

00:48:15,469 --> 00:48:20,199

reptiles birds mammals and amphibians

1131

00:48:18,048 --> 00:48:22,278

that we see in the among the land

1132

00:48:20,199 --> 00:48:26,179

vertebrates and of course the huge

1133

00:48:22,278 --> 00:48:28,880

radiant radiation of fish as well so all

1134

00:48:26,179 --> 00:48:30,500

of that happened after the Cambrian it's

1135

00:48:28,880 --> 00:48:31,970

not like the Cambrian happened and all

1136

00:48:30,500 --> 00:48:34,159

of a sudden you got lions tigers and

1137

00:48:31,969 --> 00:48:36,048

bears that's not how it happen the

1138

00:48:34,159 --> 00:48:37,940

g-shot been great talking to you what's

1139

00:48:36,048 --> 00:48:39,108

your favorite result of evolution I got

1140

00:48:37,940 --> 00:48:40,818

to you know the platypus it have to be

1141  
00:48:39,108 --> 00:48:42,259  
pretty good that's pretty good why have

1142  
00:48:40,818 --> 00:48:47,599  
you got one that's a really a favorite

1143  
00:48:42,260 --> 00:48:51,500  
man that's done well oh boy hmm it keeps

1144  
00:48:47,599 --> 00:48:54,349  
changing I'm a physical anthropologist

1145  
00:48:51,500 --> 00:48:56,090  
by training so of course I am fascinated

1146  
00:48:54,349 --> 00:49:00,110  
with human evolution

1147  
00:48:56,090 --> 00:49:07,579  
and I really think that that the

1148  
00:49:00,110 --> 00:49:12,410  
transition from Homo erectus to modern

1149  
00:49:07,579 --> 00:49:17,329  
humans is a fascinating period of human

1150  
00:49:12,409 --> 00:49:21,529  
history and I'm watching that transition

1151  
00:49:17,329 --> 00:49:23,210  
and really enjoying learning about the

1152  
00:49:21,530 --> 00:49:25,820  
new fossil that are being discovered

1153  
00:49:23,210 --> 00:49:28,639  
that will kind of help bridge that gap

1154  
00:49:25,820 --> 00:49:31,070  
so how do you feel about any

1155  
00:49:28,639 --> 00:49:33,379  
extrapolation into exobiology do you

1156  
00:49:31,070 --> 00:49:35,150  
think that on another planet you would

1157  
00:49:33,380 --> 00:49:36,829  
necessarily have to have a dominant

1158  
00:49:35,150 --> 00:49:40,070  
species be whatever they are like a

1159  
00:49:36,829 --> 00:49:41,690  
human do things have to go that way they

1160  
00:49:40,070 --> 00:49:46,160  
didn't have to go that way on planet

1161  
00:49:41,690 --> 00:49:49,010  
earth but I think that Richard Dawkins

1162  
00:49:46,159 --> 00:49:52,849  
is absolutely correct when he says that

1163  
00:49:49,010 --> 00:49:56,810  
if we find life on another planet we

1164  
00:49:52,849 --> 00:49:58,759  
will find that the if you will governing

1165  
00:49:56,809 --> 00:50:01,519  
mechanism is going to be natural

1166  
00:49:58,760 --> 00:50:03,710  
selection we may not find things with

1167  
00:50:01,519 --> 00:50:05,809  
six appendages and eight appendages and

1168  
00:50:03,710 --> 00:50:07,550  
four appendages like we have here we may

1169

00:50:05,809 --> 00:50:10,820  
not find things with appendages at all

1170  
00:50:07,550 --> 00:50:13,340  
we may find that it's not carbon-based

1171  
00:50:10,820 --> 00:50:16,700  
even we may find that there are other

1172  
00:50:13,340 --> 00:50:21,610  
molecules that allow for the

1173  
00:50:16,699 --> 00:50:24,469  
multiplication of structure and and

1174  
00:50:21,610 --> 00:50:27,289  
individuals but we will find natural

1175  
00:50:24,469 --> 00:50:29,599  
selection and because we understand

1176  
00:50:27,289 --> 00:50:32,150  
natural selection as a mechanism that

1177  
00:50:29,599 --> 00:50:35,869  
brings about this branching and

1178  
00:50:32,150 --> 00:50:38,780  
splitting process of evolutionary change

1179  
00:50:35,869 --> 00:50:41,000  
we will be able to understand life on

1180  
00:50:38,780 --> 00:50:42,290  
other planets if we discover them okay

1181  
00:50:41,000 --> 00:50:43,610  
thank you for coming to Australia and

1182  
00:50:42,289 --> 00:50:48,579  
hanging out with the cool kids that

1183  
00:50:43,610 --> 00:50:48,579

wouldn't miss it for the world thank you

1184

00:51:06,059 --> 00:51:10,298

astronomy cast it takes a fact space

1185

00:51:08,409 --> 00:51:12,188

journey through the cosmos as it offers

1186

00:51:10,298 --> 00:51:14,889

listeners weekly discussions on

1187

00:51:12,188 --> 00:51:17,798

astronomical topics ranging from planets

1188

00:51:14,889 --> 00:51:20,108

to cosmology hosted by Fraser Cain of

1189

00:51:17,798 --> 00:51:21,099

Universe Today and myself dr. Pamela

1190

00:51:20,108 --> 00:51:23,768

gave southern illinois university

1191

00:51:21,099 --> 00:51:25,660

edwardsville this show brings the

1192

00:51:23,768 --> 00:51:28,088

questions of an avid astronomy lover

1193

00:51:25,659 --> 00:51:30,188

directly to an astronomer together

1194

00:51:28,088 --> 00:51:31,719

Fraser and I explore what is known and

1195

00:51:30,188 --> 00:51:34,478

being discovered about the universe

1196

00:51:31,719 --> 00:51:36,548

around us join us each week as we take a

1197

00:51:34,478 --> 00:51:49,868

fact space journey through the cosmos at

1198  
00:51:36,548 --> 00:51:51,818  
astronomy cast calm well as I mentioned

1199  
00:51:49,869 --> 00:51:54,039  
at the top of the show I'm visiting a

1200  
00:51:51,818 --> 00:51:56,108  
Melbourne Victoria at the moment at the

1201  
00:51:54,039 --> 00:51:58,719  
house of dr. Steve Roberts hello Steve

1202  
00:51:56,108 --> 00:52:00,248  
hello Richard it's good to be here now

1203  
00:51:58,719 --> 00:52:03,608  
we've known each other for many years

1204  
00:52:00,248 --> 00:52:07,568  
and you're you are of course Australian

1205  
00:52:03,608 --> 00:52:09,489  
skeptics UFO expert and the question is

1206  
00:52:07,568 --> 00:52:13,389  
how can you be an expert in something

1207  
00:52:09,489 --> 00:52:15,519  
which is unknown or probably not there I

1208  
00:52:13,389 --> 00:52:17,708  
mean when we think of UFOs most people

1209  
00:52:15,518 --> 00:52:20,438  
will think of alien spacecraft write

1210  
00:52:17,708 --> 00:52:22,208  
something identified yeah I know that's

1211  
00:52:20,438 --> 00:52:24,038  
what it means unidentified flying object

1212  
00:52:22,208 --> 00:52:26,739  
but in the popular imagination UFO

1213  
00:52:24,039 --> 00:52:28,569  
equals aliens coming to visit us and

1214  
00:52:26,739 --> 00:52:30,249  
have a look yeah yeah it's moved on from

1215  
00:52:28,568 --> 00:52:32,918  
just something that's unidentified like

1216  
00:52:30,248 --> 00:52:35,078  
a blip on a radar screen to have a sort

1217  
00:52:32,918 --> 00:52:37,478  
of more definite form like a flying

1218  
00:52:35,079 --> 00:52:40,359  
saucer with people that well people with

1219  
00:52:37,478 --> 00:52:43,149  
things in it beings inside it have come

1220  
00:52:40,358 --> 00:52:47,498  
to visit earth or crash lands they drive

1221  
00:52:43,150 --> 00:52:49,028  
badly you think that they wouldn't know

1222  
00:52:47,498 --> 00:52:51,518  
how to control their spaceships better

1223  
00:52:49,028 --> 00:52:53,768  
than that now with me I have brought

1224  
00:52:51,518 --> 00:52:56,139  
folks I am looking at stacks and stacks

1225  
00:52:53,768 --> 00:52:58,358  
of UFO books which one given to another

1226

00:52:56,139 --> 00:52:59,889  
friend of ours Martin Hadley from

1227  
00:52:58,358 --> 00:53:03,308  
another friend of his who was getting

1228  
00:52:59,889 --> 00:53:06,009  
rid of them I guess 60 kilos worth of

1229  
00:53:03,309 --> 00:53:08,650  
UFO books spanning years and years and

1230  
00:53:06,009 --> 00:53:09,639  
years first when we pick up there's a

1231  
00:53:08,650 --> 00:53:12,130  
book called let's how

1232  
00:53:09,639 --> 00:53:15,028  
they're friendly here's one the day

1233  
00:53:12,130 --> 00:53:18,369  
after roswell and we just go through

1234  
00:53:15,028 --> 00:53:22,268  
UFOs that's a great the alien encounters

1235  
00:53:18,369 --> 00:53:24,309  
there we go in customs forbidden Islands

1236  
00:53:22,268 --> 00:53:26,919  
forbidden science with a picture of a

1237  
00:53:24,309 --> 00:53:30,839  
pyramid on it making technologies to

1238  
00:53:26,920 --> 00:53:34,650  
free energy the face on Mars that's a

1239  
00:53:30,838 --> 00:53:36,719  
book so that's something isn't it the

1240  
00:53:34,650 --> 00:53:40,740

unexplained what else have we got here

1241  
00:53:36,719 --> 00:53:43,389  
for nobody's eyes only above top-secret

1242  
00:53:40,739 --> 00:53:45,548  
UFOs above the law well I imagine they

1243  
00:53:43,389 --> 00:53:47,108  
would be above the law and fold I know

1244  
00:53:45,548 --> 00:53:48,849  
many of these books and some are good

1245  
00:53:47,108 --> 00:53:50,528  
the above top secret one is actually one

1246  
00:53:48,849 --> 00:53:52,630  
of the better ones oh yeah for a more

1247  
00:53:50,528 --> 00:53:54,909  
coherent researcher who's actually got

1248  
00:53:52,630 --> 00:53:57,369  
his act together and is only slightly

1249  
00:53:54,909 --> 00:54:00,548  
tainted with the obsession that there

1250  
00:53:57,369 --> 00:54:02,200  
must be a conspiracy or foot now well it

1251  
00:54:00,548 --> 00:54:03,969  
strikes me Steve as we look at all these

1252  
00:54:02,199 --> 00:54:05,679  
books and I don't have any go out of 50

1253  
00:54:03,969 --> 00:54:09,129  
60 books here something like that over

1254  
00:54:05,679 --> 00:54:11,048  
probably so many books on the topic and

1255  
00:54:09,130 --> 00:54:12,760  
they go at these photographs and there's

1256  
00:54:11,048 --> 00:54:14,469  
accounts and there's this is one look

1257  
00:54:12,760 --> 00:54:15,940  
here we are pictures of aliens they look

1258  
00:54:14,469 --> 00:54:19,268  
like you know it looks like a praying

1259  
00:54:15,940 --> 00:54:23,440  
mantis star map that look menacing but

1260  
00:54:19,268 --> 00:54:25,088  
that they too first of all I guess one

1261  
00:54:23,440 --> 00:54:27,099  
of the points we can make is no matter

1262  
00:54:25,088 --> 00:54:30,699  
how many books there are on a subject

1263  
00:54:27,099 --> 00:54:33,130  
like UFOs and here we have a huge huge

1264  
00:54:30,699 --> 00:54:35,230  
amount of books it doesn't therefore

1265  
00:54:33,130 --> 00:54:37,619  
equate to they must be here does it

1266  
00:54:35,230 --> 00:54:40,119  
while you have lots and lots of books

1267  
00:54:37,619 --> 00:54:41,980  
does actually mean is easy there we know

1268  
00:54:40,119 --> 00:54:44,710  
how many books are there about religion

1269  
00:54:41,980 --> 00:54:46,778  
and the Bible and all other religions

1270  
00:54:44,710 --> 00:54:49,449  
years ago howdy books on that and

1271  
00:54:46,778 --> 00:54:51,309  
there's actually maybe nothing there but

1272  
00:54:49,449 --> 00:54:53,379  
yo peeps you see something they think of

1273  
00:54:51,309 --> 00:54:55,619  
something going on but when you track

1274  
00:54:53,380 --> 00:54:58,990  
the evidence down there isn't any oh

1275  
00:54:55,619 --> 00:55:00,700  
it's too vague but it was like sometimes

1276  
00:54:58,989 --> 00:55:03,278  
it's been interfered with or you can

1277  
00:55:00,699 --> 00:55:05,818  
make it look like that so after rd who

1278  
00:55:03,278 --> 00:55:08,500  
say up the absence of evidence is

1279  
00:55:05,818 --> 00:55:10,808  
actually evidence for conspiracy going

1280  
00:55:08,500 --> 00:55:11,949  
on there must be evidence because people

1281  
00:55:10,809 --> 00:55:14,259  
have seen there must be something

1282  
00:55:11,949 --> 00:55:17,139  
happening this is no ever somebody's

1283

00:55:14,259 --> 00:55:19,240  
hiding it all alien encounters true life

1284  
00:55:17,139 --> 00:55:21,358  
stories of aliens UFOs another

1285  
00:55:19,239 --> 00:55:25,219  
extraterrestrial phenomena

1286  
00:55:21,358 --> 00:55:30,139  
whoo laws morning my own business yeah

1287  
00:55:25,219 --> 00:55:33,659  
and UFOs in the national security state

1288  
00:55:30,139 --> 00:55:35,429  
it's it's just staggering to me that so

1289  
00:55:33,659 --> 00:55:38,518  
many books can be written on something

1290  
00:55:35,429 --> 00:55:40,078  
and this is now 22 2015 this still

1291  
00:55:38,518 --> 00:55:41,969  
hadn't arrived I mean there's still no

1292  
00:55:40,079 --> 00:55:44,460  
good evidence for them well when I say

1293  
00:55:41,969 --> 00:55:46,798  
there- extraterrestrials visiting birth

1294  
00:55:44,460 --> 00:55:48,599  
yeah there are no there was it's not so

1295  
00:55:46,798 --> 00:55:50,309  
there's a SETI program of course which

1296  
00:55:48,599 --> 00:55:52,859  
is yours it all that it might be radio

1297  
00:55:50,309 --> 00:55:54,269

signals and because send hours and 80s

1298

00:55:52,858 --> 00:55:56,778

to send there's we could hope do you

1299

00:55:54,268 --> 00:55:59,939

pick them up that that's a plausible

1300

00:55:56,778 --> 00:56:01,768

proposition likely or does another

1301

00:55:59,940 --> 00:56:04,289

discussion but so with a peeler of

1302

00:56:01,768 --> 00:56:06,449

actually landed father that's angel

1303

00:56:04,289 --> 00:56:08,430

flying saucer occupants might all the

1304

00:56:06,449 --> 00:56:12,719

wings on keepers this is from the night

1305

00:56:08,429 --> 00:56:15,179

you since the book lady see ya flying

1306

00:56:12,719 --> 00:56:17,399

sources here and now yeah Frankie

1307

00:56:15,179 --> 00:56:19,169

demotto that these are ancient books yes

1308

00:56:17,400 --> 00:56:21,660

several things like literally these are

1309

00:56:19,170 --> 00:56:24,028

actually very old books UFO report on

1310

00:56:21,659 --> 00:56:26,009

they come from the days before the

1311

00:56:24,028 --> 00:56:29,099

crests canoe that one got in there

1312  
00:56:26,009 --> 00:56:31,099  
amazing I make first remember that these

1313  
00:56:29,099 --> 00:56:35,369  
come from the days before the conspiracy

1314  
00:56:31,099 --> 00:56:37,200  
notion of o's right UFOs what's what

1315  
00:56:35,369 --> 00:56:40,579  
what on earth is happening the coming

1316  
00:56:37,199 --> 00:56:44,338  
invasion coming in please look out what

1317  
00:56:40,579 --> 00:56:47,309  
we came they never came so yeah again

1318  
00:56:44,338 --> 00:56:49,288  
it's it's just don't you just get

1319  
00:56:47,309 --> 00:56:52,890  
through all these boxes five piles near

1320  
00:56:49,289 --> 00:56:55,170  
your meter high yeah and so you so much

1321  
00:56:52,889 --> 00:56:57,239  
books way I thought just a few books and

1322  
00:56:55,170 --> 00:56:58,858  
it's sticky when you probably came down

1323  
00:56:57,239 --> 00:57:01,409  
here but you had to get extra baggage on

1324  
00:56:58,858 --> 00:57:03,358  
the aircraft so baggages that all the

1325  
00:57:01,409 --> 00:57:05,338  
aircraft fluid a sort of semi circle it

1326  
00:57:03,358 --> 00:57:08,308  
took off it was like UFO when it took

1327  
00:57:05,338 --> 00:57:10,920  
off to the Bermuda Triangle yeah oh

1328  
00:57:08,309 --> 00:57:13,200  
that's been investigated by Papa

1329  
00:57:10,920 --> 00:57:14,460  
scientists and on to death I guess that

1330  
00:57:13,199 --> 00:57:17,998  
we could think there are lots of books

1331  
00:57:14,460 --> 00:57:19,619  
on things like Bigfoot and Loch Ness

1332  
00:57:17,998 --> 00:57:21,538  
monster there must be thousands of books

1333  
00:57:19,619 --> 00:57:23,160  
written on these things again gets to

1334  
00:57:21,539 --> 00:57:24,539  
the point no matter how many books there

1335  
00:57:23,159 --> 00:57:26,118  
are with people saying they're here now

1336  
00:57:24,539 --> 00:57:29,099  
and it's all a'kin spirit is

1337  
00:57:26,119 --> 00:57:31,980  
confirmation of make at least fri become

1338  
00:57:29,099 --> 00:57:33,140  
what's the first of those community in

1339  
00:57:31,980 --> 00:57:35,449  
union yeah

1340

00:57:33,139 --> 00:57:37,460  
the hard evidence hommell evidence here

1341  
00:57:35,449 --> 00:57:39,828  
it's hard we open up this book and there

1342  
00:57:37,460 --> 00:57:41,568  
are photographs of fuzzy things and

1343  
00:57:39,829 --> 00:57:43,579  
clouds nuclear hollow east forums

1344  
00:57:41,568 --> 00:57:45,440  
admitted he made it all up fuzzy and

1345  
00:57:43,579 --> 00:57:46,670  
reminds me of the goodies that episode

1346  
00:57:45,440 --> 00:57:48,289  
were they weren't looking for the Loch

1347  
00:57:46,670 --> 00:57:50,329  
Ness monster and they were sold a

1348  
00:57:48,289 --> 00:57:52,640  
special photograph for taking fuzzy out

1349  
00:57:50,329 --> 00:57:54,440  
of photo group ones mobile phone is

1350  
00:57:52,639 --> 00:57:56,239  
latent phenomenon it's got the advantage

1351  
00:57:54,440 --> 00:57:57,798  
that a lot miss monster must be in Loch

1352  
00:57:56,239 --> 00:57:59,118  
Ness we wouldn't be the Loch Ness

1353  
00:57:57,798 --> 00:58:01,608  
monster with a lot somewhere else

1354  
00:57:59,119 --> 00:58:03,318

monster so ever do is go and troll

1355

00:58:01,608 --> 00:58:07,489

rottnest which unfortunately is about

1356

00:58:03,318 --> 00:58:09,679

two kilometers deep but some as long as

1357

00:58:07,489 --> 00:58:11,889

I said you know is huge in a way it's

1358

00:58:09,679 --> 00:58:14,690

limited compared to outer space it's a

1359

00:58:11,889 --> 00:58:17,358

much more limited phenomenon to look for

1360

00:58:14,690 --> 00:58:21,380

the light years Gary kinder all this one

1361

00:58:17,358 --> 00:58:23,328

is ha this is a you know this is the

1362

00:58:21,380 --> 00:58:26,119

ezine with billy meier and see this is

1363

00:58:23,329 --> 00:58:28,990

them make sure the button hang it is so

1364

00:58:26,119 --> 00:58:32,028

bad ya know it's about billy meier

1365

00:58:28,989 --> 00:58:33,649

indo-chinese so hang in bottles from

1366

00:58:32,028 --> 00:58:35,358

trees and photographing them well this

1367

00:58:33,650 --> 00:58:38,088

one's interesting in search of strange

1368

00:58:35,358 --> 00:58:40,159

phenomena forward by linen nguoi yeah

1369  
00:58:38,088 --> 00:58:43,328  
linda my go to sell feet tangled up with

1370  
00:58:40,159 --> 00:58:45,949  
is gideon he's hosting it yes yeah yeah

1371  
00:58:43,329 --> 00:58:48,048  
the boys weird stuff because obviously

1372  
00:58:45,949 --> 00:58:49,578  
mr. Spock is a weird carrot I used to

1373  
00:58:48,048 --> 00:58:51,380  
like in search of I've learned the more

1374  
00:58:49,579 --> 00:58:53,900  
it was great I've got a lot of them in

1375  
00:58:51,380 --> 00:58:56,990  
my file access it on now with William

1376  
00:58:53,900 --> 00:59:00,950  
Shatner do you believe it we or wheel

1377  
00:58:56,989 --> 00:59:02,778  
you know what yes yes finest that is a

1378  
00:59:00,949 --> 00:59:04,518  
really ancient book for my sources

1379  
00:59:02,778 --> 00:59:07,579  
serious because serious spin the phrase

1380  
00:59:04,518 --> 00:59:11,298  
Illinois 52 that one good heavens eighty

1381  
00:59:07,579 --> 00:59:13,430  
cents there you go it just looked like

1382  
00:59:11,298 --> 00:59:15,199  
we're not even scratching the surface of

1383  
00:59:13,429 --> 00:59:17,449  
how many books here the mysteries of

1384  
00:59:15,199 --> 00:59:20,028  
Atlantis that's a mystery open skies

1385  
00:59:17,449 --> 00:59:22,578  
closed minds of this is not a bad one

1386  
00:59:20,028 --> 00:59:26,150  
actually come again by a pretty decent

1387  
00:59:22,579 --> 00:59:29,269  
researcher Nick Pope who's got a better

1388  
00:59:26,150 --> 00:59:31,880  
one for good the damn charles fort yeah

1389  
00:59:29,268 --> 00:59:34,129  
charles fort like the 14 times last full

1390  
00:59:31,880 --> 00:59:36,200  
of memorable but there's one book

1391  
00:59:34,130 --> 00:59:39,500  
amongst them stay which you found quite

1392  
00:59:36,199 --> 00:59:42,558  
early one will not release of the only

1393  
00:59:39,500 --> 00:59:44,820  
money 84 pages and it's about eight

1394  
00:59:42,559 --> 00:59:50,100  
millimeters thick

1395  
00:59:44,820 --> 00:59:52,500  
holy upside down 1957 \$10 it's worth ten

1396  
00:59:50,099 --> 00:59:55,259  
dollars there's more facts in this 84

1397

00:59:52,500 --> 00:59:58,739  
page book that in the whole five we type

1398  
00:59:55,260 --> 01:00:01,020  
I'll together and it's the nature of the

1399  
00:59:58,739 --> 01:00:03,509  
universe by Fred Hoyle how about that

1400  
01:00:01,019 --> 01:00:07,409  
and Bidy it's not autograph in 84 pages

1401  
01:00:03,510 --> 01:00:09,840  
you manage to describe the universe and

1402  
01:00:07,409 --> 01:00:12,719  
there's probably no no mention of UFOs

1403  
01:00:09,840 --> 01:00:15,780  
yes good old Fred Hoyle oh I've just

1404  
01:00:12,719 --> 01:00:18,269  
dropped him oh no oh no miss sorry fair

1405  
01:00:15,780 --> 01:00:21,930  
cousin good old that book used to be

1406  
01:00:18,269 --> 01:00:23,759  
worth a fortune was not a slightly fox

1407  
01:00:21,929 --> 01:00:25,919  
it's worth even more yeah good old Fred

1408  
01:00:23,760 --> 01:00:28,050  
Hoyle he was the Maverick of astronomers

1409  
01:00:25,920 --> 01:00:31,050  
but he was quite right in his thinking

1410  
01:00:28,050 --> 01:00:33,000  
but he am more or less he made it he

1411  
01:00:31,050 --> 01:00:35,670

espouse a steady-state theory yes yes

1412

01:00:33,000 --> 01:00:37,110

closable at the time EMS went the other

1413

01:00:35,670 --> 01:00:39,240

way because a good theory until the

1414

01:00:37,110 --> 01:00:40,920

evidence came in and he had a good

1415

01:00:39,239 --> 01:00:43,169

worldview and is summarized it all this

1416

01:00:40,920 --> 01:00:45,389

very neat little book which will put on

1417

01:00:43,170 --> 01:00:47,430

the top of the piles worth more than the

1418

01:00:45,389 --> 01:00:49,769

you know the five meters of the five

1419

01:00:47,429 --> 01:00:52,859

minutes it gets bigger with every

1420

01:00:49,769 --> 01:00:54,929

retelling here and for those of you who

1421

01:00:52,860 --> 01:00:57,660

follow the skeptic zone on Facebook the

1422

01:00:54,929 --> 01:00:59,099

skeptics own Facebook page you would

1423

01:00:57,659 --> 01:01:01,079

have seen some of these books in the

1424

01:00:59,099 --> 01:01:03,599

little video teaser we put up for this

1425

01:01:01,079 --> 01:01:06,539

week's episode anyway Steve happy

1426  
01:01:03,599 --> 01:01:08,460  
reading you're going to be need to be on

1427  
01:01:06,539 --> 01:01:09,900  
EU echo to read all these books I think

1428  
01:01:08,460 --> 01:01:11,840  
so yeah that's I get a duct and I'll

1429  
01:01:09,900 --> 01:01:15,210  
have time time to leave some books and

1430  
01:01:11,840 --> 01:01:17,480  
for everybody else well keep watching

1431  
01:01:15,210 --> 01:01:17,480  
the skies

1432  
01:01:27,710 --> 01:01:34,409  
on Maynard com Donna you last saturday

1433  
01:01:32,250 --> 01:01:35,909  
night Maynard went on a binge he got

1434  
01:01:34,409 --> 01:01:38,039  
home at four o'clock in the morning off

1435  
01:01:35,909 --> 01:01:43,309  
they intoxicated well it's not unusual

1436  
01:01:38,039 --> 01:01:43,309  
for mean it isn't it's god god

1437  
01:01:44,110 --> 01:01:49,210  
Tim Ferguson and my god

1438  
01:01:49,619 --> 01:01:54,220  
Oh

1439  
01:01:51,630 --> 01:01:56,890  
and upon the 20

1440  
01:01:54,219 --> 01:01:58,659  
you won't see that one coming he listens

1441  
01:01:56,889 --> 01:02:00,129  
at Planet Maynard podcast of course you

1442  
01:01:58,659 --> 01:02:01,539  
can subscribe to planet main out and get

1443  
01:02:00,130 --> 01:02:04,240  
all the shows automatically to you

1444  
01:02:01,539 --> 01:02:14,679  
through itunes stitcher tune in all of

1445  
01:02:04,239 --> 01:02:16,269  
those people cling to your radio what do

1446  
01:02:14,679 --> 01:02:18,399  
you think of kinesiology that's where

1447  
01:02:16,269 --> 01:02:19,480  
they they press your arm up and down to

1448  
01:02:18,400 --> 01:02:23,500  
figure out what's wrong with your

1449  
01:02:19,480 --> 01:02:26,320  
pancreas and now kinesiology unlike any

1450  
01:02:23,500 --> 01:02:28,900  
of the other modern natural therapies

1451  
01:02:26,320 --> 01:02:32,859  
deserves to be given just that extra

1452  
01:02:28,900 --> 01:02:35,170  
little bit of scorn that the others

1453  
01:02:32,858 --> 01:02:38,889  
don't get I know homeopathy really cops

1454

01:02:35,170 --> 01:02:43,030  
it because it is and that Reiki is

1455  
01:02:38,889 --> 01:02:46,659  
totalled but the kinesiology is wicked

1456  
01:02:43,030 --> 01:02:49,869  
because it's not just it that the

1457  
01:02:46,659 --> 01:02:52,989  
there's no is it just pays really well

1458  
01:02:49,869 --> 01:02:57,390  
so for kinesiology you might as well ask

1459  
01:02:52,989 --> 01:03:00,489  
your cat how to fix your back so go to a

1460  
01:02:57,389 --> 01:03:03,699  
doctor you people and how is kittler is

1461  
01:03:00,489 --> 01:03:06,399  
kit look at MD yet oh yeah it's an MD

1462  
01:03:03,699 --> 01:03:08,379  
and a world leader he's writing a new

1463  
01:03:06,400 --> 01:03:11,940  
book I believe he's been doing Reiki by

1464  
01:03:08,380 --> 01:03:11,940  
phone the phone rings in year

1465  
01:03:13,460 --> 01:03:21,329  
well since kittler and it's just as

1466  
01:03:17,429 --> 01:03:23,659  
effective o bondhu on may not condone

1467  
01:03:21,329 --> 01:03:23,659  
are you

1468  
01:03:30,978 --> 01:03:35,098

thank you for listening to the skeptic

1469

01:03:33,449 --> 01:03:37,548

zone and my goodness me that cheesecake

1470

01:03:35,099 --> 01:03:39,989

was pretty nice and i think there's

1471

01:03:37,548 --> 01:03:42,958

there's still some more leftover in the

1472

01:03:39,989 --> 01:03:44,728

fridge mmm classic Chiefs cake can get

1473

01:03:42,958 --> 01:03:47,879

but or chocolate cheesecakes quite good

1474

01:03:44,728 --> 01:03:49,558

too but normal cheesecake so sorry I'm

1475

01:03:47,880 --> 01:03:53,338

seems to be going off in some sort of

1476

01:03:49,559 --> 01:03:56,579

tangent here thank you dr. Steve Roberts

1477

01:03:53,338 --> 01:03:58,469

and his wife Barbara for throwing such a

1478

01:03:56,579 --> 01:03:59,640

wonderful party lots of skeptics were

1479

01:03:58,469 --> 01:04:02,068

here the other night we all had a really

1480

01:03:59,639 --> 01:04:05,068

great time and lots of other friends as

1481

01:04:02,068 --> 01:04:08,278

well and wasn't that interesting to hear

1482

01:04:05,068 --> 01:04:11,969

earlier on in the show the the snippets

1483  
01:04:08,278 --> 01:04:14,670  
from the Senate hearing and maybe you'll

1484  
01:04:11,969 --> 01:04:17,958  
get a better understanding of the the

1485  
01:04:14,670 --> 01:04:20,400  
antics of those wacky people at the

1486  
01:04:17,958 --> 01:04:22,348  
anti-vaccination the broad

1487  
01:04:20,400 --> 01:04:24,539  
anti-vaccination groups and of course

1488  
01:04:22,349 --> 01:04:26,039  
thank you to main artists again a

1489  
01:04:24,539 --> 01:04:27,869  
wonderful interview wonderful series

1490  
01:04:26,039 --> 01:04:29,729  
going to use particularly with dr.

1491  
01:04:27,869 --> 01:04:31,829  
Eugenie Scott thank you to the people

1492  
01:04:29,728 --> 01:04:33,538  
who have been buying pendants and

1493  
01:04:31,829 --> 01:04:35,519  
earrings and things from mr. Katz

1494  
01:04:33,539 --> 01:04:38,339  
origami jewelry because that money does

1495  
01:04:35,518 --> 01:04:40,409  
go to help the skeptic zone and I I hope

1496  
01:04:38,338 --> 01:04:42,449  
you enjoy wearing that around or giving

1497  
01:04:40,409 --> 01:04:45,778  
it this Christmas presents or whatever

1498  
01:04:42,449 --> 01:04:48,179  
the case may be anyway for this week

1499  
01:04:45,778 --> 01:04:51,028  
this is Richard Saunders full of

1500  
01:04:48,179 --> 01:04:57,630  
cheesecake signing off from Melbourne

1501  
01:04:51,028 --> 01:05:00,150  
Australia you've been listening to the

1502  
01:04:57,630 --> 01:05:03,989  
skeptic zone podcast visit our website

1503  
01:05:00,150 --> 01:05:07,318  
at wwc a petting zoo TV for contacts and

1504  
01:05:03,989 --> 01:05:10,438  
archive of all episodes since 2008 and

1505  
01:05:07,318 --> 01:05:12,478  
our online store please support the

1506  
01:05:10,438 --> 01:05:15,838  
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1507  
01:05:12,478 --> 01:05:19,348  
at skeptic zone liking us on facebook

1508  
01:05:15,838 --> 01:05:20,849  
and leaving a review on iTunes you can

1509  
01:05:19,349 --> 01:05:24,689  
also show your support by subscribing

1510  
01:05:20,849 --> 01:05:27,749  
via paypal for as little as 99 cents a

1511

01:05:24,688 --> 01:05:29,368  
week the skeptic zone is an independent

1512  
01:05:27,748 --> 01:05:31,798  
production the views and opinions

1513  
01:05:29,369 --> 01:05:33,900  
expressed on the skeptic zone and not

1514  
01:05:31,798 --> 01:05:39,108  
necessarily those of Australian skeptics

1515  
01:05:33,900 --> 01:05:39,108  
or any other skeptical organization