

The Skeptic Zone

Show - 190 - 9 June 2012



Eran Segev

1
00:00:23,090 --> 00:00:09,080
welcome to the skeptic zone the podcast

2
00:00:28,800 --> 00:00:26,460
well welcome to the skeptic zone where

3
00:00:30,420 --> 00:00:28,810
where r shortly away from the mill a

4
00:00:33,000 --> 00:00:30,430
crowd richard has been signing

5
00:00:34,770 --> 00:00:33,010
autographs and doing things with DNA you

6
00:00:37,080 --> 00:00:34,780
would not believe but here we are there

7
00:00:39,510 --> 00:00:37,090
it sits on as Richard three two one

8
00:00:42,210 --> 00:00:39,520
you're on hello and welcome to the

9
00:00:45,090 --> 00:00:42,220
skeptics are an episode number 190 may

10
00:00:48,060 --> 00:00:45,100
not can you believe it 190 10 more and

11
00:00:49,799 --> 00:00:48,070
we get a fruitcake well there are enough

12
00:00:51,510 --> 00:00:49,809
fruit cakes in the skeptics and I think

13
00:00:54,000 --> 00:00:51,520

may not but an interesting show coming

14

00:00:55,860 --> 00:00:54,010

up this week most of it recorded live

15

00:00:57,900 --> 00:00:55,870

here at what you can hear in the

16

00:01:00,000 --> 00:00:57,910

background Sydney skeptics in the pub at

17

00:01:02,130 --> 00:01:00,010

the coronation hotel first thursday of

18

00:01:04,499 --> 00:01:02,140

every month hmm yes that's right we're

19

00:01:06,120 --> 00:01:04,509

going to kick off with Iran so give the

20

00:01:08,310 --> 00:01:06,130

president of Australian skeptics in our

21

00:01:10,680 --> 00:01:08,320

reporter giving a talk here at skeptics

22

00:01:12,600 --> 00:01:10,690

in the pub all about skepticism and

23

00:01:14,310 --> 00:01:12,610

evidence well they've been on art and I

24

00:01:16,200 --> 00:01:14,320

want to pin him down and talk about

25

00:01:18,419 --> 00:01:16,210

count some counterintuitive things that

26
00:01:20,249 --> 00:01:18,429
goes against his argument you do yeah

27
00:01:21,990 --> 00:01:20,259
I'll probably lose but I don't mind

28
00:01:23,609 --> 00:01:22,000
losing an argument well you're the sort

29
00:01:25,529 --> 00:01:23,619
of fruitcake we need on the skeptic zone

30
00:01:27,779 --> 00:01:25,539
and I think and what else we got on the

31
00:01:29,730 --> 00:01:27,789
show it's you it's your spooky action at

32
00:01:31,980 --> 00:01:29,740
a distance asking questions here at the

33
00:01:33,900 --> 00:01:31,990
pub yes I've been asking people some

34
00:01:35,309 --> 00:01:33,910
monumental questions and I can't

35
00:01:36,719 --> 00:01:35,319
understand any of their answers but you

36
00:01:38,730 --> 00:01:36,729
edit it up and I'm sure it'll be cool

37
00:01:40,139 --> 00:01:38,740
but our listeners understand me now

38
00:01:41,520 --> 00:01:40,149

that's the important thing oh and look

39

00:01:42,900 --> 00:01:41,530

once more I want to throw out to

40

00:01:44,309 --> 00:01:42,910

everyone out there i am going to Tam

41

00:01:46,020 --> 00:01:44,319

thank you to the generosity of the

42

00:01:48,389 --> 00:01:46,030

listeners if you need and if there is

43

00:01:50,190 --> 00:01:48,399

any question you want me to ask of any

44

00:01:52,199 --> 00:01:50,200

particular person email me and let me

45

00:01:53,699 --> 00:01:52,209

know so I can ask it for them that's

46

00:01:56,639 --> 00:01:53,709

right now where should they email you

47

00:01:58,650 --> 00:01:56,649

mean look they can send it through my

48

00:02:00,300 --> 00:01:58,660

website at Maynard com do you or they

49

00:02:02,820 --> 00:02:00,310

can send it to the skeptic zone and if I

50

00:02:04,830 --> 00:02:02,830

find that person I mean look I now be

51
00:02:09,089 --> 00:02:04,840
meeting George rabaah now now be meeting

52
00:02:11,010 --> 00:02:09,099
mr. spa thinker himself the guy whose

53
00:02:12,809 --> 00:02:11,020
brain never fails you mean Dunning

54
00:02:14,729 --> 00:02:12,819
Dunning the mighty Dunning would happen

55
00:02:16,650 --> 00:02:14,739
I'll be talking to him and and maybe

56
00:02:18,240 --> 00:02:16,660
perhaps James around himself and I'm

57
00:02:19,440 --> 00:02:18,250
really high really want to talk to Penn

58
00:02:21,270 --> 00:02:19,450
Jillette I don't know if that's going to

59
00:02:23,250 --> 00:02:21,280
happen but I'm gonna try might happen

60
00:02:24,300 --> 00:02:23,260
we'll see what we can arrange them so if

61
00:02:26,190 --> 00:02:24,310
you've got questions for those people

62
00:02:27,479 --> 00:02:26,200
I'll try and take them and ask them for

63
00:02:29,369 --> 00:02:27,489

you it's the least I can do for the

64

00:02:30,899 --> 00:02:29,379

listeners for helping get me that thank

65

00:02:33,330 --> 00:02:30,909

you again listeners it's because of you

66

00:02:35,759 --> 00:02:33,340

that may not is going to Las Vegas

67

00:02:37,770 --> 00:02:35,769

fantastic work but I think may not i

68

00:02:38,910 --> 00:02:37,780

think we've waffled on long enough and

69

00:02:41,670 --> 00:02:38,920

i'm sure the listeners are out there

70

00:02:44,520 --> 00:02:41,680

they're in there in dec stop waffling on

71

00:02:46,080 --> 00:02:44,530

their in their cars the jogging they're

72

00:02:48,330 --> 00:02:46,090

doing the dishes they're cleaning the

73

00:02:50,580 --> 00:02:48,340

house what else are Alice was doing

74

00:02:54,240 --> 00:02:50,590

they've got the earbuds deep inside

75

00:02:56,309 --> 00:02:54,250

their canals yes and they're dying to

76
00:02:58,920 --> 00:02:56,319
hear the skeptic zones I'm going to go

77
00:03:00,839 --> 00:02:58,930
back to the bar grab another glass of

78
00:03:19,210 --> 00:03:00,849
champagne and we could all enjoy the

79
00:03:29,900 --> 00:03:22,000
let's all take this with a grain of salt

80
00:03:31,580 --> 00:03:29,910
seas around ticket there's no need to

81
00:03:34,640 --> 00:03:31,590
introduce today's speaker because it's

82
00:03:36,580 --> 00:03:34,650
me so my name is Ron and I'm the

83
00:03:38,690 --> 00:03:36,590
president of Australian skeptics the

84
00:03:41,809 --> 00:03:38,700
subject of my talk today is about

85
00:03:43,960 --> 00:03:41,819
assessing evidence now the reason I

86
00:03:45,770 --> 00:03:43,970
started thinking about that in the past

87
00:03:47,330 --> 00:03:45,780
obviously we're all interested in

88
00:03:49,070 --> 00:03:47,340

evidence that's what skeptics do but the

89

00:03:51,800 --> 00:03:49,080

reason I really started to concentrate

90

00:03:53,539 --> 00:03:51,810

on on that is because I receive google

91

00:03:55,640 --> 00:03:53,549

alerts related to Australian skeptics

92

00:03:57,350 --> 00:03:55,650

and what I noticed was that a lot of the

93

00:03:59,960 --> 00:03:57,360

alert was getting were related to

94

00:04:01,220 --> 00:03:59,970

climate change skeptics who were how we

95

00:04:03,020 --> 00:04:01,230

happen to be Australians and there's

96

00:04:04,820 --> 00:04:03,030

plenty of those there's also been

97

00:04:07,039 --> 00:04:04,830

recently you're probably aware that's

98

00:04:10,490 --> 00:04:07,049

amaryl dory this is the time where

99

00:04:12,289 --> 00:04:10,500

everybody says good yeah exactly she's

100

00:04:14,660 --> 00:04:12,299

opened their website just called

101
00:04:18,229 --> 00:04:14,670
Australian skeptics with a seat calm and

102
00:04:21,979 --> 00:04:18,239
the subject of the title of the website

103
00:04:24,560 --> 00:04:21,989
is the real australian skeptics now such

104
00:04:27,260 --> 00:04:24,570
miss uses of the word skeptic are not

105
00:04:28,520 --> 00:04:27,270
new and part of the problem is that they

106
00:04:30,320 --> 00:04:28,530
can't even be considered to be

107
00:04:33,529 --> 00:04:30,330
completely illegitimate because there is

108
00:04:34,909 --> 00:04:33,539
a there is probably one interpretation

109
00:04:36,650 --> 00:04:34,919
of the word or one definition of the

110
00:04:39,890 --> 00:04:36,660
word that would refer to it as being

111
00:04:41,570 --> 00:04:39,900
simply doubting but when we speak about

112
00:04:43,760 --> 00:04:41,580
skepticism in this room I think we're

113
00:04:45,469 --> 00:04:43,770

all clear that what it really means is

114

00:04:48,380 --> 00:04:45,479

that we look at evidence and we try to

115

00:04:50,450 --> 00:04:48,390

find out what's true and what's not true

116

00:04:52,330 --> 00:04:50,460

that's what we want to know what's the

117

00:04:54,950 --> 00:04:52,340

distinction between true and false and

118

00:05:00,380 --> 00:04:54,960

that distinction between true and false

119

00:05:02,180 --> 00:05:00,390

is made based on evidence so if you care

120

00:05:05,140 --> 00:05:02,190

about if you care about what's true and

121

00:05:07,820 --> 00:05:05,150

false you have to evaluate evidence and

122

00:05:10,430 --> 00:05:07,830

when you when there is something some

123

00:05:12,770 --> 00:05:10,440

claim that attracts enough evidence it

124

00:05:14,960 --> 00:05:12,780

is appropriate for a scientific skeptic

125

00:05:16,670 --> 00:05:14,970

for critical thinker to suspend

126

00:05:19,040 --> 00:05:16,680

skepticism to say I'm not as skeptical

127

00:05:20,920 --> 00:05:19,050

about this anymore and i give this

128

00:05:22,830 --> 00:05:20,930

whatever it is that we're talking about

129

00:05:25,020 --> 00:05:22,840

provisional acceptance

130

00:05:27,360 --> 00:05:25,030

and that's a very important point we

131

00:05:28,860 --> 00:05:27,370

don't say anything is ever one hundred

132

00:05:30,000 --> 00:05:28,870

percent true but we give it provisional

133

00:05:32,100 --> 00:05:30,010

acceptance based on the available

134

00:05:33,629 --> 00:05:32,110

evidence but it has to be supported by

135

00:05:36,330 --> 00:05:33,639

sufficient evidence and good quality

136

00:05:38,790 --> 00:05:36,340

evidence and that's where we come to the

137

00:05:42,290 --> 00:05:38,800

point of saying what is good quality

138

00:05:45,030 --> 00:05:42,300

evidence how do we judge the evidence oh

139

00:05:46,620 --> 00:05:45,040

I'd like to give an example of such a

140

00:05:49,800 --> 00:05:46,630

situation that is to do with climate

141

00:05:52,620 --> 00:05:49,810

change climate change if very calm is a

142

00:05:55,110 --> 00:05:52,630

very complex topic it's not a single

143

00:05:57,690 --> 00:05:55,120

science it's got if you look at what

144

00:05:59,100 --> 00:05:57,700

comply what comprises climate science

145

00:06:01,610 --> 00:05:59,110

you're talking about something that

146

00:06:05,400 --> 00:06:01,620

comprises atmospheric science

147

00:06:07,620 --> 00:06:05,410

oceanography plays glaciology geology

148

00:06:08,700 --> 00:06:07,630

physics chemistry even astronomy is

149

00:06:11,480 --> 00:06:08,710

involved in this and there I probably

150

00:06:14,190 --> 00:06:11,490

left a few ologies out the thing is that

151

00:06:16,650 --> 00:06:14,200

there isn't probably a single person in

152

00:06:18,120 --> 00:06:16,660

the world who knows something about all

153

00:06:20,310 --> 00:06:18,130

of these things enough to properly

154

00:06:22,770 --> 00:06:20,320

evaluate all the evidence and even if

155

00:06:25,050 --> 00:06:22,780

you look at partial we being able to

156

00:06:27,629 --> 00:06:25,060

evaluate partial evidence that

157

00:06:28,920 --> 00:06:27,639

accompanies several of these areas you

158

00:06:31,350 --> 00:06:28,930

would find that the number of people

159

00:06:34,290 --> 00:06:31,360

around the world who really grasp the

160

00:06:35,640 --> 00:06:34,300

science is very small I'd be surprised

161

00:06:38,580 --> 00:06:35,650

if it's more than a few thousand people

162

00:06:41,790 --> 00:06:38,590

that really grasp all of the signs yet

163

00:06:43,950 --> 00:06:41,800

if you talk to people in anywhere

164

00:06:46,080 --> 00:06:43,960

definitely in this room people have a

165

00:06:48,839 --> 00:06:46,090

lot of opinions they'll have an opinion

166

00:06:50,250 --> 00:06:48,849

about climate climate change and i'm not

167

00:06:52,110 --> 00:06:50,260

talking about having an opinion about

168

00:06:54,300 --> 00:06:52,120

climate change in the sense of oh I

169

00:06:56,219 --> 00:06:54,310

don't like carbon tax I don't like the

170

00:06:58,650 --> 00:06:56,229

carbon tax or I do like the carbon tax

171

00:07:00,060 --> 00:06:58,660

I'm talking about saying yeah the

172

00:07:02,700 --> 00:07:00,070

science is true or the science is not

173

00:07:04,860 --> 00:07:02,710

true I don't think that's an accident I

174

00:07:07,260 --> 00:07:04,870

think the reason people form an opinion

175

00:07:09,690 --> 00:07:07,270

about something like climate change is

176

00:07:11,129 --> 00:07:09,700

because they feel very strongly about

177

00:07:13,529 --> 00:07:11,139

it's something that could affect our

178

00:07:15,779 --> 00:07:13,539

life and there is also a sense in the

179

00:07:18,000 --> 00:07:15,789

media there's a confusing message in the

180

00:07:20,240 --> 00:07:18,010

media about how big it is and you know

181

00:07:22,379 --> 00:07:20,250

like if it's true we're all going to die

182

00:07:23,760 --> 00:07:22,389

which is by the way to we are all going

183

00:07:25,890 --> 00:07:23,770

to die but not because of climate change

184

00:07:27,510 --> 00:07:25,900

so people want to be involved in the

185

00:07:29,310 --> 00:07:27,520

debate it's something very important how

186

00:07:31,500 --> 00:07:29,320

do you get involved in the debate if you

187

00:07:32,969 --> 00:07:31,510

don't have an opinion it's a bit silly

188

00:07:34,649 --> 00:07:32,979

you just sit there and listen and say oh

189

00:07:36,600 --> 00:07:34,659

yeah maybe you're right maybe you're

190

00:07:38,070 --> 00:07:36,610

right people form an opinion

191

00:07:39,390 --> 00:07:38,080

basically because they want to be

192

00:07:42,929 --> 00:07:39,400

involved in the world be part of the

193

00:07:45,629 --> 00:07:42,939

debate the problem is that as Carl Sagan

194

00:07:46,830 --> 00:07:45,639

once said he said about somebody asked

195

00:07:48,240 --> 00:07:46,840

him what he's got feeling was about

196

00:07:49,649 --> 00:07:48,250

something and he said I try not to think

197

00:07:51,570 --> 00:07:49,659

with my gut I tried to think with my

198

00:07:53,610 --> 00:07:51,580

brain the problem is that obviously if

199

00:07:54,929 --> 00:07:53,620

you they're the only way you can if you

200

00:07:56,610 --> 00:07:54,939

don't understand the evidence if you

201
00:07:58,499 --> 00:07:56,620
don't if you're unable to judge the

202
00:08:00,209 --> 00:07:58,509
evidence for yourself you're in the end

203
00:08:03,749 --> 00:08:00,219
resorting to thinking with your gut and

204
00:08:05,490 --> 00:08:03,759
that's obviously not a good idea so what

205
00:08:08,999 --> 00:08:05,500
do you do if you're an interested person

206
00:08:10,529 --> 00:08:09,009
interested citizen and you want to to

207
00:08:12,749 --> 00:08:10,539
know what's going on you want to you

208
00:08:14,969 --> 00:08:12,759
want to format an informed opinion but

209
00:08:16,320 --> 00:08:14,979
you're not enough of an expert or you

210
00:08:18,809 --> 00:08:16,330
don't know enough about the signs to

211
00:08:21,059 --> 00:08:18,819
actually judge whether something is true

212
00:08:22,350 --> 00:08:21,069
or false you need to have some you to

213
00:08:23,730 --> 00:08:22,360

assess the evidence but you can't

214

00:08:25,920 --> 00:08:23,740

because you're not an expert so what do

215

00:08:27,570 --> 00:08:25,930

you do well what I'd like to speak about

216

00:08:30,119 --> 00:08:27,580

today is actually a few rules of thumb

217

00:08:31,559 --> 00:08:30,129

for assessing evidence and before I

218

00:08:33,980 --> 00:08:31,569

start I want to point out that these

219

00:08:36,240 --> 00:08:33,990

rules of thumb do not apply every time

220

00:08:39,329 --> 00:08:36,250

definitely not all of them apply all the

221

00:08:41,370 --> 00:08:39,339

time and there are some cases where they

222

00:08:43,050 --> 00:08:41,380

do not apply at all I could probably

223

00:08:46,019 --> 00:08:43,060

think of some cases where they don't

224

00:08:47,730 --> 00:08:46,029

apply at all but as a guide they're

225

00:08:49,259 --> 00:08:47,740

pretty good for assessing evidence on

226
00:08:50,790 --> 00:08:49,269
areas in which you feel that you need to

227
00:08:52,170 --> 00:08:50,800
form an opinion I'll move away from

228
00:08:54,750 --> 00:08:52,180
climate change for a little bit because

229
00:08:57,990 --> 00:08:54,760
I don't want anybody to I don't want to

230
00:09:00,300 --> 00:08:58,000
start a fight here but i'll start with

231
00:09:02,430 --> 00:09:00,310
simpler topics not also some of them

232
00:09:03,930 --> 00:09:02,440
will not be even from the from the realm

233
00:09:06,230 --> 00:09:03,940
of science let's start with rule number

234
00:09:08,639 --> 00:09:06,240
one the first rule is Occam's razor

235
00:09:11,400 --> 00:09:08,649
Occam's razor is a principle that says

236
00:09:14,790 --> 00:09:11,410
that it entities shall not be multiplied

237
00:09:17,490 --> 00:09:14,800
unnecessarily now a less 14th century

238
00:09:20,639 --> 00:09:17,500

way of saying that is that a simpler

239

00:09:22,470 --> 00:09:20,649

explanation takes precedence over a more

240

00:09:25,470 --> 00:09:22,480

complex one I'll give you an example

241

00:09:28,350 --> 00:09:25,480

there are errors errors of policy or

242

00:09:30,420 --> 00:09:28,360

neglect by governments you could take

243

00:09:33,540 --> 00:09:30,430

those to be the result of some grand

244

00:09:36,439 --> 00:09:33,550

conspiracy or you could say that they're

245

00:09:40,829 --> 00:09:36,449

the result of something like bad luck

246

00:09:42,840 --> 00:09:40,839

laziness toplessness in competence now

247

00:09:47,689 --> 00:09:42,850

the first the first one conspiracy

248

00:09:49,990 --> 00:09:47,699

requires you to assume some grand design

249

00:09:52,690 --> 00:09:50,000

long-term planning

250

00:09:55,980 --> 00:09:52,700

lawless execution and the ability to

251
00:10:00,790 --> 00:09:55,990
keep a secret for a very very long time

252
00:10:03,460 --> 00:10:00,800
by government the other one requires you

253
00:10:04,930 --> 00:10:03,470
to us to expect that people in

254
00:10:06,910 --> 00:10:04,940
government remember government is not

255
00:10:09,040 --> 00:10:06,920
some organization some body it's its

256
00:10:11,080 --> 00:10:09,050
people it's made out of people it

257
00:10:14,380 --> 00:10:11,090
requires people in government to have

258
00:10:15,490 --> 00:10:14,390
normal human frailties so I'm sure you

259
00:10:18,250 --> 00:10:15,500
all understand where I'm going with this

260
00:10:20,320 --> 00:10:18,260
but basically one is simple and

261
00:10:22,420 --> 00:10:20,330
straightforward and the other word the

262
00:10:25,030 --> 00:10:22,430
other one requires a much more elaborate

263
00:10:26,680 --> 00:10:25,040

explanation that probably requires us to

264

00:10:29,080 --> 00:10:26,690

go a little bit further and deeper and

265

00:10:33,150 --> 00:10:29,090

raises more questions another example is

266

00:10:36,700 --> 00:10:33,160

evolution vs creation evolution produces

267

00:10:38,290 --> 00:10:36,710

amazingly complex results people are you

268

00:10:40,870 --> 00:10:38,300

know capable of deciding to go to a pub

269

00:10:42,820 --> 00:10:40,880

on Thursday for example but despite the

270

00:10:45,010 --> 00:10:42,830

complex results the process itself is

271

00:10:48,540 --> 00:10:45,020

actually very simple all that's required

272

00:10:51,850 --> 00:10:48,550

to start evolution is some semi-stable

273

00:10:54,400 --> 00:10:51,860

replicators and this the likes of which

274

00:10:56,680 --> 00:10:54,410

were the precursors to the DNA in the in

275

00:11:00,220 --> 00:10:56,690

the cells of every living thing it

276

00:11:03,970 --> 00:11:00,230

creation requires one very very short

277

00:11:05,650 --> 00:11:03,980

word that is God now God is a very

278

00:11:08,410 --> 00:11:05,660

simple explanation if you're in a

279

00:11:10,510 --> 00:11:08,420

spelling contest but if you're actually

280

00:11:12,520 --> 00:11:10,520

trying to explain evolution it isn't

281

00:11:14,530 --> 00:11:12,530

simple at all it raises a whole host of

282

00:11:17,050 --> 00:11:14,540

new questions it is not a simple

283

00:11:19,030 --> 00:11:17,060

explanation it's a very large assumption

284

00:11:20,980 --> 00:11:19,040

that needs to be explained in its own

285

00:11:22,720 --> 00:11:20,990

right and is therefore therefore

286

00:11:24,760 --> 00:11:22,730

complicates matters quite significantly

287

00:11:28,510 --> 00:11:24,770

and is therefore not suitable

288

00:11:30,730 --> 00:11:28,520

explanation based on Occam's razor now

289

00:11:32,800 --> 00:11:30,740

obviously it is possible for the more

290

00:11:36,070 --> 00:11:32,810

complex explanation to be true as

291

00:11:39,510 --> 00:11:36,080

opposed to the simpler one but for that

292

00:11:41,470 --> 00:11:39,520

to happen requires quite extraordinary

293

00:11:44,230 --> 00:11:41,480

circumstances and we if we talk about

294

00:11:46,630 --> 00:11:44,240

extra extraordinary circumstances I have

295

00:11:49,600 --> 00:11:46,640

to quote Carl Sagan once again in what's

296

00:11:51,390 --> 00:11:49,610

called Sagan's balance because they can

297

00:11:54,900 --> 00:11:51,400

said that extraordinary claims require

298

00:11:58,750 --> 00:11:54,910

extraordinary evidence and that is our

299

00:12:01,930 --> 00:11:58,760

second rule an example of an

300

00:12:03,340 --> 00:12:01,940

extraordinary claim is that if you take

301

00:12:07,360 --> 00:12:03,350

a substance

302

00:12:08,860 --> 00:12:07,370

and you dilute it on water to such a

303

00:12:10,990 --> 00:12:08,870

degree where there's not even a single

304

00:12:13,990 --> 00:12:11,000

molecule left of the original material

305

00:12:16,420 --> 00:12:14,000

but you basically have water that

306

00:12:18,840 --> 00:12:16,430

material that that dilution will somehow

307

00:12:20,590 --> 00:12:18,850

cure the same symptoms that the original

308

00:12:23,050 --> 00:12:20,600

material would of course of course

309

00:12:24,870 --> 00:12:23,060

that's what homeopaths claim happens

310

00:12:28,230 --> 00:12:24,880

that's what homeopathy is all about and

311

00:12:31,990 --> 00:12:28,240

if that were true then for example

312

00:12:34,360 --> 00:12:32,000

caffeine diluted to that to such a

313

00:12:37,450 --> 00:12:34,370

degree to a mere pathak levels would

314

00:12:40,360 --> 00:12:37,460

cure insomnia and indeed that's what

315

00:12:43,030 --> 00:12:40,370

homeopaths a does but he doesn't now the

316

00:12:46,330 --> 00:12:43,040

reason that this claim is extraordinary

317

00:12:48,340 --> 00:12:46,340

is not just because it sounds funny it's

318

00:12:50,260 --> 00:12:48,350

because for it to be true requires

319

00:12:53,890 --> 00:12:50,270

almost everything we know about physics

320

00:12:56,590 --> 00:12:53,900

chemistry physiology and pharmacology to

321

00:12:59,860 --> 00:12:56,600

be wrong not just a little bit wrong but

322

00:13:02,200 --> 00:12:59,870

completely wrong which means that it's

323

00:13:04,900 --> 00:13:02,210

extremely implausible that homeopathy

324

00:13:07,360 --> 00:13:04,910

would be true now again that doesn't

325

00:13:09,250 --> 00:13:07,370

mean it's wrong it just means it's

326

00:13:11,620 --> 00:13:09,260

extremely implausible if you had a

327

00:13:14,550 --> 00:13:11,630

mountain of strong evidence showing that

328

00:13:17,710 --> 00:13:14,560

homeopathy is true then he would be true

329

00:13:19,390 --> 00:13:17,720

it just that obviously there is no such

330

00:13:21,250 --> 00:13:19,400

evidence all the evidence shows that

331

00:13:25,810 --> 00:13:21,260

homeopathy is not just implausible it's

332

00:13:27,490 --> 00:13:25,820

also false and doesn't work the most

333

00:13:29,800 --> 00:13:27,500

common type of evidence for the likes of

334

00:13:32,470 --> 00:13:29,810

homeopathy is in the form of

335

00:13:36,070 --> 00:13:32,480

testimonials another word for

336

00:13:38,440 --> 00:13:36,080

testimonials is anecdotes give an

337

00:13:40,030 --> 00:13:38,450

example of such an anecdote my son got

338

00:13:42,180 --> 00:13:40,040

the MMR vaccine and it caused him to

339

00:13:44,710 --> 00:13:42,190

become autistic it's a very common

340

00:13:48,280 --> 00:13:44,720

testimonial in the anti-vaccine movement

341

00:13:49,870 --> 00:13:48,290

and the problem is such an anecdote is

342

00:13:51,940 --> 00:13:49,880

that it doesn't take into account a lot

343

00:13:53,500 --> 00:13:51,950

of things that can happen for example

344

00:13:55,210 --> 00:13:53,510

one of the reasons that a lot of

345

00:13:57,510 --> 00:13:55,220

children that that link between autism

346

00:13:59,920 --> 00:13:57,520

and vaccines is made is because autism

347

00:14:01,570 --> 00:13:59,930

definitely profound autism is very often

348

00:14:04,030 --> 00:14:01,580

diagnosed around the age of two or three

349

00:14:06,550 --> 00:14:04,040

at a time when kids receive a lot of

350

00:14:08,800 --> 00:14:06,560

vaccines now the fact that two things

351
00:14:12,730 --> 00:14:08,810
happen at the same time doesn't mean

352
00:14:14,980 --> 00:14:12,740
that they're necessarily related and an

353
00:14:16,840 --> 00:14:14,990
anecdote doesn't have the ability to

354
00:14:19,420 --> 00:14:16,850
distinguish between

355
00:14:21,009 --> 00:14:19,430
two things happening together by chance

356
00:14:24,249 --> 00:14:21,019
or because there's a causal relationship

357
00:14:27,120 --> 00:14:24,259
between them millions of children

358
00:14:29,590 --> 00:14:27,130
receive millions of exceeds every year

359
00:14:31,809 --> 00:14:29,600
now some of them will be diagnosed as

360
00:14:33,309 --> 00:14:31,819
autistic at the same time so you could

361
00:14:36,069 --> 00:14:33,319
say oh well it was caused because of

362
00:14:37,540 --> 00:14:36,079
that but the reality is that some of the

363
00:14:39,999 --> 00:14:37,550

children will at the same time be

364

00:14:41,740 --> 00:14:40,009

diagnosed as being very bright some of

365

00:14:43,749 --> 00:14:41,750

them will be diagnosed as being

366

00:14:45,699 --> 00:14:43,759

short-sighted some of them will be

367

00:14:48,340 --> 00:14:45,709

diagnosed as being I don't know we'll

368

00:14:50,410 --> 00:14:48,350

have a weak leg or just or something

369

00:14:53,259 --> 00:14:50,420

else something some of them will have

370

00:14:55,509 --> 00:14:53,269

cancer around that time it happens the

371

00:14:57,819 --> 00:14:55,519

thing is that to show a relationship

372

00:15:00,340 --> 00:14:57,829

between them you need to do some

373

00:15:02,590 --> 00:15:00,350

statistics and statistics by its very

374

00:15:04,720 --> 00:15:02,600

nature cannot be done on one case in an

375

00:15:05,740 --> 00:15:04,730

anecdote is one case for example in the

376

00:15:09,040 --> 00:15:05,750

case of what we're talking about here

377

00:15:10,900 --> 00:15:09,050

autistic autism caused by vaccinations

378

00:15:13,150 --> 00:15:10,910

what you need is to compare large

379

00:15:14,740 --> 00:15:13,160

populations of vaccinate vaccinated

380

00:15:16,420 --> 00:15:14,750

children against non-vaccinated children

381

00:15:18,639 --> 00:15:16,430

and to see whether the prevalence or

382

00:15:20,590 --> 00:15:18,649

incidence of autism is different between

383

00:15:24,400 --> 00:15:20,600

the two groups the answer by the way is

384

00:15:26,199 --> 00:15:24,410

no it isn't the next rule is that it's

385

00:15:28,870 --> 00:15:26,209

based on that in that and that is the

386

00:15:31,600 --> 00:15:28,880

multiple of anecdote is not evidence and

387

00:15:33,009 --> 00:15:31,610

the corollary to that by the way is that

388

00:15:34,569 --> 00:15:33,019

a single anecdote is definitely not

389

00:15:36,550 --> 00:15:34,579

evidence so if somebody comes to you and

390

00:15:39,040 --> 00:15:36,560

says oh well but it happened to me say

391

00:15:41,499 --> 00:15:39,050

well good on you but I won't take that

392

00:15:43,120 --> 00:15:41,509

as evidence to anything because you

393

00:15:44,889 --> 00:15:43,130

might be completely true correct and it

394

00:15:46,780 --> 00:15:44,899

may even be true that there is a causal

395

00:15:48,879 --> 00:15:46,790

relationship there but your anecdote

396

00:15:51,639 --> 00:15:48,889

does not prove that the next rule the

397

00:15:54,910 --> 00:15:51,649

fourth rule is that experts do no more

398

00:15:57,730 --> 00:15:54,920

if you want to fix something electrical

399

00:16:00,879 --> 00:15:57,740

in your house you can go to somebody who

400

00:16:04,809 --> 00:16:00,889

has gone to take for a few years to

401
00:16:06,999 --> 00:16:04,819
study to be an electrician then did an

402
00:16:10,269 --> 00:16:07,009
apprenticeship for a few years and then

403
00:16:12,879 --> 00:16:10,279
spend the last ten years putting many

404
00:16:14,800 --> 00:16:12,889
kilometres of cables and and switch

405
00:16:17,530 --> 00:16:14,810
boxes and all kinds of things around

406
00:16:21,960 --> 00:16:17,540
houses everywhere or you can take some

407
00:16:26,199 --> 00:16:21,970
kind of handy man who can replace a

408
00:16:27,879 --> 00:16:26,209
faulty socket and I think everybody in

409
00:16:29,470 --> 00:16:27,889
this room would accept any not just in

410
00:16:30,140 --> 00:16:29,480
this room I think most people in the

411
00:16:31,850 --> 00:16:30,150
world will excel

412
00:16:33,920 --> 00:16:31,860
that the electrician knows a lot more

413
00:16:37,310 --> 00:16:33,930

about electricity and about electrical

414

00:16:38,990 --> 00:16:37,320

work than the handyman because he's an

415

00:16:41,690 --> 00:16:39,000

expert it's what he's been doing that's

416

00:16:42,740 --> 00:16:41,700

what he has leather is retained a lot of

417

00:16:46,360 --> 00:16:42,750

knowledge over the years that he's been

418

00:16:50,120 --> 00:16:46,370

doing it similarly a GP knows more about

419

00:16:51,680 --> 00:16:50,130

vaccinations then somebody who has a

420

00:16:55,400 --> 00:16:51,690

brain or claims to have a brain and it's

421

00:16:58,880 --> 00:16:55,410

been doing research on Google and an

422

00:17:01,820 --> 00:16:58,890

expert on infectious diseases knows more

423

00:17:03,470 --> 00:17:01,830

about vaccinations than the GP because

424

00:17:05,780 --> 00:17:03,480

it's his specialty that's what he's been

425

00:17:08,300 --> 00:17:05,790

doing or she's been doing and that's

426

00:17:10,820 --> 00:17:08,310

what they've been studying so experts do

427

00:17:12,230 --> 00:17:10,830

no more and by the way as if because

428

00:17:14,210 --> 00:17:12,240

I've already mentioned climate giant

429

00:17:17,300 --> 00:17:14,220

climate science I should mention that a

430

00:17:19,550 --> 00:17:17,310

veteran atmospheric scientist knows more

431

00:17:21,829 --> 00:17:19,560

about climate change than a geologist

432

00:17:23,000 --> 00:17:21,839

and it's not because geology doesn't

433

00:17:24,650 --> 00:17:23,010

have anything to do with climate change

434

00:17:27,199 --> 00:17:24,660

it's because it has a lot less to do

435

00:17:30,110 --> 00:17:27,209

with climate change then our atmospheric

436

00:17:33,680 --> 00:17:30,120

science listening to a specialist expert

437

00:17:36,230 --> 00:17:33,690

is not foolproof and we'll talk in a

438

00:17:37,880 --> 00:17:36,240

moment about the whole issue of argument

439

00:17:39,800 --> 00:17:37,890

from authority when you listen to us you

440

00:17:42,470 --> 00:17:39,810

choose your expert and you listen to

441

00:17:44,900 --> 00:17:42,480

just one person that's that's an issue

442

00:17:46,760 --> 00:17:44,910

in its own right but if you have to

443

00:17:48,560 --> 00:17:46,770

choose between listening to that guy I

444

00:17:50,720 --> 00:17:48,570

mentioned earlier or that girl in the

445

00:17:52,550 --> 00:17:50,730

case that we know very well it claims to

446

00:17:55,460 --> 00:17:52,560

have a brain and be doing research on on

447

00:17:57,260 --> 00:17:55,470

the internet choose the expert because

448

00:18:00,170 --> 00:17:57,270

the ex but is much more likely to lead

449

00:18:02,630 --> 00:18:00,180

you down the right path the fifth rule

450

00:18:04,370 --> 00:18:02,640

is a bit of an argument amalgamation of

451

00:18:06,080 --> 00:18:04,380

the previous rules and in particular

452

00:18:08,540 --> 00:18:06,090

it's something that takes care of the

453

00:18:12,590 --> 00:18:08,550

issue of argument from authority and if

454

00:18:15,110 --> 00:18:12,600

that is trust science not a scientist

455

00:18:17,060 --> 00:18:15,120

but science in general now obviously

456

00:18:19,670 --> 00:18:17,070

when I when I talk about science in in

457

00:18:21,980 --> 00:18:19,680

the context of this talk I'm referring

458

00:18:23,360 --> 00:18:21,990

not to the science of chemistry or the

459

00:18:25,190 --> 00:18:23,370

signs of physical I'm talking about the

460

00:18:27,260 --> 00:18:25,200

scientific method I'm talking about the

461

00:18:30,440 --> 00:18:27,270

process of science which is obviously a

462

00:18:32,900 --> 00:18:30,450

self-correcting process in which the

463

00:18:34,490 --> 00:18:32,910

ultimate goal of the participants is to

464

00:18:36,980 --> 00:18:34,500

determine whether something is true or

465

00:18:39,230 --> 00:18:36,990

not with what the evidence shows and the

466

00:18:43,400 --> 00:18:39,240

they are the final arbiter of what's

467

00:18:44,029 --> 00:18:43,410

true or not is the evidence not one one

468

00:18:48,889 --> 00:18:44,039

person

469

00:18:52,310 --> 00:18:48,899

since the participants in this process

470

00:18:54,769 --> 00:18:52,320

which we also know as scientists are

471

00:18:56,779 --> 00:18:54,779

human the process doesn't always run

472

00:18:58,869 --> 00:18:56,789

smoothly or flawlessly there's always

473

00:19:01,340 --> 00:18:58,879

problems along the way so you do find

474

00:19:03,710 --> 00:19:01,350

faulty argument you do find faulty

475

00:19:05,889 --> 00:19:03,720

papers you do find faulty research along

476

00:19:09,049 --> 00:19:05,899

the way but time and again this

477

00:19:12,190 --> 00:19:09,059

self-correcting method of principles of

478

00:19:14,570 --> 00:19:12,200

science ensure that over time and

479

00:19:16,609 --> 00:19:14,580

through a lot of research by many

480

00:19:19,999 --> 00:19:16,619

different people we actually get closer

481

00:19:21,919 --> 00:19:20,009

and closer to the truth an example a

482

00:19:24,969 --> 00:19:21,929

great example of that is the famous case

483

00:19:27,799 --> 00:19:24,979

of Barry Marshall and Robin Warren who

484

00:19:29,299 --> 00:19:27,809

despite what everybody knew for many

485

00:19:34,129 --> 00:19:29,309

years with that peptic ulcers were

486

00:19:35,210 --> 00:19:34,139

caused by by stress found that peptic

487

00:19:38,629 --> 00:19:35,220

ulcers were actually caused by a

488

00:19:41,389 --> 00:19:38,639

bacterium called helicobacter pylori and

489

00:19:43,460 --> 00:19:41,399

that it can be treated by antibiotics it

490

00:19:45,979 --> 00:19:43,470

wasn't accepted straight away it took a

491

00:19:48,950 --> 00:19:45,989

while he was common knowledge it was a

492

00:19:51,109 --> 00:19:48,960

consensus that stress was causing ulcers

493

00:19:53,710 --> 00:19:51,119

and he took them a while to prove it but

494

00:19:55,729 --> 00:19:53,720

once they proved it once they proved it

495

00:19:58,639 --> 00:19:55,739

everybody changed their mind you will

496

00:20:00,109 --> 00:19:58,649

not find a single well maybe a single

497

00:20:02,539 --> 00:20:00,119

you will find you somebody who also

498

00:20:04,669 --> 00:20:02,549

doesn't vaccinate there but you'll find

499

00:20:07,159 --> 00:20:04,679

maybe a few doctors but the vast

500

00:20:09,560 --> 00:20:07,169

majority of scientists and doctors and

501
00:20:11,749 --> 00:20:09,570
medical professionals of various kinds

502
00:20:14,509 --> 00:20:11,759
will accept now that when you have

503
00:20:16,310 --> 00:20:14,519
ulcers you need to take antibiotics this

504
00:20:18,830 --> 00:20:16,320
and you get treatment and that's they

505
00:20:20,419 --> 00:20:18,840
will resolve the problem and these

506
00:20:21,830 --> 00:20:20,429
things happen you know you have some you

507
00:20:24,409 --> 00:20:21,840
have some idea you have some hypotheses

508
00:20:27,129 --> 00:20:24,419
you have some thought about the way

509
00:20:29,539 --> 00:20:27,139
things are like stress causes ulcers and

510
00:20:31,099 --> 00:20:29,549
it's you know and then the facts are

511
00:20:34,549 --> 00:20:31,109
shown the evidence is shown and that

512
00:20:37,879 --> 00:20:34,559
hypothesis that theory goes away th

513
00:20:39,950 --> 00:20:37,889

Huxley who was known as Darwin's bulldog

514

00:20:41,899 --> 00:20:39,960

once said something something that we

515

00:20:44,349 --> 00:20:41,909

like he said that the traded tragedy of

516

00:20:47,930 --> 00:20:44,359

science is a beautiful hypothesis

517

00:20:49,729 --> 00:20:47,940

destroyed by an ugly fact so obviously

518

00:20:52,279 --> 00:20:49,739

in this case there's no ugly and

519

00:20:54,730 --> 00:20:52,289

beautiful but but that's what what's

520

00:20:58,660 --> 00:20:54,740

important the facts are what's important

521

00:21:00,640 --> 00:20:58,670

now it's worth knowing or pointing out

522

00:21:04,419 --> 00:21:00,650

that science scientific knowledge

523

00:21:06,430 --> 00:21:04,429

doesn't evolve in a vacuum we know a lot

524

00:21:08,169 --> 00:21:06,440

about science we know we have a lot of

525

00:21:10,510 --> 00:21:08,179

signs when we start to interrogate a

526

00:21:12,100 --> 00:21:10,520

specific question and we have to rely on

527

00:21:16,870 --> 00:21:12,110

that I want to ask you a question here

528

00:21:20,980 --> 00:21:16,880

how do we know the moon okay we before

529

00:21:25,830 --> 00:21:20,990

69 how did we know the moon was not made

530

00:21:28,450 --> 00:21:25,840

of green cheese near the question before

531

00:21:34,060 --> 00:21:28,460

1969 how did we know the moon was not

532

00:21:39,850 --> 00:21:34,070

made of green cheese sorry spectroscopy

533

00:21:44,049 --> 00:21:39,860

okay yeah lan theory okay what just a

534

00:21:45,790 --> 00:21:44,059

theory josh says he didn't taste good so

535

00:21:49,330 --> 00:21:45,800

we had three we had three answers here

536

00:21:51,430 --> 00:21:49,340

spectroscopy theory and that he didn't

537

00:21:53,230 --> 00:21:51,440

taste so good now I want to give you the

538

00:21:56,340 --> 00:21:53,240

answer and it will sound like I'm being

539

00:21:58,330 --> 00:21:56,350

facetious but I'm not the reason we knew

540

00:22:00,910 --> 00:21:58,340

very good somebody said it was

541

00:22:02,770 --> 00:22:00,920

implausible the reason we know it was

542

00:22:04,540 --> 00:22:02,780

not it's not it was not made of green

543

00:22:06,760 --> 00:22:04,550

cheese is because it's absurd to think

544

00:22:08,880 --> 00:22:06,770

that it's maybe a cheese we know that we

545

00:22:10,960 --> 00:22:08,890

know about we know enough about

546

00:22:14,710 --> 00:22:10,970

planetary formation we know about

547

00:22:17,470 --> 00:22:14,720

gravity we know enough about cheese yeah

548

00:22:19,900 --> 00:22:17,480

we know enough about cheese to know that

549

00:22:21,250 --> 00:22:19,910

it's so extremely unlikely that the moon

550

00:22:25,000 --> 00:22:21,260

is great made of green cheese that is

551
00:22:28,960 --> 00:22:25,010
not worth considering yeah absolutely

552
00:22:30,970 --> 00:22:28,970
true but you mentioned spectroscopy we

553
00:22:33,310 --> 00:22:30,980
had we knew the science of spectroscopy

554
00:22:35,200 --> 00:22:33,320
there was previous science that allowed

555
00:22:38,290 --> 00:22:35,210
us to assess the moon without actually

556
00:22:42,040 --> 00:22:38,300
going there now we 969 we went there we

557
00:22:46,660 --> 00:22:42,050
landed well not we Neil Neil landed and

558
00:22:49,660 --> 00:22:46,670
didn't get stuck into the cheesy surface

559
00:22:51,850 --> 00:22:49,670
of the moon so now we know for sure but

560
00:22:55,840 --> 00:22:51,860
we but just that you mentioned yourself

561
00:22:57,760 --> 00:22:55,850
there was this we had signs that it was

562
00:22:59,950 --> 00:22:57,770
available to us that allows us to assess

563
00:23:01,299 --> 00:22:59,960

it before we actually looked into it in

564

00:23:02,590 --> 00:23:01,309

more detail so we have a fairly good

565

00:23:05,680 --> 00:23:02,600

idea of what the cheese there with the

566

00:23:07,360 --> 00:23:05,690

moon is made of and it's not cheese yeah

567

00:23:08,350 --> 00:23:07,370

rachel was looking forward to the next

568

00:23:10,600 --> 00:23:08,360

trip to the moon

569

00:23:12,370 --> 00:23:10,610

for a non-scientist to evaluate the

570

00:23:15,190 --> 00:23:12,380

state of the ordinance on a specific

571

00:23:18,730 --> 00:23:15,200

scientific question requires to evaluate

572

00:23:21,880 --> 00:23:18,740

essentially two questions now one of

573

00:23:24,400 --> 00:23:21,890

them is has proper scientific process

574

00:23:26,200 --> 00:23:24,410

being followed and so in other words

575

00:23:27,760 --> 00:23:26,210

were there are no obvious failings in

576

00:23:30,430 --> 00:23:27,770

the process of arriving at a certain

577

00:23:32,169 --> 00:23:30,440

conclusion and the other one is whether

578

00:23:34,660 --> 00:23:32,179

there is a scientific consensus on the

579

00:23:36,280 --> 00:23:34,670

topic that we're discussing both

580

00:23:38,740 --> 00:23:36,290

questions need to be answered in the

581

00:23:41,169 --> 00:23:38,750

affirmative or at least not answered in

582

00:23:43,210 --> 00:23:41,179

the negative for us to say yes it looks

583

00:23:45,970 --> 00:23:43,220

like we know what the answer is about

584

00:23:47,470 --> 00:23:45,980

this about science at the moment I want

585

00:23:50,919 --> 00:23:47,480

to talk about scientific consensus it's

586

00:23:53,980 --> 00:23:50,929

a bit of a controversial term people

587

00:23:57,250 --> 00:23:53,990

very often think that it's something to

588

00:24:00,700 --> 00:23:57,260

do with democracy in science nothing

589

00:24:03,549 --> 00:24:00,710

like that at all scientific consensus

590

00:24:06,039 --> 00:24:03,559

arises when the majority of working

591

00:24:08,740 --> 00:24:06,049

scientists in a specific field or area

592

00:24:12,310 --> 00:24:08,750

and the majority of organizations in

593

00:24:15,580 --> 00:24:12,320

that specific field or area and the vast

594

00:24:19,750 --> 00:24:15,590

majority of scientific papers regarding

595

00:24:21,820 --> 00:24:19,760

that area all point in roughly the same

596

00:24:24,159 --> 00:24:21,830

direction and the world roughly is very

597

00:24:26,860 --> 00:24:24,169

important they don't all have to point

598

00:24:30,810 --> 00:24:26,870

do you know if it's okay if some of them

599

00:24:34,150 --> 00:24:30,820

point northeast some of them Northwest

600

00:24:36,760 --> 00:24:34,160

but very few but if they're very very

601
00:24:39,700 --> 00:24:36,770
few out of let's say thousands and only

602
00:24:42,460 --> 00:24:39,710
three points south and all the rest

603
00:24:44,440 --> 00:24:42,470
point between southeast northeast and

604
00:24:47,409 --> 00:24:44,450
northwest then we can be pretty sure

605
00:24:49,180 --> 00:24:47,419
that that's the general direction we're

606
00:24:51,789 --> 00:24:49,190
looking at if we talk about climate

607
00:24:53,500 --> 00:24:51,799
change as an as an example what we have

608
00:24:56,680 --> 00:24:53,510
here is something science that's being

609
00:24:58,210 --> 00:24:56,690
investigated for something like 50 some

610
00:25:00,280 --> 00:24:58,220
claim 75 years but definitely in the

611
00:25:03,760 --> 00:25:00,290
past 50 years it's been looked at and

612
00:25:06,010 --> 00:25:03,770
over that time it hasn't there was no

613
00:25:07,810 --> 00:25:06,020

consensus to begin with definitely no

614

00:25:10,299 --> 00:25:07,820

consensus the consensus really only

615

00:25:13,450 --> 00:25:10,309

started to emerge in the last 15 years

616

00:25:15,220 --> 00:25:13,460

or so maybe even you might even claim

617

00:25:18,870 --> 00:25:15,230

that it's just the last ten years but

618

00:25:22,250 --> 00:25:18,880

definitely 15 years it hasn't a reason

619

00:25:23,660 --> 00:25:22,260

easily or quickly it has taken time

620

00:25:26,060 --> 00:25:23,670

and that's the way it should be

621

00:25:28,900 --> 00:25:26,070

scientists are by their very nature

622

00:25:31,580 --> 00:25:28,910

skeptical when there's some new idea

623

00:25:33,860 --> 00:25:31,590

presented to them they will want to see

624

00:25:36,200 --> 00:25:33,870

the evidence and it's been a hard slog

625

00:25:37,610 --> 00:25:36,210

to find all the evidence first of all

626

00:25:39,350 --> 00:25:37,620

it's difficult to collect that evidence

627

00:25:41,000 --> 00:25:39,360

secondly it's difficult to analyze that

628

00:25:42,530 --> 00:25:41,010

evidence and then there were not that

629

00:25:43,970 --> 00:25:42,540

many scientists in the field and the

630

00:25:46,040 --> 00:25:43,980

number of scientists and number the

631

00:25:48,350 --> 00:25:46,050

amount of Science in the field has grown

632

00:25:50,510 --> 00:25:48,360

over time and more and more scientists

633

00:25:52,940 --> 00:25:50,520

came to appreciate that the evidence

634

00:25:54,530 --> 00:25:52,950

suggests a certain thing basically what

635

00:25:56,660 --> 00:25:54,540

we're saying here is that over time over

636

00:25:59,630 --> 00:25:56,670

the last 50 years more and more

637

00:26:02,780 --> 00:25:59,640

scientists who are experts in the field

638

00:26:06,320 --> 00:26:02,790

of climate became convinced by the

639

00:26:08,300 --> 00:26:06,330

evidence okay so that's what a

640

00:26:10,550 --> 00:26:08,310

scientific consensus means and that's a

641

00:26:13,400 --> 00:26:10,560

really important point the experts are

642

00:26:15,650 --> 00:26:13,410

convinced by the evidence that's a very

643

00:26:18,710 --> 00:26:15,660

strong point in favor of the scientific

644

00:26:20,240 --> 00:26:18,720

consensus now obviously we don't want to

645

00:26:22,550 --> 00:26:20,250

fall for something now whether it's

646

00:26:23,900 --> 00:26:22,560

something that's controversial we want

647

00:26:25,340 --> 00:26:23,910

to listen to what the scientists thought

648

00:26:26,450 --> 00:26:25,350

before the controversy and off the

649

00:26:27,860 --> 00:26:26,460

Conservancy and see whether there's the

650

00:26:30,740 --> 00:26:27,870

difference there but generally

651

00:26:32,750 --> 00:26:30,750

scientists tend to overall as a

652

00:26:33,830 --> 00:26:32,760

consensus get it right specifically with

653

00:26:35,750 --> 00:26:33,840

climate change i've mentioned i

654

00:26:37,220 --> 00:26:35,760

mentioned the process but i don't think

655

00:26:39,020 --> 00:26:37,230

there's any particular reason to suspect

656

00:26:40,490 --> 00:26:39,030

that due process hasn't been followed

657

00:26:42,290 --> 00:26:40,500

it's very difficult to assess the

658

00:26:45,200 --> 00:26:42,300

process when you hit without looking at

659

00:26:47,570 --> 00:26:45,210

specific specific papers a specific

660

00:26:49,400 --> 00:26:47,580

research and that as i mentioned is very

661

00:26:51,830 --> 00:26:49,410

difficult for most of us I know that if

662

00:26:55,310 --> 00:26:51,840

I had I tried to read some papers

663

00:26:57,290 --> 00:26:55,320

regarding ice cause ice core sampling it

664

00:27:00,350 --> 00:26:57,300

meant so little to me that I felt that I

665

00:27:02,150 --> 00:27:00,360

could easily be convinced either way by

666

00:27:04,460 --> 00:27:02,160

these papers you know if the papers the

667

00:27:07,100 --> 00:27:04,470

paper the same paper if the conclusion

668

00:27:08,630 --> 00:27:07,110

the abstract was when one way or the

669

00:27:10,040 --> 00:27:08,640

other I would be equally convinced

670

00:27:11,570 --> 00:27:10,050

because it just meant so little to me

671

00:27:13,040 --> 00:27:11,580

and I think most people are like that

672

00:27:14,480 --> 00:27:13,050

unless they are in specific field they

673

00:27:17,210 --> 00:27:14,490

can't assess the evidence for themselves

674

00:27:18,860 --> 00:27:17,220

basically we have I have to rely to sin

675

00:27:20,720 --> 00:27:18,870

extent on the science but we we can look

676

00:27:22,670 --> 00:27:20,730

at the way the research was done and

677

00:27:25,280 --> 00:27:22,680

tried to Steve this obvious holes in the

678

00:27:26,930 --> 00:27:25,290

way it was in the way was conducted in

679

00:27:29,470 --> 00:27:26,940

the case of climate change their climate

680

00:27:32,150 --> 00:27:29,480

science there is a bit of a kind of an

681

00:27:34,580 --> 00:27:32,160

idea that there's maybe either a mass

682

00:27:36,140 --> 00:27:34,590

delusion or a conspiracy among climate

683

00:27:39,080 --> 00:27:36,150

climate scientists to

684

00:27:41,900 --> 00:27:39,090

suggest the climate change by human

685

00:27:44,630 --> 00:27:41,910

causes is actually happening but that is

686

00:27:46,310 --> 00:27:44,640

a huge claim in its own right and to say

687

00:27:48,080 --> 00:27:46,320

that there is such a conspiracy or mass

688

00:27:49,340 --> 00:27:48,090

delusion you need to present evidence

689

00:27:51,250 --> 00:27:49,350

and I don't believe that there's

690

00:27:53,750 --> 00:27:51,260

evidence that's being presented for that

691

00:27:57,050 --> 00:27:53,760

despite quite a few attempt to do that

692

00:27:58,880 --> 00:27:57,060

and also remember that suggesting a

693

00:28:01,790 --> 00:27:58,890

conspiracy contradicts at least two of

694

00:28:03,770 --> 00:28:01,800

the previous rules so just be aware of

695

00:28:05,630 --> 00:28:03,780

that since both questions in the case of

696

00:28:08,600 --> 00:28:05,640

climate change have been answered in the

697

00:28:11,480 --> 00:28:08,610

affirmative the theory of climates are

698

00:28:15,050 --> 00:28:11,490

changed by human induced carbon forcing

699

00:28:16,540 --> 00:28:15,060

is likely to be correct to the best of

700

00:28:18,800 --> 00:28:16,550

the current scientific knowledge and

701
00:28:21,350 --> 00:28:18,810
I've chosen these words very carefully

702
00:28:23,000 --> 00:28:21,360
it's that's the current knowledge it

703
00:28:24,680 --> 00:28:23,010
doesn't mean it's necessarily true

704
00:28:27,170 --> 00:28:24,690
doesn't mean that it will always hold

705
00:28:30,560 --> 00:28:27,180
true but it means that we have to grant

706
00:28:34,820 --> 00:28:30,570
it provisional acceptance if we are

707
00:28:37,190 --> 00:28:34,830
skeptics the last rule and that's a very

708
00:28:39,200 --> 00:28:37,200
important rule without which all the

709
00:28:41,990 --> 00:28:39,210
rest are not important is that you have

710
00:28:43,490 --> 00:28:42,000
to be willing to change your mind if you

711
00:28:45,110 --> 00:28:43,500
come into this process of trying to

712
00:28:47,030 --> 00:28:45,120
assess the evidence and you're not

713
00:28:49,310 --> 00:28:47,040

willing to change your mind what will

714

00:28:51,680 --> 00:28:49,320

happen is that you will find all the

715

00:28:53,720 --> 00:28:51,690

evidence to support your position that's

716

00:28:55,910 --> 00:28:53,730

what people do it's natural there's

717

00:28:59,000 --> 00:28:55,920

nothing strange about that that's what

718

00:29:03,380 --> 00:28:59,010

most people will do naturally the thing

719

00:29:06,050 --> 00:29:03,390

is you have to try to be completely open

720

00:29:09,500 --> 00:29:06,060

minded to evidence but not obviously

721

00:29:11,540 --> 00:29:09,510

open minded to just any claim and that's

722

00:29:14,300 --> 00:29:11,550

not an easy thing to do I've thought

723

00:29:15,920 --> 00:29:14,310

long and hard about times that I have

724

00:29:17,660 --> 00:29:15,930

changed my mind about something that was

725

00:29:19,850 --> 00:29:17,670

important to me something that I felt

726

00:29:21,650 --> 00:29:19,860

strongly about and I came up with one

727

00:29:23,690 --> 00:29:21,660

example but I'd like you all to think

728

00:29:24,650 --> 00:29:23,700

about examples of your own whether

729

00:29:26,180 --> 00:29:24,660

you've changed your mind about something

730

00:29:28,490 --> 00:29:26,190

that you felt very strongly about and

731

00:29:30,890 --> 00:29:28,500

then contrary evidence came to light and

732

00:29:34,970 --> 00:29:30,900

you change your mind my example is to do

733

00:29:37,460 --> 00:29:34,980

with pain research on rats I strongly

734

00:29:41,420 --> 00:29:37,470

believe that pain research on rats was

735

00:29:43,790 --> 00:29:41,430

both an ethical and useless because the

736

00:29:46,130 --> 00:29:43,800

rat brain is so different to ours that I

737

00:29:48,110 --> 00:29:46,140

I just felt that it was just why would

738

00:29:49,220 --> 00:29:48,120

you hurt rats when you can you can't

739

00:29:50,070 --> 00:29:49,230

find anything about the human brain

740

00:29:52,289 --> 00:29:50,080

because of it

741

00:29:54,750 --> 00:29:52,299

that but that was the way I've thought

742

00:29:55,980 --> 00:29:54,760

about it for four years that was my my

743

00:29:57,600 --> 00:29:55,990

view and I felt that he was strongly

744

00:30:01,200 --> 00:29:57,610

supported by science actually knew what

745

00:30:03,570 --> 00:30:01,210

was happening in in labs with rats I

746

00:30:05,759 --> 00:30:03,580

knew how do in order to study pain in

747

00:30:07,889 --> 00:30:05,769

rats strangely enough you have to hurt

748

00:30:09,960 --> 00:30:07,899

them and which is something that I felt

749

00:30:13,019 --> 00:30:09,970

was not you know you have to only do it

750

00:30:15,180 --> 00:30:13,029

if it's absolutely but if the results of

751

00:30:17,430 --> 00:30:15,190

the study the studies are very valuable

752

00:30:21,330 --> 00:30:17,440

to you and I felt that that wasn't the

753

00:30:23,370 --> 00:30:21,340

case one day we had dinner with friends

754

00:30:25,379 --> 00:30:23,380

and done one of the friends brought her

755

00:30:27,450 --> 00:30:25,389

parents with her and they're both

756

00:30:30,360 --> 00:30:27,460

professors of biology and I somehow the

757

00:30:32,480 --> 00:30:30,370

conversation turned to pain and then to

758

00:30:36,240 --> 00:30:32,490

rats and I said what I thought about

759

00:30:38,960 --> 00:30:36,250

pain research in rats and one of the

760

00:30:42,060 --> 00:30:38,970

professors said I think the wording was

761

00:30:44,580 --> 00:30:42,070

everything we know about pain comes from

762

00:30:47,490 --> 00:30:44,590

research on rats and I kind of smiled

763

00:30:48,750 --> 00:30:47,500

smugly and debated it for a while and it

764

00:30:51,600 --> 00:30:48,760

became quite clear that the professor

765

00:30:52,799 --> 00:30:51,610

knew what he was talking about and I

766

00:30:54,570 --> 00:30:52,809

went to need some more research and

767

00:30:56,039 --> 00:30:54,580

looked at it looked at looks at the

768

00:30:59,250 --> 00:30:56,049

volume of papers looked at what some of

769

00:31:00,600 --> 00:30:59,260

the papers said and became quite clear

770

00:31:02,430 --> 00:31:00,610

that it was simply wrong I wasn't a

771

00:31:04,889 --> 00:31:02,440

little bit wrong I wasn't you know just

772

00:31:07,169 --> 00:31:04,899

maybe not looking at it the right way

773

00:31:09,629 --> 00:31:07,179

the right way exactly I was completely

774

00:31:12,000 --> 00:31:09,639

wrong indeed as the professor said

775

00:31:15,899 --> 00:31:12,010

everything we know about pain in humans

776

00:31:18,139 --> 00:31:15,909

is it comes from research on rats I've

777

00:31:20,970 --> 00:31:18,149

changed my mind and it's something that

778

00:31:23,159 --> 00:31:20,980

was a very strong very strong point for

779

00:31:25,470 --> 00:31:23,169

me being able to actually have an

780

00:31:27,509 --> 00:31:25,480

example like that and I urge you to all

781

00:31:29,460 --> 00:31:27,519

find an example like that first of all

782

00:31:31,049 --> 00:31:29,470

so when somebody challenges you to say

783

00:31:32,419 --> 00:31:31,059

oh yeah so when did you ever change your

784

00:31:35,070 --> 00:31:32,429

mind you can have something in your

785

00:31:37,139 --> 00:31:35,080

toolkit for that but also because i

786

00:31:39,330 --> 00:31:37,149

think it's an empowering an empowering

787

00:31:40,649 --> 00:31:39,340

thing personally to know that you can

788

00:31:42,509 --> 00:31:40,659

change your mind about something you

789

00:31:44,639 --> 00:31:42,519

feel strongly about when evidence is

790

00:31:49,379 --> 00:31:44,649

presented that contradicts you previous

791

00:31:50,730 --> 00:31:49,389

knowledge and finally there's there's a

792

00:31:52,470 --> 00:31:50,740

couple of things I want to say that I'm

793

00:31:53,730 --> 00:31:52,480

not directly related but first of all

794

00:31:56,100 --> 00:31:53,740

with regards to climate change I want to

795

00:31:57,659 --> 00:31:56,110

emphasize that accepting the science

796

00:31:59,639 --> 00:31:57,669

does not mean that you also accept the

797

00:32:02,220 --> 00:31:59,649

carbon tax it's a political question

798

00:32:04,320 --> 00:32:02,230

it's got nothing to do with the signs

799

00:32:06,630 --> 00:32:04,330

and all I talked about here today was to

800

00:32:08,280 --> 00:32:06,640

do with evaluating evidence it has

801
00:32:09,600 --> 00:32:08,290
nothing to do with a political system I

802
00:32:11,789 --> 00:32:09,610
don't believe the political system is

803
00:32:14,940 --> 00:32:11,799
subject to evidence now because it can't

804
00:32:18,000 --> 00:32:14,950
be just because it isn't and finally

805
00:32:21,330 --> 00:32:18,010
remember you don't have to form an

806
00:32:22,909 --> 00:32:21,340
opinion if you don't know enough if you

807
00:32:25,919 --> 00:32:22,919
don't feel that you know enough to

808
00:32:28,409 --> 00:32:25,929
assess the evidence then the best thing

809
00:32:31,260 --> 00:32:28,419
to do is to not have an opinion say I

810
00:32:33,600 --> 00:32:31,270
don't have an opinion when I am able to

811
00:32:35,250 --> 00:32:33,610
assess the evidence when I'm when I have

812
00:32:37,409 --> 00:32:35,260
assessed when I've properly assess the

813
00:32:40,350 --> 00:32:37,419

evidence then I will form an opinion

814

00:32:55,590 --> 00:32:40,360

until then I simply don't have one thank

815

00:32:57,450 --> 00:32:55,600

you very much hi this is Tim Farley you

816

00:33:00,360 --> 00:32:57,460

probably know me from what's the harm

817

00:33:03,090 --> 00:33:00,370

net a catalog of the real world harm

818

00:33:06,030 --> 00:33:03,100

caused by lack of critical thinking but

819

00:33:09,000 --> 00:33:06,040

that's not my only project i present at

820

00:33:11,340 --> 00:33:09,010

skeptic events I post a daily skeptic

821

00:33:14,100 --> 00:33:11,350

history fact on Twitter and Facebook and

822

00:33:17,220 --> 00:33:14,110

I blog about using new techniques on the

823

00:33:20,400 --> 00:33:17,230

internet to advance skepticism come over

824

00:33:23,850 --> 00:33:20,410

to skept tools com and check out my

825

00:33:29,170 --> 00:33:23,860

latest ideas but first enjoy the rest of

826

00:33:29,180 --> 00:33:37,330

his main art spooky action at a distance

827

00:33:42,380 --> 00:33:40,159

look we here at skeptics at the pub and

828

00:33:44,030 --> 00:33:42,390

tonight the question is um how do you

829

00:33:45,680 --> 00:33:44,040

defend being a skeptic because when you

830

00:33:47,930 --> 00:33:45,690

eventually come out and tell people

831

00:33:48,919 --> 00:33:47,940

you're a skeptic after they try and

832

00:33:50,419 --> 00:33:48,929

figure out what it is they're going to

833

00:33:53,000 --> 00:33:50,429

ask you what's that all about what do

834

00:33:55,970 --> 00:33:53,010

you say all my friends know already but

835

00:33:57,890 --> 00:33:55,980

basically I tell them that it's not

836

00:34:00,049 --> 00:33:57,900

necessarily denying things it's just

837

00:34:01,610 --> 00:34:00,059

requiring evidence required requiring

838

00:34:03,860 --> 00:34:01,620

evidence before you believe something

839

00:34:05,299 --> 00:34:03,870

and ever find yourself a bit of the butt

840

00:34:07,909 --> 00:34:05,309

of the joke I'll he won't believe that

841

00:34:11,149 --> 00:34:07,919

he's a skeptic that kind of stuff I'm

842

00:34:13,430 --> 00:34:11,159

not really no okay good frenzy although

843

00:34:15,200 --> 00:34:13,440

I did give a Jehovah visiting Jehovah's

844

00:34:17,240 --> 00:34:15,210

Witness a good pissing last Saturday so

845

00:34:18,889 --> 00:34:17,250

no did you invite them in then had a

846

00:34:20,720 --> 00:34:18,899

debate but then I know i arguing with

847

00:34:23,330 --> 00:34:20,730

her about three-quarters of an area

848

00:34:24,830 --> 00:34:23,340

outside the front door so no and how do

849

00:34:27,649 --> 00:34:24,840

you think it went my ultimate life goal

850

00:34:29,659 --> 00:34:27,659

is to convert one well look I have heard

851
00:34:31,580 --> 00:34:29,669
of it happening and basically he

852
00:34:34,070 --> 00:34:31,590
reverted to God is magic and does can't

853
00:34:35,659 --> 00:34:34,080
the explained by science so did you beat

854
00:34:37,070 --> 00:34:35,669
them to a standstill them then they look

855
00:34:38,899 --> 00:34:37,080
at the watch and said we should be

856
00:34:41,750 --> 00:34:38,909
somewhere else pretty much you had to

857
00:34:43,310 --> 00:34:41,760
move on okay I bet you must look forward

858
00:34:44,960 --> 00:34:43,320
to religious representatives coming to

859
00:34:46,849 --> 00:34:44,970
your house I quite enjoy it actually

860
00:34:49,280 --> 00:34:46,859
yeah I'd like I said to my ultimate goal

861
00:34:50,810 --> 00:34:49,290
is to convert one sir well look let us

862
00:34:52,940 --> 00:34:50,820
know put that up on the website yeah

863
00:34:56,270 --> 00:34:52,950

that one mill little bit yeah we'll be

864

00:34:58,070 --> 00:34:56,280

okay thank you i'm here with steve and

865

00:34:59,840 --> 00:34:58,080

move up the wonder dog sniffing at me

866

00:35:02,390 --> 00:34:59,850

because he can smell my dad's cat on me

867

00:35:04,849 --> 00:35:02,400

or something anyway maybe I've been

868

00:35:06,859 --> 00:35:04,859

rolling in bacon again but Steve how do

869

00:35:08,630 --> 00:35:06,869

you defend being a skeptic when when you

870

00:35:10,190 --> 00:35:08,640

eventually come out or you let people

871

00:35:11,870 --> 00:35:10,200

know that you're a part of it people ask

872

00:35:13,670 --> 00:35:11,880

what's that all about and like what'd

873

00:35:16,400 --> 00:35:13,680

you do that for what do you say I

874

00:35:19,840 --> 00:35:16,410

haven't had too much trouble with people

875

00:35:21,920 --> 00:35:19,850

sort of getting aggressive about it but

876

00:35:24,770 --> 00:35:21,930

usually I just tell people the main

877

00:35:27,620 --> 00:35:24,780

reason I'm a skeptic is I'd like to know

878

00:35:31,020 --> 00:35:27,630

how things work and I want to have a

879

00:35:34,290 --> 00:35:31,030

correct understanding of how things work

880

00:35:39,920 --> 00:35:34,300

the main criticism I've ever really had

881

00:35:43,320 --> 00:35:39,930

is not so much at my skepticism but at

882

00:35:46,320 --> 00:35:43,330

how I poopoo things that other people

883

00:35:48,030 --> 00:35:46,330

like I'm told should just let leave

884

00:35:50,370 --> 00:35:48,040

people alone let them think what they

885

00:35:53,660 --> 00:35:50,380

want and that's about being accused of

886

00:35:56,100 --> 00:35:53,670

harshing people's mellow every yes and

887

00:35:58,650 --> 00:35:56,110

that that's probably the only thing I've

888

00:36:02,940 --> 00:35:58,660

really been put on the spot to try and

889

00:36:05,310 --> 00:36:02,950

defend and my defense of that is those

890

00:36:07,980 --> 00:36:05,320

people are allowed to vote so I care

891

00:36:12,320 --> 00:36:07,990

what they believe in I want if people

892

00:36:15,960 --> 00:36:12,330

are going to be able to influence the

893

00:36:19,170 --> 00:36:15,970

government the world around me that I I

894

00:36:22,730 --> 00:36:19,180

want them to be thinking rationally I

895

00:36:26,900 --> 00:36:22,740

don't want to be living in a world where

896

00:36:29,130 --> 00:36:26,910

I'm oppressed because of silly beliefs

897

00:36:31,650 --> 00:36:29,140

that's a tough call I mean for goodness

898

00:36:34,020 --> 00:36:31,660

sake lara bingle has a TV show I mean

899

00:36:36,210 --> 00:36:34,030

really I mean it's an ugly world that

900

00:36:39,090 --> 00:36:36,220

evidence is not often given the way it

901
00:36:42,840 --> 00:36:39,100
should have no it isn't that that's just

902
00:36:45,210 --> 00:36:42,850
how it goes and I'm certainly not in the

903
00:36:47,190 --> 00:36:45,220
camp of saying these people should have

904
00:36:50,340 --> 00:36:47,200
to take an IQ test before they can vote

905
00:36:53,940 --> 00:36:50,350
I think everyone needs to be able to

906
00:36:56,070 --> 00:36:53,950
vote and have their voices heard that I

907
00:36:58,470 --> 00:36:56,080
think it's important to make sure that

908
00:37:03,000 --> 00:36:58,480
those voices speaking the truth is often

909
00:37:04,710 --> 00:37:03,010
as possible how do you defend being a

910
00:37:07,020 --> 00:37:04,720
skeptic when you came out as a skeptic

911
00:37:09,720 --> 00:37:07,030
and it went off what what did you say

912
00:37:11,220 --> 00:37:09,730
when I came out oh my god look she's

913
00:37:14,400 --> 00:37:11,230

she's causing enough trouble as it is

914

00:37:15,370 --> 00:37:14,410

now she's a skeptic well actually it's

915

00:37:18,490 --> 00:37:15,380

really in

916

00:37:20,950 --> 00:37:18,500

because when i discovered skepticism it

917

00:37:23,529 --> 00:37:20,960

was a real revelation to me and i took

918

00:37:27,370 --> 00:37:23,539

to it like a religion and i was very

919

00:37:29,950 --> 00:37:27,380

evangelical and it really didn't go down

920

00:37:31,660 --> 00:37:29,960

well so you know just looking at

921

00:37:34,930 --> 00:37:31,670

people's reactions so that people call

922

00:37:36,609 --> 00:37:34,940

you a dawkins botherer today no no not

923

00:37:38,680 --> 00:37:36,619

at all it was just you could see the

924

00:37:41,259 --> 00:37:38,690

eyes you know drifting away you can see

925

00:37:44,380 --> 00:37:41,269

them disconnecting you can see that that

926
00:37:47,920 --> 00:37:44,390
they were really engaged in the way I

927
00:37:49,660 --> 00:37:47,930
was and you know we're always talking in

928
00:37:51,759 --> 00:37:49,670
the skeptical community how the win

929
00:37:54,460 --> 00:37:51,769
hearts and minds so it was actually a

930
00:37:57,640 --> 00:37:54,470
really good on the front line example of

931
00:38:00,759 --> 00:37:57,650
how not to do it yo homie evangelical so

932
00:38:03,400 --> 00:38:00,769
I think when people ask me about being a

933
00:38:05,289 --> 00:38:03,410
skeptic I just give them a very straight

934
00:38:09,160 --> 00:38:05,299
explanation of what we do what the

935
00:38:14,410 --> 00:38:09,170
Australian skeptics do I give

936
00:38:17,500 --> 00:38:14,420
a very calm and measured explanation and

937
00:38:20,470 --> 00:38:17,510
I explained also what fun it is and how

938
00:38:22,240 --> 00:38:20,480

interesting it is and you know how we

939

00:38:27,940 --> 00:38:22,250

have a ball and have a really good time

940

00:38:29,500 --> 00:38:27,950

and how we try and do good and in the

941

00:38:32,380 --> 00:38:29,510

health sphere and consumer protection

942

00:38:34,299 --> 00:38:32,390

and what have you and people people are

943

00:38:36,520 --> 00:38:34,309

much more receptive to that I find at

944

00:38:39,069 --> 00:38:36,530

least they listen they take it on board

945

00:38:41,170 --> 00:38:39,079

and I think they're more likely to go

946

00:38:42,940 --> 00:38:41,180

away and look into it do you think maybe

947

00:38:44,770 --> 00:38:42,950

the skeptics need a mascot I mean most

948

00:38:46,359 --> 00:38:44,780

football teams have a mascot I'm not

949

00:38:48,849 --> 00:38:46,369

talking about a cheerleader some sort of

950

00:38:50,770 --> 00:38:48,859

like a big hypodermic or something I

951
00:38:53,049 --> 00:38:50,780
don't know oh I think that would be too

952
00:38:55,329 --> 00:38:53,059
scary I would scare the children even

953
00:38:57,130 --> 00:38:55,339
more yeah I don't know yet look I think

954
00:38:59,589 --> 00:38:57,140
all will work on the issue of a mascot

955
00:39:04,150 --> 00:38:59,599
at a later date yeah good idea it's a

956
00:39:06,370 --> 00:39:04,160
deal well I became a skeptic by wanting

957
00:39:08,890 --> 00:39:06,380
to learn debating techniques and I

958
00:39:11,859 --> 00:39:08,900
googled how to argue and I found the

959
00:39:13,900 --> 00:39:11,869
article written by steven available from

960
00:39:15,910 --> 00:39:13,910
the skeptics guide and it's the articles

961
00:39:18,400 --> 00:39:15,920
been up there for a long time and it's

962
00:39:21,280 --> 00:39:18,410
titled how to argue and that's where I

963
00:39:23,829 --> 00:39:21,290

discovered logical fallacies and that

964

00:39:28,720 --> 00:39:23,839

led me on to reading more and more about

965

00:39:30,730 --> 00:39:28,730

skepticism so to defend the reason i

966

00:39:33,010 --> 00:39:30,740

would say i'm a skip why I'm a skeptic

967

00:39:36,640 --> 00:39:33,020

now is simply I just want to know what's

968

00:39:39,400 --> 00:39:36,650

going on okay my first year at

969

00:39:41,560 --> 00:39:39,410

university i got i went to the

970

00:39:45,960 --> 00:39:41,570

university of new england and

971

00:39:49,420 --> 00:39:45,970

at the age of 16 and the the University

972

00:39:53,290 --> 00:39:49,430

newspaper newspaper that's either a

973

00:39:55,180 --> 00:39:53,300

welcome from the chaplain in which he

974

00:39:57,400 --> 00:39:55,190

said all the usual sort of chaplain

975

00:40:02,080 --> 00:39:57,410

evenings and I instantly wrote in

976
00:40:04,180 --> 00:40:02,090
response okay saying I can't remember

977
00:40:06,030 --> 00:40:04,190
what I said I've let it again decently

978
00:40:08,380 --> 00:40:06,040
and it was quite intelligent our

979
00:40:10,600 --> 00:40:08,390
questioning queering the whole religious

980
00:40:15,940 --> 00:40:10,610
thing this in the University of England

981
00:40:18,310 --> 00:40:15,950
in 1959 was quite startling actually I

982
00:40:20,860 --> 00:40:18,320
think so yeah did I came out quite early

983
00:40:22,060 --> 00:40:20,870
and how did you explain your position to

984
00:40:23,530 --> 00:40:22,070
people then where they're going I'll

985
00:40:25,750 --> 00:40:23,540
look do you have to make so much trouble

986
00:40:28,780 --> 00:40:25,760
was probably something you've got no

987
00:40:31,270 --> 00:40:28,790
actually people don't in Australian

988
00:40:35,110 --> 00:40:31,280

would like to challenge questions and

989

00:40:37,600 --> 00:40:35,120

topics are certainly not there I did

990

00:40:39,520 --> 00:40:37,610

start a nationalist society with the

991

00:40:41,860 --> 00:40:39,530

benefit of it we didn't get very far

992

00:40:44,680 --> 00:40:41,870

with it but I must say the castle ward

993

00:40:47,380 --> 00:40:44,690

who was professor of history noted us

994

00:40:49,480 --> 00:40:47,390

alien historian I'm stopped in the code

995

00:40:50,950 --> 00:40:49,490

in the going down the aisle in the

996

00:40:52,720 --> 00:40:50,960

history lecture and said were you the

997

00:40:54,880 --> 00:40:52,730

one who got that and I said yes he said

998

00:40:56,890 --> 00:40:54,890

good on you and you can do history

999

00:40:58,900 --> 00:40:56,900

honors even though I failed I should've

1000

00:41:01,090 --> 00:40:58,910

tailed test you seek approval from

1001
00:41:03,069 --> 00:41:01,100
authority it was day two people because

1002
00:41:04,779 --> 00:41:03,079
they view people there

1003
00:41:06,579 --> 00:41:04,789
we're able to say that sort of thing I

1004
00:41:08,559 --> 00:41:06,589
think and what is the best way to sum up

1005
00:41:14,499 --> 00:41:08,569
things skeptic when people do ask you in

1006
00:41:16,690 --> 00:41:14,509
one sentence is there one just using

1007
00:41:19,900 --> 00:41:16,700
your intelligence to question the sort

1008
00:41:24,370 --> 00:41:19,910
of things that other people are very

1009
00:41:26,349 --> 00:41:24,380
definite about given the in the case of

1010
00:41:29,620 --> 00:41:26,359
religion for example given the fact that

1011
00:41:32,140 --> 00:41:29,630
I think God has got a real problem with

1012
00:41:33,489 --> 00:41:32,150
PR with public relations because he

1013
00:41:36,519 --> 00:41:33,499

hasn't actually made it quite clear

1014

00:41:39,099 --> 00:41:36,529

which version of God that every so many

1015

00:41:41,620 --> 00:41:39,109

people are so fundamentally sure about

1016

00:41:43,599 --> 00:41:41,630

is actually the accurate one so i think

1017

00:41:47,319 --> 00:41:43,609

an Almighty God who can't actually get

1018

00:41:51,579 --> 00:41:47,329

his message out there clearly isn't what

1019

00:41:52,989 --> 00:41:51,589

we were very convincing yet yes well as

1020

00:41:55,839 --> 00:41:52,999

considerable difference between the

1021

00:41:59,079 --> 00:41:55,849

Lutheran Church and Islam for example

1022

00:42:00,459 --> 00:41:59,089

precisely that and so you know I mean an

1023

00:42:02,259 --> 00:42:00,469

Almighty God ought to be able to at

1024

00:42:04,870 --> 00:42:02,269

least be fairly clear about what his

1025

00:42:07,089 --> 00:42:04,880

messages and he's not so that's in the

1026
00:42:11,620 --> 00:42:07,099
terms of religion but father subjects to

1027
00:42:13,599 --> 00:42:11,630
I think you know there's just and I

1028
00:42:16,599 --> 00:42:13,609
understand that people want to hang on

1029
00:42:19,509 --> 00:42:16,609
opinions out of that feelings out of

1030
00:42:21,789 --> 00:42:19,519
emotions and some but when there's so

1031
00:42:23,979 --> 00:42:21,799
many contradictions going I've got a

1032
00:42:27,309 --> 00:42:23,989
brain I want to use it and I want to be

1033
00:42:28,390 --> 00:42:27,319
able to work it out for myself look

1034
00:42:30,130 --> 00:42:28,400
we've got a visitor from Melbourne here

1035
00:42:31,299 --> 00:42:30,140
who's enjoying our skeptics in the pub

1036
00:42:33,789 --> 00:42:31,309
it's all happening at the coronation

1037
00:42:34,900 --> 00:42:33,799
hotel here right now we've got little

1038
00:42:37,089 --> 00:42:34,910

sorts of things happening that I can't

1039

00:42:39,130 --> 00:42:37,099

describe jus cuz radio best you imagine

1040

00:42:41,319 --> 00:42:39,140

it with the theater of your mind John

1041

00:42:42,910 --> 00:42:41,329

how do you defend being a skeptic when

1042

00:42:47,700 --> 00:42:42,920

people when you come out to people about

1043

00:42:51,089 --> 00:42:47,710

being one I don't know that actually

1044

00:42:53,460 --> 00:42:51,099

I've never really get challenged by it I

1045

00:42:57,810 --> 00:42:53,470

think largely most of the people i

1046

00:42:59,490 --> 00:42:57,820

associated with of a similar bent I'm a

1047

00:43:01,890 --> 00:42:59,500

geek so I hang out with other geeks and

1048

00:43:03,710 --> 00:43:01,900

most geeks are while they're highly

1049

00:43:06,329 --> 00:43:03,720

opinionated they generally respect

1050

00:43:08,370 --> 00:43:06,339

critical thinking they might not have

1051

00:43:10,109 --> 00:43:08,380

put all the time I don't know it all the

1052

00:43:13,050 --> 00:43:10,119

time but when they see it in action

1053

00:43:14,609 --> 00:43:13,060

though generally appreciate it okay is

1054

00:43:15,870 --> 00:43:14,619

there a simple way you could sum it up

1055

00:43:22,800 --> 00:43:15,880

when people ask you what it's all about

1056

00:43:27,300 --> 00:43:22,810

I usually avoid the question like I'm

1057

00:43:29,280 --> 00:43:27,310

doing right now but you get quite and

1058

00:43:32,520 --> 00:43:29,290

it's understandable it can just link it

1059

00:43:36,630 --> 00:43:32,530

can lead to like awkward silences or you

1060

00:43:41,339 --> 00:43:36,640

know value judgments hmm yes I do that a

1061

00:43:42,870 --> 00:43:41,349

lot mmm yes right now now when when you

1062

00:43:45,510 --> 00:43:42,880

tell people are skeptical you come out

1063

00:43:47,250 --> 00:43:45,520

as a skeptic and people go what's that

1064

00:43:49,950 --> 00:43:47,260

it's been strange and he defended oh and

1065

00:43:51,900 --> 00:43:49,960

your drinks behind you by the way our

1066

00:43:55,770 --> 00:43:51,910

interviewee is now getting in a glass of

1067

00:43:57,720 --> 00:43:55,780

red wine yes I don't actually really

1068

00:44:01,160 --> 00:43:57,730

have to defend it very much I mean I'm

1069

00:44:04,950 --> 00:44:01,170

very obviously a skeptic all the time so

1070

00:44:07,790 --> 00:44:04,960

I've really become a lot more aggressive

1071

00:44:10,650 --> 00:44:07,800

about not putting up with any [h__\h]

1072

00:44:13,200 --> 00:44:10,660

and what is the common bullcrap that you

1073

00:44:15,300 --> 00:44:13,210

are confronted with on a regular basis

1074

00:44:17,550 --> 00:44:15,310

mainly religious crap but that you know

1075

00:44:19,620 --> 00:44:17,560

you do get the climate science crap and

1076
00:44:23,339 --> 00:44:19,630
then you know a bit of the vaccination

1077
00:44:25,920 --> 00:44:23,349
breck quite a lot of arm acupuncture

1078
00:44:27,450 --> 00:44:25,930
crap now is lot of us in the workplace

1079
00:44:31,890 --> 00:44:27,460
at all I even a workplace where this

1080
00:44:33,810 --> 00:44:31,900
happen no I go to uni and so you would

1081
00:44:35,670 --> 00:44:33,820
be surprised how many people leave their

1082
00:44:37,200 --> 00:44:35,680
brains at the gauge of the universe

1083
00:44:39,059 --> 00:44:37,210
but it's how you normally get a high

1084
00:44:42,200 --> 00:44:39,069
distinction in an essay isn't it i know

1085
00:44:46,980 --> 00:44:42,210
i know i'm finding quite quite difficult

1086
00:44:49,950 --> 00:44:46,990
rationalizing there being in university

1087
00:44:51,120 --> 00:44:49,960
in training and and all this extra

1088
00:44:52,799 --> 00:44:51,130

knowledge that they should be gaining

1089

00:44:55,380 --> 00:44:52,809

and then they still believe all this

1090

00:44:56,880 --> 00:44:55,390

stupid stuff you think it's because this

1091

00:44:58,589 --> 00:44:56,890

knowledge is being sort of enforced upon

1092

00:45:00,270 --> 00:44:58,599

them and they're thinking that there's

1093

00:45:03,260 --> 00:45:00,280

some alternative that isn't as

1094

00:45:05,940 --> 00:45:03,270

regimented that they've seek yeah not

1095

00:45:07,980 --> 00:45:05,950

boy have to be used to think of that

1096

00:45:10,470 --> 00:45:07,990

sentence okay it was beautiful sentence

1097

00:45:13,920 --> 00:45:10,480

too but no no I think what happens

1098

00:45:16,770 --> 00:45:13,930

especially in the gain of religion is in

1099

00:45:19,680 --> 00:45:16,780

particular is the training sort of seats

1100

00:45:22,049 --> 00:45:19,690

engine and so young that they just can't

1101
00:45:23,880 --> 00:45:22,059
think of any think in any other manner

1102
00:45:26,309 --> 00:45:23,890
and they really they really have a hard

1103
00:45:27,569 --> 00:45:26,319
time sort of thinking rationally about

1104
00:45:30,270 --> 00:45:27,579
it they can think rationally about

1105
00:45:32,130 --> 00:45:30,280
everything else in life but that is a

1106
00:45:33,450 --> 00:45:32,140
one-sentence it explained skepticism

1107
00:45:42,260 --> 00:45:33,460
when you've got to explain to people

1108
00:45:46,349 --> 00:45:42,270
quickly um it oh let me think using

1109
00:45:48,720 --> 00:45:46,359
science and rationality to figure out

1110
00:45:49,990 --> 00:45:48,730
the world place but it's would be one

1111
00:45:53,230 --> 00:45:50,000
way

1112
00:45:55,180 --> 00:45:53,240
okay look things are having this

1113
00:45:56,530 --> 00:45:55,190

controversial action at the bar some

1114

00:45:58,240 --> 00:45:56,540

people are having vodka Norms other

1115

00:45:59,860 --> 00:45:58,250

having vodka and cranberry in fact

1116

00:46:02,200 --> 00:45:59,870

there's a vodka schism going on at the

1117

00:46:03,820 --> 00:46:02,210

bar as we talk but look how you do not

1118

00:46:05,650 --> 00:46:03,830

you enjoying skeptic to the pub very

1119

00:46:09,280 --> 00:46:05,660

much say yes now when people come up to

1120

00:46:10,540 --> 00:46:09,290

you and you come out as a skeptic what

1121

00:46:12,790 --> 00:46:10,550

know how do you explain it when you had

1122

00:46:13,780 --> 00:46:12,800

to defend it the biggest challenge is

1123

00:46:15,820 --> 00:46:13,790

actually saying that it's not about

1124

00:46:17,740 --> 00:46:15,830

denying everything not about doubting

1125

00:46:19,060 --> 00:46:17,750

everything it's actually about looking

1126

00:46:20,170 --> 00:46:19,070

for the things that might be true and

1127

00:46:21,610 --> 00:46:20,180

that's the thing it really interested me

1128

00:46:25,030 --> 00:46:21,620

I enjoyed science fiction if they think

1129

00:46:27,610 --> 00:46:25,040

what could be true and one thing to look

1130

00:46:29,290 --> 00:46:27,620

at could be true but isn't it amazing to

1131

00:46:31,390 --> 00:46:29,300

think about what actually is true and

1132

00:46:34,420 --> 00:46:31,400

what the end of the day you can have

1133

00:46:37,300 --> 00:46:34,430

things that are potentials and you could

1134

00:46:38,920 --> 00:46:37,310

back up a tree and deal yeah happy with

1135

00:46:40,240 --> 00:46:38,930

that or you can actually find something

1136

00:46:42,010 --> 00:46:40,250

it is true and it's just so much more

1137

00:46:43,780 --> 00:46:42,020

fascinating because often the things

1138

00:46:45,880 --> 00:46:43,790

that go into making that up is so much

1139

00:46:47,500 --> 00:46:45,890

more intricate and the details are just

1140

00:46:48,970 --> 00:46:47,510

where your mind away well what's an

1141

00:46:52,000 --> 00:46:48,980

example you give people go on for

1142

00:46:54,520 --> 00:46:52,010

example this and they'll go home I had

1143

00:46:56,410 --> 00:46:54,530

an argument the other day about the

1144

00:46:59,650 --> 00:46:56,420

effect the moon can have on people and

1145

00:47:00,970 --> 00:46:59,660

it was a big moon in the left of work

1146

00:47:03,340 --> 00:47:00,980

and I said I had a headache and someone

1147

00:47:04,540 --> 00:47:03,350

said I it's that damn moon and I will

1148

00:47:06,160 --> 00:47:04,550

show you in a lift you when I got about

1149

00:47:08,470 --> 00:47:06,170

a minute at the most if second elevator

1150

00:47:12,250 --> 00:47:08,480

talk about to say it's interesting by

1151

00:47:13,810 --> 00:47:12,260

what mechanism and I set up yeah gravity

1152

00:47:16,810 --> 00:47:13,820

and tides and all that was like yeah

1153

00:47:19,630 --> 00:47:16,820

well don't you think it would be a bit

1154

00:47:21,850 --> 00:47:19,640

of trouble considering the volume of the

1155

00:47:24,730 --> 00:47:21,860

earth the fact that moves about and meet

1156

00:47:26,650 --> 00:47:24,740

us at tide times whatever that would

1157

00:47:28,780 --> 00:47:26,660

have on your cellular level of your body

1158

00:47:31,030 --> 00:47:28,790

I think it's much more likely that I've

1159

00:47:33,130 --> 00:47:31,040

got no light in my office the fact that

1160

00:47:34,780 --> 00:47:33,140

I had a very poor night's sleep and that

1161

00:47:36,760 --> 00:47:34,790

I actually was sick three days ago that

1162

00:47:37,780 --> 00:47:36,770

I've got a headache and you're out too

1163

00:47:40,570 --> 00:47:37,790

late in the morning and you came

1164

00:47:42,070 --> 00:47:40,580

straight from the bar exactly those are

1165

00:47:43,570 --> 00:47:42,080

things that you've got to factor into

1166

00:47:45,550 --> 00:47:43,580

this and then how do you describe

1167

00:47:47,110 --> 00:47:45,560

skepticism in one sentence when people

1168

00:47:50,500 --> 00:47:47,120

ask you what's it all about and you've

1169

00:47:52,530 --> 00:47:50,510

got a one cent oh that's a toughy a lot

1170

00:47:55,270 --> 00:47:52,540

of people use the word evidence comes up

1171

00:47:56,980 --> 00:47:55,280

rationality science all those words come

1172

00:47:59,830 --> 00:47:56,990

up but what's the one you use

1173

00:48:03,609 --> 00:47:59,840

trying to figure out what's the right

1174

00:48:07,720 --> 00:48:03,619

thing to believe and when to stop

1175

00:48:09,609 --> 00:48:07,730

believing that's good god I'm just here

1176

00:48:11,380 --> 00:48:09,619

with dr. hu in a quieter area of the pub

1177

00:48:12,640 --> 00:48:11,390

how are you I'm good may not how are you

1178

00:48:15,160 --> 00:48:12,650

how do you find look a lot of people ask

1179

00:48:16,930 --> 00:48:15,170

me that Maynard what is what's going on

1180

00:48:18,880 --> 00:48:16,940

inside your head ok here this is this is

1181

00:48:20,710 --> 00:48:18,890

most people most people's most people's

1182

00:48:26,190 --> 00:48:20,720

head it's kind of like this my head's

1183

00:48:30,490 --> 00:48:28,450

that was like a journey into my mind for

1184

00:48:32,290 --> 00:48:30,500

a moment so that was like um when a

1185

00:48:34,330 --> 00:48:32,300

pinball machine has one pinball that's

1186

00:48:36,880 --> 00:48:34,340

going bing-bong bing-bong bing-bong yeah

1187

00:48:38,170 --> 00:48:36,890

or in the Simpsons when the monkey just

1188

00:48:40,210 --> 00:48:38,180

banging the cymbals together in their

1189

00:48:42,490 --> 00:48:40,220

spans Spanish fleas playing it on his

1190

00:48:44,440 --> 00:48:42,500

head that's what's going on here dr.

1191

00:48:46,030 --> 00:48:44,450

Reggie when people when you come out as

1192

00:48:47,350 --> 00:48:46,040

a skeptic when you originally did when

1193

00:48:48,520 --> 00:48:47,360

you mention you're a skeptic and people

1194

00:48:49,900 --> 00:48:48,530

get on one side about what are you dare

1195

00:48:51,990 --> 00:48:49,910

for it what do you know how to use only

1196

00:48:54,310 --> 00:48:52,000

defend or mention explain it to people

1197

00:48:56,470 --> 00:48:54,320

well I don't know I guess I mean I'm a

1198

00:48:58,150 --> 00:48:56,480

scientist as well so actually I'm

1199

00:49:00,160 --> 00:48:58,160

professionally a skeptic if you like

1200

00:49:01,750 --> 00:49:00,170

because what I'm trained to do and what

1201

00:49:05,080 --> 00:49:01,760

I do every day is analyze information

1202

00:49:07,780 --> 00:49:05,090

and look for the evidence and that's the

1203

00:49:09,280 --> 00:49:07,790

same as what I do as a skeptic so I

1204

00:49:11,910 --> 00:49:09,290

don't really have to defend it because

1205

00:49:15,400 --> 00:49:11,920

that's what I rely on for my profession

1206

00:49:17,320 --> 00:49:15,410

and in terms of I guess with respect to

1207

00:49:19,750 --> 00:49:17,330

doing it in my spare time it's more

1208

00:49:22,900 --> 00:49:19,760

about consumer protection and just being

1209

00:49:25,330 --> 00:49:22,910

aware of scams and people getting ripped

1210

00:49:27,460 --> 00:49:25,340

off and that sort of thing so being able

1211

00:49:30,730 --> 00:49:27,470

to differentiate between what is maybe a

1212

00:49:33,070 --> 00:49:30,740

scam and what is true and just to avoid

1213

00:49:34,750 --> 00:49:33,080

getting ripped off basically and where

1214

00:49:36,220 --> 00:49:34,760

does it happen with when you get the

1215

00:49:37,780 --> 00:49:36,230

politics around into it because I ramas

1216

00:49:39,700 --> 00:49:37,790

talking today about you know evidence

1217

00:49:41,859 --> 00:49:39,710

and he mentioned that politics is not

1218

00:49:43,540 --> 00:49:41,869

evidence-based and their outcomes are

1219

00:49:46,180 --> 00:49:43,550

certainly not based on what is right or

1220

00:49:48,010 --> 00:49:46,190

scientifically proven that's where you

1221

00:49:49,540 --> 00:49:48,020

know I'm various it about conspiracies

1222

00:49:53,590 --> 00:49:49,550

and things like that because they are

1223

00:49:56,200 --> 00:49:53,600

generated from non-scientific thinking

1224

00:49:57,430 --> 00:49:56,210

mmm because species are so much fun you

1225

00:49:59,079 --> 00:49:57,440

know I think that's that's the

1226

00:50:02,259 --> 00:49:59,089

difference because

1227

00:50:04,539 --> 00:50:02,269

I mean it's so I think it's just a human

1228

00:50:07,390 --> 00:50:04,549

trait it's a human frailty thing to love

1229

00:50:08,680 --> 00:50:07,400

conspiracies until of gossip and to love

1230

00:50:10,269 --> 00:50:08,690

the idea that there's something weird

1231

00:50:11,829 --> 00:50:10,279

going on and I you know even though I am

1232

00:50:13,779 --> 00:50:11,839

a scientist a skeptic it doesn't mean

1233

00:50:15,969 --> 00:50:13,789

I'm completely immune to that stuff I

1234

00:50:18,910 --> 00:50:15,979

love that stuff to you know I mean I I

1235

00:50:20,229 --> 00:50:18,920

watched the the lunar the partial lunar

1236

00:50:21,640 --> 00:50:20,239

eclipse the other night and I thought it

1237

00:50:22,959 --> 00:50:21,650

was cool and maybe there's aliens up

1238

00:50:25,120 --> 00:50:22,969

there and they probably aren't but you

1239

00:50:26,799 --> 00:50:25,130

know be nice if there were and look I

1240

00:50:28,479 --> 00:50:26,809

like that spaceship that's as big as a

1241

00:50:31,150 --> 00:50:28,489

planet that keeps popping around the Sun

1242

00:50:32,259 --> 00:50:31,160

that NASA refuses to admits there do you

1243

00:50:34,959 --> 00:50:32,269

mean the one that went around the Sun

1244

00:50:37,029 --> 00:50:34,969

just yesterday may not be that one look

1245

00:50:38,859 --> 00:50:37,039

no nothing to do with banana Rama's

1246

00:50:41,469 --> 00:50:38,869

anniversary of Venus that's right

1247

00:50:44,469 --> 00:50:41,479

because because it's 30 years since

1248

00:50:46,719 --> 00:50:44,479

Bananarama formed and produced their

1249

00:50:48,390 --> 00:50:46,729

first beautiful album deep-sea skiving

1250

00:50:51,339 --> 00:50:48,400

which I have a vinyl copy of at home

1251
00:50:53,559 --> 00:50:51,349
Venus went past the Sun wasn't that

1252
00:50:54,969 --> 00:50:53,569
convenient and how lovely of Venus to do

1253
00:50:56,289 --> 00:50:54,979
that for us although that's not my

1254
00:50:57,609 --> 00:50:56,299
favorite song that I want you back is

1255
00:51:02,170 --> 00:50:57,619
actually my favorite song from but I

1256
00:51:04,089 --> 00:51:02,180
want you back to have to do back top

1257
00:51:05,769 --> 00:51:04,099
it's been it's better than anything that

1258
00:51:08,289 --> 00:51:05,779
buddy Howard Jones did and I know you

1259
00:51:10,539 --> 00:51:08,299
many gnarly look this is where we we

1260
00:51:12,940 --> 00:51:10,549
have to part ways baby kids city and

1261
00:51:15,489 --> 00:51:12,950
there's no way we can we can prove by

1262
00:51:16,809 --> 00:51:15,499
using evidence-based science that no

1263
00:51:18,430 --> 00:51:16,819

banana Rama is actually better than

1264

00:51:20,079 --> 00:51:18,440

Howard Jones we can't do that no there's

1265

00:51:22,539 --> 00:51:20,089

no way except I could say you're wrong

1266

00:51:24,160 --> 00:51:22,549

unequivocally there we go okay and for

1267

00:51:25,839 --> 00:51:24,170

people to ask you in one sentence what

1268

00:51:27,160 --> 00:51:25,849

skepticism about and why you're part of

1269

00:51:28,959 --> 00:51:27,170

it what do you tell people dr. Wright

1270

00:51:31,509 --> 00:51:28,969

use it to give them a big glass of shut

1271

00:51:32,920 --> 00:51:31,519

up juice to give them shut up juice no I

1272

00:51:34,509 --> 00:51:32,930

don't want them to have shot juice I

1273

00:51:38,229 --> 00:51:34,519

want them to know it's about looking at

1274

00:51:41,079 --> 00:51:38,239

ghosties and aliens and big cats that

1275

00:51:43,660 --> 00:51:41,089

walk around the hunter and haunted

1276

00:51:45,940 --> 00:51:43,670

houses and stuff that's really fantastic

1277

00:51:47,769 --> 00:51:45,950

and fascinating and working out how it

1278

00:51:51,309 --> 00:51:47,779

actually works it's about how things

1279

00:51:53,739 --> 00:51:51,319

work which is cool and fun and I got

1280

00:51:55,950 --> 00:51:53,749

sent a paw print from Cessnock I've just

1281

00:51:58,209 --> 00:51:55,960

been examining that today may not and I

1282

00:52:00,819 --> 00:51:58,219

passed some comment on that looks like

1283

00:52:02,410 --> 00:52:00,829

it may be a canine print well I don't

1284

00:52:04,029 --> 00:52:02,420

know if you saw the thread but there was

1285

00:52:05,380 --> 00:52:04,039

a few people discussing that because

1286

00:52:07,839 --> 00:52:05,390

Richard forwarded it to the committee

1287

00:52:09,279 --> 00:52:07,849

and it was amazing how people analyze

1288

00:52:10,840 --> 00:52:09,289

that there was someone from the

1289

00:52:12,250 --> 00:52:10,850

Australian Museum you had a look at

1290

00:52:17,170 --> 00:52:12,260

and said well it's not a cat because

1291

00:52:18,790 --> 00:52:17,180

cats can I eccentric their claws that's

1292

00:52:21,220 --> 00:52:18,800

the way the clear the claw was extended

1293

00:52:22,870 --> 00:52:21,230

the claw is extended and cats don't run

1294

00:52:27,220 --> 00:52:22,880

like that the only thing that can't

1295

00:52:28,750 --> 00:52:27,230

retract Klaus is is it a Jaguar or well

1296

00:52:30,400 --> 00:52:28,760

it's going to be on the website next

1297

00:52:31,930 --> 00:52:30,410

week but where is that photo at the

1298

00:52:34,090 --> 00:52:31,940

moment with the skipper well it's it's

1299

00:52:36,250 --> 00:52:34,100

on flickr I just we just looked at on

1300

00:52:37,600 --> 00:52:36,260

flickr don't you look when you win when

1301
00:52:38,770 --> 00:52:37,610
we release this to the public even

1302
00:52:40,120 --> 00:52:38,780
though the guy himself doesn't think

1303
00:52:42,490 --> 00:52:40,130
it's a big caddy they get some sort of

1304
00:52:43,660 --> 00:52:42,500
been told know anything's to be dog well

1305
00:52:45,130 --> 00:52:43,670
I thought it was fun I mean it was

1306
00:52:47,470 --> 00:52:45,140
really fascinating but the thing is it

1307
00:52:49,990 --> 00:52:47,480
was a paw print in the sand in isolation

1308
00:52:51,790 --> 00:52:50,000
so it's really difficult to know i mean

1309
00:52:53,650 --> 00:52:51,800
if there was a cat you would expect to

1310
00:52:55,180 --> 00:52:53,660
see like a big cat you spent to see a

1311
00:52:57,850 --> 00:52:55,190
few of them so you can see what it was

1312
00:53:00,700 --> 00:52:57,860
moving maybe some poo would be nice

1313
00:53:02,050 --> 00:53:00,710

maybe a dead carcass because apparently

1314

00:53:04,390 --> 00:53:02,060

these reports have been circulating for

1315

00:53:05,440 --> 00:53:04,400

more than 20 years now so if that's true

1316

00:53:07,540 --> 00:53:05,450

there must be a breeding population

1317

00:53:09,700 --> 00:53:07,550

somewhere main are so where's the dead

1318

00:53:11,620 --> 00:53:09,710

[h__\h] cats and of course at this state I

1319

00:53:14,410 --> 00:53:11,630

must mention that I was handing out like

1320

00:53:16,510 --> 00:53:14,420

crazy a DVD i made it skeptic camp which

1321

00:53:18,040 --> 00:53:16,520

featured a scottish science program for

1322

00:53:20,230 --> 00:53:18,050

children called Nina and the neurons

1323

00:53:22,030 --> 00:53:20,240

which did have a lot of poo in it and

1324

00:53:23,590 --> 00:53:22,040

just got the Scottish accent because it

1325

00:53:25,720 --> 00:53:23,600

was a lot of all about the digestion

1326
00:53:29,710 --> 00:53:25,730
system and they demonstrated fiber by

1327
00:53:31,330 --> 00:53:29,720
trying to go down a ski ramp with a

1328
00:53:33,310 --> 00:53:31,340
rubber mat and it didn't go and they put

1329
00:53:34,720 --> 00:53:33,320
one with a fibrous mat and they are slid

1330
00:53:36,730 --> 00:53:34,730
down there and that's how they explain

1331
00:53:38,230 --> 00:53:36,740
it and hook ship you she said it was

1332
00:53:39,520 --> 00:53:38,240
Scottish action so if you watched it yet

1333
00:53:41,170 --> 00:53:39,530
because that's science education you

1334
00:53:43,060 --> 00:53:41,180
know I haven't I haven't seen as I've

1335
00:53:45,040 --> 00:53:43,070
told people I reckon dr. Rach you could

1336
00:53:46,270 --> 00:53:45,050
host need it in the neurons you got to

1337
00:53:48,610 --> 00:53:46,280
put your head into pigtails and away you

1338
00:53:50,890 --> 00:53:48,620

go I haven't watched it yet but perhaps

1339

00:53:52,480 --> 00:53:50,900

I can over this weekend which is going

1340

00:53:54,430 --> 00:53:52,490

to be the Queen's birthday weekend I'll

1341

00:53:56,200 --> 00:53:54,440

have some time Maynard look I'm going to

1342

00:53:58,230 --> 00:53:56,210

watch a drag show just to celebrate it

1343

00:54:00,220 --> 00:53:58,240

look thank for your time dr. Reggie and

1344

00:54:01,810 --> 00:54:00,230

the question I have been asking people

1345

00:54:03,280 --> 00:54:01,820

here tonight is how do you defend you

1346

00:54:05,050 --> 00:54:03,290

feel yourself as a skeptic when you

1347

00:54:07,600 --> 00:54:05,060

mention you're a skeptic and you come

1348

00:54:08,950 --> 00:54:07,610

out as a skeptic until you are then how

1349

00:54:11,230 --> 00:54:08,960

do you normally I'm being the president

1350

00:54:14,500 --> 00:54:11,240

this is going to come up fairly often it

1351
00:54:16,030 --> 00:54:14,510
comes up very often yes I must admit and

1352
00:54:17,830 --> 00:54:16,040
don't feel a need to defend myself

1353
00:54:21,460 --> 00:54:17,840
people ask questions people are usually

1354
00:54:23,830 --> 00:54:21,470
very respectful they ask questions they

1355
00:54:27,400 --> 00:54:23,840
might you know sneak a

1356
00:54:30,190 --> 00:54:27,410
bit of a you know smile or something you

1357
00:54:31,510 --> 00:54:30,200
know they okay then what do you think

1358
00:54:33,640 --> 00:54:31,520
about homeopathy or what do you think

1359
00:54:34,990 --> 00:54:33,650
about the moon landing and the way they

1360
00:54:36,910 --> 00:54:35,000
say that does that does that mean

1361
00:54:38,440 --> 00:54:36,920
they're thinking he's a troublemaker oh

1362
00:54:39,970 --> 00:54:38,450
they definitely think I'm a troublemaker

1363
00:54:42,820 --> 00:54:39,980

and they'd be absolutely right about

1364

00:54:44,920 --> 00:54:42,830

that of course but I don't generally

1365

00:54:47,860 --> 00:54:44,930

feel I need to defend myself people are

1366

00:54:50,980 --> 00:54:47,870

more often curious about what it means

1367

00:54:53,500 --> 00:54:50,990

and what I'm the most the question I get

1368

00:54:55,690 --> 00:54:53,510

most is what are you skeptical about and

1369

00:54:57,820 --> 00:54:55,700

I really have to explain that I'm not

1370

00:54:59,950 --> 00:54:57,830

skeptical about anything that it's a

1371

00:55:02,080 --> 00:54:59,960

more matter of approach about seeking

1372

00:55:04,990 --> 00:55:02,090

the evidence and about making decisions

1373

00:55:06,160 --> 00:55:05,000

based based on that evidence and also

1374

00:55:09,070 --> 00:55:06,170

not forming an opinion without

1375

00:55:11,740 --> 00:55:09,080

sufficient evidence so I don't feel very

1376

00:55:14,170 --> 00:55:11,750

often that i'm attacked except when we

1377

00:55:16,150 --> 00:55:14,180

actually speak to water or what i would

1378

00:55:17,050 --> 00:55:16,160

call our cultural adversaries things

1379

00:55:20,950 --> 00:55:17,060

like you know people like the

1380

00:55:22,870 --> 00:55:20,960

anti-vaxxers and what about tom there

1381

00:55:25,540 --> 00:55:22,880

have been a few cases in scientific

1382

00:55:26,830 --> 00:55:25,550

study where and this is quite a serious

1383

00:55:29,440 --> 00:55:26,840

one i've got here which doesn't usually

1384

00:55:31,420 --> 00:55:29,450

come from me you're talking about a lot

1385

00:55:35,290 --> 00:55:31,430

of research into pain has come from rats

1386

00:55:36,490 --> 00:55:35,300

yes and there was a lot done by German

1387

00:55:38,470 --> 00:55:36,500

scientists during the Second World War

1388

00:55:40,590 --> 00:55:38,480

on Jewish prisoners which did advance

1389

00:55:42,880 --> 00:55:40,600

science to a certain level because those

1390

00:55:44,890 --> 00:55:42,890

experiments are so unthinkable you could

1391

00:55:47,320 --> 00:55:44,900

never do them on people ethically and

1392

00:55:49,120 --> 00:55:47,330

that knowledge had to be absorbed into

1393

00:55:50,410 --> 00:55:49,130

the science literature now how do you

1394

00:55:52,390 --> 00:55:50,420

feel about that because there has been

1395

00:55:53,800 --> 00:55:52,400

some done on people and should that

1396

00:55:55,390 --> 00:55:53,810

knowledge be locked out because it was

1397

00:55:59,740 --> 00:55:55,400

just because the ethical way it was done

1398

00:56:01,690 --> 00:55:59,750

unethical I was done it's I this is a

1399

00:56:05,280 --> 00:56:01,700

bit of a personal matter for me mo had

1400

00:56:07,500 --> 00:56:05,290

family who were killed by the Germans I

1401

00:56:09,910 --> 00:56:07,510

don't know that any of them had

1402

00:56:12,310 --> 00:56:09,920

experiments done on them but they were

1403

00:56:15,100 --> 00:56:12,320

definitely perished in the Holocaust

1404

00:56:17,050 --> 00:56:15,110

murdered in the Holocaust it's a

1405

00:56:19,030 --> 00:56:17,060

difficult one you know I think you know

1406

00:56:20,590 --> 00:56:19,040

in one sense you might say the

1407

00:56:23,200 --> 00:56:20,600

information is already there not to use

1408

00:56:25,360 --> 00:56:23,210

it would be contrary to the would be

1409

00:56:28,330 --> 00:56:25,370

disrespectful to the victims on the

1410

00:56:30,930 --> 00:56:28,340

other hand if you use it it's it's

1411

00:56:32,830 --> 00:56:30,940

almost like it's dirty information so i

1412

00:56:35,980 --> 00:56:32,840

don't know it's a difficult one i must

1413

00:56:36,380 --> 00:56:35,990

say i don't have a clear opinion on that

1414

00:56:40,130 --> 00:56:36,390

I'd

1415

00:56:43,039 --> 00:56:40,140

no that a clear opinion is actually

1416

00:56:44,539 --> 00:56:43,049

possible except me to say I'm sorry more

1417

00:56:45,680 --> 00:56:44,549

than you know I apologize to pop it on

1418

00:56:47,720 --> 00:56:45,690

you because because when you mentioned

1419

00:56:49,819 --> 00:56:47,730

pain I remembered back to those

1420

00:56:51,700 --> 00:56:49,829

experiments are read about and how a lot

1421

00:56:54,529 --> 00:56:51,710

of that has been used in high altitude

1422

00:56:56,269 --> 00:56:54,539

theory particularly post the war when

1423

00:56:57,829 --> 00:56:56,279

the Americans were going up high and I

1424

00:56:59,509 --> 00:56:57,839

just think it that there's an

1425

00:57:02,930 --> 00:56:59,519

interesting quandary for science because

1426

00:57:05,120 --> 00:57:02,940

it's it's it's not bad science but it is

1427

00:57:06,829 --> 00:57:05,130

bad behavior yeah but a lot of a lot of

1428

00:57:08,059 --> 00:57:06,839

fez oily was a lot of it was also bad

1429

00:57:09,670 --> 00:57:08,069

science because they believed for

1430

00:57:11,750 --> 00:57:09,680

example the jews were different

1431

00:57:13,339 --> 00:57:11,760

biologically and you know that certain

1432

00:57:15,170 --> 00:57:13,349

things some of their science was simply

1433

00:57:17,240 --> 00:57:15,180

crap science because of because of their

1434

00:57:19,609 --> 00:57:17,250

ideology and we've seen that where I

1435

00:57:21,230 --> 00:57:19,619

ideology or we will always kill science

1436

00:57:23,630 --> 00:57:21,240

and I just mentioned that you talk and

1437

00:57:25,309 --> 00:57:23,640

that politics is not evidence-based we

1438

00:57:27,140 --> 00:57:25,319

see that where Pollock politician will

1439

00:57:30,440 --> 00:57:27,150

generally ignore evidence when it suits

1440

00:57:32,390 --> 00:57:30,450

them so I politics is its own problem in

1441

00:57:34,099 --> 00:57:32,400

terms of what you've just mentioned

1442

00:57:36,130 --> 00:57:34,109

which is very difficult question I think

1443

00:57:38,180 --> 00:57:36,140

after the war there were a lot of

1444

00:57:40,069 --> 00:57:38,190

scientists and scientific organizations

1445

00:57:43,670 --> 00:57:40,079

that made a conscious decision not to

1446

00:57:45,319 --> 00:57:43,680

use this this data so it's not like you

1447

00:57:47,509 --> 00:57:45,329

know some information was used some of

1448

00:57:49,370 --> 00:57:47,519

the data was used but a lot of it wasn't

1449

00:57:51,799 --> 00:57:49,380

and never will be you know a lot of it

1450

00:57:53,359 --> 00:57:51,809

was lost but you also have to how do you

1451

00:57:55,400 --> 00:57:53,369

distinguish between water was bad

1452

00:57:56,839 --> 00:57:55,410

science based on ideology and what

1453

00:57:58,730 --> 00:57:56,849

wasn't a so there are all kinds of

1454

00:58:01,640 --> 00:57:58,740

practical questions about that as well

1455

00:58:03,140 --> 00:58:01,650

as the legitimate moral questions about

1456

00:58:06,440 --> 00:58:03,150

whether you use the results of such

1457

00:58:09,529 --> 00:58:06,450

heinous heinous crimes and and again

1458

00:58:11,210 --> 00:58:09,539

this comes up with questions like leaps

1459

00:58:12,710 --> 00:58:11,220

like the atomic bomb and the choice to

1460

00:58:14,180 --> 00:58:12,720

make that weapon where the if the

1461

00:58:15,650 --> 00:58:14,190

science made it possible and the

1462

00:58:17,660 --> 00:58:15,660

decision to make it was a political one

1463

00:58:19,069 --> 00:58:17,670

you know science makes a lot of things

1464

00:58:21,650 --> 00:58:19,079

possible the fact that something is

1465

00:58:23,839 --> 00:58:21,660

possible does not mean that it has to be

1466

00:58:25,970 --> 00:58:23,849

resistance in a certain way in the end

1467

00:58:28,069 --> 00:58:25,980

for example with with the atomic bomb

1468

00:58:30,920 --> 00:58:28,079

the decision was made by politicians the

1469

00:58:33,349 --> 00:58:30,930

decision to drop the bomb on Japan

1470

00:58:34,910 --> 00:58:33,359

that's definitely the second one well or

1471

00:58:37,120 --> 00:58:34,920

both of them but definitely the second

1472

00:58:40,160 --> 00:58:37,130

one that was made by politicians

1473

00:58:42,440 --> 00:58:40,170

scientists did create the possibility

1474

00:58:44,240 --> 00:58:42,450

for politicians to make that decision on

1475

00:58:46,190 --> 00:58:44,250

the other hand they also created nuclear

1476
00:58:47,450 --> 00:58:46,200
power which or did a lot of good things

1477
00:58:49,520 --> 00:58:47,460
and you know what in we

1478
00:58:51,350 --> 00:58:49,530
have rat poison which kills rats but you

1479
00:58:54,680 --> 00:58:51,360
know what it also kills people if they

1480
00:58:59,360 --> 00:58:54,690
take it z you know you can't science at

1481
00:59:00,710 --> 00:58:59,370
its purest has to be without morals ok

1482
00:59:02,540 --> 00:59:00,720
pure science it doesn't mean that the

1483
00:59:03,920 --> 00:59:02,550
scientists have to work without morals

1484
00:59:06,560 --> 00:59:03,930
that that is absolutely not what I'm

1485
00:59:07,790 --> 00:59:06,570
saying but science itself has to be free

1486
00:59:09,980 --> 00:59:07,800
of morals you just want to know whether

1487
00:59:12,440 --> 00:59:09,990
something is true or not an advanced

1488
00:59:14,480 --> 00:59:12,450

knowledge now the read the good thing

1489

00:59:15,770 --> 00:59:14,490

about the fact that science does not

1490

00:59:18,050 --> 00:59:15,780

live in a vacuum in today's society

1491

00:59:20,300 --> 00:59:18,060

around it the society can take care of

1492

00:59:22,250 --> 00:59:20,310

making sure that bad things don't happen

1493

00:59:23,690 --> 00:59:22,260

or the bet you know sometimes society

1494

00:59:25,850 --> 00:59:23,700

obviously makes bad decisions a bad

1495

00:59:27,830 --> 00:59:25,860

things do happen but in general I don't

1496

00:59:29,780 --> 00:59:27,840

think it's the role of science per se of

1497

00:59:31,460 --> 00:59:29,790

scientific investigation to make

1498

00:59:33,020 --> 00:59:31,470

decisions about moral questions about

1499

00:59:35,420 --> 00:59:33,030

what neat what what should or should not

1500

00:59:37,040 --> 00:59:35,430

be done and you mentioned that you had a

1501
00:59:38,600 --> 00:59:37,050
big comeuppance yourself when you were

1502
00:59:40,520 --> 00:59:38,610
talking about the rats in the pain and

1503
00:59:42,050 --> 00:59:40,530
you met a professor who knew all about

1504
00:59:43,490 --> 00:59:42,060
this and it was his field and he

1505
00:59:46,190 --> 00:59:43,500
convinced you very quickly that you were

1506
00:59:48,470 --> 00:59:46,200
wrong and that's something that people

1507
00:59:49,940 --> 00:59:48,480
can't learn to a bet okay I've been

1508
00:59:51,800 --> 00:59:49,950
wrong about a change a lot of people

1509
00:59:54,500 --> 00:59:51,810
can't do that easily I didn't do that

1510
00:59:57,170 --> 00:59:54,510
easily he wasn't easy it was it was it

1511
00:59:59,990 --> 00:59:57,180
was fairly quick but he wasn't easy

1512
01:00:03,560 --> 01:00:00,000
because I i had that belief for a very

1513
01:00:04,850 --> 01:00:03,570

very long time and I was very convinced

1514

01:00:06,560 --> 01:00:04,860

of it you know anybody who knows me

1515

01:00:08,630 --> 01:00:06,570

knows I have strong opinions you know

1516

01:00:10,220 --> 01:00:08,640

but the thing is I have strong opinions

1517

01:00:11,870 --> 01:00:10,230

but I'm willing to change them when

1518

01:00:13,190 --> 01:00:11,880

presented with contrary evidence and

1519

01:00:15,470 --> 01:00:13,200

that was one such case there are other

1520

01:00:17,810 --> 01:00:15,480

cases I chose to tell that story but

1521

01:00:19,160 --> 01:00:17,820

there are the stories and and just one

1522

01:00:21,740 --> 01:00:19,170

last question when people ask you to

1523

01:00:22,850 --> 01:00:21,750

explain in one sentence what being a

1524

01:00:24,830 --> 01:00:22,860

skeptic is all about what i normally

1525

01:00:27,170 --> 01:00:24,840

confront them with or what you offer to

1526

01:00:29,120 --> 01:00:27,180

them I say that it's about seeking the

1527

01:00:50,190 --> 01:00:29,130

evidence and forming your opinions based

1528

01:00:54,250 --> 01:00:52,540

astronomy cast it takes a fact space

1529

01:00:56,320 --> 01:00:54,260

journey through the costumes as it

1530

01:00:58,990 --> 01:00:56,330

offers listeners weekly discussions on

1531

01:01:01,870 --> 01:00:59,000

astronomical topics ranging from planets

1532

01:01:04,360 --> 01:01:01,880

to cosmology hosted by Fraser Cain of

1533

01:01:05,230 --> 01:01:04,370

Universe Today and myself dr. Pamela gay

1534

01:01:07,900 --> 01:01:05,240

of southern illinois university

1535

01:01:09,760 --> 01:01:07,910

edwardsville this show brings the

1536

01:01:12,190 --> 01:01:09,770

questions of an avid astronomy lover

1537

01:01:14,290 --> 01:01:12,200

directly to an astronomer together

1538

01:01:15,820 --> 01:01:14,300

Fraser and I explore what is known and

1539

01:01:18,580 --> 01:01:15,830

being discovered about the universe

1540

01:01:20,680 --> 01:01:18,590

around us join us each week as we take a

1541

01:01:31,910 --> 01:01:20,690

fax space journey through the cosmos at

1542

01:01:31,920 --> 01:01:36,009

Oh

1543

01:01:41,719 --> 01:01:39,799

okay saunders in 21 thank you for

1544

01:01:44,210 --> 01:01:41,729

listening to the skeptic zone may not

1545

01:01:46,910 --> 01:01:44,220

thank you for maintaining station here

1546

01:01:49,009 --> 01:01:46,920

with me in the corridor outside the pub

1547

01:01:50,989 --> 01:01:49,019

and i just wanna remind people to when i

1548

01:01:52,759 --> 01:01:50,999

go to tam i'll also be throwing in an

1549

01:01:55,249 --> 01:01:52,769

extra question to most people about what

1550

01:01:57,859 --> 01:01:55,259

music they like and creating a podcast

1551

01:02:00,019 --> 01:01:57,869

called the music of tam 10 and if you

1552

01:02:02,180 --> 01:02:00,029

wonder what that might sound like just

1553

01:02:03,710 --> 01:02:02,190

google the music of town australia i did

1554

01:02:06,109 --> 01:02:03,720

a podcast or i spoke to the whole bunch

1555

01:02:07,430 --> 01:02:06,119

of skeptics at australia's tam and asked

1556

01:02:09,289 --> 01:02:07,440

them what my kind of music they like and

1557

01:02:10,940 --> 01:02:09,299

I put that music into the podcast so

1558

01:02:12,920 --> 01:02:10,950

google that and you'll you'll hear might

1559

01:02:14,900 --> 01:02:12,930

hear someone you know you might you

1560

01:02:16,460 --> 01:02:14,910

might i did enjoy that may note i really

1561

01:02:18,979 --> 01:02:16,470

enjoyed your interviews from cam

1562

01:02:22,069 --> 01:02:18,989

australia and surely that's just a taste

1563

01:02:24,229 --> 01:02:22,079

of what's to come in town las vegas just

1564

01:02:26,180 --> 01:02:24,239

the taste until next week listeners

1565

01:02:27,859 --> 01:02:26,190

thank you again may nod this is Richard

1566

01:02:30,950 --> 01:02:27,869

Saunders signing off from a strange

1567

01:02:32,690 --> 01:02:30,960

little corridor outside a pub in Sydney

1568

01:02:39,019 --> 01:02:32,700

Australia it's funny everyone seems to

1569

01:02:43,239 --> 01:02:39,029

know Richards name you've been listening

1570

01:02:47,900 --> 01:02:43,249

to the skeptic zone visit her website at