

1
00:00:00,000 --> 00:00:09,089
[Music]

2
00:00:05,929 --> 00:00:11,849
welcome to the skeptic zone the podcast

3
00:00:09,089 --> 00:00:13,919
from Australia for science and reason

4
00:00:11,849 --> 00:00:16,890
[Music]

5
00:00:13,919 --> 00:00:22,920
[Applause]

6
00:00:16,890 --> 00:00:26,789
[Music]

7
00:00:22,920 --> 00:00:30,900
the skeptic zone podcast episode number

8
00:00:26,789 --> 00:00:33,519
514 for the 26th of august 2018

9
00:00:30,899 --> 00:00:37,659
Richardson is here with you for me at

10
00:00:33,520 --> 00:00:39,970
last a rainy Sydney Australia coming up

11
00:00:37,659 --> 00:00:42,909
on this week's show a special interview

12
00:00:39,969 --> 00:00:45,939
with Stephen Barrett MD one of the

13
00:00:42,909 --> 00:00:48,519
people behind quack watch quack watch a

14
00:00:45,939 --> 00:00:51,729
wonderful resource for skeptics and the

15
00:00:48,520 --> 00:00:56,260
well non skeptics alike I guess covering

16
00:00:51,729 --> 00:00:58,149
no end of quackery from acupuncture to

17
00:00:56,259 --> 00:01:01,329
homeopathy all the classics all the

18
00:00:58,149 --> 00:01:03,460
classics are there in detail a wonderful

19
00:01:01,329 --> 00:01:04,808
website I'll be speaking to Stephen

20
00:01:03,460 --> 00:01:07,750
Barrett about why he put that together

21
00:01:04,808 --> 00:01:09,670
and some of his other concerns coming up

22
00:01:07,750 --> 00:01:12,640
at the top of the show Steven Barrett MD

23
00:01:09,670 --> 00:01:15,189
from quack watch and I must say a big

24
00:01:12,640 --> 00:01:17,650
thank you to Jeff gehlbach who helped me

25
00:01:15,189 --> 00:01:21,310
arrange this interview with Stephen

26
00:01:17,650 --> 00:01:24,430
Barrett following that part 2 of speed

27
00:01:21,310 --> 00:01:26,019
meet the scientists here in Sydney a

28
00:01:24,430 --> 00:01:29,050
couple of weeks ago at the Powerhouse

29

00:01:26,019 --> 00:01:31,959
Museum they had a wonderful open to the

30
00:01:29,049 --> 00:01:33,909
public night evening with a room full of

31
00:01:31,959 --> 00:01:36,219
scientists and I was running around with

32
00:01:33,909 --> 00:01:38,799
my microphone meeting as many as

33
00:01:36,219 --> 00:01:42,030
possible part two this week and part

34
00:01:38,799 --> 00:01:44,769
three next week coming up on this week's

35
00:01:42,030 --> 00:01:45,760
segment of speed meet the scientists

36
00:01:44,769 --> 00:01:49,780
we're going to be learning about

37
00:01:45,760 --> 00:01:54,700
hitchhiking crustaceans decomposing

38
00:01:49,780 --> 00:01:56,620
bodies and fecal matter yeah and I'm

39
00:01:54,700 --> 00:01:58,990
sure you'll agree with me that the young

40
00:01:56,620 --> 00:02:01,570
scientists I'm speaking to are certainly

41
00:01:58,989 --> 00:02:04,359
inspiring and interesting after that

42
00:02:01,569 --> 00:02:06,789
news of the wallaby no not the

43
00:02:04,359 --> 00:02:09,068

Australian rugby union team oh dear they

44

00:02:06,790 --> 00:02:11,469
were thrashed by the All Blacks just

45

00:02:09,068 --> 00:02:13,988
last night no the wallaby award from the

46

00:02:11,469 --> 00:02:16,060
Australian skeptics for journalism it's

47

00:02:13,989 --> 00:02:18,158
a new award are we going to be

48

00:02:16,060 --> 00:02:20,530
presenting this at the convention this

49

00:02:18,158 --> 00:02:23,109
year find out what the wallaby is all

50

00:02:20,530 --> 00:02:25,209
about a bit later on in the show then to

51

00:02:23,110 --> 00:02:27,220
round up the show its main out back at

52

00:02:25,209 --> 00:02:30,069
the Australian Museum with part three of

53

00:02:27,219 --> 00:02:32,949
his meeting the scientists tonight he

54

00:02:30,068 --> 00:02:35,739
speaks to various people including Ruben

55

00:02:32,949 --> 00:02:38,169
Reuben the surfing scientist and also

56

00:02:35,740 --> 00:02:42,209
meets a goanna yes

57

00:02:38,169 --> 00:02:45,488
Joanna it was very big but very nice

58
00:02:42,209 --> 00:02:46,959
Joanna the goanna now before we get

59
00:02:45,489 --> 00:02:48,640
stuck into the show a little reminder

60
00:02:46,959 --> 00:02:50,379
about the upcoming convention I know

61
00:02:48,639 --> 00:02:52,299
I've been reminding you a lot about the

62
00:02:50,379 --> 00:02:55,799
upcoming convention but I'd like to tell

63
00:02:52,300 --> 00:02:59,189
you about the Friday evening welcome

64
00:02:55,800 --> 00:03:03,459
event and this will be on the 12th of

65
00:02:59,189 --> 00:03:04,989
October at the Occidental hotel which is

66
00:03:03,459 --> 00:03:06,459
in when you'd sydney now Sydney

67
00:03:04,989 --> 00:03:09,039
listeners who come to skeptics in the

68
00:03:06,459 --> 00:03:11,110
pub will know this pub very well every

69
00:03:09,039 --> 00:03:13,479
month and listeners to the show will

70
00:03:11,110 --> 00:03:14,709
know of course we have may not doing

71
00:03:13,479 --> 00:03:19,060
interviews from skeptics in the pub

72
00:03:14,709 --> 00:03:23,049
every month normally we're on either one

73
00:03:19,060 --> 00:03:25,090
or two levels of this pub well this this

74
00:03:23,049 --> 00:03:26,890
event the Friday evening welcome event

75
00:03:25,090 --> 00:03:29,379
we're going to be taking over two levels

76
00:03:26,889 --> 00:03:31,809
one level will be for those who'd like

77
00:03:29,379 --> 00:03:35,799
to have a sit-down meal and chat to

78
00:03:31,810 --> 00:03:36,280
other skeptics and take part in a trivia

79
00:03:35,799 --> 00:03:38,530
night

80
00:03:36,280 --> 00:03:39,759
now some months ago we had a sceptical

81
00:03:38,530 --> 00:03:42,009
trivia night at skeptics in the pub

82
00:03:39,759 --> 00:03:45,578
which was a great success well this time

83
00:03:42,009 --> 00:03:47,439
it's a general trivia night so a great

84
00:03:45,579 --> 00:03:50,049
opportunity to meet and mingle with

85
00:03:47,439 --> 00:03:53,530
other skeptics and enjoy some trivia and

86

00:03:50,049 --> 00:03:56,290
this event is free absolutely free

87
00:03:53,530 --> 00:03:59,680
please come along Friday to 12th from 6

88
00:03:56,289 --> 00:04:01,870
p.m. at the Occidental hotel and if

89
00:03:59,680 --> 00:04:04,239
you'd like to come along just RSVP at

90
00:04:01,870 --> 00:04:07,000
skeptics comdata you slash event slash

91
00:04:04,239 --> 00:04:09,579
national - convention or just click the

92
00:04:07,000 --> 00:04:10,930
link in this week's show notes and that

93
00:04:09,579 --> 00:04:13,030
page will also give you the opportunity

94
00:04:10,930 --> 00:04:16,090
to buy your normal convention tickets

95
00:04:13,030 --> 00:04:20,310
and the dinner the gala three-course

96
00:04:16,089 --> 00:04:23,649
dinner on the 13th of October

97
00:04:20,310 --> 00:04:25,030
including beverages oh yes and that's

98
00:04:23,649 --> 00:04:27,099
we'll have entertainment and the

99
00:04:25,029 --> 00:04:29,769
skeptics Awards while I'm looking

100
00:04:27,100 --> 00:04:31,410

forward to all of that and joining us

101

00:04:29,769 --> 00:04:35,319

for the trivia night will be presenters

102

00:04:31,410 --> 00:04:38,229

Lara Benham and Maynard but now it's

103

00:04:35,319 --> 00:04:38,829

time for me to run downstairs run into

104

00:04:38,228 --> 00:04:41,740

the cupboard

105

00:04:38,829 --> 00:04:42,699

come on open the door run downstairs run

106

00:04:41,740 --> 00:04:45,699

into the carpet I wonder where those

107

00:04:42,699 --> 00:04:46,699

cats are they were on the promotion this

108

00:04:45,699 --> 00:04:51,219

week I thought they'd be

109

00:04:46,699 --> 00:04:53,300

here hmm time for me to run downstairs

110

00:04:51,220 --> 00:04:57,440

making sure I don't trip over the cats

111

00:04:53,300 --> 00:05:01,069

have some have some butterscotch pudding

112

00:04:57,439 --> 00:05:04,310

this week Thank You Trish hmm come back

113

00:05:01,069 --> 00:05:23,209

upstairs and bring you the skipping zone

114

00:05:04,310 --> 00:05:25,649

[Music]

115
00:05:23,209 --> 00:05:27,810
joining me now all the way from

116
00:05:25,649 --> 00:05:29,899
beautiful North Carolina is a man I'd

117
00:05:27,810 --> 00:05:32,910
wanted to chat to for a very long time

118
00:05:29,899 --> 00:05:35,729
it's the one of the people behind the

119
00:05:32,910 --> 00:05:38,820
incredibly useful and successful quack

120
00:05:35,730 --> 00:05:42,600
watch website Stephan Barratt MD hello

121
00:05:38,819 --> 00:05:46,290
Steven hi returned really nice to talk

122
00:05:42,600 --> 00:05:49,260
with you I've been advising my listeners

123
00:05:46,290 --> 00:05:51,810
for over 10 years now or about 10 years

124
00:05:49,259 --> 00:05:53,099
about quack watch and suggesting that

125
00:05:51,810 --> 00:05:55,680
they go they're running little

126
00:05:53,100 --> 00:05:58,310
promotions for it it's nice to talk to

127
00:05:55,680 --> 00:06:00,540
someone someone behind a quack watch

128
00:05:58,310 --> 00:06:03,168
first of all for the benefit of our

129
00:06:00,540 --> 00:06:08,189
listeners what's your your background

130
00:06:03,168 --> 00:06:10,529
I'm a retired psychiatrist that is I

131
00:06:08,189 --> 00:06:12,750
went to medical school and then took

132
00:06:10,529 --> 00:06:17,699
specialty training in psychiatry I

133
00:06:12,750 --> 00:06:22,259
practiced for a total of 35 years but in

134
00:06:17,699 --> 00:06:25,159
the late 1960s I got interested in the

135
00:06:22,259 --> 00:06:26,969
field of misinformation and deception

136
00:06:25,160 --> 00:06:29,610
anything to do with that

137
00:06:26,970 --> 00:06:33,419
and my interest gradually grew to the

138
00:06:29,610 --> 00:06:35,990
point where in the mid 1970s I started

139
00:06:33,418 --> 00:06:41,219
cutting down my psychiatric time and

140
00:06:35,990 --> 00:06:44,490
began investigating I soon found that

141
00:06:41,220 --> 00:06:47,250
the media were not particularly

142
00:06:44,490 --> 00:06:50,550
interested in what I was finding so I

143

00:06:47,250 --> 00:06:54,000
decided that in order to have a good

144
00:06:50,550 --> 00:06:58,189
outlet for what I was learning I would

145
00:06:54,000 --> 00:07:00,689
have to do some writing myself and so I

146
00:06:58,189 --> 00:07:03,269
learned how to write and became a writer

147
00:07:00,689 --> 00:07:08,719
and hooked up with a very interested

148
00:07:03,269 --> 00:07:12,509
publisher put out a lot of books and

149
00:07:08,720 --> 00:07:14,700
began to get noticed

150
00:07:12,509 --> 00:07:17,909
I had quite a bit of influence I think

151
00:07:14,699 --> 00:07:20,939
during the 1980s I had made a lot of

152
00:07:17,910 --> 00:07:22,919
talk show appearances and had articles

153
00:07:20,939 --> 00:07:24,800
published here and there and then when

154
00:07:22,918 --> 00:07:28,680
the internet came along

155
00:07:24,800 --> 00:07:31,288
it was very interesting for me because

156
00:07:28,680 --> 00:07:33,810
it used to take months to do an

157
00:07:31,288 --> 00:07:35,759

investigation on now sometimes you can

158

00:07:33,810 --> 00:07:40,408

do an investigation in a couple of hours

159

00:07:35,759 --> 00:07:44,569

so right I greatly expanded what I look

160

00:07:40,408 --> 00:07:48,839

at and of course the Reach is enormous

161

00:07:44,569 --> 00:07:51,629

it truly is and I must say that and I'm

162

00:07:48,839 --> 00:07:53,818

sure my listeners know who have visited

163

00:07:51,629 --> 00:07:56,729

quack watch that the website itself and

164

00:07:53,819 --> 00:08:00,598

how it's grown but the site itself is an

165

00:07:56,728 --> 00:08:02,968

enormous resource for quackery and

166

00:08:00,598 --> 00:08:05,339

looking into this sort of thing just

167

00:08:02,968 --> 00:08:08,459

looking down the list of topics

168

00:08:05,339 --> 00:08:11,179

mentioned it is extensive and I've

169

00:08:08,459 --> 00:08:13,468

visited this site quite regularly

170

00:08:11,180 --> 00:08:15,389

features about acupuncture to

171

00:08:13,468 --> 00:08:17,610

chiropractic to all sorts of things

172
00:08:15,389 --> 00:08:19,500
Chinese medicine it just goes on and on

173
00:08:17,610 --> 00:08:21,419
and on and really you have to scroll and

174
00:08:19,500 --> 00:08:25,560
scroll and scroll and scroll there's so

175
00:08:21,418 --> 00:08:28,408
many items there but it says right at

176
00:08:25,560 --> 00:08:30,689
the top one of the points that makes out

177
00:08:28,408 --> 00:08:35,189
is this site is a network isn't it it's

178
00:08:30,689 --> 00:08:40,500
a network of people yes well I it's not

179
00:08:35,190 --> 00:08:44,579
a formal network I get mail from people

180
00:08:40,500 --> 00:08:47,070
all over the world every day I used to

181
00:08:44,578 --> 00:08:49,349
get things in my mail my physical

182
00:08:47,070 --> 00:08:51,890
mailbox now I get emails saying hey

183
00:08:49,350 --> 00:08:54,720
would you look at this or I wrote that

184
00:08:51,889 --> 00:08:57,629
could you share it could you write about

185
00:08:54,720 --> 00:08:59,519
it could you investigate hey I read

186
00:08:57,629 --> 00:09:02,490
something about that you wrote and here

187
00:08:59,519 --> 00:09:05,970
some more information so basically every

188
00:09:02,490 --> 00:09:09,299
page is really a living potentially a

189
00:09:05,970 --> 00:09:11,339
living article where people can send new

190
00:09:09,299 --> 00:09:14,129
information and they could also correct

191
00:09:11,339 --> 00:09:16,529
me one of the nice things about about

192
00:09:14,129 --> 00:09:18,689
the Internet is that if you happen to

193
00:09:16,528 --> 00:09:21,720
make something it happened to say

194
00:09:18,690 --> 00:09:24,360
something wrong you can be corrected and

195
00:09:21,720 --> 00:09:26,399
you can be updated and that's really

196
00:09:24,360 --> 00:09:30,329
it's just great because it contributes

197
00:09:26,399 --> 00:09:32,220
to to accuracy you're absolutely right

198
00:09:30,328 --> 00:09:34,349
and of course this is an underpinning of

199
00:09:32,220 --> 00:09:37,050
the scientific method but I guess in

200

00:09:34,350 --> 00:09:37,920
your case particularly it can be an

201
00:09:37,049 --> 00:09:39,929
interesting

202
00:09:37,919 --> 00:09:42,599
a bit of a quagmire because not only

203
00:09:39,929 --> 00:09:44,338
will people write in periodically to

204
00:09:42,600 --> 00:09:48,180
correct you which is a good thing with

205
00:09:44,339 --> 00:09:50,100
new and better information but I imagine

206
00:09:48,179 --> 00:09:53,458
you would get your fair share of people

207
00:09:50,100 --> 00:09:56,129
wanting to correct you to their point of

208
00:09:53,458 --> 00:09:58,559
view in other words attacking some of

209
00:09:56,129 --> 00:10:03,539
the the articles on your website you

210
00:09:58,559 --> 00:10:06,689
must get lots of in emails like that the

211
00:10:03,539 --> 00:10:08,519
mail is probably more positive then then

212
00:10:06,690 --> 00:10:10,829
the emails are more positive than

213
00:10:08,519 --> 00:10:14,190
negative I don't actually get a

214
00:10:10,828 --> 00:10:17,669

tremendous amount of of criticisms or or

215

00:10:14,190 --> 00:10:19,589

nasty mail not sure why that is now I

216

00:10:17,669 --> 00:10:22,078

don't have a bulletin board on many

217

00:10:19,589 --> 00:10:25,050

websites you people can post information

218

00:10:22,078 --> 00:10:30,359

I couldn't possibly do that because then

219

00:10:25,049 --> 00:10:34,049

I would get a tremendous amount of hate

220

00:10:30,360 --> 00:10:36,240

messages I know that would happen I

221

00:10:34,049 --> 00:10:39,870

don't need that I wouldn't even have

222

00:10:36,240 --> 00:10:41,850

time to read them all you're absolutely

223

00:10:39,870 --> 00:10:45,419

right you're absolutely right you

224

00:10:41,850 --> 00:10:47,159

wouldn't because I mean I know even here

225

00:10:45,419 --> 00:10:49,019

at the skeptic zone podcast I'll get

226

00:10:47,159 --> 00:10:50,969

people writing and accusing me of being

227

00:10:49,019 --> 00:10:53,789

nothing more than a shill for big

228

00:10:50,970 --> 00:10:56,459

pharmaceutical companies or or whatever

229
00:10:53,789 --> 00:10:58,980
the case may be so there I'm glad that

230
00:10:56,458 --> 00:11:02,819
most of your feedback is positive that's

231
00:10:58,980 --> 00:11:06,269
a very encouraging sign and it one of

232
00:11:02,820 --> 00:11:10,079
the more interesting segments on your

233
00:11:06,269 --> 00:11:12,570
website I find is the 26 ways you've

234
00:11:10,078 --> 00:11:14,549
written to spot quackery and that's a

235
00:11:12,570 --> 00:11:17,699
that must have come about after years of

236
00:11:14,549 --> 00:11:20,909
looking into quackery well actually it

237
00:11:17,698 --> 00:11:25,889
was developed by Victor Herbert who was

238
00:11:20,909 --> 00:11:28,318
a one of the main people fighting

239
00:11:25,889 --> 00:11:33,480
quackery in the 1970s he had a lot of

240
00:11:28,318 --> 00:11:36,318
ideas and I met him in the early 1970s

241
00:11:33,480 --> 00:11:39,810
and we worked out the article together

242
00:11:36,318 --> 00:11:42,479
since that time I've only added a few

243
00:11:39,809 --> 00:11:45,539
actually he really did a comprehensive

244
00:11:42,480 --> 00:11:49,190
job and as I say I added a few things so

245
00:11:45,539 --> 00:11:51,329
um but we have others that we have

246
00:11:49,190 --> 00:11:53,640
probably at least

247
00:11:51,330 --> 00:11:56,310
thirty or forty other things that can

248
00:11:53,639 --> 00:11:59,220
make you suspicious and again those were

249
00:11:56,309 --> 00:12:02,039
developed gradually but the basic

250
00:11:59,220 --> 00:12:04,200
information really hasn't changed that

251
00:12:02,039 --> 00:12:07,889
much the basic idea is to try to

252
00:12:04,200 --> 00:12:10,560
undermine your credibility and I just

253
00:12:07,889 --> 00:12:13,559
love the one about how people conclude

254
00:12:10,559 --> 00:12:16,469
that they just absolutely know that I'm

255
00:12:13,559 --> 00:12:18,838
in the pocket of drug companies or I'm

256
00:12:16,470 --> 00:12:21,028
this with drug companies and that with

257

00:12:18,839 --> 00:12:24,750
drug companies I just love to hear that

258
00:12:21,028 --> 00:12:25,528
this how do they know they seem so

259
00:12:24,750 --> 00:12:29,789
certain

260
00:12:25,528 --> 00:12:35,220
because in their mind if you attack my

261
00:12:29,789 --> 00:12:36,958
ideas you're part of an enemy and the

262
00:12:35,220 --> 00:12:38,660
fact is with me and drug companies I'm

263
00:12:36,958 --> 00:12:41,189
no friend to drug companies so I

264
00:12:38,659 --> 00:12:44,519
appreciate the fact that they make good

265
00:12:41,190 --> 00:12:47,339
drugs but I'm very concerned about about

266
00:12:44,519 --> 00:12:49,740
their economic practices i I'm part of a

267
00:12:47,339 --> 00:12:52,589
team and in the United States they're

268
00:12:49,740 --> 00:12:55,230
trying very hard to impress the lower

269
00:12:52,589 --> 00:12:58,370
drug prices I think the prices of many

270
00:12:55,230 --> 00:13:02,190
drugs are just absolutely outrageous

271
00:12:58,370 --> 00:13:04,200

yeah absolutely right and I can't help

272

00:13:02,190 --> 00:13:05,940

that just glancing right now as we're

273

00:13:04,200 --> 00:13:08,520

speaking I'm glancing across this page

274

00:13:05,940 --> 00:13:09,750

the 26 ways to spot quackery and I

275

00:13:08,519 --> 00:13:12,929

certainly recommend this page

276

00:13:09,750 --> 00:13:15,690

specifically to our listeners and we

277

00:13:12,929 --> 00:13:18,269

would look at things as what we might

278

00:13:15,690 --> 00:13:19,560

call red flags they claim that natural

279

00:13:18,269 --> 00:13:22,230

vitamins are better than synthetic

280

00:13:19,559 --> 00:13:24,659

vitamins there's another red flag is

281

00:13:22,230 --> 00:13:26,670

people who go on about fluoride and

282

00:13:24,659 --> 00:13:28,828

things like that so this is I think this

283

00:13:26,669 --> 00:13:30,389

is a great grounding Stevan for people

284

00:13:28,828 --> 00:13:34,078

interested in this may be new to

285

00:13:30,389 --> 00:13:36,539

skepticism or wanting to do research

286
00:13:34,078 --> 00:13:39,000
it's it's a great way to start but again

287
00:13:36,539 --> 00:13:42,750
folks I just keep saying the site itself

288
00:13:39,000 --> 00:13:45,899
the site itself is extensive many many

289
00:13:42,750 --> 00:13:47,940
hours and years of course of work goes

290
00:13:45,899 --> 00:13:51,299
into that but tell me Steven in your

291
00:13:47,940 --> 00:13:53,370
opinion of all the quackery all the

292
00:13:51,299 --> 00:13:54,809
quacks out there what do you think is

293
00:13:53,370 --> 00:13:59,639
the most urgent or one of the most

294
00:13:54,809 --> 00:14:03,509
pressing for us to to look at there's

295
00:13:59,639 --> 00:14:04,588
really no answer to that because what

296
00:14:03,509 --> 00:14:07,809
you have is

297
00:14:04,589 --> 00:14:11,079
huge numbers of people are being misled

298
00:14:07,809 --> 00:14:13,268
to make small mistakes and smaller

299
00:14:11,078 --> 00:14:15,370
numbers of people are being misled to

300
00:14:13,269 --> 00:14:18,159
make very big and sometimes very

301
00:14:15,370 --> 00:14:19,899
dangerous mistakes and so which is more

302
00:14:18,159 --> 00:14:24,009
important I don't concern myself with

303
00:14:19,899 --> 00:14:25,958
that I write about what's convenient for

304
00:14:24,009 --> 00:14:29,439
me to write about if I get some good

305
00:14:25,958 --> 00:14:32,528
information I don't care if it's an

306
00:14:29,440 --> 00:14:34,450
obscure problem or not if I can write

307
00:14:32,528 --> 00:14:36,970
something about it with because I have

308
00:14:34,450 --> 00:14:39,160
the information then that becomes a

309
00:14:36,970 --> 00:14:41,290
priority but there are certain things

310
00:14:39,159 --> 00:14:45,338
that really concern me if we get away

311
00:14:41,289 --> 00:14:46,870
from what's most - you know what's the

312
00:14:45,339 --> 00:14:52,180
biggest problems the things that concern

313
00:14:46,870 --> 00:14:57,419
me one thing in particular just annoys

314

00:14:52,179 --> 00:15:01,929
me and that is the the huge market in

315
00:14:57,419 --> 00:15:04,328
quack devices that supposedly can figure

316
00:15:01,929 --> 00:15:07,689
out what's wrong with you and recommend

317
00:15:04,328 --> 00:15:11,819
what you should do about it what bothers

318
00:15:07,690 --> 00:15:15,640
me is that is that the government

319
00:15:11,820 --> 00:15:19,750
agencies don't seem to think that

320
00:15:15,639 --> 00:15:21,549
there's any reason to do any kind of

321
00:15:19,750 --> 00:15:25,958
systematic regulation there have been

322
00:15:21,549 --> 00:15:29,078
maybe 30 or so regulatory actions

323
00:15:25,958 --> 00:15:32,229
throughout the world toward these kinds

324
00:15:29,078 --> 00:15:35,319
of fake diagnostic devices but nobody

325
00:15:32,230 --> 00:15:38,620
seems to want to do anything systematic

326
00:15:35,320 --> 00:15:41,170
and I've complained to the US Food and

327
00:15:38,620 --> 00:15:45,909
Drug Administration for 30 years about

328
00:15:41,169 --> 00:15:48,129

one particular type of device and they

329

00:15:45,909 --> 00:15:50,350
don't seem to care and I run the

330

00:15:48,129 --> 00:15:52,570
standard and it annoys me greatly

331

00:15:50,350 --> 00:15:55,120
because there are tens of thousands of

332

00:15:52,570 --> 00:15:58,110
these devices in use in the United

333

00:15:55,120 --> 00:16:01,269
States and probably at least that many

334

00:15:58,110 --> 00:16:05,079
throughout throughout the civilized

335

00:16:01,269 --> 00:16:08,769
world you know you put your hand on a on

336

00:16:05,078 --> 00:16:11,458
a these most of the devices are our

337

00:16:08,769 --> 00:16:15,310
electrical things like galvanometers and

338

00:16:11,458 --> 00:16:18,009
supposedly can take your pick up some

339

00:16:15,309 --> 00:16:21,129
kind of body energy

340

00:16:18,009 --> 00:16:23,080
translate that into problems throughout

341

00:16:21,129 --> 00:16:26,259
the body and what you ought to do about

342

00:16:23,080 --> 00:16:29,550
it just absolute complete craziness and

343
00:16:26,259 --> 00:16:32,139
and yet the machines are there

344
00:16:29,549 --> 00:16:35,139
occasionally the FDA actually allows

345
00:16:32,139 --> 00:16:35,860
them to be sold and the enforcement is

346
00:16:35,139 --> 00:16:40,059
very weak

347
00:16:35,860 --> 00:16:42,669
I hear you because here in Australia

348
00:16:40,059 --> 00:16:44,559
I've come across one myself in the

349
00:16:42,669 --> 00:16:46,839
Australian skeptics have seen this one

350
00:16:44,559 --> 00:16:48,689
it's called the Metatron I don't know if

351
00:16:46,840 --> 00:16:53,139
you've heard about the Metatron

352
00:16:48,690 --> 00:16:56,230
nonlinear scanning or L or n LS scanning

353
00:16:53,139 --> 00:16:57,970
it's a device which is a it's on a

354
00:16:56,230 --> 00:17:02,889
laptop computer you put on a pair of

355
00:16:57,970 --> 00:17:05,890
headphones and apparently this program

356
00:17:02,889 --> 00:17:07,960
will send waveforms through your body

357
00:17:05,890 --> 00:17:10,000
which will read your organs and display

358
00:17:07,960 --> 00:17:12,430
them on the screen and offer you health

359
00:17:10,000 --> 00:17:18,539
advice after that down to the level of

360
00:17:12,430 --> 00:17:21,070
DNA it's quite something well if you can

361
00:17:18,539 --> 00:17:24,490
get me an article I'll be happy to put

362
00:17:21,069 --> 00:17:31,359
it on my device watch website by the way

363
00:17:24,490 --> 00:17:34,990
i i i run approximately 22 or 23 sites

364
00:17:31,359 --> 00:17:37,029
i like to have long indexes i like to

365
00:17:34,990 --> 00:17:39,309
have lists of people that people can

366
00:17:37,029 --> 00:17:41,589
look at that's why my home pages have so

367
00:17:39,309 --> 00:17:43,839
much so many different topics i like

368
00:17:41,589 --> 00:17:46,509
when people come i don't know if they

369
00:17:43,839 --> 00:17:48,519
know what to look for so i i want them

370
00:17:46,509 --> 00:17:51,069
to be able to look at a list so when I

371

00:17:48,519 --> 00:17:54,670
get lots of articles on a particular

372
00:17:51,069 --> 00:17:57,159
topic I start another website and I've

373
00:17:54,670 --> 00:18:01,210
been doing that I think I'm finished but

374
00:17:57,160 --> 00:18:05,110
I have I think it's 23 sites and many of

375
00:18:01,210 --> 00:18:08,620
them specialize in one kind of topic or

376
00:18:05,109 --> 00:18:11,349
another but if you can I can certainly

377
00:18:08,619 --> 00:18:13,359
mention that if you email me or if you

378
00:18:11,349 --> 00:18:16,359
haven't an article I can post I'll be

379
00:18:13,359 --> 00:18:18,279
very happy to to post it but stop and

380
00:18:16,359 --> 00:18:23,169
think for stop and think for a moment

381
00:18:18,279 --> 00:18:26,799
how can people believe that the the

382
00:18:23,170 --> 00:18:29,110
simplest line of logic would be if the

383
00:18:26,799 --> 00:18:30,819
device worked it would be making

384
00:18:29,109 --> 00:18:31,779
headlines everywhere and whoever

385
00:18:30,819 --> 00:18:35,139

invented it

386

00:18:31,779 --> 00:18:37,720

would get the Nobel Prize and it doesn't

387

00:18:35,140 --> 00:18:40,059

happen so reasoning backwards it doesn't

388

00:18:37,720 --> 00:18:43,450

work and that's a to me that's just

389

00:18:40,058 --> 00:18:46,000

simple logic well I can't help the

390

00:18:43,450 --> 00:18:48,058

degree but I would say to you when I've

391

00:18:46,000 --> 00:18:50,859

seen this in operation at various

392

00:18:48,058 --> 00:18:54,808

mind/body/spirit festivals and such like

393

00:18:50,859 --> 00:18:57,099

it looks science II and to the average

394

00:18:54,808 --> 00:18:58,839

person in the state who comes in and

395

00:18:57,099 --> 00:19:00,849

does not have a science or medical

396

00:18:58,839 --> 00:19:02,259

background and they're told it works

397

00:19:00,849 --> 00:19:05,259

they hooked after this thing and they

398

00:19:02,259 --> 00:19:08,349

can see their internal organs really

399

00:19:05,259 --> 00:19:10,599

they don't question it and they very

400
00:19:08,349 --> 00:19:13,689
happily hand over their money but thank

401
00:19:10,599 --> 00:19:15,189
you for the offer I shall certainly send

402
00:19:13,690 --> 00:19:18,730
you the information I have on this

403
00:19:15,190 --> 00:19:21,100
device and maybe it can end up on your

404
00:19:18,730 --> 00:19:22,679
website I certainly can link if nothing

405
00:19:21,099 --> 00:19:25,509
else yeah sure

406
00:19:22,679 --> 00:19:27,269
well Stephen what a what a pleasure it's

407
00:19:25,509 --> 00:19:29,798
been to chat with you again I've been

408
00:19:27,269 --> 00:19:33,099
promoting quack watch now for many years

409
00:19:29,798 --> 00:19:37,298
on the skeptics own podcast folks the

410
00:19:33,099 --> 00:19:39,699
website is quack watch.org I sincerely

411
00:19:37,298 --> 00:19:41,879
recommend it for seasoned skeptics or

412
00:19:39,700 --> 00:19:44,048
people who are new to skepticism any

413
00:19:41,880 --> 00:19:46,750
medical doctors out there this should be

414
00:19:44,048 --> 00:19:49,000
a regular thing for you to visit as well

415
00:19:46,750 --> 00:19:51,640
well Stephen Barrett all the way from

416
00:19:49,000 --> 00:19:53,919
beautiful North Carolina many many

417
00:19:51,640 --> 00:19:56,230
thanks for your time on the sceptic zone

418
00:19:53,919 --> 00:19:58,720
quite quite welcome by the way I should

419
00:19:56,230 --> 00:20:02,019
mention that I also have a free weekly

420
00:19:58,720 --> 00:20:04,659
newsletter which which some people may

421
00:20:02,019 --> 00:20:07,298
find interesting folks there's the clue

422
00:20:04,659 --> 00:20:09,280
head over to quack watchdog and sign up

423
00:20:07,298 --> 00:20:11,539
again Stephen thank you very much well

424
00:20:09,279 --> 00:20:27,358
thank you

425
00:20:11,539 --> 00:20:27,358
[Music]

426
00:20:29,369 --> 00:20:32,429
[Music]

427
00:20:33,299 --> 00:20:38,990
[Applause]

428

00:20:33,569 --> 00:20:38,990
[Music]

429
00:20:40,130 --> 00:20:45,450
hey Richard hi Trish hi would you like a

430
00:20:44,849 --> 00:20:46,889
coffee

431
00:20:45,450 --> 00:20:49,200
yeah thanks what are you working on I'm

432
00:20:46,890 --> 00:20:51,480
trying to come up with a new promo to

433
00:20:49,200 --> 00:20:54,480
play on the sceptic zone who's it for

434
00:20:51,480 --> 00:20:57,210
the good thinking Society in the UK you

435
00:20:54,480 --> 00:20:58,980
know the oh yeah I know them the guys

436
00:20:57,210 --> 00:21:01,079
who recently chased the homeopaths out

437
00:20:58,980 --> 00:21:03,150
of the UK public health system oh did

438
00:21:01,079 --> 00:21:04,319
they yeah they campaigned and lobbied

439
00:21:03,150 --> 00:21:07,470
government for a while and now you

440
00:21:04,319 --> 00:21:08,819
cannot get homeopathy on the NHS so they

441
00:21:07,470 --> 00:21:11,039
can now spend public money on health

442
00:21:08,819 --> 00:21:14,099

care that works right look I'll mention

443

00:21:11,039 --> 00:21:18,329

that in the promo now their website is

444

00:21:14,099 --> 00:21:19,829

good thinking Society org and that

445

00:21:18,329 --> 00:21:22,529

website is a good resource for learning

446

00:21:19,829 --> 00:21:24,089

more about quackery thanks Trish that

447

00:21:22,529 --> 00:21:27,769

gives me something good to think about

448

00:21:24,089 --> 00:21:27,769

[Music]

449

00:21:30,049 --> 00:21:44,009

[Music]

450

00:21:40,579 --> 00:21:46,829

and now we bring you part two of speed

451

00:21:44,009 --> 00:21:49,200

meat the scientists held at the

452

00:21:46,829 --> 00:21:56,460

Powerhouse Museum here in Sydney during

453

00:21:49,200 --> 00:21:58,289

science week 2018 I've come to the next

454

00:21:56,460 --> 00:22:00,420

table along here who do we have here

455

00:21:58,289 --> 00:22:02,789

hi my name is dr. Haley Green I'm from

456

00:22:00,420 --> 00:22:04,759

Western Sydney University my area of

457
00:22:02,789 --> 00:22:07,950
research is in forensic anthropology

458
00:22:04,759 --> 00:22:11,579
basically what we do is look at the body

459
00:22:07,950 --> 00:22:14,250
after death particularly skeletons or

460
00:22:11,579 --> 00:22:17,699
parts of skeletons that are discovered

461
00:22:14,250 --> 00:22:20,130
and we look at the clues in the bones -

462
00:22:17,700 --> 00:22:22,910
to create a profile to help investigate

463
00:22:20,130 --> 00:22:25,350
as a starting point so we can look at

464
00:22:22,910 --> 00:22:26,730
features that weren't determine sex of

465
00:22:25,349 --> 00:22:28,740
an individual - whether they're male or

466
00:22:26,730 --> 00:22:30,990
female roughly how old they were at the

467
00:22:28,740 --> 00:22:32,700
time of death and potentially ancestry

468
00:22:30,990 --> 00:22:35,519
so the ancestral background just from

469
00:22:32,700 --> 00:22:38,850
their skeletal remains so part of my

470
00:22:35,519 --> 00:22:40,230
research is looking at newly dead so

471
00:22:38,849 --> 00:22:41,879
bodies in various stages of

472
00:22:40,230 --> 00:22:43,589
decomposition to look at time since

473
00:22:41,880 --> 00:22:45,540
death analysis and then use the

474
00:22:43,589 --> 00:22:47,069
skeletonized remains for more of an

475
00:22:45,539 --> 00:22:49,109
identification or assisting with

476
00:22:47,069 --> 00:22:52,079
identification what a fascinating area

477
00:22:49,109 --> 00:22:54,839
and of course a great help to police

478
00:22:52,079 --> 00:22:58,109
amongst other things and for my very

479
00:22:54,839 --> 00:23:01,379
limited knowledge on this area I believe

480
00:22:58,109 --> 00:23:03,569
that things like insects are very

481
00:23:01,380 --> 00:23:05,460
important and you can judge things on

482
00:23:03,569 --> 00:23:06,869
the development of larvae and things

483
00:23:05,460 --> 00:23:08,940
like that yeah that's correct so that's

484
00:23:06,869 --> 00:23:10,919
called forensic entomology so we do have

485

00:23:08,940 --> 00:23:12,870
some very high profile entomologist in

486
00:23:10,920 --> 00:23:15,900
New South Wales in particular you're

487
00:23:12,869 --> 00:23:17,459
looking at the various larval stages and

488
00:23:15,900 --> 00:23:19,350
what they call succession so when the

489
00:23:17,460 --> 00:23:22,230
adults come and lay their eggs and how

490
00:23:19,349 --> 00:23:25,049
the the gonna be very graphic the

491
00:23:22,230 --> 00:23:26,549
maggots the larvae digest the remains

492
00:23:25,049 --> 00:23:28,049
and they can use those growth patterns

493
00:23:26,549 --> 00:23:29,039
to sort of determine how long the bodies

494
00:23:28,049 --> 00:23:30,990
have been there so that's really useful

495
00:23:29,039 --> 00:23:34,109
for the the first couple of weeks after

496
00:23:30,990 --> 00:23:36,690
death so that the looking at

497
00:23:34,109 --> 00:23:39,929
weeks to up to a month depending on the

498
00:23:36,690 --> 00:23:41,759
season for post-mortem interval and I

499
00:23:39,930 --> 00:23:43,740

suppose you you would then have the

500

00:23:41,759 --> 00:23:45,960

situation where there are very long dead

501

00:23:43,740 --> 00:23:48,509

remains yeah so what we call fully

502

00:23:45,960 --> 00:23:51,000

skeletonized so you're looking at dry

503

00:23:48,509 --> 00:23:53,339

remains no more soft tissue left on the

504

00:23:51,000 --> 00:23:55,079

bones they may be bleached or weathered

505

00:23:53,339 --> 00:23:57,869

because they've been exposed to the

506

00:23:55,079 --> 00:24:01,259

environment and so yeah they're the ones

507

00:23:57,869 --> 00:24:05,789

that I mainly focus on Wow it's just

508

00:24:01,259 --> 00:24:09,599

absolutely fascinating and some might

509

00:24:05,789 --> 00:24:11,789

say it's not a pleasant area but it's a

510

00:24:09,599 --> 00:24:15,149

necessary one I think so but I'm

511

00:24:11,789 --> 00:24:18,149

probably one of the few that I enjoy

512

00:24:15,150 --> 00:24:20,970

that work I find it not pleasant but

513

00:24:18,150 --> 00:24:22,860

rewarding water yeah yeah like I'm doing

514
00:24:20,970 --> 00:24:25,680
something useful well that's that's

515
00:24:22,859 --> 00:24:27,809
absolutely fascinating and we can find

516
00:24:25,680 --> 00:24:32,940
out more about what you do online yes so

517
00:24:27,809 --> 00:24:34,980
I have Twitter accounts and you can just

518
00:24:32,940 --> 00:24:36,450
google my name dr. Haley green Western

519
00:24:34,980 --> 00:24:39,180
Sydney University they have a staff

520
00:24:36,450 --> 00:24:41,309
profile with research interests on that

521
00:24:39,180 --> 00:24:44,000
profile as well fantastic thank you very

522
00:24:41,309 --> 00:24:44,000
much thank you

523
00:24:44,538 --> 00:24:48,618
and the evening is going on here folks

524
00:24:46,519 --> 00:24:49,878
are more and more people drifting in to

525
00:24:48,618 --> 00:24:51,618
meet all the scientists here and I've

526
00:24:49,878 --> 00:24:53,928
come to another table hello who do we

527
00:24:51,618 --> 00:24:56,118
have here dr. Catherine Doran from

528
00:24:53,929 --> 00:24:58,969
Macquarie University and what's your

529
00:24:56,118 --> 00:25:00,888
area I work mainly in marine systems and

530
00:24:58,969 --> 00:25:03,528
I'm an ecologist ecotoxicology

531
00:25:00,888 --> 00:25:06,678
looking at human impacts in marine

532
00:25:03,528 --> 00:25:09,558
environment well I guess around Sydney

533
00:25:06,679 --> 00:25:12,499
that would be a big area of research are

534
00:25:09,558 --> 00:25:13,608
you focus on the Sydney area or more

535
00:25:12,499 --> 00:25:15,048
widely than that

536
00:25:13,608 --> 00:25:16,668
I've worked a lot in the Sydney region

537
00:25:15,048 --> 00:25:19,489
but also up and down the New South Wales

538
00:25:16,669 --> 00:25:21,469
Coast but certainly wherever there's an

539
00:25:19,489 --> 00:25:24,528
urban settlement you get the Associated

540
00:25:21,469 --> 00:25:26,028
impacts of human activities yeah well up

541
00:25:24,528 --> 00:25:27,858
and down the New South Wales coast do

542

00:25:26,028 --> 00:25:29,328
you mean yeah there's several large

543
00:25:27,858 --> 00:25:31,278
cities that I've worked around the

544
00:25:29,328 --> 00:25:33,318
harbours in so yeah places like

545
00:25:31,278 --> 00:25:34,638
Newcastle and Port Kembla the kinds of

546
00:25:33,318 --> 00:25:37,158
impacts I'm looking at a stormwater

547
00:25:34,638 --> 00:25:38,598
runoff and invasive species the kinds of

548
00:25:37,159 --> 00:25:40,129
things that arrive on boats and you just

549
00:25:38,598 --> 00:25:40,729
don't get as much of that in the smaller

550
00:25:40,128 --> 00:25:42,588
hubs

551
00:25:40,729 --> 00:25:44,798
I know fair enough now I can totally

552
00:25:42,588 --> 00:25:47,749
understand so things do arrive on boats

553
00:25:44,798 --> 00:25:50,378
unwelcome things absolutely we have a

554
00:25:47,749 --> 00:25:52,278
number of hitchhikers coming in on

555
00:25:50,378 --> 00:25:54,348
commercial ships cruise ships

556
00:25:52,278 --> 00:25:57,288

recreational yachts and they're getting

557

00:25:54,348 --> 00:25:59,028

transported all around the world so what

558

00:25:57,288 --> 00:26:00,709

are these hitchhikers are they mainly I

559

00:25:59,028 --> 00:26:02,479

mean the first thing that springs to my

560

00:26:00,709 --> 00:26:04,339

mind would be rats but there must be

561

00:26:02,479 --> 00:26:06,019

more than that it's mainly things that

562

00:26:04,338 --> 00:26:08,538

are living on the outside of the boat so

563

00:26:06,019 --> 00:26:10,219

a lot of different kinds of seaweeds we

564

00:26:08,538 --> 00:26:13,459

have invasive oysters getting shipped

565

00:26:10,219 --> 00:26:15,440

around mussels crabs all the little kind

566

00:26:13,459 --> 00:26:17,839

of invertebrate critters so these things

567

00:26:15,440 --> 00:26:19,578

attach themselves to vessels somewhere

568

00:26:17,838 --> 00:26:22,158

in the world the vessels make their way

569

00:26:19,578 --> 00:26:25,058

to Sydney Harbor Park dock I should say

570

00:26:22,159 --> 00:26:27,469

and these things can be transplanted

571
00:26:25,058 --> 00:26:28,969
exactly so sometimes the conditions

572
00:26:27,469 --> 00:26:31,940
won't be right for them maybe it's too

573
00:26:28,969 --> 00:26:33,949
hot too cold too salty but sometimes it

574
00:26:31,940 --> 00:26:35,599
will be and then they can make the jump

575
00:26:33,949 --> 00:26:38,869
from the ship on to some of our boating

576
00:26:35,598 --> 00:26:40,668
infrastructure I guess in the modern

577
00:26:38,868 --> 00:26:43,038
world that's that's a big problem but in

578
00:26:40,669 --> 00:26:45,829
times past occasionally things would

579
00:26:43,038 --> 00:26:46,890
float into harbors and other countries

580
00:26:45,828 --> 00:26:50,159
on

581
00:26:46,890 --> 00:26:51,240
coconuts plastically I think I think in

582
00:26:50,160 --> 00:26:53,550
the past we would have had a lot of

583
00:26:51,240 --> 00:26:56,099
species moving around but just not as

584
00:26:53,549 --> 00:26:58,559
far with the ships we can travel a lot

585
00:26:56,099 --> 00:27:01,980
further across the oceans so so can the

586
00:26:58,559 --> 00:27:03,779
hitchhikers little crustaceans

587
00:27:01,980 --> 00:27:06,420
hitchhiking their way around and what

588
00:27:03,779 --> 00:27:08,399
are the some of the more pressing

589
00:27:06,420 --> 00:27:10,620
problems that these things cause we

590
00:27:08,400 --> 00:27:12,600
haven't actually got many terrible

591
00:27:10,619 --> 00:27:15,329
invaders in Sydney but certainly down in

592
00:27:12,599 --> 00:27:17,849
Melbourne it's quite heavily invaded

593
00:27:15,329 --> 00:27:20,189
Port Phillip Bay and they have some fan

594
00:27:17,849 --> 00:27:21,750
worms really beautiful but they tend to

595
00:27:20,190 --> 00:27:24,809
smother some of the native things that

596
00:27:21,750 --> 00:27:28,079
would grow across the sandy bottoms and

597
00:27:24,809 --> 00:27:29,490
up the pilings and rocky reefs and where

598
00:27:28,079 --> 00:27:32,099
have they've traveled from these worms

599

00:27:29,490 --> 00:27:34,819
most of them tend to come from places in

600
00:27:32,099 --> 00:27:37,139
Asia places with similar kinds of marine

601
00:27:34,819 --> 00:27:39,210
environmental systems to us so it's a

602
00:27:37,140 --> 00:27:41,009
similar kind of temperature now you are

603
00:27:39,210 --> 00:27:43,049
folks there's something to look out for

604
00:27:41,009 --> 00:27:45,509
next time you're in a Harbor in a big

605
00:27:43,049 --> 00:27:48,680
city watch out for those hitchhikers and

606
00:27:45,509 --> 00:27:51,509
can we find what you do online anywhere

607
00:27:48,680 --> 00:27:52,680
certainly on the Macquarie website and I

608
00:27:51,509 --> 00:27:55,680
have a personal website as well

609
00:27:52,680 --> 00:27:57,090
Katherine Darwin calm well all the best

610
00:27:55,680 --> 00:28:00,049
and I hope you don't come across too

611
00:27:57,089 --> 00:28:02,669
many key Tigers thank you very much

612
00:28:00,049 --> 00:28:06,599
there's so many people here now folks

613
00:28:02,670 --> 00:28:08,490

all the tables are engaged and you've

614

00:28:06,599 --> 00:28:10,500

come along and you hope to meet a

615

00:28:08,490 --> 00:28:12,690

scientist you hope to meet a scientist

616

00:28:10,500 --> 00:28:14,730

yes I'm very excited to talk to some of

617

00:28:12,690 --> 00:28:17,070

the neuro scientists or even some of the

618

00:28:14,730 --> 00:28:18,299

marine biologists and yeah everyone

619

00:28:17,069 --> 00:28:21,720

looks like they're having a really good

620

00:28:18,299 --> 00:28:27,599

time so it's a good sign because every

621

00:28:21,720 --> 00:28:33,059

table is now full an astronomer has

622

00:28:27,599 --> 00:28:34,740

presented himself good luck this room is

623

00:28:33,059 --> 00:28:37,349

never-ending with scientists folks I'm

624

00:28:34,740 --> 00:28:38,819

found myself at another table I've been

625

00:28:37,349 --> 00:28:43,049

drawn to this table because there's a

626

00:28:38,819 --> 00:28:45,599

sign saying the hidden world in your gut

627

00:28:43,049 --> 00:28:47,250

and this young lady is going to tell me

628
00:28:45,599 --> 00:28:50,059
about the hidden world in my gut who do

629
00:28:47,250 --> 00:28:55,079
we have here hi my name is Alison and

630
00:28:50,059 --> 00:28:57,299
tell me about my gut alright so when you

631
00:28:55,079 --> 00:28:59,429
first think of micros was the first

632
00:28:57,299 --> 00:29:02,069
thing that comes into your mind Oh

633
00:28:59,430 --> 00:29:03,810
test tubes all microbes oh good question

634
00:29:02,069 --> 00:29:05,460
I I don't know what the first thing that

635
00:29:03,809 --> 00:29:07,740
comes into mind mark what should be

636
00:29:05,460 --> 00:29:09,360
alright so yeah your answer is actually

637
00:29:07,740 --> 00:29:09,509
pretty good because I was expecting you

638
00:29:09,359 --> 00:29:13,159
know

639
00:29:09,509 --> 00:29:15,750
disease and devastation and you know

640
00:29:13,160 --> 00:29:17,400
sanitizing everything so then actually

641
00:29:15,750 --> 00:29:20,640
wants to bring Kieffer away from that

642
00:29:17,400 --> 00:29:22,769
because the majority of microbes in this

643
00:29:20,640 --> 00:29:25,020
world are actually not bad for you so

644
00:29:22,769 --> 00:29:26,519
then they don't cause disease and then

645
00:29:25,019 --> 00:29:28,230
so if you think of all the different

646
00:29:26,519 --> 00:29:31,079
microbes they live in the water they

647
00:29:28,230 --> 00:29:34,470
live in the soil they live in the air

648
00:29:31,079 --> 00:29:36,539
even and they even live on you so on

649
00:29:34,470 --> 00:29:39,180
your body and inside your body there are

650
00:29:36,539 --> 00:29:40,230
actually tons of microbes and if you

651
00:29:39,180 --> 00:29:42,539
were to take that and we just have a

652
00:29:40,230 --> 00:29:46,230
look here at your little presentation oh

653
00:29:42,539 --> 00:29:49,049
it says we are part microbes all of us

654
00:29:46,230 --> 00:29:52,319
yes yes oh I have some a few fun facts

655
00:29:49,049 --> 00:29:55,619
okay all right so did you know you were

656

00:29:52,319 --> 00:29:57,269
actually only about 50% human how many

657
00:29:55,619 --> 00:30:02,309
people have told me that many people

658
00:29:57,269 --> 00:30:04,079
said that to me so one of the reasons

659
00:30:02,309 --> 00:30:06,179
actually because you have a lot of

660
00:30:04,079 --> 00:30:07,769
microbes are you particularly inside

661
00:30:06,180 --> 00:30:09,240
your mouth and inside your guts

662
00:30:07,769 --> 00:30:10,980
there are lots and lots of microbes and

663
00:30:09,240 --> 00:30:12,900
then they're actually really good for

664
00:30:10,980 --> 00:30:15,120
you so they do a lot of beneficial

665
00:30:12,900 --> 00:30:16,800
things are you like producing vitamins

666
00:30:15,119 --> 00:30:18,299
they help you digest your food and

667
00:30:16,799 --> 00:30:20,240
without your microbes you will be really

668
00:30:18,299 --> 00:30:22,799
sick and you probably cannot survive

669
00:30:20,240 --> 00:30:24,058
really I mean they are necessary for

670
00:30:22,799 --> 00:30:27,119

life aren't they that's the bottom line

671

00:30:24,058 --> 00:30:29,220

yes definitely and so if you're only

672

00:30:27,119 --> 00:30:31,439

thinking about the self how many

673

00:30:29,220 --> 00:30:33,690

microbial cells - human cells even in

674

00:30:31,440 --> 00:30:36,000

your body that's about half half but if

675

00:30:33,690 --> 00:30:38,630

you think about the DNA so that's the

676

00:30:36,000 --> 00:30:45,960

genetic code of life you are actually

677

00:30:38,630 --> 00:30:48,929

less than 1% human Oh what tell me more

678

00:30:45,960 --> 00:30:51,000

all right so because if it so basically

679

00:30:48,929 --> 00:30:52,920

we took all the DNA within all your

680

00:30:51,000 --> 00:30:54,750

human cells and then you took all the

681

00:30:52,920 --> 00:30:58,590

DNA within your microbial cells you have

682

00:30:54,750 --> 00:31:01,589

a lot small microbial DNA then you have

683

00:30:58,589 --> 00:31:03,419

human DNA so if you think about it maybe

684

00:31:01,589 --> 00:31:06,359

you're actually being controlled by your

685
00:31:03,420 --> 00:31:08,250
microbes and you're just a bag that's

686
00:31:06,359 --> 00:31:09,928
carrying your microbes around especially

687
00:31:08,250 --> 00:31:12,269
at dinner time I think my microbes

688
00:31:09,929 --> 00:31:14,550
control me like tell me it's time to eat

689
00:31:12,269 --> 00:31:16,859
I think wow I had no idea that's

690
00:31:14,549 --> 00:31:18,119
absolutely fascinating and this is one

691
00:31:16,859 --> 00:31:20,490
of the reasons I love coming to these

692
00:31:18,119 --> 00:31:22,589
meet a scientist night you never know

693
00:31:20,490 --> 00:31:24,960
what you're going to find out and what

694
00:31:22,589 --> 00:31:28,470
in your research what's something that

695
00:31:24,960 --> 00:31:30,750
is really surprised you okay so in my

696
00:31:28,470 --> 00:31:33,420
research I look at how the diet affects

697
00:31:30,750 --> 00:31:35,849
our microbes and then how we can use

698
00:31:33,420 --> 00:31:38,070
diets to try and make you know make

699
00:31:35,849 --> 00:31:40,319
ourselves healthier so one of my

700
00:31:38,069 --> 00:31:43,379
favorite parts and actually one of my

701
00:31:40,319 --> 00:31:45,119
questions here was how to turn poo into

702
00:31:43,380 --> 00:31:48,090
abstract art all right so that's

703
00:31:45,119 --> 00:31:51,089
actually better than it sounds so one of

704
00:31:48,089 --> 00:31:53,669
the fun parts of my research is I get to

705
00:31:51,089 --> 00:31:56,069
play with a lot of feces so I gave you

706
00:31:53,670 --> 00:31:57,840
samples from different people and then

707
00:31:56,069 --> 00:32:00,779
what we do is actually we want to look

708
00:31:57,839 --> 00:32:03,000
at the microbes inside and we extract

709
00:32:00,779 --> 00:32:04,678
DNA from it and then afterwards we for

710
00:32:03,000 --> 00:32:07,170
example want to look at how the microbes

711
00:32:04,679 --> 00:32:12,150
change over time you guys can't see this

712
00:32:07,170 --> 00:32:14,279
but then another yes we're looking

713

00:32:12,150 --> 00:32:17,160
another interesting chart here of what

714
00:32:14,279 --> 00:32:19,470
might be in your feces right so then

715
00:32:17,160 --> 00:32:21,778
basically what you can get from your

716
00:32:19,470 --> 00:32:23,460
fecal sample is a chart that is

717
00:32:21,778 --> 00:32:25,558
very colorful and it shows how different

718
00:32:23,460 --> 00:32:27,149
groups of microbes change over time so

719
00:32:25,558 --> 00:32:29,009
your microbes in your gut will be

720
00:32:27,148 --> 00:32:30,598
affected by your lifestyle they'll be

721
00:32:29,009 --> 00:32:32,719
affected by what you eat

722
00:32:30,598 --> 00:32:35,118
whether you do exercise or not or

723
00:32:32,719 --> 00:32:36,899
whether you eat antibiotics so

724
00:32:35,118 --> 00:32:40,439
everything you do in your life can

725
00:32:36,898 --> 00:32:42,928
change your microbes and then some for

726
00:32:40,440 --> 00:32:44,849
example if you eat broccoli one day and

727
00:32:42,929 --> 00:32:47,580

then some microbes really like that then

728

00:32:44,848 --> 00:32:49,979

they will increase in abundance again

729

00:32:47,579 --> 00:32:52,739

it's just one of the things about the

730

00:32:49,979 --> 00:32:54,450

speed meter scientist night.the the

731

00:32:52,739 --> 00:32:55,588

variety of what you learned and who you

732

00:32:54,450 --> 00:32:57,509

meet is just staggering

733

00:32:55,588 --> 00:33:00,868

well I don't know how to wish you luck

734

00:32:57,509 --> 00:33:02,848

with what you do it is very interesting

735

00:33:00,868 --> 00:33:05,459

work and I'm sure very necessary work I

736

00:33:02,848 --> 00:33:06,598

hope you have a great night here tonight

737

00:33:05,460 --> 00:33:08,669

and I hope lots of people come up to

738

00:33:06,598 --> 00:33:12,628

find out about their gut hey thank you

739

00:33:08,669 --> 00:33:14,369

very much hello excuse me could I have a

740

00:33:12,628 --> 00:33:16,348

quick chat to you I've noticed you're

741

00:33:14,368 --> 00:33:17,819

just having a speed meet with a

742
00:33:16,348 --> 00:33:19,229
scientist how did that go

743
00:33:17,819 --> 00:33:21,329
I said speed meets through four

744
00:33:19,229 --> 00:33:23,639
different scientists for you have been

745
00:33:21,329 --> 00:33:25,769
busy I've been very busy it's been a

746
00:33:23,638 --> 00:33:27,838
great interesting night I just wanted to

747
00:33:25,769 --> 00:33:30,118
branch out into other scientific fields

748
00:33:27,838 --> 00:33:31,710
I mean sure I talked to a couple of

749
00:33:30,118 --> 00:33:33,658
neuroscientists because that's the Aero

750
00:33:31,710 --> 00:33:35,969
science I actually work in but out

751
00:33:33,659 --> 00:33:38,879
talking to a biologist about DNA

752
00:33:35,969 --> 00:33:41,759
barcoding and termite breeding program

753
00:33:38,878 --> 00:33:44,998
that's been quite interesting as well as

754
00:33:41,759 --> 00:33:47,308
speaking to a marine biologist in

755
00:33:44,999 --> 00:33:50,519
relation to our cruise ships coming in

756
00:33:47,308 --> 00:33:53,548
to sydney harbour and the algae and ship

757
00:33:50,519 --> 00:33:56,098
worms all that that come in and yeah

758
00:33:53,548 --> 00:33:58,219
affect our Sydney Harbor to some degree

759
00:33:56,098 --> 00:34:02,999
and she's now working on a project that

760
00:33:58,219 --> 00:34:05,548
is keeping Sydney Harbor clean and by

761
00:34:02,999 --> 00:34:07,558
having rock oysters in there and then

762
00:34:05,548 --> 00:34:09,989
also finding a home for them once

763
00:34:07,558 --> 00:34:11,849
they've done their job this night is not

764
00:34:09,989 --> 00:34:14,250
just for the public which is great that

765
00:34:11,849 --> 00:34:16,980
the public hear but for other scientists

766
00:34:14,250 --> 00:34:19,139
such as yourself to come along and speed

767
00:34:16,980 --> 00:34:21,628
meet other scientists that's a wonderful

768
00:34:19,139 --> 00:34:24,329
opportunity yes yes definitely so and

769
00:34:21,628 --> 00:34:26,730
I'm also doing a bit of computer science

770

00:34:24,329 --> 00:34:29,099
at the moment - learning to code program

771
00:34:26,730 --> 00:34:30,838
computers so why don't I mean if you've

772
00:34:29,099 --> 00:34:32,129
got their scientific mind it's it's

773
00:34:30,838 --> 00:34:34,539
great to chat to have a scientist

774
00:34:32,128 --> 00:34:36,400
because it just you just know what

775
00:34:34,539 --> 00:34:38,110
out there really because if you're

776
00:34:36,400 --> 00:34:39,579
focused on your specialty you don't know

777
00:34:38,110 --> 00:34:41,530
what other specialties are up to because

778
00:34:39,579 --> 00:34:43,719
science is so complex you've got so many

779
00:34:41,530 --> 00:34:47,080
different areas of science biology

780
00:34:43,719 --> 00:34:49,359
chemistry physics neuroscience Anatomy

781
00:34:47,079 --> 00:34:53,619
astronomy astrology the list goes on

782
00:34:49,360 --> 00:34:55,030
right certainly doesn't and again I'm so

783
00:34:53,619 --> 00:34:56,799
pleased you've come along here tonight

784
00:34:55,030 --> 00:34:58,090

to take advantage of this opportunity

785

00:34:56,800 --> 00:35:00,220

yeah I'm just grateful that the

786

00:34:58,090 --> 00:35:03,519

powerhouse museum or I should say now at

787

00:35:00,219 --> 00:35:06,879

the Museum of Arts and Sciences has

788

00:35:03,519 --> 00:35:08,469

enabled this to happen just to something

789

00:35:06,880 --> 00:35:12,490

new that gets you out of the everyday

790

00:35:08,469 --> 00:35:14,799

routine and it's yes it's quite reviving

791

00:35:12,489 --> 00:35:16,299

actually I absolutely agree and I

792

00:35:14,800 --> 00:35:18,490

suppose now you're off to meet a few

793

00:35:16,300 --> 00:35:21,490

more yeah a few more and I was just keep

794

00:35:18,489 --> 00:35:23,799

browsing this science festival first I

795

00:35:21,489 --> 00:35:29,679

mean science at the moment thank you

796

00:35:23,800 --> 00:35:32,170

very much good night thanks that was

797

00:35:29,679 --> 00:35:34,989

part two of speed and meet the

798

00:35:32,170 --> 00:35:38,190

scientists join us next week for the

799

00:35:34,989 --> 00:35:49,178

final part part three

800

00:35:38,190 --> 00:35:49,179

[Music]

801

00:35:53,610 --> 00:36:00,410

[Music]

802

00:35:58,190 --> 00:36:01,789

hi I'm sue Blackmore I am a visiting

803

00:36:00,409 --> 00:36:04,009

professor in psychology at the

804

00:36:01,789 --> 00:36:05,750

University of Plymouth in England and

805

00:36:04,010 --> 00:36:09,260

I'm really looking forward to coming to

806

00:36:05,750 --> 00:36:11,750

skeptic on 2018 in October I'll be

807

00:36:09,260 --> 00:36:13,160

talking about my new book seeing myself

808

00:36:11,750 --> 00:36:15,889

the new science of out-of-body

809

00:36:13,159 --> 00:36:17,750

experiences this is really what the

810

00:36:15,889 --> 00:36:19,759

reason that I ever got drawn into

811

00:36:17,750 --> 00:36:21,889

skepticism in the first place because I

812

00:36:19,760 --> 00:36:23,420

had this incredible experience that I

813
00:36:21,889 --> 00:36:24,828
couldn't understand it so I was

814
00:36:23,420 --> 00:36:28,309
determined to become a parapsychologist

815
00:36:24,829 --> 00:36:30,680
and I did my PhD in parapsychology did

816
00:36:28,309 --> 00:36:34,309
loads of experiments on espn2 left me

817
00:36:30,679 --> 00:36:37,179
all these kinds of things and well then

818
00:36:34,309 --> 00:36:39,190
the evidence made me change my mind

819
00:36:37,179 --> 00:36:41,019
joints psych up and got involved in all

820
00:36:39,190 --> 00:36:44,530
the skeptical routes of those days but

821
00:36:41,019 --> 00:36:46,030
for a couple of decades so things were

822
00:36:44,530 --> 00:36:47,710
very different in those days and I'm

823
00:36:46,030 --> 00:36:49,630
looking forward very much indeed to

824
00:36:47,710 --> 00:36:51,190
finding out a bit more about modern

825
00:36:49,630 --> 00:36:54,400
skepticism on the other side of the

826
00:36:51,190 --> 00:36:56,800
world and I hope that you will enjoy

827

00:36:54,400 --> 00:36:57,789
hearing the new science of out-of-body

828
00:36:56,800 --> 00:37:00,550
experiences

829
00:36:57,789 --> 00:37:02,559
it's the neurosciences factors and we

830
00:37:00,550 --> 00:37:05,170
can now understand just why and how it

831
00:37:02,559 --> 00:37:06,369
is that so many people are convinced

832
00:37:05,170 --> 00:37:09,909
that they've gone out - out of their

833
00:37:06,369 --> 00:37:11,469
body when they're really still inside in

834
00:37:09,909 --> 00:37:13,119
a minute they're not really inside are

835
00:37:11,469 --> 00:37:15,489
they I mean there's not the soul or a

836
00:37:13,119 --> 00:37:18,159
spirit or even really conscious self in

837
00:37:15,489 --> 00:37:19,629
that room well that's some of the very

838
00:37:18,159 --> 00:37:21,909
interesting things I hope we'll all be

839
00:37:19,630 --> 00:37:23,070
discussing in October I hope to see you

840
00:37:21,909 --> 00:37:24,809
back

841
00:37:23,070 --> 00:37:27,610

[Music]

842

00:37:24,809 --> 00:37:29,440

meet Professor Susan Blackmore at this

843

00:37:27,610 --> 00:37:31,930

year's skeptic on the Australian

844

00:37:29,440 --> 00:37:34,119

skeptics and National Convention October

845

00:37:31,929 --> 00:37:38,049

the 13th and the 14th the concourse

846

00:37:34,119 --> 00:37:41,109

Chatswood tickets at convention skeptics

847

00:37:38,050 --> 00:37:50,590

dot-com today you

848

00:37:41,110 --> 00:37:50,590

[Music]

849

00:37:52,440 --> 00:37:58,150

skeptics award for critical thinking in

850

00:37:55,239 --> 00:38:00,039

journalism nominations open and this

851

00:37:58,150 --> 00:38:03,280

comes to us from the Australian skeptics

852

00:38:00,039 --> 00:38:05,529

website skeptics comdata you written by

853

00:38:03,280 --> 00:38:07,600

Tim Mendham published on May 20th of

854

00:38:05,530 --> 00:38:10,028

August 2018

855

00:38:07,599 --> 00:38:13,098

[Music]

856
00:38:10,028 --> 00:38:16,369
Australian skeptics Inc is adding to its

857
00:38:13,099 --> 00:38:19,298
portfolio of annual awards with one for

858
00:38:16,369 --> 00:38:22,338
the best piece of skeptical journalism

859
00:38:19,298 --> 00:38:24,588
the award is named after the late Barry

860
00:38:22,338 --> 00:38:27,528
Williams past president and executive

861
00:38:24,588 --> 00:38:30,380
officer of Australian skeptics Inc who

862
00:38:27,528 --> 00:38:33,048
was a regular on Australian media the

863
00:38:30,380 --> 00:38:35,599
Barry Williams award for skeptical

864
00:38:33,048 --> 00:38:39,108
journalism will recognise the best piece

865
00:38:35,599 --> 00:38:41,119
of journalism in any medium that takes a

866
00:38:39,108 --> 00:38:43,699
critical and skeptical approach to a

867
00:38:41,119 --> 00:38:46,099
topic that falls within our remit which

868
00:38:43,699 --> 00:38:48,728
is the scientific investigation of

869
00:38:46,099 --> 00:38:53,088
pseudoscience and the paranormal the

870
00:38:48,728 --> 00:38:56,118
award is nicknamed the wallaby in memory

871
00:38:53,088 --> 00:38:58,278
of Sir Jim our wallaby the regular ngon

872
00:38:56,119 --> 00:39:01,309
de plume Barrie used from his more

873
00:38:58,278 --> 00:39:04,358
whimsical editorial pieces it will be

874
00:39:01,309 --> 00:39:07,749
awarded annually with the citation and

875
00:39:04,358 --> 00:39:10,130
\$2,000 prize a panel made up out of

876
00:39:07,748 --> 00:39:12,469
experienced journalists across differing

877
00:39:10,130 --> 00:39:15,079
media has been put together to review

878
00:39:12,469 --> 00:39:16,759
entries Tim Mendham executive officer of

879
00:39:15,079 --> 00:39:19,249
Australian skeptics Inc and editor of

880
00:39:16,759 --> 00:39:21,019
the skeptics said quote we have given a

881
00:39:19,248 --> 00:39:23,478
similar award a few times in the past

882
00:39:21,018 --> 00:39:26,598
though the most recent was way back in

883
00:39:23,478 --> 00:39:29,629
2010 we're now calling for nominations

884

00:39:26,599 --> 00:39:31,789
for the wallaby from skeptics the public

885
00:39:29,630 --> 00:39:33,798
and the media journalists can nominate

886
00:39:31,789 --> 00:39:37,190
their own work it would normally be

887
00:39:33,798 --> 00:39:40,309
given for one piece or a series used in

888
00:39:37,190 --> 00:39:42,338
print TV radio or online produced in

889
00:39:40,309 --> 00:39:46,219
Australia and published or broadcast

890
00:39:42,338 --> 00:39:48,578
during 2018 in quote nominations should

891
00:39:46,219 --> 00:39:52,639
be sent to the editor of the skeptic at

892
00:39:48,579 --> 00:39:54,859
editor at skeptics comm today you or

893
00:39:52,639 --> 00:39:57,798
send hard copies to the Australian

894
00:39:54,858 --> 00:40:01,608
skeptics p.m. box 20 Beecroft New South

895
00:39:57,798 --> 00:40:03,228
Wales to one-one-nine and I will link to

896
00:40:01,608 --> 00:40:06,318
this page in the show notes if you want

897
00:40:03,228 --> 00:40:10,098
to have a closer look at those addresses

898
00:40:06,318 --> 00:40:12,619

Tim said that the key issue would be the

899

00:40:10,099 --> 00:40:15,528

nature of a quote skeptical in quote

900

00:40:12,619 --> 00:40:18,440

piece of journalism quote should it take

901

00:40:15,528 --> 00:40:20,989

a debunking stance or a more general

902

00:40:18,440 --> 00:40:22,670

critical thinking approach personally I

903

00:40:20,989 --> 00:40:24,829

would prefer the second the B

904

00:40:22,670 --> 00:40:27,619

take the critical investigation approach

905

00:40:24,829 --> 00:40:29,809

to the topic though I must admit my have

906

00:40:27,619 --> 00:40:34,159

concerns if a piece came down in favor

907

00:40:29,809 --> 00:40:35,690

of the outer fringes of Wu my view is

908

00:40:34,159 --> 00:40:38,539

that we should certainly not be

909

00:40:35,690 --> 00:40:41,750

rewarding a puff piece for either side

910

00:40:38,539 --> 00:40:44,150

of the argument serious journalism only

911

00:40:41,750 --> 00:40:46,070

need apply in quote the Wallaby will

912

00:40:44,150 --> 00:40:48,829

compliment the skeptics other Awards

913
00:40:46,070 --> 00:40:51,440
which include the bent spoon award which

914
00:40:48,829 --> 00:40:53,750
goes to the most preposterous piece of

915
00:40:51,440 --> 00:40:56,389
paranormal pseudo-scientific piffle as

916
00:40:53,750 --> 00:40:58,789
well as the more positive skeptic of the

917
00:40:56,389 --> 00:41:00,769
Year award and the Thor net award for

918
00:40:58,789 --> 00:41:02,599
the promotion of reason the latter goes

919
00:41:00,769 --> 00:41:04,550
to a member of the public who may not

920
00:41:02,599 --> 00:41:07,009
have anything to do with the skeptical

921
00:41:04,550 --> 00:41:10,220
movement the prize amount for the Thor

922
00:41:07,010 --> 00:41:12,590
net award previously set at \$1000 will

923
00:41:10,219 --> 00:41:14,959
be raised to \$2,000 in line with the

924
00:41:12,590 --> 00:41:17,000
media prize the recipients of these

925
00:41:14,960 --> 00:41:18,769
awards are traditionally announced at

926
00:41:17,000 --> 00:41:21,170
the gala dinner and our annual

927
00:41:18,769 --> 00:41:25,489
convention which this year will be held

928
00:41:21,170 --> 00:41:27,740
on October the 13th so there you are

929
00:41:25,489 --> 00:41:29,629
there's the clue in the hint any

930
00:41:27,739 --> 00:41:32,569
journalists out there if you know any

931
00:41:29,630 --> 00:41:36,500
journalists there is a prize in the

932
00:41:32,570 --> 00:41:39,500
offing \$2,000 details and skeptics calm

933
00:41:36,500 --> 00:41:42,639
delay you or just click the links in

934
00:41:39,500 --> 00:41:42,639
this week's show notes

935
00:41:45,579 --> 00:41:53,869
[Music]

936
00:41:51,159 --> 00:41:55,789
hi I'm Darrin McKee one of the hosts of

937
00:41:53,869 --> 00:41:57,529
the reality check each week my co-host

938
00:41:55,789 --> 00:41:59,119
and I explore a range of controversies

939
00:41:57,530 --> 00:42:00,620
and curiosities using science and

940
00:41:59,119 --> 00:42:02,509
critical thinking you can find us on

941

00:42:00,619 --> 00:42:04,099
iTunes your favorite podcasting platform

942
00:42:02,510 --> 00:42:05,690
and on Facebook by searching for the

943
00:42:04,099 --> 00:42:08,179
reality check or by following us on

944
00:42:05,690 --> 00:42:09,860
Twitter at TRC underscore podcast until

945
00:42:08,179 --> 00:42:18,169
then keep an open mind but not so open

946
00:42:09,860 --> 00:42:22,860
your brain falls out his may not spooky

947
00:42:18,170 --> 00:42:27,210
action at the distance

948
00:42:22,860 --> 00:42:28,980
I know you know me people I like to seek

949
00:42:27,210 --> 00:42:30,960
out those reptiles and of course

950
00:42:28,980 --> 00:42:32,610
reptiles around this time you really

951
00:42:30,960 --> 00:42:35,519
like their handlers who we got here

952
00:42:32,610 --> 00:42:36,930
again Anthony and this is Johanna great

953
00:42:35,519 --> 00:42:39,630
to talk to Joanne is that Johanna the

954
00:42:36,929 --> 00:42:41,940
goanna it might be which is a great name

955
00:42:39,630 --> 00:42:43,860

and good at original names now and of

956

00:42:41,940 --> 00:42:45,059

course as I was mentioning around this

957

00:42:43,860 --> 00:42:46,890

time of year you're a very popular

958

00:42:45,059 --> 00:42:49,529

handler because you're the warmest thing

959

00:42:46,889 --> 00:42:51,629

around are you that's precisely why it

960

00:42:49,530 --> 00:42:53,670

loves me so would you be hotter than a

961

00:42:51,630 --> 00:42:55,950

rock that she'd like to normally sit on

962

00:42:53,670 --> 00:42:58,320

this human body temperature nice for

963

00:42:55,949 --> 00:43:00,539

them at bat right and also I remember

964

00:42:58,320 --> 00:43:02,730

you told me once about how to tell when

965

00:43:00,539 --> 00:43:04,559

a reptile is nervous or not happy so

966

00:43:02,730 --> 00:43:06,210

she's just sort of sitting there making

967

00:43:04,559 --> 00:43:07,799

little flailing movements with the front

968

00:43:06,210 --> 00:43:09,360

legs is that a comfy thing or not yeah

969

00:43:07,800 --> 00:43:11,670

it's just yet trying to grant get hold

970
00:43:09,360 --> 00:43:13,440
just once if wants to feel secure so

971
00:43:11,670 --> 00:43:16,050
it's getting its claws into its best

972
00:43:13,440 --> 00:43:17,519
comfortable spot yeah now round about

973
00:43:16,050 --> 00:43:21,030
this time of year in Australia would

974
00:43:17,519 --> 00:43:22,800
would they be about to have a few eggs

975
00:43:21,030 --> 00:43:24,750
or carrying any egg to the module when's

976
00:43:22,800 --> 00:43:27,150
their breeding a tennis when's it happen

977
00:43:24,750 --> 00:43:28,739
here very soon the boys are when the

978
00:43:27,150 --> 00:43:31,019
weather warms up a little bit more the

979
00:43:28,739 --> 00:43:33,319
boys will be out looking for girls and

980
00:43:31,019 --> 00:43:35,210
the girls will be looking for food

981
00:43:33,320 --> 00:43:37,220
and if they get enough food then they'll

982
00:43:35,210 --> 00:43:38,900
love you like all right and our boys

983
00:43:37,219 --> 00:43:41,029
will be really looking for them but

984
00:43:38,900 --> 00:43:43,340
we're pretty sure that there'd be a like

985
00:43:41,030 --> 00:43:46,790
a fertility pheromone going on

986
00:43:43,340 --> 00:43:48,950
yes and how done do the females choose

987
00:43:46,789 --> 00:43:50,630
the males or all the males just sort of

988
00:43:48,949 --> 00:43:51,139
very forceful has it work in the goanna

989
00:43:50,630 --> 00:43:54,110
world

990
00:43:51,139 --> 00:43:56,119
well the male's will choose any female

991
00:43:54,110 --> 00:43:58,220
that it feels like the same isn't really

992
00:43:56,119 --> 00:43:58,969
a if but because the males are much

993
00:43:58,219 --> 00:44:01,189
bigger

994
00:43:58,969 --> 00:44:04,069
I'll assume and the male's will fight

995
00:44:01,190 --> 00:44:07,130
for their opportunity the biggest sand

996
00:44:04,070 --> 00:44:09,080
toughest miles might get the chance to

997
00:44:07,130 --> 00:44:10,700
make it looks like Joanna's giving you a

998

00:44:09,079 --> 00:44:12,319
bit of a kiss in the year there what's

999
00:44:10,699 --> 00:44:14,689
going on with the tongue it's just it's

1000
00:44:12,320 --> 00:44:16,640
just smelling the air just constantly

1001
00:44:14,690 --> 00:44:18,530
sniffing with their tongue so just

1002
00:44:16,639 --> 00:44:20,869
smelling that's all it's doing just

1003
00:44:18,530 --> 00:44:23,240
checking foot whatever it can identify I

1004
00:44:20,869 --> 00:44:24,769
smell and what's the one question kids

1005
00:44:23,239 --> 00:44:26,839
always ask you what's the one thing they

1006
00:44:24,769 --> 00:44:28,070
want to know oh that's a good question

1007
00:44:26,840 --> 00:44:29,720
because they've always coming up they're

1008
00:44:28,070 --> 00:44:31,730
really interested but there must be one

1009
00:44:29,719 --> 00:44:33,649
thing that they my name is misconception

1010
00:44:31,730 --> 00:44:35,210
they've got from some fart I just work

1011
00:44:33,650 --> 00:44:37,220
out the question and it's a really

1012
00:44:35,210 --> 00:44:40,889

depressing question for me as a as a

1013

00:44:37,219 --> 00:44:43,919
scientist they ask me is it real

1014

00:44:40,889 --> 00:44:47,279
I know and I'm baffled by that question

1015

00:44:43,920 --> 00:44:49,409
because of course it's real there's a

1016

00:44:47,280 --> 00:44:51,030
few just basic questions I'll ask and

1017

00:44:49,409 --> 00:44:53,219
actually Johanna is a female obviously

1018

00:44:51,030 --> 00:44:54,360
what would a male sit there as calmly as

1019

00:44:53,219 --> 00:44:56,549
that although they're a bit more wacky

1020

00:44:54,360 --> 00:44:58,530
yeah yeah but again it's just a

1021

00:44:56,550 --> 00:45:00,690
conditioning process these are these are

1022

00:44:58,530 --> 00:45:02,610
like I call them flagship animals and it

1023

00:45:00,690 --> 00:45:06,119
takes a lot of conditioning to get them

1024

00:45:02,610 --> 00:45:08,220
used to people noise etc so they can

1025

00:45:06,119 --> 00:45:10,019
then be used as mascots for their for

1026

00:45:08,219 --> 00:45:12,329
their species or their habitats or

1027
00:45:10,019 --> 00:45:15,150
whatever messages we might have for an

1028
00:45:12,329 --> 00:45:16,500
audience yeah have a great time here at

1029
00:45:15,150 --> 00:45:18,000
the Museum tonight and thank you for

1030
00:45:16,500 --> 00:45:20,869
sharing your reptiles I'll see you

1031
00:45:18,000 --> 00:45:20,869
around for your time

1032
00:45:21,739 --> 00:45:28,079
just a fashion tip for you scientists

1033
00:45:24,510 --> 00:45:31,950
out there from where I'm standing I can

1034
00:45:28,079 --> 00:45:35,279
see four women wearing MC Hammer pants

1035
00:45:31,949 --> 00:45:36,960
so MC Hammer pants are probably big in

1036
00:45:35,280 --> 00:45:39,390
the scientific field I don't know why

1037
00:45:36,960 --> 00:45:41,550
it's comfy it's winter it's if it's

1038
00:45:39,389 --> 00:45:44,250
happening it's now

1039
00:45:41,550 --> 00:45:46,170
that's the hot tip for scientists so if

1040
00:45:44,250 --> 00:45:47,639
you're a guy get into the MC Hammer

1041
00:45:46,170 --> 00:45:50,579
pants because the guys haven't picked up

1042
00:45:47,639 --> 00:45:51,629
on it yet people oh look I've just been

1043
00:45:50,579 --> 00:45:54,839
talking to some people and who've we got

1044
00:45:51,630 --> 00:45:56,099
here I'm Jesse and Mel and what does the

1045
00:45:54,838 --> 00:45:57,480
show you're doing for science wait I'm

1046
00:45:56,099 --> 00:45:58,980
sorry we're street science we've come

1047
00:45:57,480 --> 00:46:00,480
down from Brisbane and essentially we're

1048
00:45:58,980 --> 00:46:02,460
gonna be blowing stuff up on stage

1049
00:46:00,480 --> 00:46:04,199
getting the kids excited and yeah having

1050
00:46:02,460 --> 00:46:06,659
a whole bunch of fun okay hydrogen

1051
00:46:04,199 --> 00:46:09,539
peroxide 90% like Warner von braun

1052
00:46:06,659 --> 00:46:11,429
rocket fueled bang match we don't waste

1053
00:46:09,539 --> 00:46:16,679
our time trying to set hydrogen peroxide

1054
00:46:11,429 --> 00:46:18,779
on fire straight away no mucking about

1055

00:46:16,679 --> 00:46:20,159
and what seemed to excite the kids most

1056
00:46:18,780 --> 00:46:22,349
are they you know they kind of like all

1057
00:46:20,159 --> 00:46:25,049
scared or they like yeah bang bang I

1058
00:46:22,349 --> 00:46:27,359
reckon the liquid nitrogen they're not

1059
00:46:25,050 --> 00:46:30,059
scared of but very they should be fire

1060
00:46:27,358 --> 00:46:32,549
they could be but not with us we're

1061
00:46:30,059 --> 00:46:36,720
professionals so what's your favorite

1062
00:46:32,550 --> 00:46:39,690
thing you freeze poor rubber duckies

1063
00:46:36,719 --> 00:46:40,858
don't really stand much of a chance so

1064
00:46:39,690 --> 00:46:42,510
then you hit it with a hammer

1065
00:46:40,858 --> 00:46:44,219
no you just drop it on the floor that's

1066
00:46:42,510 --> 00:46:45,900
it as simple as that Wow

1067
00:46:44,219 --> 00:46:48,029
that is great I don't think the duckies

1068
00:46:45,900 --> 00:46:50,730
enjoyed it as much as we do though and

1069
00:46:48,030 --> 00:46:53,250

what have you got your degrees in I have

1070

00:46:50,730 --> 00:46:54,869

an undergraduate degree in secondary

1071

00:46:53,250 --> 00:46:57,510

education and I'm currently doing a PhD

1072

00:46:54,869 --> 00:46:59,789

in education and what's your background

1073

00:46:57,510 --> 00:47:01,859

I'm originally research scientist a

1074

00:46:59,789 --> 00:47:03,389

botanist and geneticist and I did my

1075

00:47:01,858 --> 00:47:05,068

graduate diploma in education as well

1076

00:47:03,389 --> 00:47:07,710

that's the third botanist the third

1077

00:47:05,068 --> 00:47:10,440

botanist I have met tonight okay what's

1078

00:47:07,710 --> 00:47:12,750

your favorite plant and why duranta

1079

00:47:10,440 --> 00:47:15,210

repentance its common name geisha girl

1080

00:47:12,750 --> 00:47:17,190

it's a very common ornamental around

1081

00:47:15,210 --> 00:47:19,530

Queensland and it's actually in my mum's

1082

00:47:17,190 --> 00:47:20,940

backyard is it a native no it's not

1083

00:47:19,530 --> 00:47:22,500

actually it's one of those fifties

1084
00:47:20,940 --> 00:47:24,329
plants that our parents like yeah

1085
00:47:22,500 --> 00:47:26,250
they're planted everywhere the colors

1086
00:47:24,329 --> 00:47:28,559
are so pretty it's got beautiful little

1087
00:47:26,250 --> 00:47:30,239
purple leaves geisha girl based off the

1088
00:47:28,559 --> 00:47:32,548
Japanese geisha are very pretty very

1089
00:47:30,239 --> 00:47:34,379
ornate well I like the cotton Easter

1090
00:47:32,548 --> 00:47:35,849
which of course is all around my place

1091
00:47:34,380 --> 00:47:37,289
in Newcastle my mum put them there to

1092
00:47:35,849 --> 00:47:39,480
50s thing as well they're like little

1093
00:47:37,289 --> 00:47:41,099
cherry things totally not native at all

1094
00:47:39,480 --> 00:47:43,530
they look stupid in Australia but they

1095
00:47:41,099 --> 00:47:45,660
go with 50s bricks we're making good use

1096
00:47:43,530 --> 00:47:47,530
of the tip awara or the Rosewood which

1097
00:47:45,659 --> 00:47:49,179
has those beautiful helicopters

1098
00:47:47,530 --> 00:47:50,380
so if you've ever cut those seeds throw

1099
00:47:49,179 --> 00:47:51,759
them up into the air they fly on their

1100
00:47:50,380 --> 00:47:53,289
way down we're using them for a new

1101
00:47:51,760 --> 00:47:55,030
National Science Week show and Brizzy as

1102
00:47:53,289 --> 00:47:56,199
well now of course everybody has

1103
00:47:55,030 --> 00:47:57,910
something that they want to do in their

1104
00:47:56,199 --> 00:48:00,099
show they haven't quite got the budget

1105
00:47:57,909 --> 00:48:01,389
for it to be too dangerous what's the

1106
00:48:00,099 --> 00:48:03,039
next thing you'd like to put into your

1107
00:48:01,389 --> 00:48:04,869
show that like I don't you give too much

1108
00:48:03,039 --> 00:48:06,579
away but yeah because there's stuff that

1109
00:48:04,869 --> 00:48:07,690
you want to do but you can't always do

1110
00:48:06,579 --> 00:48:10,000
it in front of kids for insurance

1111
00:48:07,690 --> 00:48:11,409
reasons you know I mean obviously I'd

1112

00:48:10,000 --> 00:48:13,210
like to fire a gun I mean who wouldn't

1113
00:48:11,409 --> 00:48:14,710
but you know teach them how bazooka

1114
00:48:13,210 --> 00:48:16,510
works but indoors that doesn't go so

1115
00:48:14,710 --> 00:48:18,010
well your favorite experiment is the

1116
00:48:16,510 --> 00:48:19,210
elephant's - my favorite experiment is

1117
00:48:18,010 --> 00:48:21,310
the elephant's toothpaste

1118
00:48:19,210 --> 00:48:23,320
I have extra-large elephant's toothpaste

1119
00:48:21,309 --> 00:48:25,150
would be very very awesome like a couple

1120
00:48:23,320 --> 00:48:27,580
of meters ha that could be awesome yeah

1121
00:48:25,150 --> 00:48:28,960
hang on is that that Indian toothpaste

1122
00:48:27,579 --> 00:48:33,549
it has no fluoride in it what do you

1123
00:48:28,960 --> 00:48:36,099
mean reaction that catalyzes and sort of

1124
00:48:33,550 --> 00:48:38,650
explodes out of a beautiful flask way up

1125
00:48:36,099 --> 00:48:42,219
into the air at the moment it's not on

1126
00:48:38,650 --> 00:48:44,200

the spittoon much well it is but on a

1127

00:48:42,219 --> 00:48:46,419

smaller scale I would like to make it

1128

00:48:44,199 --> 00:48:48,429

extra extra large we've got them jumping

1129

00:48:46,420 --> 00:48:50,170

maybe up to 80 centimeters out of a

1130

00:48:48,429 --> 00:48:52,469

flask but if you could up size it you

1131

00:48:50,170 --> 00:48:55,450

could get it what a meter and a half -

1132

00:48:52,469 --> 00:48:56,589

where can people find you guys online to

1133

00:48:55,449 --> 00:48:58,869

find out where you're doing shows in

1134

00:48:56,590 --> 00:49:01,390

Sydney and Brisbane in the future where

1135

00:48:58,869 --> 00:49:02,889

Street science comm dot-eu but of course

1136

00:49:01,389 --> 00:49:04,329

Facebook is where everything's at so

1137

00:49:02,889 --> 00:49:05,980

look for street science on Facebook

1138

00:49:04,329 --> 00:49:07,690

we're very proud to be down from

1139

00:49:05,980 --> 00:49:09,789

Brisbane for City Science Festival it's

1140

00:49:07,690 --> 00:49:12,010

going to be an absolute blast destroys

1141
00:49:09,789 --> 00:49:18,159
the pun happy science week boom boom

1142
00:49:12,010 --> 00:49:20,980
thank you my name is doctor I'm a doctor

1143
00:49:18,159 --> 00:49:23,259
of medicine I'm a pharmacologist I'm

1144
00:49:20,980 --> 00:49:24,789
doing PhD from University of Technology

1145
00:49:23,260 --> 00:49:26,710
Sydney with two scholarships from

1146
00:49:24,789 --> 00:49:28,369
Australian government and I would like

1147
00:49:26,710 --> 00:49:31,760
to say something

1148
00:49:28,369 --> 00:49:34,670
about like how innovation and new things

1149
00:49:31,760 --> 00:49:36,470
they can change the world and how new

1150
00:49:34,670 --> 00:49:39,289
people should come into this thing

1151
00:49:36,469 --> 00:49:41,299
toward science because science is the

1152
00:49:39,289 --> 00:49:43,849
thing that can lead this world towards

1153
00:49:41,300 --> 00:49:46,850
the next step and this world can live

1154
00:49:43,849 --> 00:49:49,549
more life because otherwise there is a

1155
00:49:46,849 --> 00:49:52,489
destruction but if we will focus on

1156
00:49:49,550 --> 00:49:55,250
science and we will do work on daily

1157
00:49:52,489 --> 00:49:57,799
basis we will do critical thinking there

1158
00:49:55,250 --> 00:50:00,230
would be this life for this world will

1159
00:49:57,800 --> 00:50:02,870
increase so we should focus on knowledge

1160
00:50:00,230 --> 00:50:05,420
not on the repetition or a bigger thing

1161
00:50:02,869 --> 00:50:08,989
or a more money-making they focus on

1162
00:50:05,420 --> 00:50:10,789
real science and real knowledge we

1163
00:50:08,989 --> 00:50:12,229
discovered one of the hidden fans

1164
00:50:10,789 --> 00:50:14,420
weren't one of the people who is

1165
00:50:12,230 --> 00:50:15,800
actually at the Madame frou frou cafe

1166
00:50:14,420 --> 00:50:18,170
when Richard and I there or sometimes

1167
00:50:15,800 --> 00:50:19,460
Tim and I there have you seen Jim and I

1168
00:50:18,170 --> 00:50:22,460
chatting in the corner of the Madame

1169

00:50:19,460 --> 00:50:23,630
frou frou have you I have so you can

1170
00:50:22,460 --> 00:50:24,949
tell people the whole bunga bunga

1171
00:50:23,630 --> 00:50:28,130
recording and the whole thing it mean

1172
00:50:24,949 --> 00:50:30,199
it's real delicious coffee poached eggs

1173
00:50:28,130 --> 00:50:32,840
smashed over the hallway in a West

1174
00:50:30,199 --> 00:50:34,159
experience you know it's great and what

1175
00:50:32,840 --> 00:50:35,809
do you think is different about Science

1176
00:50:34,159 --> 00:50:38,149
Week this year what's the exciting thing

1177
00:50:35,809 --> 00:50:40,549
this year there seems to be a buzz I

1178
00:50:38,150 --> 00:50:42,380
think a lot of media recently has

1179
00:50:40,550 --> 00:50:46,130
focused on things like the drought in

1180
00:50:42,380 --> 00:50:48,440
Australia the plastic bag ban people are

1181
00:50:46,130 --> 00:50:51,050
coming a lot more aware of the problems

1182
00:50:48,440 --> 00:50:53,840
facing us and that seems to be

1183
00:50:51,050 --> 00:50:56,600

reflecting here what yours bill

1184

00:50:53,840 --> 00:50:59,900
specialty in science my specialty is

1185

00:50:56,599 --> 00:51:02,000
micro biomes so my background is marine

1186

00:50:59,900 --> 00:51:05,240
micro biomes and then soil but now I do

1187

00:51:02,000 --> 00:51:07,039
a lot of human microbiome so yeah and as

1188

00:51:05,239 --> 00:51:08,539
a bit bacteriologist what's your

1189

00:51:07,039 --> 00:51:10,539
favorite bacteria you must have a

1190

00:51:08,539 --> 00:51:13,730
favorite one my favorite bacteria is

1191

00:51:10,539 --> 00:51:15,949
Helicobacter pylori the gut bug

1192

00:51:13,730 --> 00:51:17,539
yes the stomach ulcer the one that

1193

00:51:15,949 --> 00:51:19,969
people thought didn't really exist for a

1194

00:51:17,539 --> 00:51:21,949
while and the reason that's my favorite

1195

00:51:19,969 --> 00:51:22,129
not only because I've been infected by

1196

00:51:21,949 --> 00:51:24,419
it

1197

00:51:22,130 --> 00:51:27,000
my dad just goes on

1198
00:51:24,420 --> 00:51:29,190
bloody time bloody bands like you would

1199
00:51:27,000 --> 00:51:30,690
not believe but it's a great story in

1200
00:51:29,190 --> 00:51:34,349
Australian science because we actually

1201
00:51:30,690 --> 00:51:36,300
won a Nobel Prize is the researcher no

1202
00:51:34,349 --> 00:51:39,420
one believed everyone for stomach ulcers

1203
00:51:36,300 --> 00:51:42,690
were caused by stress so he grew this in

1204
00:51:39,420 --> 00:51:45,150
a bottle and drank it and gave himself a

1205
00:51:42,690 --> 00:51:47,429
stomach ulcer and hence demonstrator

1206
00:51:45,150 --> 00:51:49,230
that this is what causes that so it's a

1207
00:51:47,429 --> 00:51:51,750
great bacteria it's a great example of

1208
00:51:49,230 --> 00:51:53,369
how bacteria manipulate the world around

1209
00:51:51,750 --> 00:51:54,719
them thank you very much few time so

1210
00:51:53,369 --> 00:51:56,909
where can we catch you online to have a

1211
00:51:54,719 --> 00:51:59,279
debate or discussion with it catch me at

1212
00:51:56,909 --> 00:52:03,000
Thomas underscore Jefferies on Twitter

1213
00:51:59,280 --> 00:52:06,300
or at Western Sydney University or on at

1214
00:52:03,000 --> 00:52:08,599
James org dot au which is our Sydney and

1215
00:52:06,300 --> 00:52:11,490
now national as of a few weeks ago

1216
00:52:08,599 --> 00:52:13,619
microbiology Society you'll have a huge

1217
00:52:11,489 --> 00:52:16,979
science weeks and may all your bacterias

1218
00:52:13,619 --> 00:52:18,869
have an external coating thank you we

1219
00:52:16,980 --> 00:52:21,090
have a Reuben the surfing scientist also

1220
00:52:18,869 --> 00:52:23,099
named after a sandwich well done now as

1221
00:52:21,090 --> 00:52:24,750
a surfing scientist I'll get the highly

1222
00:52:23,099 --> 00:52:26,489
controversial question out of the way

1223
00:52:24,750 --> 00:52:28,050
first what is the best way to get

1224
00:52:26,489 --> 00:52:29,250
yourself out of a rip if you're in one

1225
00:52:28,050 --> 00:52:33,690
what's your opinion

1226

00:52:29,250 --> 00:52:35,579
you swim parallel to the beach and soon

1227
00:52:33,690 --> 00:52:38,400
enough you will get washed into the

1228
00:52:35,579 --> 00:52:40,980
shore it's it's a very narrow little

1229
00:52:38,400 --> 00:52:42,539
current and then if you try and swim

1230
00:52:40,980 --> 00:52:45,090
against that you're stuffed but if you

1231
00:52:42,539 --> 00:52:46,619
swim at 90 degrees to the rip you'll

1232
00:52:45,090 --> 00:52:48,420
soon get washed straight back to shore

1233
00:52:46,619 --> 00:52:49,829
no what about just floating there and

1234
00:52:48,420 --> 00:52:51,599
being carried around does that work as

1235
00:52:49,829 --> 00:52:54,210
well yes you could you could float but

1236
00:52:51,599 --> 00:52:56,789
if it's a mega rip it could be a long

1237
00:52:54,210 --> 00:52:58,320
journey it might take a while because

1238
00:52:56,789 --> 00:53:01,110
we're coming up to I think or the

1239
00:52:58,320 --> 00:53:02,190
anniversary of the movie Jaws and like

1240
00:53:01,110 --> 00:53:03,840

people go haul this thing and

1241
00:53:02,190 --> 00:53:05,670
occasionally surfer will have a someone

1242
00:53:03,840 --> 00:53:07,470
have a go at him but it's not really on

1243
00:53:05,670 --> 00:53:09,659
a day-to-day level a problem at all is

1244
00:53:07,469 --> 00:53:12,419
it it's the farthest thing from a

1245
00:53:09,659 --> 00:53:16,289
problem that it could be however I know

1246
00:53:12,420 --> 00:53:17,960
the statistics quite well how unlikely

1247
00:53:16,289 --> 00:53:21,090
it is that I will get bitten by a shark

1248
00:53:17,960 --> 00:53:23,490
however if I'm at at dusk and I'm the

1249
00:53:21,090 --> 00:53:25,140
last person out I will literally walk on

1250
00:53:23,489 --> 00:53:27,500
water to get to shore the fear that

1251
00:53:25,139 --> 00:53:29,849
overcomes me I can't explain how

1252
00:53:27,500 --> 00:53:31,320
terrified I get you'll be good to that

1253
00:53:29,849 --> 00:53:32,699
that's when those that that's when

1254
00:53:31,320 --> 00:53:33,840
they're in their feeding cycle once is

1255
00:53:32,699 --> 00:53:35,219
that the said well it is or is that the

1256
00:53:33,840 --> 00:53:37,530
fact the water's dark and you can't see

1257
00:53:35,219 --> 00:53:38,159
oh look there's so many theories about

1258
00:53:37,530 --> 00:53:41,580
this

1259
00:53:38,159 --> 00:53:44,639
and it is if we do know that you should

1260
00:53:41,579 --> 00:53:48,179
probably shouldn't surf at dusk or dawn

1261
00:53:44,639 --> 00:53:50,039
but I've served so many times it does go

1262
00:53:48,179 --> 00:53:51,750
dawn it's not like at dusk or dawn

1263
00:53:50,039 --> 00:53:53,989
if you throw a piece of meat in the

1264
00:53:51,750 --> 00:53:57,869
water it would boil with shark activity

1265
00:53:53,989 --> 00:54:00,839
so if not like the risk is outrageous

1266
00:53:57,869 --> 00:54:03,299
but what happens to me is this human

1267
00:54:00,840 --> 00:54:05,700
instinct there's a circuit in my brain

1268
00:54:03,300 --> 00:54:07,050
that's very primitive and I can't wait

1269
00:54:05,699 --> 00:54:08,819
to get out of the water but if there was

1270
00:54:07,050 --> 00:54:12,030
just one other surfer out there that

1271
00:54:08,820 --> 00:54:14,100
goes away it evaporates so you know it's

1272
00:54:12,030 --> 00:54:15,750
primitive stuff and where can we see you

1273
00:54:14,099 --> 00:54:16,920
online and see what you got up to and

1274
00:54:15,750 --> 00:54:19,500
what you're doing and what do you shoot

1275
00:54:16,920 --> 00:54:21,500
videos about usually well the latest

1276
00:54:19,500 --> 00:54:25,349
thing that you'll see is I've just

1277
00:54:21,500 --> 00:54:30,150
filmed some stuff for Kids WB on channel

1278
00:54:25,349 --> 00:54:32,759
9 at 9 go Kids WB what WB is Warner

1279
00:54:30,150 --> 00:54:36,139
Brothers and it's the cartoons that they

1280
00:54:32,760 --> 00:54:39,330
play on channel 9 and in between those

1281
00:54:36,139 --> 00:54:41,039
cartoons I come on and I do little

1282
00:54:39,329 --> 00:54:42,750
science experiments and what's an

1283

00:54:41,039 --> 00:54:45,210
example of one of you did you the Jag

1284
00:54:42,750 --> 00:54:46,980
put some like c-4 explosive inside

1285
00:54:45,210 --> 00:54:49,559
someone's lunch box or so another yeah

1286
00:54:46,980 --> 00:54:52,289
yeah we built a nuclear bomb and we

1287
00:54:49,559 --> 00:54:54,059
exploded it know about time someone did

1288
00:54:52,289 --> 00:54:55,980
some work with thorium in Australia

1289
00:54:54,059 --> 00:55:00,059
we've been lagging we've been really

1290
00:54:55,980 --> 00:55:02,369
slack yeah kids TV is it's not dangerous

1291
00:55:00,059 --> 00:55:06,599
enough anymore now what we did do some

1292
00:55:02,369 --> 00:55:09,779
fun stuff made oxygen using hydrogen

1293
00:55:06,599 --> 00:55:12,179
peroxide and ordinary bleach

1294
00:55:09,780 --> 00:55:14,550
and you make enough oxygen to relight a

1295
00:55:12,179 --> 00:55:16,230
glowing splint now I've found that

1296
00:55:14,550 --> 00:55:18,750
little experiment in the Journal of

1297
00:55:16,230 --> 00:55:21,119

chemical education and unfortunately on

1298

00:55:18,750 --> 00:55:24,389

kids IV V I didn't get time to cite that

1299

00:55:21,119 --> 00:55:26,909

paper but Journal of chemical education

1300

00:55:24,389 --> 00:55:29,609

what a wonderful wonderful Journal now

1301

00:55:26,909 --> 00:55:31,769

I'm just thinking hydrogen peroxide and

1302

00:55:29,610 --> 00:55:34,800

bleached that's getting very close to v_2

1303

00:55:31,769 --> 00:55:37,619

rocket fuel actually I don't know what

1304

00:55:34,800 --> 00:55:39,750

what was v_2 rocket fuel was it H_2 it was

1305

00:55:37,619 --> 00:55:41,639

it well yeah they had it divided up yeah

1306

00:55:39,750 --> 00:55:42,929

hot hydrogen peroxide was one of the

1307

00:55:41,639 --> 00:55:44,819

ones and they added something to it up

1308

00:55:42,929 --> 00:55:47,730

they weightless yeah right because I'm

1309

00:55:44,820 --> 00:55:51,000

the jet rocket fuel data takers when you

1310

00:55:47,730 --> 00:55:52,260

see a V V to fall over and busts and

1311

00:55:51,000 --> 00:55:54,269

there's about two seconds and then

1312
00:55:52,260 --> 00:55:57,240
suddenly both containers break and mix

1313
00:55:54,269 --> 00:55:58,889
kaboom oh and and one of those

1314
00:55:57,239 --> 00:56:01,919
containers that's going up is in fact

1315
00:55:58,889 --> 00:56:03,659
hydrogen peroxide ah ah well that makes

1316
00:56:01,920 --> 00:56:06,000
sense because if you've got ninety

1317
00:56:03,659 --> 00:56:08,369
percent hydrogen peroxide and you chuck

1318
00:56:06,000 --> 00:56:10,980
some catalyst in it it decomposes to

1319
00:56:08,369 --> 00:56:13,529
oxygen and water and the oxygen is a gas

1320
00:56:10,980 --> 00:56:15,960
and it expands rapidly and you can jet

1321
00:56:13,530 --> 00:56:18,150
propel yourself with that I was only

1322
00:56:15,960 --> 00:56:20,429
using three percent hydrogen peroxide

1323
00:56:18,150 --> 00:56:22,320
you can buy it from Woolies Cole

1324
00:56:20,429 --> 00:56:23,819
Warner von Braun that's right he went to

1325
00:56:22,320 --> 00:56:26,309
the supermarket didn't work he said no

1326
00:56:23,820 --> 00:56:28,650
we need the stronger stuff you've

1327
00:56:26,309 --> 00:56:31,019
Scottish accent yeah okay right so only

1328
00:56:28,650 --> 00:56:32,610
3% of course because all chemicals

1329
00:56:31,019 --> 00:56:33,989
aren't the same hydrogen peroxide comes

1330
00:56:32,610 --> 00:56:36,630
in different strengths that's right

1331
00:56:33,989 --> 00:56:38,129
that's right and if you're a science

1332
00:56:36,630 --> 00:56:40,470
nerd and you want to try this it's the

1333
00:56:38,130 --> 00:56:43,140
it's really great it's not my idea h2o

1334
00:56:40,469 --> 00:56:45,779
to go to Cole's or Woolworths reaper

1335
00:56:43,139 --> 00:56:47,460
sent stuff and goggles on home yeah you

1336
00:56:45,780 --> 00:56:49,620
probably should but if you're doing this

1337
00:56:47,460 --> 00:56:51,269
in an Erlenmeyer flask and you just put

1338
00:56:49,619 --> 00:56:53,730
a little bit of ordinary household

1339
00:56:51,269 --> 00:56:56,190
bleach mix just a splash you'll see a

1340

00:56:53,730 --> 00:56:58,380
lot of fizzing and every bubble is full

1341
00:56:56,190 --> 00:57:01,470
of pure oxygen and you can use that

1342
00:56:58,380 --> 00:57:04,019
oxygen to show kids that for instance if

1343
00:57:01,469 --> 00:57:06,569
you light a splint and blow it out the

1344
00:57:04,019 --> 00:57:09,719
glowing splint will reignite in that

1345
00:57:06,570 --> 00:57:11,070
oxygen and it's just it's like magic and

1346
00:57:09,719 --> 00:57:12,269
where can we find you online again to

1347
00:57:11,070 --> 00:57:14,610
have a look at your videos and things

1348
00:57:12,269 --> 00:57:17,670
ABC don't net dot a you slash science

1349
00:57:14,610 --> 00:57:18,870
slash surfing scientists yay Ruben the

1350
00:57:17,670 --> 00:57:20,450
surfing scientists thanks for talking to

1351
00:57:18,869 --> 00:57:22,838
us and have a great science week

1352
00:57:20,449 --> 00:57:22,838
thank you

1353
00:57:26,639 --> 00:57:29,730
[Music]

1354
00:57:33,550 --> 00:57:37,068

[Music]

1355
00:57:42,940 --> 00:57:47,349
thank you for listening to the skeptic

1356
00:57:45,230 --> 00:57:50,088
zone on next week's show

1357
00:57:47,349 --> 00:57:53,000
speed meet the scientists part three

1358
00:57:50,088 --> 00:57:55,730
even more scientists to meet and talk

1359
00:57:53,000 --> 00:57:57,139
stories of shipwrecks that's an

1360
00:57:55,730 --> 00:57:58,219
interesting one something to look

1361
00:57:57,139 --> 00:58:00,588
forward to next week

1362
00:57:58,219 --> 00:58:05,358
also our reporter Kevin Davies brings us

1363
00:58:00,588 --> 00:58:07,969
an interview about how a Star Wars can

1364
00:58:05,358 --> 00:58:10,670
be used in military tactics that's an

1365
00:58:07,969 --> 00:58:13,549
unusual one but interesting I catch up

1366
00:58:10,670 --> 00:58:15,260
with the challenge coordinator an

1367
00:58:13,550 --> 00:58:16,880
investigator from Australian skeptics

1368
00:58:15,260 --> 00:58:20,780
Ian Bryce who's going to be giving us

1369
00:58:16,880 --> 00:58:22,789
the latest on the Higgs boson it's still

1370
00:58:20,780 --> 00:58:25,970
going I think we don't hear much about

1371
00:58:22,789 --> 00:58:28,608
it anymore we might soon find out next

1372
00:58:25,969 --> 00:58:30,199
week our new reporter and this is

1373
00:58:28,608 --> 00:58:32,088
exciting our new reporter Michelle

1374
00:58:30,199 --> 00:58:34,279
Franklin from the Northern Territory is

1375
00:58:32,088 --> 00:58:34,808
going to be telling us about Maggie the

1376
00:58:34,280 --> 00:58:37,670
moggy

1377
00:58:34,809 --> 00:58:40,269
but our special interview next week will

1378
00:58:37,670 --> 00:58:42,588
be with Professor adjunct professor

1379
00:58:40,269 --> 00:58:45,349
associate adjunct professor something

1380
00:58:42,588 --> 00:58:48,409
like that professor Paul Willis a

1381
00:58:45,349 --> 00:58:50,720
longtime friend of the skeptic zone our

1382
00:58:48,409 --> 00:58:52,969
Paul is based in Adelaide and he's going

1383
00:58:50,719 --> 00:58:57,078
to be commenting on a recent report

1384
00:58:52,969 --> 00:58:59,779
about the decline in belief in

1385
00:58:57,079 --> 00:59:02,210
creationism amongst university students

1386
00:58:59,780 --> 00:59:05,359
not surprising after all these years

1387
00:59:02,210 --> 00:59:07,010
that belief in creationism would be

1388
00:59:05,358 --> 00:59:09,679
declining it's something we just don't

1389
00:59:07,010 --> 00:59:12,650
hear much about anymore although it's

1390
00:59:09,679 --> 00:59:14,480
still there it's still there so lots to

1391
00:59:12,650 --> 00:59:17,180
look forward to on the next episode but

1392
00:59:14,480 --> 00:59:23,838
for now this is Richard Saunders signing

1393
00:59:17,179 --> 00:59:25,909
off from Sydney Australia you've been

1394
00:59:23,838 --> 00:59:32,838
listening to the skeptic zone podcast

1395
00:59:25,909 --> 00:59:35,298
please visit our website at wwlp.com tax

1396
00:59:32,838 --> 00:59:39,318
and to access the bat catalog of

1397

00:59:35,298 --> 00:59:41,059
episodes going back to 2008 you can

1398
00:59:39,318 --> 00:59:44,119
follow the skeptic zone podcast on

1399
00:59:41,059 --> 00:59:46,369
twitter at skeptic zone visit our

1400
00:59:44,119 --> 00:59:47,660
facebook page or leave a review on

1401
00:59:46,369 --> 00:59:49,970
itunes

1402
00:59:47,659 --> 00:59:53,328
you can also support the sceptic zone

1403
00:59:49,969 --> 00:59:56,719
via patreon or PayPal the sceptic zone

1404
00:59:53,329 --> 00:59:58,430
podcast is an independent production the

1405
00:59:56,719 --> 01:00:00,588
views and opinions expressed on the

1406
00:59:58,429 --> 01:00:02,929
sceptic zone are not necessarily those

1407
01:00:00,588 --> 01:00:04,750
of Australian skeptics or any other

1408
01:00:02,929 --> 01:00:11,210
skeptical organization

1409
01:00:04,750 --> 01:00:11,210
[Music]