

1
00:00:06,349 --> 00:00:13,189
welcome to the skeptic zone the podcast

2
00:00:09,509 --> 00:00:16,849
from Australia for science and reason

3
00:00:13,189 --> 00:00:19,300
urea hosts Richard Saunders and Stefan

4
00:00:16,849 --> 00:00:19,300
Soyka

5
00:00:20,469 --> 00:00:26,089
Richard that theme song just delights me

6
00:00:23,750 --> 00:00:28,039
every time I hear it for either for some

7
00:00:26,089 --> 00:00:29,960
unknown reason welcome to the skeptic

8
00:00:28,039 --> 00:00:32,179
zone again Stefan I love listening to

9
00:00:29,960 --> 00:00:34,070
our theme song I tell you what let's all

10
00:00:32,179 --> 00:00:35,210
hear it again now let's not oh no they

11
00:00:34,070 --> 00:00:36,920
just went to the end of the show you'll

12
00:00:35,210 --> 00:00:39,469
get a good dose of it later it's great

13
00:00:36,920 --> 00:00:41,870
to be back again so number six already

14
00:00:39,469 --> 00:00:43,939
or six for the 21st of November where

15
00:00:41,869 --> 00:00:45,768
did the time fly toos ah and it's almost

16
00:00:43,939 --> 00:00:48,738
Christmas and everything it's just this

17
00:00:45,768 --> 00:00:51,289
is the year just as a just gone by in a

18
00:00:48,738 --> 00:00:53,209
cosmic blink of an eye and the cosmic

19
00:00:51,289 --> 00:00:55,308
click and the blink of it cause you know

20
00:00:53,210 --> 00:00:57,799
so that we're in for another huge

21
00:00:55,308 --> 00:00:59,299
episode want a skeptical feast of

22
00:00:57,799 --> 00:01:01,759
skeptical goodies we've got for you

23
00:00:59,299 --> 00:01:03,169
today Kylie Sturgis our reporter in

24
00:01:01,759 --> 00:01:07,310
Western Australia caught up with dr.

25
00:01:03,170 --> 00:01:08,780
Cole cause an esky doctor Congress you

26
00:01:07,310 --> 00:01:10,009
say that again Richard just just for

27
00:01:08,780 --> 00:01:14,989
those the first people who don't know

28
00:01:10,009 --> 00:01:16,519
the guys name dr. coral hi dr. Carl you

29

00:01:14,989 --> 00:01:18,228
know who you were talking about very

30
00:01:16,519 --> 00:01:20,420
famous scientist here and i'll stop the

31
00:01:18,228 --> 00:01:22,429
car dr. card everybody knows him as dr.

32
00:01:20,420 --> 00:01:25,700
Carter top bloke he's got a new book out

33
00:01:22,429 --> 00:01:27,140
called science is golden Oh is what's

34
00:01:25,700 --> 00:01:29,239
the do you know the angle of the yellow

35
00:01:27,140 --> 00:01:30,799
we have to wait I find iron so he talks

36
00:01:29,239 --> 00:01:32,450
about the large hadron collider and

37
00:01:30,799 --> 00:01:33,920
things like that that's fun we haven't

38
00:01:32,450 --> 00:01:35,780
disappeared into a black hole yet not

39
00:01:33,920 --> 00:01:37,099
yet i don't think they haven't started

40
00:01:35,780 --> 00:01:38,989
but didn't have like a bit of a hold up

41
00:01:37,099 --> 00:01:40,130
with ya piece of the starting it's not

42
00:01:38,989 --> 00:01:42,380
something like that they forgot to

43
00:01:40,129 --> 00:01:44,060

replace the battery and i'll plug it in

44

00:01:42,379 --> 00:01:46,189

but dr. Cole tell us all about that in

45

00:01:44,060 --> 00:01:48,140

an interview and excellent a big big

46

00:01:46,189 --> 00:01:50,329

interview we've got em in our regular

47

00:01:48,140 --> 00:01:52,879

section dr. H E reports with Rachel them

48

00:01:50,329 --> 00:01:54,560

up she interviews dr. Steve novella from

49

00:01:52,879 --> 00:01:57,349

the skeptics guide to the universe Oh

50

00:01:54,560 --> 00:01:59,209

wonderful one not only is not only Steve

51

00:01:57,349 --> 00:02:01,189

also but Rachel's even more awesome I

52

00:01:59,209 --> 00:02:02,868

think so too absolutely and she does a

53

00:02:01,189 --> 00:02:05,118

great interview and they are they're

54

00:02:02,868 --> 00:02:06,859

great show to other then they're like we

55

00:02:05,118 --> 00:02:09,590

were kind of aspiring to be like really

56

00:02:06,859 --> 00:02:10,939

mad we can only aspire a nice size guide

57

00:02:09,590 --> 00:02:13,520

to the universe snapping at their heels

58
00:02:10,939 --> 00:02:15,409
look out there but that'll be great

59
00:02:13,520 --> 00:02:16,700
that's the feature of today's episode a

60
00:02:15,409 --> 00:02:19,299
great interview of diversity and of

61
00:02:16,699 --> 00:02:21,919
Steve novella then our think tank today

62
00:02:19,300 --> 00:02:24,860
hmm some of us went to the mind body

63
00:02:21,919 --> 00:02:26,568
spirit or mind-body wallet yes now what

64
00:02:24,860 --> 00:02:27,360
are you be would have had a bit of fun

65
00:02:26,568 --> 00:02:30,209
there

66
00:02:27,360 --> 00:02:31,770
fun and afterwards we went to Chinatown

67
00:02:30,210 --> 00:02:34,140
to have some dinner and talk about our

68
00:02:31,770 --> 00:02:36,390
adventures at the skeptics the think

69
00:02:34,139 --> 00:02:38,849
tank for the thing to think jacket is

70
00:02:36,389 --> 00:02:41,039
that mind-body wallet and experience and

71
00:02:38,849 --> 00:02:43,439
a half oh you're all your shark was just

72
00:02:41,039 --> 00:02:45,539
line up you just get reiki dude it's

73
00:02:43,439 --> 00:02:47,609
it's just you know the Kundalini just

74
00:02:45,539 --> 00:02:50,219
kind of uncoils and recoils in horror

75
00:02:47,610 --> 00:02:52,440
it's just amazing I could not prevent of

76
00:02:50,219 --> 00:02:54,780
myself Stefan for those of you don't

77
00:02:52,439 --> 00:02:56,789
know this is like every six months here

78
00:02:54,780 --> 00:02:59,520
and said you have a new age fair far

79
00:02:56,789 --> 00:03:00,989
four days have basically open your

80
00:02:59,520 --> 00:03:02,909
wallets and repeat after me help

81
00:03:00,990 --> 00:03:04,770
yourself yes help you help though so

82
00:03:02,909 --> 00:03:06,900
it's it's awesome that that's an amazing

83
00:03:04,770 --> 00:03:09,600
would last time I went there they had a

84
00:03:06,900 --> 00:03:13,170
they had a Walkman that you put on and

85
00:03:09,599 --> 00:03:17,159
you blast yourself with music and that

86

00:03:13,169 --> 00:03:19,319
will cure deafness it was amazing create

87
00:03:17,159 --> 00:03:21,689
stiffness yeah well I cranked up some of

88
00:03:19,319 --> 00:03:23,219
some hardcore death metal India I was it

89
00:03:21,689 --> 00:03:25,560
was fantastic didn't do in fact some of

90
00:03:23,219 --> 00:03:28,560
our listeners may remember seeing you do

91
00:03:25,560 --> 00:03:30,270
that on the old the tank vodka ah that

92
00:03:28,560 --> 00:03:31,949
was a lot of fun but but this time you

93
00:03:30,270 --> 00:03:33,900
had another great tour of the whole yeah

94
00:03:31,949 --> 00:03:36,030
and a few people recognize me which was

95
00:03:33,900 --> 00:03:38,370
quite did they oh because I've been on

96
00:03:36,030 --> 00:03:39,900
your little expert on the on the TV

97
00:03:38,370 --> 00:03:43,379
recently in Australia and a few people

98
00:03:39,900 --> 00:03:45,810
looked at me said Mr genetic you like

99
00:03:43,379 --> 00:03:48,180
that you know that surprise I let you in

100
00:03:45,810 --> 00:03:50,189

so was there anything uh really kind of

101

00:03:48,180 --> 00:03:52,349

different this year's are just the same

102

00:03:50,189 --> 00:03:55,079

old stuff and someone can really new

103

00:03:52,349 --> 00:03:56,639

like some phenomenal new metaphysical

104

00:03:55,080 --> 00:03:58,860

treat me if they all say that every year

105

00:03:56,639 --> 00:04:00,298

oh it's the same old I don't rehash and

106

00:03:58,860 --> 00:04:02,489

given a slightly different label and

107

00:04:00,299 --> 00:04:04,080

away we go again yeah well speaking away

108

00:04:02,489 --> 00:04:05,670

we go I think we should get stuck

109

00:04:04,080 --> 00:04:07,440

straight into it why don't we get into

110

00:04:05,669 --> 00:04:11,389

the show Steph what a great idea skipped

111

00:04:07,439 --> 00:04:11,389

exam number six here we go here we go

112

00:04:15,169 --> 00:04:20,238

dr. carl kruger Netsky is best known as

113

00:04:18,079 --> 00:04:22,699

an Australian ambassador for science and

114

00:04:20,238 --> 00:04:23,929

science communication is the Julia

115
00:04:22,699 --> 00:04:26,060
Sumner mellow fellow at the University

116
00:04:23,930 --> 00:04:27,918
of Sydney and holds degrees in

117
00:04:26,060 --> 00:04:30,139
mathematics biomedical engineering

118
00:04:27,918 --> 00:04:32,269
medicine and surgery and he has also

119
00:04:30,139 --> 00:04:34,490
studied some astrophysics computer

120
00:04:32,269 --> 00:04:36,859
science and philosophy he began his

121
00:04:34,490 --> 00:04:39,319
media career in the 1980s with his radio

122
00:04:36,860 --> 00:04:41,240
show great moments in science and has

123
00:04:39,319 --> 00:04:43,699
since contributed via radio print

124
00:04:41,240 --> 00:04:45,980
podcasts and even TV shows to our

125
00:04:43,699 --> 00:04:49,370
understanding of science he even won an

126
00:04:45,980 --> 00:04:51,800
ignoble prize in 2002 for his study into

127
00:04:49,370 --> 00:04:54,168
bellybutton fluff dr. Cole is now the

128
00:04:51,800 --> 00:04:56,418
author of 27 books that investigate

129
00:04:54,168 --> 00:04:58,639
science facts and science myths designed

130
00:04:56,418 --> 00:05:01,219
for all ages his most recent book is

131
00:04:58,639 --> 00:05:03,079
called science is golden I caught up

132
00:05:01,220 --> 00:05:05,090
with dr. Karl as he was doing his

133
00:05:03,079 --> 00:05:06,949
australia-wide tour for the book science

134
00:05:05,089 --> 00:05:08,989
is golden and he had a lot to say about

135
00:05:06,949 --> 00:05:11,300
his short-lived political career for

136
00:05:08,990 --> 00:05:13,250
climate change coalition religion the

137
00:05:11,300 --> 00:05:16,668
Large Hadron Collider the return of the

138
00:05:13,250 --> 00:05:18,439
TV show sleek geeks for 2009 and he even

139
00:05:16,668 --> 00:05:23,839
had some advice for budding science

140
00:05:18,439 --> 00:05:25,819
communicators and here i am at one of

141
00:05:23,839 --> 00:05:28,099
the many book signings that dr. karl is

142
00:05:25,819 --> 00:05:29,990
doing for his new book science is golden

143

00:05:28,100 --> 00:05:31,879
and I must admit as soon as I heard that

144
00:05:29,990 --> 00:05:33,620
it was out I ran out and grabbed a copy

145
00:05:31,879 --> 00:05:35,240
and one of the things that struck me is

146
00:05:33,620 --> 00:05:36,860
that once again you were getting into

147
00:05:35,240 --> 00:05:39,110
skepticism you mentioned the wonderful

148
00:05:36,860 --> 00:05:41,410
link le in you're born in regards to

149
00:05:39,110 --> 00:05:43,879
light as a feather stiff as a board I

150
00:05:41,410 --> 00:05:45,890
admired in Kelly's work I love her book

151
00:05:43,879 --> 00:05:47,870
she does a wonderful wonderful job of

152
00:05:45,889 --> 00:05:49,099
writing she's really inspiring and I

153
00:05:47,870 --> 00:05:52,189
like the way that she actually goes out

154
00:05:49,100 --> 00:05:53,840
and does the demos in public and that's

155
00:05:52,189 --> 00:05:56,120
a really hard thing to do be it up for

156
00:05:53,839 --> 00:05:59,418
dr. Lynn I say it was one of the things

157
00:05:56,120 --> 00:06:01,100

that was featured in sleek geeks going

158

00:05:59,418 --> 00:06:03,620

out and actually doing demos and you

159

00:06:01,100 --> 00:06:05,750

tackled some of the skeptical issues out

160

00:06:03,620 --> 00:06:07,788

there like fire walking for example will

161

00:06:05,750 --> 00:06:09,769

we ever have another sweet gig show out

162

00:06:07,788 --> 00:06:11,300

there do you think and we're negotiating

163

00:06:09,769 --> 00:06:13,219

with the ABC right now and we should

164

00:06:11,300 --> 00:06:14,020

have a happy ending shortly we've got to

165

00:06:13,220 --> 00:06:16,330

do it in the

166

00:06:14,019 --> 00:06:17,740

power of two double o nine because I'm

167

00:06:16,329 --> 00:06:21,219

going down the inducting in a couple of

168

00:06:17,740 --> 00:06:23,259

in about a month and then in middle to

169

00:06:21,220 --> 00:06:24,819

double 09 I'm going on the religious

170

00:06:23,259 --> 00:06:28,210

pilgrimage walk and we'll probably come

171

00:06:24,819 --> 00:06:30,220

back able to survive on photosynthesis

172
00:06:28,209 --> 00:06:31,899
surrounded by an ethereal green glow and

173
00:06:30,220 --> 00:06:33,669
no longer needing to eat food things

174
00:06:31,899 --> 00:06:35,799
more religious enlightenment so it has

175
00:06:33,668 --> 00:06:37,508
to be done between the Antarctica before

176
00:06:35,800 --> 00:06:40,780
the religious pilgrimage in Spain the El

177
00:06:37,509 --> 00:06:42,430
Camino del Santiago pilgrim warmer that

178
00:06:40,779 --> 00:06:44,619
is incredible I know that on a earlier

179
00:06:42,430 --> 00:06:45,990
skeptic ality interview with Mike McCray

180
00:06:44,620 --> 00:06:49,180
you mentioned the division between

181
00:06:45,990 --> 00:06:51,158
religion faith and science and how the

182
00:06:49,180 --> 00:06:52,689
two of them can co-exist together in

183
00:06:51,158 --> 00:06:54,370
your mind in fact I recall that you

184
00:06:52,689 --> 00:06:56,529
mentioned Lori peak of the University of

185
00:06:54,370 --> 00:06:58,870
Sydney as being a man who has religious

186
00:06:56,529 --> 00:07:00,788
faith and yet works in science is this

187
00:06:58,870 --> 00:07:02,978
perhaps one of your ways of tackling

188
00:07:00,788 --> 00:07:04,149
this and demonstrating that the two of

189
00:07:02,978 --> 00:07:06,120
them are separate or do you have another

190
00:07:04,149 --> 00:07:09,968
message in regards to this investigation

191
00:07:06,120 --> 00:07:12,250
in my case I could be wrong though I see

192
00:07:09,968 --> 00:07:14,740
religion and science is being separate

193
00:07:12,250 --> 00:07:17,639
unlinked orthogonal in no way related in

194
00:07:14,740 --> 00:07:21,579
the same way that wearing red shirts and

195
00:07:17,639 --> 00:07:24,310
a like of curries are completely

196
00:07:21,579 --> 00:07:26,288
unrelated and for the life of me in the

197
00:07:24,310 --> 00:07:29,110
United States I cannot see why is such a

198
00:07:26,288 --> 00:07:33,098
high percentage of the population see a

199
00:07:29,110 --> 00:07:36,129
conflict between evolution and the rest

200

00:07:33,098 --> 00:07:37,209
of their normal religious belief because

201
00:07:36,129 --> 00:07:39,788
there's so many people who don't have

202
00:07:37,209 --> 00:07:42,038
any problems at all with evolution why

203
00:07:39,788 --> 00:07:45,519
they picked on this obscure topic wasn't

204
00:07:42,038 --> 00:07:47,050
they pick on electrochemistry or so if

205
00:07:45,519 --> 00:07:49,240
you want to pick on something as a bit

206
00:07:47,050 --> 00:07:51,218
counterintuitive and weird go for

207
00:07:49,240 --> 00:07:52,540
quantum physics pick on that one rather

208
00:07:51,218 --> 00:07:55,329
than being

209
00:07:52,540 --> 00:07:57,370
than poor old evolution oh there we go

210
00:07:55,329 --> 00:07:58,899
we just had a massive rush of people who

211
00:07:57,370 --> 00:08:01,600
came over and bought dozens of books

212
00:07:58,899 --> 00:08:03,729
mostly women I noticed and I imagined

213
00:08:01,600 --> 00:08:05,170
the audience has quite a broad range but

214
00:08:03,730 --> 00:08:06,580

there seems to be a lot of mums getting

215

00:08:05,170 --> 00:08:08,980

the books for kids and you mentioned

216

00:08:06,579 --> 00:08:11,469

yourself just talking about the books to

217

00:08:08,980 --> 00:08:13,150

a few of the buyers that you have a sort

218

00:08:11,470 --> 00:08:14,890

of an age range recommendation and yet

219

00:08:13,149 --> 00:08:17,379

they're applicable to all ages in many

220

00:08:14,889 --> 00:08:19,120

ways only in most cases my books would

221

00:08:17,379 --> 00:08:20,050

be suitable for an eight a smart

222

00:08:19,120 --> 00:08:21,399

eight-year-old or an average

223

00:08:20,050 --> 00:08:25,030

ten-year-old and all the way up until

224

00:08:21,399 --> 00:08:26,829

they drop dead and I guess that's pretty

225

00:08:25,029 --> 00:08:28,479

useful considering that you tackle so

226

00:08:26,829 --> 00:08:30,069

many recent topics in this new books

227

00:08:28,480 --> 00:08:31,689

such as the Large Hadron Collider for

228

00:08:30,069 --> 00:08:33,519

example and that's one of the things

229
00:08:31,689 --> 00:08:35,590
that people have a lot of concern about

230
00:08:33,519 --> 00:08:37,299
a lot of interesting but we might not

231
00:08:35,590 --> 00:08:39,668
know much about how did you get such

232
00:08:37,299 --> 00:08:43,089
complex topics down into such easy

233
00:08:39,668 --> 00:08:46,990
bite-sized pieces each story takes me 20

234
00:08:43,090 --> 00:08:49,389
hours to write so I have to turn to our

235
00:08:46,990 --> 00:08:52,120
right he's off Pete on topic and I spend

236
00:08:49,389 --> 00:08:54,069
a total of twenty hours gathering

237
00:08:52,120 --> 00:08:55,690
together on average fifty thousand words

238
00:08:54,070 --> 00:08:57,670
of material reading it on a computer

239
00:08:55,690 --> 00:09:00,730
screen mostly from peer-reviewed sources

240
00:08:57,669 --> 00:09:02,079
and also books I then read it having had

241
00:09:00,730 --> 00:09:04,120
a quick scan on a computer screen and I

242
00:09:02,080 --> 00:09:06,310
print all off and then make a pile about

243
00:09:04,120 --> 00:09:08,919
two centimeters thick then I read it

244
00:09:06,309 --> 00:09:11,829
underlying everything once then already

245
00:09:08,919 --> 00:09:13,409
gained and then summarize it and then

246
00:09:11,830 --> 00:09:16,050
finally

247
00:09:13,409 --> 00:09:17,399
I was all loaded in my brain I sit down

248
00:09:16,049 --> 00:09:19,109
the computer and start writing and

249
00:09:17,399 --> 00:09:22,078
referring back to it and from that I

250
00:09:19,110 --> 00:09:24,629
write the original 500 word story and

251
00:09:22,078 --> 00:09:27,809
then later I'll sit in my brain and

252
00:09:24,629 --> 00:09:29,550
expand up to a 700 word story and then

253
00:09:27,809 --> 00:09:31,318
finally I bring up to about 1,200 was

254
00:09:29,549 --> 00:09:34,318
always trying to keep it as short and

255
00:09:31,318 --> 00:09:35,698
succinct as possible and with the

256
00:09:34,318 --> 00:09:37,979
portion of failed with the Large Hadron

257

00:09:35,698 --> 00:09:39,028
Collider that one expanded to 10,000

258
00:09:37,980 --> 00:09:40,829
words they chopped it back to about

259
00:09:39,028 --> 00:09:42,269
eight I couldn't help because it's just

260
00:09:40,828 --> 00:09:44,909
I mean if you talk about the structure

261
00:09:42,269 --> 00:09:46,500
of matter it is possible there are some

262
00:09:44,909 --> 00:09:48,750
things you cannot deal with in 500 words

263
00:09:46,500 --> 00:09:50,490
I guess in many ways that's

264
00:09:48,750 --> 00:09:52,078
demonstrating a sort of respect besides

265
00:09:50,490 --> 00:09:54,028
because some things are immensely

266
00:09:52,078 --> 00:09:56,188
complicated and to be able to break it

267
00:09:54,028 --> 00:09:58,588
down is is a big big challenge when you

268
00:09:56,188 --> 00:10:00,149
decide to mention it well when are we

269
00:09:58,589 --> 00:10:02,579
going to V they say look now summarize

270
00:10:00,149 --> 00:10:04,318
this into 15 seconds and my answer to

271
00:10:02,578 --> 00:10:05,849

that is suppose you've been to a doctor

272

00:10:04,318 --> 00:10:08,159

and you've been diagnosed with the

273

00:10:05,850 --> 00:10:10,439

cancer or something do you want 15

274

00:10:08,159 --> 00:10:11,969

seconds or do you want more yeah I guess

275

00:10:10,438 --> 00:10:14,159

that little challenge that you mentioned

276

00:10:11,970 --> 00:10:16,980

there about Margaret Thatcher collecting

277

00:10:14,159 --> 00:10:18,659

people being a one-page winner for

278

00:10:16,980 --> 00:10:21,329

explaining what particular topic was it

279

00:10:18,659 --> 00:10:25,169

that was for the Higgs boson yes so when

280

00:10:21,328 --> 00:10:26,698

matter was created it had no mess so

281

00:10:25,169 --> 00:10:28,679

there's a big bang everything's too hot

282

00:10:26,698 --> 00:10:31,769

stuff kills downturns in the matter

283

00:10:28,679 --> 00:10:33,838

matter had no mass but as it moved

284

00:10:31,769 --> 00:10:35,789

through the Higgs field so goes the

285

00:10:33,839 --> 00:10:37,500

current theory it picked up mass

286
00:10:35,789 --> 00:10:39,299
different amounts of mass depending what

287
00:10:37,500 --> 00:10:41,669
sort of particle is the Higgs party the

288
00:10:39,299 --> 00:10:44,669
Higgs field itself is quite different

289
00:10:41,669 --> 00:10:47,099
from gravity electromagnetic electric

290
00:10:44,669 --> 00:10:48,929
fields in the sense that it has the same

291
00:10:47,100 --> 00:10:50,519
value everywhere through the universe I

292
00:10:48,929 --> 00:10:53,669
find the whole thing very exciting

293
00:10:50,519 --> 00:10:58,169
because if we can understand the mass

294
00:10:53,669 --> 00:10:59,639
then we can actually remove mass so to

295
00:10:58,169 --> 00:11:01,349
get the space is twenty thousand dollars

296
00:10:59,639 --> 00:11:03,539
per kilogram if you get something like a

297
00:11:01,350 --> 00:11:06,600
supertanker and removes mass you get

298
00:11:03,539 --> 00:11:07,029
into space very cheaply and then if it

299
00:11:06,600 --> 00:11:09,250
has

300
00:11:07,029 --> 00:11:11,169
you can get the speed of light and get

301
00:11:09,250 --> 00:11:13,000
off the nearest stars and it's very

302
00:11:11,169 --> 00:11:15,819
exciting because right now we've just

303
00:11:13,000 --> 00:11:20,070
discovered we've made it just now the

304
00:11:15,820 --> 00:11:24,820
first actual photographs of three stars

305
00:11:20,070 --> 00:11:27,490
around a nother sorry first photograph

306
00:11:24,820 --> 00:11:29,680
of three planets around another star and

307
00:11:27,490 --> 00:11:31,750
our technology is advancing to the stage

308
00:11:29,679 --> 00:11:34,329
that we've discovered 300 planets around

309
00:11:31,750 --> 00:11:36,549
other stars in about four years we'll

310
00:11:34,330 --> 00:11:38,740
get to the stage of finding earth-sized

311
00:11:36,549 --> 00:11:40,809
planets the moment smalls we go for is

312
00:11:38,740 --> 00:11:42,850
about five or seven times the size and

313
00:11:40,809 --> 00:11:44,439
then another four years after that say

314

00:11:42,850 --> 00:11:46,899
eight years from now we'll be able to

315
00:11:44,440 --> 00:11:52,840
discover earthside earth-sized planets

316
00:11:46,899 --> 00:11:54,579
in the habitable zone around stars but

317
00:11:52,840 --> 00:11:57,540
what no way of getting there without

318
00:11:54,580 --> 00:12:00,190
current technology and I'm hoping that

319
00:11:57,539 --> 00:12:02,199
being able to manipulate mass will get

320
00:12:00,190 --> 00:12:04,390
us to the nearest stars and even the

321
00:12:02,200 --> 00:12:05,860
more distant ones speaking of gathering

322
00:12:04,389 --> 00:12:07,299
mass we have more fans around Yousaf

323
00:12:05,860 --> 00:12:09,690
defensible have another break here we go

324
00:12:07,299 --> 00:12:09,689
yeah

325
00:12:11,860 --> 00:12:17,029
I'm

326
00:12:13,820 --> 00:12:18,920
well this has just been non-stop people

327
00:12:17,029 --> 00:12:20,419
coming past and signing of just an

328
00:12:18,919 --> 00:12:22,789

observation I noticed that many of them

329

00:12:20,419 --> 00:12:24,500

were women but we were primarily buying

330

00:12:22,789 --> 00:12:26,089

it for husbands or their children I

331

00:12:24,500 --> 00:12:27,710

guess sort of pointing out that science

332

00:12:26,090 --> 00:12:29,990

communication is sort of starting at

333

00:12:27,710 --> 00:12:32,060

home I liked the point that one lady

334

00:12:29,990 --> 00:12:33,740

made about how listening to your show on

335

00:12:32,059 --> 00:12:36,379

the radio prompted a conversation

336

00:12:33,740 --> 00:12:38,690

between herself and her son and how now

337

00:12:36,379 --> 00:12:40,519

she felt more in control certainly in

338

00:12:38,690 --> 00:12:43,010

terms of communicating some of the ideas

339

00:12:40,519 --> 00:12:44,990

because of how you have supported her I

340

00:12:43,009 --> 00:12:46,639

guess by doing that sort of program and

341

00:12:44,990 --> 00:12:49,009

how now she's got a book which says your

342

00:12:46,639 --> 00:12:50,929

mom is always right signed by you well I

343
00:12:49,009 --> 00:12:55,970
did try to make the kid show respect for

344
00:12:50,929 --> 00:12:58,389
their moms and I see my role as sticking

345
00:12:55,970 --> 00:13:01,370
to the facts and ignoring opinions and

346
00:12:58,389 --> 00:13:03,799
the under all that if that's how I do

347
00:13:01,370 --> 00:13:06,019
what I do and the philosophy behind what

348
00:13:03,799 --> 00:13:09,370
I do is to try to liberate people from

349
00:13:06,019 --> 00:13:12,079
what holds them back and in general lies

350
00:13:09,370 --> 00:13:14,360
may occasionally help you get through

351
00:13:12,080 --> 00:13:15,590
life better but in the vast majority of

352
00:13:14,360 --> 00:13:18,470
cases he better off sticking to the

353
00:13:15,590 --> 00:13:20,710
truth I don't know this is much of a

354
00:13:18,470 --> 00:13:23,300
segue but we recently had the u.s.

355
00:13:20,710 --> 00:13:27,050
elections and I know that Obama has now

356
00:13:23,299 --> 00:13:27,979
become the president over there and one

357
00:13:27,049 --> 00:13:29,809
of the things that people have been

358
00:13:27,980 --> 00:13:32,480
saying is that he seems to be a very Pro

359
00:13:29,809 --> 00:13:34,549
science president and I know that your

360
00:13:32,480 --> 00:13:35,930
own efforts in politics included the

361
00:13:34,549 --> 00:13:39,019
climate change coalition now you're

362
00:13:35,929 --> 00:13:40,579
giggling funny how is it funny well I've

363
00:13:39,019 --> 00:13:42,079
got fewer votes in the barking mad

364
00:13:40,580 --> 00:13:44,389
shooters party but slightly more than

365
00:13:42,080 --> 00:13:46,970
the barking mad fish's body so at forty

366
00:13:44,389 --> 00:13:48,409
thousand votes I now know my position in

367
00:13:46,970 --> 00:13:51,620
federal politics which is totally

368
00:13:48,409 --> 00:13:53,659
irrelevant oh but still ways we need

369
00:13:51,620 --> 00:13:55,700
people who are for truth in politics I

370
00:13:53,659 --> 00:13:58,039
must have neat um would you consider

371

00:13:55,700 --> 00:14:00,379
running again perhaps one of these days

372
00:13:58,039 --> 00:14:05,809
it's not impossible that it depends upon

373
00:14:00,379 --> 00:14:07,429
the circumstances but you don't really

374
00:14:05,809 --> 00:14:10,458
know the results of what you do you read

375
00:14:07,429 --> 00:14:13,429
Richard Nixon's autobiography no no

376
00:14:10,458 --> 00:14:16,278
which particular well in his

377
00:14:13,429 --> 00:14:19,939
autobiography he describes how the war

378
00:14:16,278 --> 00:14:22,659
in Vietnam is going badly and as far as

379
00:14:19,940 --> 00:14:24,889
he's concerned he has made the decision

380
00:14:22,659 --> 00:14:26,750
which automatically will happen because

381
00:14:24,889 --> 00:14:29,269
he's the commander in chief in front of

382
00:14:26,750 --> 00:14:31,100
the forces of America he has made the

383
00:14:29,269 --> 00:14:35,889
decision to drop nuclear weapons on

384
00:14:31,100 --> 00:14:38,180
North Vietnam and then there's a big

385
00:14:35,889 --> 00:14:42,110

absolutely enormous peace demonstration

386

00:14:38,179 --> 00:14:45,588

in New York and everybody for this

387

00:14:42,110 --> 00:14:47,389

demonstration goes home sad because they

388

00:14:45,589 --> 00:14:50,540

think nothing happened knowing change

389

00:14:47,389 --> 00:14:53,509

but he saw that peace demonstration he

390

00:14:50,539 --> 00:14:55,399

was so moved by it that he decided that

391

00:14:53,509 --> 00:14:58,519

he would not drop nuclear weapons on

392

00:14:55,399 --> 00:14:59,990

Vietnam so in the same way with me

393

00:14:58,519 --> 00:15:01,159

standing for politics a lot of people

394

00:14:59,990 --> 00:15:02,990

doing what they do with you doing what

395

00:15:01,159 --> 00:15:05,929

you're doing you don't really know at

396

00:15:02,990 --> 00:15:07,430

the time what effects you have but if

397

00:15:05,929 --> 00:15:09,439

you try to stick to the truth avoid

398

00:15:07,429 --> 00:15:11,299

opinions you're probably doing something

399

00:15:09,440 --> 00:15:14,240

you can spec withstand the test of time

400
00:15:11,299 --> 00:15:16,309
that you to do so would you have any

401
00:15:14,240 --> 00:15:17,899
advice for new science communicators out

402
00:15:16,309 --> 00:15:19,789
there you've mentioned in the past how

403
00:15:17,899 --> 00:15:22,730
new media such as this podcast the

404
00:15:19,789 --> 00:15:24,379
skeptical zone is a part of that how does

405
00:15:22,730 --> 00:15:27,289
one get started should we keep on

406
00:15:24,379 --> 00:15:28,818
battling as it were ok advice number one

407
00:15:27,289 --> 00:15:31,129
never had sex with anybody has more

408
00:15:28,818 --> 00:15:33,889
problems than you do this is great but

409
00:15:31,129 --> 00:15:37,399
you pay for it number to avoid opinions

410
00:15:33,889 --> 00:15:38,990
stick to the facts number three it's

411
00:15:37,399 --> 00:15:43,818
amazing how lucky you get if you work

412
00:15:38,990 --> 00:15:45,930
hard number for inspiration doesn't come

413
00:15:43,818 --> 00:15:48,599
out anyway you just sort of have to keep

414
00:15:45,929 --> 00:15:53,329
so that's saying that you get it could

415
00:15:48,600 --> 00:15:53,330
be lucky if you work hard anymore advice

416
00:15:53,480 --> 00:15:59,730
never play cards with anybody called doc

417
00:15:57,000 --> 00:16:01,528
okay you'll lose yeah I've learned that

418
00:15:59,730 --> 00:16:04,310
in Las Vegas with magicians actually oh

419
00:16:01,528 --> 00:16:07,799
yes they put another device number five

420
00:16:04,309 --> 00:16:09,000
don't play cards seriously with people

421
00:16:07,799 --> 00:16:11,399
who are magicians you lose every time

422
00:16:09,000 --> 00:16:13,169
yeah cool I remember to tell that to

423
00:16:11,399 --> 00:16:15,440
james randi next time i see like a

424
00:16:13,169 --> 00:16:15,439
figure

425
00:16:31,669 --> 00:16:35,759
well I've come here today to the new

426
00:16:34,019 --> 00:16:37,860
town festival here in Sydney it's a

427
00:16:35,759 --> 00:16:40,169
giant sort of community festival spread

428

00:16:37,860 --> 00:16:42,149
over acres and acres of parkland with

429
00:16:40,169 --> 00:16:43,919
hundreds of stalls and people selling

430
00:16:42,149 --> 00:16:45,899
all sorts of things and thousands of

431
00:16:43,919 --> 00:16:48,208
people milling around and I've bumped

432
00:16:45,899 --> 00:16:49,769
into Ian Bryce from the Australian

433
00:16:48,208 --> 00:16:51,838
skeptics and the secular party hello

434
00:16:49,769 --> 00:16:53,850
here good morning Richard good morning

435
00:16:51,839 --> 00:16:56,519
now can you tell this is a little bit

436
00:16:53,850 --> 00:16:59,190
about what you're doing here today yes

437
00:16:56,519 --> 00:17:01,019
here we have a stands combined effort by

438
00:16:59,190 --> 00:17:03,120
the secular party of australia the

439
00:17:01,019 --> 00:17:06,240
political arm and the sydney atheists

440
00:17:03,120 --> 00:17:07,769
which is a bunch of young people very

441
00:17:06,240 --> 00:17:09,990
active on the internet and selling

442
00:17:07,769 --> 00:17:12,480

t-shirts and giving out bags of lollies

443

00:17:09,990 --> 00:17:14,400

to people who come to visit our standing

444

00:17:12,480 --> 00:17:15,808

having a great time you've got a good

445

00:17:14,400 --> 00:17:18,839

spot here I see it's right near one of

446

00:17:15,808 --> 00:17:21,689

the many entrances here and right on the

447

00:17:18,838 --> 00:17:23,159

table is it a picture was a picture what

448

00:17:21,689 --> 00:17:25,529

I'm talking about it's the Pope it's the

449

00:17:23,160 --> 00:17:27,660

Pope himself well an effigy at least yes

450

00:17:25,529 --> 00:17:29,548

indeed a mannequin yes he used to be

451

00:17:27,660 --> 00:17:31,140

addressed Danny but now he is dressed up

452

00:17:29,548 --> 00:17:33,539

like the Pope and he's got his mitre hat

453

00:17:31,140 --> 00:17:35,549

and he's got his gold telephone which is

454

00:17:33,539 --> 00:17:37,200

linked to a gold antenna on the roof and

455

00:17:35,548 --> 00:17:40,558

he's talking to his invisible friend in

456

00:17:37,200 --> 00:17:41,789

the sky and the people who come by have

457
00:17:40,558 --> 00:17:44,490
the opportunity of photographing

458
00:17:41,789 --> 00:17:46,440
themselves first standing beside pipo

459
00:17:44,490 --> 00:17:47,640
which doesn't happen every day doesn't

460
00:17:46,440 --> 00:17:49,320
happen every day have you had many

461
00:17:47,640 --> 00:17:51,120
people coming up asking questions in

462
00:17:49,319 --> 00:17:53,750
groups there suddenly there's a constant

463
00:17:51,119 --> 00:17:56,849
strain of inquiries a lot of people are

464
00:17:53,750 --> 00:17:59,878
only know how to join one of the groups

465
00:17:56,849 --> 00:18:01,948
and some people are supporters joy

466
00:17:59,878 --> 00:18:04,468
but don't necessarily want to join

467
00:18:01,949 --> 00:18:06,509
they've also got a Sydney acres of the

468
00:18:04,469 --> 00:18:08,959
competition for a slogan after the very

469
00:18:06,509 --> 00:18:11,219
successful Bus campaign in London oh yes

470
00:18:08,959 --> 00:18:13,440
they're looking for a slogan which could

471
00:18:11,219 --> 00:18:16,558
be similarly used in Australia to the

472
00:18:13,440 --> 00:18:19,019
aim is to promote the idea that one can

473
00:18:16,558 --> 00:18:21,118
hold atheists beliefs without being

474
00:18:19,019 --> 00:18:23,489
outside Iran fringe or in some way

475
00:18:21,118 --> 00:18:24,928
you're tearing you down society that's

476
00:18:23,489 --> 00:18:26,219
right running around committing crimes

477
00:18:24,929 --> 00:18:28,288
willy-nilly or something like that

478
00:18:26,219 --> 00:18:30,209
that's right atheists not necessarily

479
00:18:28,288 --> 00:18:32,158
amicus in fact I think quite the

480
00:18:30,209 --> 00:18:33,839
opposite if you're an atheist you have

481
00:18:32,159 --> 00:18:36,959
justify your belief at least if you're

482
00:18:33,838 --> 00:18:39,328
skeptical type that's right now if

483
00:18:36,959 --> 00:18:41,849
people were wish to find out more about

484
00:18:39,328 --> 00:18:45,479
your circular party in what can they do

485

00:18:41,848 --> 00:18:47,968
they can visit our website wwc cool or

486
00:18:45,479 --> 00:18:50,159
got a new but they're more interesting

487
00:18:47,969 --> 00:18:53,399
bit of entertainment they can visit my

488
00:18:50,159 --> 00:18:54,749
website world truth today dot org we'll

489
00:18:53,398 --> 00:18:56,608
just set up to counter world youth day

490
00:18:54,749 --> 00:18:58,769
and then they can read about the

491
00:18:56,608 --> 00:19:00,388
exploits at the popemobile and indeed

492
00:18:58,769 --> 00:19:01,558
they can see a video of the punk nabil

493
00:19:00,388 --> 00:19:05,488
whizzing through the streets of sydney

494
00:19:01,558 --> 00:19:06,749
is indeed and when we this happened

495
00:19:05,489 --> 00:19:09,239
during World Youth Day as a protest

496
00:19:06,749 --> 00:19:10,709
against the Pope's activities and we can

497
00:19:09,239 --> 00:19:12,509
be detention but police a number of

498
00:19:10,709 --> 00:19:14,538
times or you're off the core don't you

499
00:19:12,509 --> 00:19:18,989

yes up to court on the first in December

500

00:19:14,538 --> 00:19:21,898

charged with having a refinement likely

501

00:19:18,989 --> 00:19:23,669

to distract motorists and I have to

502

00:19:21,898 --> 00:19:26,158

admit that it certainly was intended to

503

00:19:23,669 --> 00:19:28,169

do that as I most of the mobile

504

00:19:26,159 --> 00:19:29,789

advertising signs it's exactly right

505

00:19:28,169 --> 00:19:31,349

I've seen some doozies well look I'll

506

00:19:29,788 --> 00:19:32,940

try to get along to support you in

507

00:19:31,348 --> 00:19:34,318

cordial but good to see you and good

508

00:19:32,940 --> 00:19:38,038

luck with the rest of the day thank you

509

00:19:34,318 --> 00:19:40,318

Richard believe it or not there isn'ta

510

00:19:38,038 --> 00:19:41,788

too I just happen to bump into Tiffany

511

00:19:40,318 --> 00:19:44,098

day you'll remember Tiffany day from our

512

00:19:41,788 --> 00:19:46,378

last episode from the Macquarie skeptics

513

00:19:44,098 --> 00:19:47,608

hello Tiffany hi Richard hey going now

514
00:19:46,378 --> 00:19:50,759
you're getting to be a regular on the

515
00:19:47,608 --> 00:19:53,608
show yes it seems so it seems that way

516
00:19:50,759 --> 00:19:55,798
so you've come out here today to support

517
00:19:53,608 --> 00:19:58,019
the the atheist side of the temple yes

518
00:19:55,798 --> 00:19:59,680
the Sydney atheist website Sydney

519
00:19:58,019 --> 00:20:01,359
atheist org

520
00:19:59,680 --> 00:20:03,370
and i'm here to help out handing out

521
00:20:01,359 --> 00:20:06,459
flyers that's fantastic with your

522
00:20:03,369 --> 00:20:08,049
religion kills a international health

523
00:20:06,460 --> 00:20:10,690
warning t-shirt on like the cigarette

524
00:20:08,049 --> 00:20:12,819
packet warning level well you look very

525
00:20:10,690 --> 00:20:15,009
very nice standing next to the Pope here

526
00:20:12,819 --> 00:20:16,899
a mistake yes he's on the phone to go at

527
00:20:15,009 --> 00:20:19,329
the moment so try not to disturb you

528
00:20:16,900 --> 00:20:25,180
great to see you again Tiffany thanks

529
00:20:19,329 --> 00:20:27,039
Richard the tree and this is a strange

530
00:20:25,180 --> 00:20:30,610
thing here I've come across it's a gong

531
00:20:27,039 --> 00:20:32,740
that's standing up hello hello hi what's

532
00:20:30,609 --> 00:20:36,599
your name flag hello Fleur now why are

533
00:20:32,740 --> 00:20:39,069
you here today oh just hear the apse oh

534
00:20:36,599 --> 00:20:40,959
yeah this is great everybody there's a

535
00:20:39,069 --> 00:20:43,750
sort of a stand here of a metal stand

536
00:20:40,960 --> 00:20:45,970
with a golden brass gong and a handle

537
00:20:43,750 --> 00:20:50,460
and it says underneath hit the gong if

538
00:20:45,970 --> 00:20:50,460
you don't believe in God's floral so

539
00:20:52,450 --> 00:20:58,970
an angel died oh sorry I just killed an

540
00:20:56,839 --> 00:21:00,288
angel apparently well if I don't get

541
00:20:58,970 --> 00:21:01,940
struck by lightning or thunder in the

542

00:21:00,288 --> 00:21:04,359
next couple of minutes i'll be doing

543
00:21:01,940 --> 00:21:04,360
okay

544
00:21:20,298 --> 00:21:24,538
astronomy cast it takes a fact space

545
00:21:22,648 --> 00:21:26,428
journey through the cosmos as it offers

546
00:21:24,538 --> 00:21:29,128
listeners weekly discussions on

547
00:21:26,429 --> 00:21:31,980
astronomical topics ranging from planets

548
00:21:29,128 --> 00:21:34,349
to cosmology hosted by Fraser Cain of

549
00:21:31,980 --> 00:21:35,339
Universe Today and myself dr. Pamela

550
00:21:34,349 --> 00:21:38,009
gave southern illinois university

551
00:21:35,339 --> 00:21:39,898
edwardsville this show brings the

552
00:21:38,009 --> 00:21:42,329
questions of an avid astronomy lover

553
00:21:39,898 --> 00:21:44,428
directly to an astronomer together

554
00:21:42,329 --> 00:21:45,960
Fraser and I explore what is known and

555
00:21:44,429 --> 00:21:48,720
being discovered about the universe

556
00:21:45,960 --> 00:21:50,788

around us join us each week as we take a

557

00:21:48,720 --> 00:22:02,038

fact space journey through the cosmos at

558

00:21:50,788 --> 00:22:04,710

astronomy cast calm now it's time for

559

00:22:02,038 --> 00:22:10,349

dr. Richie reports with dr. Rachel

560

00:22:04,710 --> 00:22:12,239

Dunlop Steve novella is a clinical

561

00:22:10,349 --> 00:22:14,398

neurologist and academic at Yale

562

00:22:12,239 --> 00:22:16,200

University School of Medicine he is the

563

00:22:14,398 --> 00:22:19,018

co-founder and president of the New

564

00:22:16,200 --> 00:22:20,730

England skeptical Society the associate

565

00:22:19,019 --> 00:22:22,829

editor of the journal of the scientific

566

00:22:20,730 --> 00:22:25,048

review of alternative medicine and a

567

00:22:22,829 --> 00:22:27,178

contributing editor to quack watch which

568

00:22:25,048 --> 00:22:29,608

is a consumer advocacy website dealing

569

00:22:27,179 --> 00:22:31,230

with all types of health fraud Steve

570

00:22:29,608 --> 00:22:33,808

also writes the monthly column weird

571
00:22:31,230 --> 00:22:35,128
science for the new haven advocate but

572
00:22:33,808 --> 00:22:36,928
of course most of you would know him

573
00:22:35,128 --> 00:22:39,719
best as the host of the skeptics guide

574
00:22:36,929 --> 00:22:41,940
to the universe which is one of the most

575
00:22:39,720 --> 00:22:44,669
popular skeptical podcasts in the world

576
00:22:41,940 --> 00:22:46,798
and currently has about forty thousand

577
00:22:44,669 --> 00:22:49,109
listeners each week there's also a

578
00:22:46,798 --> 00:22:52,230
companion podcast called skeptics guide

579
00:22:49,108 --> 00:22:54,599
five by five and on top of this steve

580
00:22:52,230 --> 00:22:57,239
has several blogs some of which he

581
00:22:54,599 --> 00:22:58,798
contributes to his owners neurological he

582
00:22:57,239 --> 00:23:01,230
also contributes to science-based

583
00:22:58,798 --> 00:23:04,048
medicine and skeptic blog which is the

584
00:23:01,230 --> 00:23:05,999
blog of the sceptile adjusts so welcome

585
00:23:04,048 --> 00:23:06,960
to the skeptic zone Steve thanks for

586
00:23:05,999 --> 00:23:09,569
having me it's great to be with you guys

587
00:23:06,960 --> 00:23:11,970
well based on what I've just summarized

588
00:23:09,569 --> 00:23:15,480
about what you do let me start by asking

589
00:23:11,970 --> 00:23:17,220
you how do you find a time it certainly

590
00:23:15,480 --> 00:23:19,769
is a lot of work I mean is there's no

591
00:23:17,220 --> 00:23:22,558
way around that you know writing a daily

592
00:23:19,769 --> 00:23:24,659
blog and producing two podcasts in

593
00:23:22,558 --> 00:23:27,690
addition to that medical career thing

594
00:23:24,659 --> 00:23:30,989
I got going as a side that's that's just

595
00:23:27,690 --> 00:23:33,239
a part time but crisis part time but you

596
00:23:30,989 --> 00:23:35,489
know part of it is the beauty of

597
00:23:33,239 --> 00:23:37,348
computers you know I always or pretty

598
00:23:35,489 --> 00:23:40,440
much always have access to at least my

599

00:23:37,348 --> 00:23:43,138
laptop so I can make productive time and

600
00:23:40,440 --> 00:23:45,419
ever whenever possible but also in all

601
00:23:43,138 --> 00:23:47,788
honesty it's not what I do is not very

602
00:23:45,419 --> 00:23:50,159
different than my by academic colleagues

603
00:23:47,788 --> 00:23:51,989
you know you have a pretty much 925

604
00:23:50,159 --> 00:23:53,609
either clinical research schedule and

605
00:23:51,989 --> 00:23:56,098
then nights and weekends you spend doing

606
00:23:53,608 --> 00:23:59,189
your academic writing or research or

607
00:23:56,098 --> 00:24:01,888
editing a book or something but I just

608
00:23:59,190 --> 00:24:05,220
choose to to funnel my academic time

609
00:24:01,888 --> 00:24:07,798
primarily into promoting science

610
00:24:05,220 --> 00:24:09,749
education and science understanding so

611
00:24:07,798 --> 00:24:11,908
so Ivy Tech blah I'm not really any

612
00:24:09,749 --> 00:24:13,379
busier than my average academic

613
00:24:11,909 --> 00:24:14,669

colleague to be honest with you well

614

00:24:13,378 --> 00:24:16,858

actually stay we've got some breaking

615

00:24:14,669 --> 00:24:18,690

news to tell our listeners in the

616

00:24:16,858 --> 00:24:20,428

southern hemisphere haven't we where the

617

00:24:18,690 --> 00:24:23,759

skeptic donor very excited to announce

618

00:24:20,429 --> 00:24:25,229

that just a few hours ago you and the

619

00:24:23,759 --> 00:24:27,720

rest of SGU announced that you're

620

00:24:25,229 --> 00:24:29,639

finally coming to Australia yay we are

621

00:24:27,720 --> 00:24:32,788

definitely planning coming to australia

622

00:24:29,638 --> 00:24:34,918

in 2010 Richard was kind enough Richard

623

00:24:32,788 --> 00:24:37,229

Saunders to invite us down and we jumped

624

00:24:34,919 --> 00:24:39,299

at the chance that's fantastic news and

625

00:24:37,229 --> 00:24:40,859

that's going to be for the 2010

626

00:24:39,298 --> 00:24:43,460

Australian skeptics National Convention

627

00:24:40,858 --> 00:24:45,628

in Sydney yeah really really looking for

628
00:24:43,460 --> 00:24:48,509
well the whole team is gonna come is

629
00:24:45,628 --> 00:24:51,048
that right yes the whole sut fantaken

630
00:24:48,509 --> 00:24:53,249
first and for being left behind so

631
00:24:51,048 --> 00:24:54,778
better bring everybody that's going to

632
00:24:53,249 --> 00:24:57,629
be very exciting we look forward to that

633
00:24:54,778 --> 00:24:59,278
now one of my bugbears Steve and I think

634
00:24:57,628 --> 00:25:00,329
this is um certainly one of yours as

635
00:24:59,278 --> 00:25:02,729
well I don't know if you'd call it a

636
00:25:00,329 --> 00:25:05,189
bugbear but its alternative medicine

637
00:25:02,729 --> 00:25:07,470
which is also known as well and woo are

638
00:25:05,190 --> 00:25:09,690
some people call it and of course you've

639
00:25:07,470 --> 00:25:11,999
done a lot to educate people about some

640
00:25:09,690 --> 00:25:14,278
of the dangers of alternative medicine

641
00:25:11,999 --> 00:25:15,929
three all your blogs and websites that

642
00:25:14,278 --> 00:25:17,429
you have but one of the things you

643
00:25:15,929 --> 00:25:18,869
mentioned to me recently was that there

644
00:25:17,429 --> 00:25:21,629
are not many doctors out there who are

645
00:25:18,868 --> 00:25:23,638
doing this and I like you tend to go to

646
00:25:21,628 --> 00:25:26,038
psychic shows and well-being festivals

647
00:25:23,638 --> 00:25:28,348
and i SAT through almost every episode

648
00:25:26,038 --> 00:25:29,908
of the filming of the one which as you

649
00:25:28,348 --> 00:25:33,598
know Richard Saunders was the sceptical

650
00:25:29,909 --> 00:25:35,940
judge on and it was a true yeah then I

651
00:25:33,598 --> 00:25:38,249
was for education and research that I'm

652
00:25:35,940 --> 00:25:38,519
what I wanted to ask you was why do you

653
00:25:38,249 --> 00:25:40,740
think

654
00:25:38,519 --> 00:25:42,029
doctors and science professionals don't

655
00:25:40,740 --> 00:25:45,120
get out there and do this stuff will

656

00:25:42,029 --> 00:25:48,750
make a fuss yeah there's a curious lack

657
00:25:45,119 --> 00:25:51,389
of outrage amongst rank-and-file

658
00:25:48,750 --> 00:25:55,410
academics and physicians as to what's

659
00:25:51,390 --> 00:25:58,500
happening and I speak quite a bit to two

660
00:25:55,410 --> 00:26:00,180
other physicians about this issue those

661
00:25:58,500 --> 00:26:03,210
I think thinking of those who see what's

662
00:26:00,180 --> 00:26:05,880
going on for what it is which to just

663
00:26:03,210 --> 00:26:08,220
briefly summarize what i think the

664
00:26:05,880 --> 00:26:10,500
alternative medicine or cam movement is

665
00:26:08,220 --> 00:26:12,329
about it's basically an attack on the

666
00:26:10,500 --> 00:26:14,880
scientific basis of the standard of care

667
00:26:12,329 --> 00:26:16,649
it's an attempt to create a double

668
00:26:14,880 --> 00:26:19,320
standard to carve out this separate

669
00:26:16,650 --> 00:26:21,840
standard where science and good science

670
00:26:19,319 --> 00:26:24,359

is not the standard of care yeah in

671

00:26:21,839 --> 00:26:27,119
essence so that anything can go because

672

00:26:24,359 --> 00:26:29,099
obviously you know if you if you there

673

00:26:27,119 --> 00:26:32,309
are true believe or a proponent of a

674

00:26:29,099 --> 00:26:33,899
treatment modality that doesn't not meet

675

00:26:32,309 --> 00:26:36,359
the rigorous standards of science or

676

00:26:33,900 --> 00:26:37,740
you're a charlatan or a fraud who wants

677

00:26:36,359 --> 00:26:39,809
to make money off of a treatment that

678

00:26:37,740 --> 00:26:41,759
doesn't meet ethical or scientific

679

00:26:39,809 --> 00:26:43,829
standards then you'd like to have this

680

00:26:41,759 --> 00:26:46,079
carved out special exception for you

681

00:26:43,829 --> 00:26:49,139
where you can pursue your trade without

682

00:26:46,079 --> 00:26:51,359
having to do things like research or you

683

00:26:49,140 --> 00:26:54,960
have have a basic science you know

684

00:26:51,359 --> 00:26:56,429
support your notions so and a lot of it

685
00:26:54,960 --> 00:26:58,799
also is an attempt to insert

686
00:26:56,430 --> 00:27:00,750
spirituality or faith into medicine show

687
00:26:58,799 --> 00:27:04,200
as well a lot of these belief systems

688
00:27:00,750 --> 00:27:06,180
are basically religions so that that's

689
00:27:04,200 --> 00:27:07,799
what's happening and yet I think just

690
00:27:06,180 --> 00:27:09,150
most of most of my colleagues don't

691
00:27:07,799 --> 00:27:11,599
understand that they don't really see

692
00:27:09,150 --> 00:27:14,870
that and part of the reason is because

693
00:27:11,599 --> 00:27:18,509
the camp proponents have become very

694
00:27:14,869 --> 00:27:21,839
expert over the decades at couching what

695
00:27:18,509 --> 00:27:23,910
they're doing in in very appealing

696
00:27:21,839 --> 00:27:27,149
terminology they are masters of the

697
00:27:23,910 --> 00:27:29,040
language in fact the entire notion of

698
00:27:27,150 --> 00:27:30,600
complementary alternative medicine or

699
00:27:29,039 --> 00:27:32,849
integrative medicine is another term

700
00:27:30,599 --> 00:27:34,409
that's being used is it is a temp to

701
00:27:32,849 --> 00:27:36,329
control the length you know it's it's

702
00:27:34,410 --> 00:27:37,830
saying it's an alternative well it's an

703
00:27:36,329 --> 00:27:41,039
alternative to what to science-based

704
00:27:37,829 --> 00:27:42,509
medicine or that scum yeah or its

705
00:27:41,039 --> 00:27:44,579
complementary or integrated other which

706
00:27:42,509 --> 00:27:46,349
you can integrate medicine that is that

707
00:27:44,579 --> 00:27:47,849
is based on science and we owe is is

708
00:27:46,349 --> 00:27:49,829
safe and effective with treatments that

709
00:27:47,849 --> 00:27:51,000
what that don't work or that for which

710
00:27:49,829 --> 00:27:51,990
we don't know if they're safe and

711
00:27:51,000 --> 00:27:54,420
effective

712
00:27:51,990 --> 00:27:55,319
it's it's contradictory it's kind of

713

00:27:54,420 --> 00:27:56,880
like saying well we can integrate

714
00:27:55,319 --> 00:27:58,678
intelligent design and evolution

715
00:27:56,880 --> 00:28:00,630
education is like now you can't teach

716
00:27:58,679 --> 00:28:02,490
students legitimate signs and then

717
00:28:00,630 --> 00:28:04,110
confuse them with an a bastardization of

718
00:28:02,490 --> 00:28:06,299
science at the same time there's just

719
00:28:04,109 --> 00:28:08,789
certain things just can't be integrated

720
00:28:06,299 --> 00:28:10,049
together so they've they've done a

721
00:28:08,789 --> 00:28:11,759
really good job at controlling the

722
00:28:10,049 --> 00:28:13,558
language they've you know couched what

723
00:28:11,759 --> 00:28:15,420
they're doing in terms of things like a

724
00:28:13,558 --> 00:28:17,220
holistic medicine and say we want to

725
00:28:15,420 --> 00:28:19,529
treat the whole person you know mind

726
00:28:17,220 --> 00:28:22,890
body spirit it sounds really good

727
00:28:19,529 --> 00:28:25,678

superficially but it's really all just a

728

00:28:22,890 --> 00:28:27,570

hand waving distraction from the only

729

00:28:25,679 --> 00:28:30,240

issue that really matters and that is

730

00:28:27,569 --> 00:28:32,939

getting away from science as the

731

00:28:30,240 --> 00:28:35,250

standard for health care and so it's

732

00:28:32,940 --> 00:28:36,990

mainly so it's part of it is just

733

00:28:35,250 --> 00:28:38,940

confusion as to what's actually going on

734

00:28:36,990 --> 00:28:42,058

the other part of it is this sort of

735

00:28:38,940 --> 00:28:44,519

mascota chol correctness or notion of

736

00:28:42,058 --> 00:28:47,009

democracy fairness or even academic

737

00:28:44,519 --> 00:28:49,889

freedom in the u.s. especially that

738

00:28:47,009 --> 00:28:52,470

those kind of themes play really really

739

00:28:49,890 --> 00:28:54,360

well and I hear that a lot you know from

740

00:28:52,470 --> 00:28:56,279

my colleagues you know when I say well

741

00:28:54,359 --> 00:28:58,019

you know what why aren't you outraged

742
00:28:56,279 --> 00:29:00,869
about this it's like oh we're just being

743
00:28:58,019 --> 00:29:03,240
you know fair and open net you know I

744
00:29:00,869 --> 00:29:04,769
we're not going to repress somebody

745
00:29:03,240 --> 00:29:07,589
else's ability to pursue what they

746
00:29:04,769 --> 00:29:09,240
believe in or clay want you know which

747
00:29:07,589 --> 00:29:12,149
is dangerous isn't it because a lot of

748
00:29:09,240 --> 00:29:14,190
this stuff is is dangerous in the sense

749
00:29:12,150 --> 00:29:15,900
that some of these practitioners will

750
00:29:14,190 --> 00:29:17,580
tell you to stop taking your

751
00:29:15,900 --> 00:29:19,920
conventional therapy and start taking

752
00:29:17,579 --> 00:29:21,869
theirs and in that case you're putting

753
00:29:19,920 --> 00:29:24,269
people's lives at risk potentially so

754
00:29:21,869 --> 00:29:26,459
yeah absolutely i mean that is the most

755
00:29:24,269 --> 00:29:28,710
obvious direct harm is diverting

756
00:29:26,460 --> 00:29:32,880
treatment away from treatments that are

757
00:29:28,710 --> 00:29:35,789
effective there's a guy selling his

758
00:29:32,880 --> 00:29:37,830
supplements in africa for aids telling

759
00:29:35,789 --> 00:29:39,960
his clients stop taking your

760
00:29:37,829 --> 00:29:42,599
antiretroviral drugs take my herbs

761
00:29:39,960 --> 00:29:44,490
instead and directly telling them not to

762
00:29:42,599 --> 00:29:46,678
take the conventional medicine so that

763
00:29:44,490 --> 00:29:48,299
happens a lot sometimes even when it's

764
00:29:46,679 --> 00:29:50,250
not intentional it's just diverting

765
00:29:48,299 --> 00:29:52,889
people's energy time and attention away

766
00:29:50,250 --> 00:29:55,109
from more effective treatments sometimes

767
00:29:52,890 --> 00:29:56,610
patients can't afford their prescription

768
00:29:55,109 --> 00:29:59,219
medications were there conventional

769
00:29:56,609 --> 00:30:00,629
treatment and the alternative treatment

770

00:29:59,220 --> 00:30:02,669
in there or they have to choose between

771
00:30:00,630 --> 00:30:04,559
the two and you know often they'll

772
00:30:02,669 --> 00:30:05,410
choose the one that's offering the most

773
00:30:04,558 --> 00:30:08,079
pope

774
00:30:05,410 --> 00:30:09,250
even the false hope that's true there's

775
00:30:08,079 --> 00:30:10,480
many other kinds of harm though too

776
00:30:09,250 --> 00:30:11,910
while we're talking about them it's

777
00:30:10,480 --> 00:30:13,750
obviously sometimes there's direct harm

778
00:30:11,910 --> 00:30:15,360
physical harm from the treatment itself

779
00:30:13,750 --> 00:30:18,539
not all of these treatments are safe

780
00:30:15,359 --> 00:30:21,490
chelation therapy has resulted in the

781
00:30:18,539 --> 00:30:23,500
death even a young child who is treating

782
00:30:21,490 --> 00:30:25,599
being treated with chelation therapy for

783
00:30:23,500 --> 00:30:28,869
autism which is not not indicated

784
00:30:25,599 --> 00:30:30,909

treatment this is your base tubercular

785

00:30:28,869 --> 00:30:33,149

poisoning notion which is this was false

786

00:30:30,910 --> 00:30:37,540

there's other harm you know if you

787

00:30:33,150 --> 00:30:39,220

inculcate a bizarre or anti scientific

788

00:30:37,539 --> 00:30:41,379

notions of health and disease there's

789

00:30:39,220 --> 00:30:43,360

lots of downstream harm from that

790

00:30:41,380 --> 00:30:45,640

there's financial harm and there's

791

00:30:43,359 --> 00:30:49,179

tremendous psychological harm and I see

792

00:30:45,640 --> 00:30:53,590

that myself you know patients invest a

793

00:30:49,180 --> 00:30:55,779

great deal of emotion and again and hope

794

00:30:53,589 --> 00:30:57,909

in what turns out to be a false hope and

795

00:30:55,779 --> 00:30:59,980

then it's like rubbing salt in the

796

00:30:57,910 --> 00:31:02,259

wounds they have oftentimes a desperate

797

00:30:59,980 --> 00:31:05,049

even maybe terminal illness and then

798

00:31:02,259 --> 00:31:07,420

someone comes along takes you know a

799
00:31:05,049 --> 00:31:08,980
huge chunk of money from them yes you

800
00:31:07,420 --> 00:31:11,800
know wastes their time and energy with

801
00:31:08,980 --> 00:31:13,539
false hope for a period of time then

802
00:31:11,799 --> 00:31:16,210
they have that second let down when it

803
00:31:13,539 --> 00:31:17,529
kind of dawns on them that this I've

804
00:31:16,210 --> 00:31:20,950
been hoodwinked you know on top of

805
00:31:17,529 --> 00:31:22,420
having a horrible no I victim of a fraud

806
00:31:20,950 --> 00:31:24,250
it's just it's a double whammy I

807
00:31:22,420 --> 00:31:26,620
actually have a friend in Australia who

808
00:31:24,250 --> 00:31:28,779
is currently undergoing chemotherapy and

809
00:31:26,619 --> 00:31:31,269
she's she's got very virulent cancer

810
00:31:28,779 --> 00:31:33,490
she's very sick she's not long for this

811
00:31:31,269 --> 00:31:35,710
world and of course she's desperate and

812
00:31:33,490 --> 00:31:38,589
she's vulnerable and she recently fell

813
00:31:35,710 --> 00:31:39,970
victim to her hair analysis and these

814
00:31:38,589 --> 00:31:41,589
people have told her that you know she

815
00:31:39,970 --> 00:31:44,500
can't eat tomatoes and she can eat

816
00:31:41,589 --> 00:31:47,230
macadamia nuts but not peanuts and this

817
00:31:44,500 --> 00:31:49,150
woman is tragically gonna die soon and

818
00:31:47,230 --> 00:31:51,099
now her whole life is focused around

819
00:31:49,150 --> 00:31:52,600
below can't have a glass of wine because

820
00:31:51,099 --> 00:31:54,519
the hair analysis people said I

821
00:31:52,599 --> 00:31:56,709
shouldn't and it's really compromising

822
00:31:54,519 --> 00:31:58,599
the last days that she's got left that's

823
00:31:56,710 --> 00:32:00,670
an extremely good point and you know I

824
00:31:58,599 --> 00:32:02,759
see that as well I deal with often

825
00:32:00,670 --> 00:32:06,190
terminal neurological illness such as

826
00:32:02,759 --> 00:32:08,109
ALS or motor neuron disease you know

827

00:32:06,190 --> 00:32:09,460
oftentimes for some patients all we

828
00:32:08,109 --> 00:32:11,889
could really do for them if it's been

829
00:32:09,460 --> 00:32:15,100
curable illness is try to make the

830
00:32:11,890 --> 00:32:18,040
remaining time as long productive and

831
00:32:15,099 --> 00:32:19,359
high-quality as we as we can and that

832
00:32:18,039 --> 00:32:21,069
has value you know if you

833
00:32:19,359 --> 00:32:22,808
a couple years to live you want to be

834
00:32:21,069 --> 00:32:25,178
spend that with your family or your

835
00:32:22,808 --> 00:32:28,690
loved ones and and be as active as you

836
00:32:25,179 --> 00:32:32,798
can and functional as you can be I last

837
00:32:28,690 --> 00:32:35,170
one died age yeah thanks but that that

838
00:32:32,798 --> 00:32:37,359
last time is taken away from them while

839
00:32:35,170 --> 00:32:39,370
they're pursuing you know these these

840
00:32:37,359 --> 00:32:42,308
false hopes and we've had patients go to

841
00:32:39,369 --> 00:32:44,319

China to get fake stem cell therapy and

842

00:32:42,308 --> 00:32:46,298

they died over there probably either

843

00:32:44,319 --> 00:32:48,519

just of their disease or complications

844

00:32:46,298 --> 00:32:51,160

of this treatment infections and whatnot

845

00:32:48,519 --> 00:32:52,869

but only after being billed for thirty

846

00:32:51,160 --> 00:32:54,519

forty thousand dollars for them for the

847

00:32:52,869 --> 00:32:57,489

whole deal and that's it they've looked

848

00:32:54,519 --> 00:32:58,900

there last year or so of life was stolen

849

00:32:57,490 --> 00:33:01,480

from them just so that somebody could

850

00:32:58,900 --> 00:33:03,130

could make a fast buck and that in your

851

00:33:01,480 --> 00:33:04,900

opinion that's that's fraudulent

852

00:33:03,130 --> 00:33:07,360

behavior not deluded behavior would you

853

00:33:04,900 --> 00:33:09,429

say from the alternative medicine

854

00:33:07,359 --> 00:33:11,439

proponents in that case well it

855

00:33:09,429 --> 00:33:13,360

obviously is the whole spectrum within

856
00:33:11,440 --> 00:33:15,340
the broad umbrella began this sort of

857
00:33:13,359 --> 00:33:17,889
fake category have alternative medicine

858
00:33:15,339 --> 00:33:19,959
it's hard to Saul ways say for sure with

859
00:33:17,890 --> 00:33:21,340
an individual because you can't read

860
00:33:19,960 --> 00:33:23,289
mind you know how deluded are they

861
00:33:21,339 --> 00:33:25,689
versus fraudulent there are some cases

862
00:33:23,289 --> 00:33:27,190
where you know they have to be

863
00:33:25,690 --> 00:33:28,870
committing fraud like psychic surgery

864
00:33:27,190 --> 00:33:32,019
which is popular in the Philippines so

865
00:33:28,869 --> 00:33:33,519
they're they're pretending to you like

866
00:33:32,019 --> 00:33:35,048
psychically put their hands inside

867
00:33:33,519 --> 00:33:36,970
somebody and remove tumors or whatever

868
00:33:35,048 --> 00:33:39,179
they say psychically diagnosed and

869
00:33:36,970 --> 00:33:41,679
they're palming chicken parts and then

870
00:33:39,179 --> 00:33:43,390
revealing the O's to the people in order

871
00:33:41,679 --> 00:33:45,790
to deceive them that's a level of

872
00:33:43,390 --> 00:33:48,759
deception that requires culpability that

873
00:33:45,789 --> 00:33:50,918
requires a knowledge of what you're

874
00:33:48,759 --> 00:33:53,200
doing it that's premeditated yeah then

875
00:33:50,919 --> 00:33:56,559
you get to the gray area like these stem

876
00:33:53,200 --> 00:33:58,900
cell clinics in China and you know it is

877
00:33:56,558 --> 00:34:00,730
separately by their behavior I think

878
00:33:58,900 --> 00:34:04,660
it's not so much that they necessarily

879
00:34:00,730 --> 00:34:06,400
feel that there's no potential value to

880
00:34:04,660 --> 00:34:10,329
what they're doing I think they just

881
00:34:06,400 --> 00:34:14,200
don't care it's it's they have you know

882
00:34:10,329 --> 00:34:16,750
some plausible deniability they're doing

883
00:34:14,199 --> 00:34:18,878
something they're getting tons of money

884

00:34:16,750 --> 00:34:20,590
from desperate wealthy Westerners you

885
00:34:18,878 --> 00:34:22,599
know from their point of view yeah and

886
00:34:20,590 --> 00:34:26,108
whether or not it actually works is kind

887
00:34:22,599 --> 00:34:28,628
of a secondary concern so there it may

888
00:34:26,108 --> 00:34:30,398
not be that they know it's fraudulent so

889
00:34:28,628 --> 00:34:33,009
much as they just don't care if it works

890
00:34:30,398 --> 00:34:33,219
or not and then there's definitely at

891
00:34:33,010 --> 00:34:34,450
the

892
00:34:33,219 --> 00:34:36,368
other end of the spectrum there are true

893
00:34:34,449 --> 00:34:38,289
believers who yeah this is a religious

894
00:34:36,369 --> 00:34:41,559
belief to that or that are just so

895
00:34:38,289 --> 00:34:44,019
confused by the pseudoscience that they

896
00:34:41,559 --> 00:34:45,659
really think that it works or what

897
00:34:44,019 --> 00:34:47,889
they're doing is legitimate they're just

898
00:34:45,659 --> 00:34:50,559

profoundly confused about the science

899

00:34:47,889 --> 00:34:52,090

mmm well what that sort of leads me on

900

00:34:50,559 --> 00:34:54,429

to the next question which is about the

901

00:34:52,090 --> 00:34:57,309

hijacking of scientific terminology by

902

00:34:54,429 --> 00:35:00,250

can proponents and recently I attended

903

00:34:57,309 --> 00:35:01,480

the mind body spirit or wallet festival

904

00:35:00,250 --> 00:35:03,880

as we affectionately call it in

905

00:35:01,480 --> 00:35:05,769

Australia right and you'll be amazed Eve

906

00:35:03,880 --> 00:35:07,809

there's you know that quantum technology

907

00:35:05,769 --> 00:35:11,710

is working in alternative medicine I

908

00:35:07,809 --> 00:35:13,389

don't know if you've had what god damn

909

00:35:11,710 --> 00:35:15,519

technologies awesome I mean you know you

910

00:35:13,389 --> 00:35:17,348

just say the word quantum anything and

911

00:35:15,519 --> 00:35:20,320

it's instant you know to instant

912

00:35:17,349 --> 00:35:21,940

pseudoscience oh yeah um yeah that's

913
00:35:20,320 --> 00:35:23,260
yeah that's all it's all about the

914
00:35:21,940 --> 00:35:26,679
marketing which is the one thing that

915
00:35:23,260 --> 00:35:28,720
cam industry does extremely well it's

916
00:35:26,679 --> 00:35:30,339
all about the marketing and also they

917
00:35:28,719 --> 00:35:32,409
have an advantage in that they're not

918
00:35:30,340 --> 00:35:35,230
constrained by things like facts and

919
00:35:32,409 --> 00:35:37,269
ethics so if you're not so yeah you're

920
00:35:35,230 --> 00:35:40,869
not so constrained you can you can model

921
00:35:37,269 --> 00:35:44,800
your marketing purely for you know

922
00:35:40,869 --> 00:35:47,050
psychological impact and couching there

923
00:35:44,800 --> 00:35:50,830
are certain themes that that they follow

924
00:35:47,050 --> 00:35:53,200
one theme is the new gee whiz technology

925
00:35:50,829 --> 00:35:55,059
and this is this has been going on for a

926
00:35:53,199 --> 00:35:56,649
long long time ever since science has

927
00:35:55,059 --> 00:35:59,679
been sort of institutionalized and

928
00:35:56,650 --> 00:36:03,220
invoke in civilization so hundred years

929
00:35:59,679 --> 00:36:05,169
ago the the cutting-edge science II kind

930
00:36:03,219 --> 00:36:06,819
of treatment was radiation so they were

931
00:36:05,170 --> 00:36:08,139
radioactive tonics that people thought

932
00:36:06,820 --> 00:36:09,309
were the late latest greatest thing a

933
00:36:08,139 --> 00:36:11,259
hundred years before that it was

934
00:36:09,309 --> 00:36:13,059
electromagnetism so that's where Mesmer

935
00:36:11,260 --> 00:36:14,980
you know comes in with his animal

936
00:36:13,059 --> 00:36:18,639
magnetism that you can use to cure just

937
00:36:14,980 --> 00:36:21,519
about anything and now it's quantum you

938
00:36:18,639 --> 00:36:24,579
know is you Deepak Chopra's quantum

939
00:36:21,519 --> 00:36:27,759
healing for example or that sort of puts

940
00:36:24,579 --> 00:36:29,949
it it's a new way of justifying the

941

00:36:27,760 --> 00:36:31,720
idealistic notions that are thousands of

942
00:36:29,949 --> 00:36:33,939
years old look at that notion of this

943
00:36:31,719 --> 00:36:35,679
life energy so now you just throw

944
00:36:33,940 --> 00:36:37,088
quantum in front of it yeah the quantum

945
00:36:35,679 --> 00:36:39,239
life energy but it's the same sort of

946
00:36:37,088 --> 00:36:41,710
spiritual pre-scientific notions that

947
00:36:39,239 --> 00:36:44,588
you know we're weeded out of scientific

948
00:36:41,710 --> 00:36:47,190
thinking over a hundred years ago but

949
00:36:44,588 --> 00:36:49,799
yet the extremely effective marketing

950
00:36:47,190 --> 00:36:51,838
it's funny actually because I had a

951
00:36:49,800 --> 00:36:54,030
conversation with a live blood analysis

952
00:36:51,838 --> 00:36:56,369
person at the previous mind body spirit

953
00:36:54,030 --> 00:36:58,079
yeah I liking it Steve to someone who

954
00:36:56,369 --> 00:37:00,030
would place a whole lot of scientific

955
00:36:58,079 --> 00:37:02,068

words and jargon in a hat and just pull

956

00:37:00,030 --> 00:37:03,569

them out at random and then pepper

957

00:37:02,068 --> 00:37:06,119

they're sort of spell with these

958

00:37:03,568 --> 00:37:07,710

scientific words and so to someone who

959

00:37:06,119 --> 00:37:10,829

doesn't have a lot of science education

960

00:37:07,710 --> 00:37:12,720

it sounds kind of like it might be right

961

00:37:10,829 --> 00:37:15,720

because it's sciency and it's you know

962

00:37:12,719 --> 00:37:17,219

technical so what you say about the

963

00:37:15,719 --> 00:37:19,739

marketing is true that's what's what

964

00:37:17,219 --> 00:37:22,078

they do it's the point is to to befuddle

965

00:37:19,739 --> 00:37:24,449

with technobabble you know so people

966

00:37:22,079 --> 00:37:26,220

have this vague sense that it's sciency

967

00:37:24,449 --> 00:37:28,409

but they don't understand enough to

968

00:37:26,219 --> 00:37:32,039

realize that it doesn't make any sense

969

00:37:28,409 --> 00:37:33,929

I've seen that in product marketing as

970
00:37:32,039 --> 00:37:35,489
well like health care products this one

971
00:37:33,929 --> 00:37:38,429
catalog came from the name with a

972
00:37:35,489 --> 00:37:39,899
catalogue that we examined at one point

973
00:37:38,429 --> 00:37:41,669
it was I had about a hundred different

974
00:37:39,900 --> 00:37:43,920
pseudo-scientific products and their

975
00:37:41,670 --> 00:37:47,670
health products a number like one they

976
00:37:43,920 --> 00:37:49,380
had this cloth that had infrared the

977
00:37:47,670 --> 00:37:54,088
infrared spectrum woven into the fabric

978
00:37:49,380 --> 00:37:55,470
oh man what does that be like red woven

979
00:37:54,088 --> 00:37:57,509
into the fabric what does that even mean

980
00:37:55,469 --> 00:37:58,919
but had the word infrared in it it

981
00:37:57,510 --> 00:38:00,630
sounded good it kind of made it all

982
00:37:58,920 --> 00:38:02,579
again as you say all sciency we gotta

983
00:38:00,630 --> 00:38:04,710
get that is that is a deliberate attempt

984
00:38:02,579 --> 00:38:06,329
to deceive that's what that is the other

985
00:38:04,710 --> 00:38:08,849
thing that they all do a lot of them

986
00:38:06,329 --> 00:38:11,220
have dr. at the front of their names and

987
00:38:08,849 --> 00:38:13,650
I recently was doing some research on

988
00:38:11,219 --> 00:38:16,919
this but I wonder if you know much about

989
00:38:13,650 --> 00:38:19,440
how easy it is for a layman or anyone

990
00:38:16,920 --> 00:38:21,809
really to find out if someone's doctor

991
00:38:19,440 --> 00:38:23,849
is legitimate because you know there's

992
00:38:21,809 --> 00:38:26,099
so many diploma mills around these days

993
00:38:23,849 --> 00:38:30,568
it's it's not always easy to find out if

994
00:38:26,099 --> 00:38:32,338
someone actually does have a PhD uh yeah

995
00:38:30,568 --> 00:38:34,019
that's showing that you can search on

996
00:38:32,338 --> 00:38:36,269
them on the web and you ask them for the

997
00:38:34,019 --> 00:38:38,460
details if they can't provide you with a

998

00:38:36,269 --> 00:38:40,469
legitimate institution that provided

999
00:38:38,460 --> 00:38:42,000
their degree you should be suspicious I

1000
00:38:40,469 --> 00:38:43,919
mean you should put the burden on them

1001
00:38:42,000 --> 00:38:45,960
to prove that their degree is legitimate

1002
00:38:43,920 --> 00:38:49,139
not on you to prove that it's not

1003
00:38:45,960 --> 00:38:51,960
legitimate but if they can't provide you

1004
00:38:49,139 --> 00:38:53,489
know a verifiable institution that

1005
00:38:51,960 --> 00:38:55,440
provided the degree and then you're

1006
00:38:53,489 --> 00:38:57,389
depending on how you know important this

1007
00:38:55,440 --> 00:38:58,889
is to you you could then follow up with

1008
00:38:57,389 --> 00:39:00,269
that institution to see did they really

1009
00:38:58,889 --> 00:39:01,109
get the degree because they'll just they

1010
00:39:00,269 --> 00:39:03,690
could lie about

1011
00:39:01,110 --> 00:39:05,220
at as well so mean that vetting could be

1012
00:39:03,690 --> 00:39:09,019

either a couple of mouse clicks or a

1013

00:39:05,219 --> 00:39:11,339

phone call away you know for anybody

1014

00:39:09,019 --> 00:39:13,530

depending on you know how many layers of

1015

00:39:11,340 --> 00:39:15,120

deception they're using to hide hide

1016

00:39:13,530 --> 00:39:17,160

their trail but certainly when like

1017

00:39:15,119 --> 00:39:18,779

journalists or whatever investigators

1018

00:39:17,159 --> 00:39:21,269

are or if I'm writing about an

1019

00:39:18,780 --> 00:39:22,590

individual you can find out if they're

1020

00:39:21,269 --> 00:39:25,559

if they're degrees or legitimate or not

1021

00:39:22,590 --> 00:39:27,510

yeah it's um it's kind of rubbing salt

1022

00:39:25,559 --> 00:39:29,400

in the wind for for me for example

1023

00:39:27,510 --> 00:39:30,840

because I actually do have a PhD and you

1024

00:39:29,400 --> 00:39:33,809

can check on the University of Sydney

1025

00:39:30,840 --> 00:39:35,370

website people it's there and to see

1026

00:39:33,809 --> 00:39:37,650

these people just walking around saying

1027
00:39:35,369 --> 00:39:39,359
I'm dr. this and I'm dr. that and in

1028
00:39:37,650 --> 00:39:41,579
fact we know of one person who's not

1029
00:39:39,360 --> 00:39:44,370
only a PhD but he has a doctor of

1030
00:39:41,579 --> 00:39:48,539
science as well which I think he awarded

1031
00:39:44,369 --> 00:39:51,869
himself from his own institutions right

1032
00:39:48,539 --> 00:39:53,750
my point is that it that's convenient it

1033
00:39:51,869 --> 00:39:56,339
is convenient isn't it and in fact I

1034
00:39:53,750 --> 00:39:58,320
tricked the chronological order of his

1035
00:39:56,340 --> 00:40:01,590
degrees and he got the doctor of science

1036
00:39:58,320 --> 00:40:03,210
before he got the PhD which in academic

1037
00:40:01,590 --> 00:40:05,340
circles it's quite unusual that's

1038
00:40:03,210 --> 00:40:07,590
usually the other way around the problem

1039
00:40:05,340 --> 00:40:11,430
is worse in that there are now

1040
00:40:07,590 --> 00:40:13,920
recognized degrees that label somebody

1041
00:40:11,429 --> 00:40:16,619
to call themselves a doctor that have no

1042
00:40:13,920 --> 00:40:18,150
no have no external validity for example

1043
00:40:16,619 --> 00:40:19,889
I'm not sure how much is translate over

1044
00:40:18,150 --> 00:40:23,010
to Australia but in the United States we

1045
00:40:19,889 --> 00:40:24,509
have doctors of chiropractic we call

1046
00:40:23,010 --> 00:40:27,210
themselves doctor when when they don't

1047
00:40:24,510 --> 00:40:28,920
have an equal degree and also now

1048
00:40:27,210 --> 00:40:31,349
naturopaths you know doctor of

1049
00:40:28,920 --> 00:40:34,430
naturopathic medicine which is you know

1050
00:40:31,349 --> 00:40:36,719
naturopathic a quote-unquote doctors

1051
00:40:34,429 --> 00:40:40,679
that's it naturopathy is just a

1052
00:40:36,719 --> 00:40:43,889
collection of disparate sometimes

1053
00:40:40,679 --> 00:40:45,869
mutually exclusive pseudo-sciences it's

1054
00:40:43,889 --> 00:40:48,299
basically anything that's wrong anything

1055

00:40:45,869 --> 00:40:50,339
that gets to start discarded from

1056
00:40:48,300 --> 00:40:53,280
mainstream or scientific science they

1057
00:40:50,340 --> 00:40:55,200
pick up and make and weave into their

1058
00:40:53,280 --> 00:40:57,390
practice and they it's really mean

1059
00:40:55,199 --> 00:40:59,789
reading their articles in their texts is

1060
00:40:57,389 --> 00:41:02,670
like reading a fantasy novel I mean it

1061
00:40:59,789 --> 00:41:04,019
is just in crowd dropping Lee incredible

1062
00:41:02,670 --> 00:41:06,389
that the notions that they come out with

1063
00:41:04,019 --> 00:41:08,880
just completely antithetical to just

1064
00:41:06,389 --> 00:41:10,440
basic biology forget about you know

1065
00:41:08,880 --> 00:41:11,849
sophisticated medical research or

1066
00:41:10,440 --> 00:41:14,130
whatnot they're just violating even

1067
00:41:11,849 --> 00:41:15,059
basic biology and they just weave all

1068
00:41:14,130 --> 00:41:18,090
that into this

1069
00:41:15,059 --> 00:41:21,239

sort of vaguely FEMA the natural

1070

00:41:18,090 --> 00:41:24,780

treatment uh and but they now they have

1071

00:41:21,239 --> 00:41:26,729

Duke they can go to a college get a

1072

00:41:24,780 --> 00:41:28,800

degree in naturopathic medicine is

1073

00:41:26,730 --> 00:41:30,150

recognized in a number of states in the

1074

00:41:28,800 --> 00:41:31,980

United States and there they're slowly

1075

00:41:30,150 --> 00:41:34,200

you know working their way through state

1076

00:41:31,980 --> 00:41:36,510

legislatures getting getting recognition

1077

00:41:34,199 --> 00:41:39,539

how do you have naturopathy Nostra yeah

1078

00:41:36,510 --> 00:41:41,580

yes we do and it is a recognized degree

1079

00:41:39,539 --> 00:41:43,800

in fact it's about three years to do a

1080

00:41:41,579 --> 00:41:45,779

degree in naturopathy I'm not quite sure

1081

00:41:43,800 --> 00:41:48,960

what they do for that amount of time I

1082

00:41:45,780 --> 00:41:50,010

haven't seen a curriculum structure I've

1083

00:41:48,960 --> 00:41:51,960

looked for one but I haven't found

1084
00:41:50,010 --> 00:41:53,640
anything but yeah we have them

1085
00:41:51,960 --> 00:41:56,789
unfortunately right well that just

1086
00:41:53,639 --> 00:41:58,469
confused like even further so it now

1087
00:41:56,789 --> 00:42:00,750
doesn't how is the public supposed to

1088
00:41:58,469 --> 00:42:02,339
know if this if the the government or

1089
00:42:00,750 --> 00:42:05,309
the state license is somebody and they

1090
00:42:02,340 --> 00:42:07,740
have a degree it doesn't necessarily

1091
00:42:05,309 --> 00:42:10,440
mean anything so it's something they're

1092
00:42:07,739 --> 00:42:13,979
not doing their job of protecting the

1093
00:42:10,440 --> 00:42:15,929
public from fraud or you know we're

1094
00:42:13,980 --> 00:42:18,269
sharing at least a basic level of

1095
00:42:15,929 --> 00:42:20,339
legitimacy in health care providers so

1096
00:42:18,269 --> 00:42:22,289
the public is left to fend for

1097
00:42:20,340 --> 00:42:24,059
themselves yeah well I'm not sure what

1098
00:42:22,289 --> 00:42:25,829
it's like with the FDA Steve but our

1099
00:42:24,059 --> 00:42:29,099
government body here is the Therapeutic

1100
00:42:25,829 --> 00:42:31,679
Goods Administration so the TGA and they

1101
00:42:29,099 --> 00:42:33,449
actually you can list a product with

1102
00:42:31,679 --> 00:42:36,809
them which then entitles it to go into

1103
00:42:33,449 --> 00:42:38,339
pharmacies or you know drugstores and it

1104
00:42:36,809 --> 00:42:40,739
gives the government will give it an

1105
00:42:38,340 --> 00:42:42,750
official-looking listing number and say

1106
00:42:40,739 --> 00:42:45,029
it's been approved by the Australian

1107
00:42:42,750 --> 00:42:48,630
Government but things like for example

1108
00:42:45,030 --> 00:42:50,880
ear candles you can buy in drugs here

1109
00:42:48,630 --> 00:42:53,789
homeopathy you can buy in drug stores

1110
00:42:50,880 --> 00:42:56,130
from the perspective of someone from the

1111
00:42:53,789 --> 00:42:57,809
public it looks legitimate because the

1112

00:42:56,130 --> 00:43:00,630
government's approved it so it must work

1113
00:42:57,809 --> 00:43:03,449
and it's being sold in drugs the

1114
00:43:00,630 --> 00:43:05,280
conventional science-based medicine yeah

1115
00:43:03,449 --> 00:43:07,259
it's malfeasance in my opinion that says

1116
00:43:05,280 --> 00:43:09,810
the government completely filling the

1117
00:43:07,260 --> 00:43:13,580
public in the United States we do have

1118
00:43:09,809 --> 00:43:16,710
the FDA but we also have in 1994

1119
00:43:13,579 --> 00:43:18,449
Congress you know again under the

1120
00:43:16,710 --> 00:43:20,909
auspices of a couple of true believers

1121
00:43:18,449 --> 00:43:22,799
passed the dietary supplement health and

1122
00:43:20,909 --> 00:43:25,109
education act of nineteen ninety-four

1123
00:43:22,800 --> 00:43:26,280
which removed basically all the things

1124
00:43:25,110 --> 00:43:28,980
that you're talking about all sort of

1125
00:43:26,280 --> 00:43:32,130
supplements and herbs and vitamins

1126
00:43:28,980 --> 00:43:34,440

out of FDA control so that you could

1127

00:43:32,130 --> 00:43:36,570

market it without having to provide any

1128

00:43:34,440 --> 00:43:39,659

previous evidence of safety or

1129

00:43:36,570 --> 00:43:41,940

effectiveness and they created this sort

1130

00:43:39,659 --> 00:43:45,179

of new category of health claims called

1131

00:43:41,940 --> 00:43:47,190

structure-function claims so right in

1132

00:43:45,179 --> 00:43:49,500

the US there's two worlds there's

1133

00:43:47,190 --> 00:43:51,630

diseases and if you claim to treat a

1134

00:43:49,500 --> 00:43:53,969

disease then that's regulated as a drug

1135

00:43:51,630 --> 00:43:54,990

and the FDA has purview over that but

1136

00:43:53,969 --> 00:43:57,539

you could make these structure-function

1137

00:43:54,989 --> 00:44:00,239

claims without any without any oversight

1138

00:43:57,539 --> 00:44:02,519

or having to provide any evidence to

1139

00:44:00,239 --> 00:44:04,309

back up your claims and and those are

1140

00:44:02,519 --> 00:44:07,759

things like it boosts the immune system

1141
00:44:04,309 --> 00:44:11,250
or it enhances a positive mood or

1142
00:44:07,760 --> 00:44:13,650
well-being or nutritional support or

1143
00:44:11,250 --> 00:44:15,239
whatever you know detoxifies when you

1144
00:44:13,650 --> 00:44:17,880
could use all these sort of pseudo

1145
00:44:15,239 --> 00:44:19,289
health claims and if you're careful in

1146
00:44:17,880 --> 00:44:20,640
the wording and in the marketing you

1147
00:44:19,289 --> 00:44:23,489
could make the claims you want to make

1148
00:44:20,639 --> 00:44:25,799
you just can't mention diseases by have

1149
00:44:23,489 --> 00:44:27,089
to be minimally clever to evade the

1150
00:44:25,800 --> 00:44:28,830
regulation and you got to put a

1151
00:44:27,090 --> 00:44:31,470
disclaimer yes you know these claims

1152
00:44:28,829 --> 00:44:33,150
have not viewed by the FDA but half the

1153
00:44:31,469 --> 00:44:35,219
time they don't do even do that minimal

1154
00:44:33,150 --> 00:44:37,530
requirement the bottom line is to unless

1155
00:44:35,219 --> 00:44:39,599
you're you know fairly savvy about

1156
00:44:37,530 --> 00:44:41,670
what's going on do to them to the most

1157
00:44:39,599 --> 00:44:43,108
of the public at large the companies are

1158
00:44:41,670 --> 00:44:46,800
able to make the claims they want to

1159
00:44:43,108 --> 00:44:48,599
make and easily comport with the very

1160
00:44:46,800 --> 00:44:50,220
very deliberately loose regulations and

1161
00:44:48,599 --> 00:44:52,618
this has led to an explosion of the

1162
00:44:50,219 --> 00:44:54,329
supplement industry in this country so

1163
00:44:52,619 --> 00:44:58,140
now the public is is having to wade

1164
00:44:54,329 --> 00:45:00,329
through tremendous dubious claims that

1165
00:44:58,139 --> 00:45:02,309
you know when they the ones that the few

1166
00:45:00,329 --> 00:45:04,369
that do get investigated almost always

1167
00:45:02,309 --> 00:45:07,969
turn out to be incorrect or fraudulent

1168
00:45:04,369 --> 00:45:10,260
and it's a multi-billion dollar industry

1169

00:45:07,969 --> 00:45:12,149
yeah we have the same thing here where

1170
00:45:10,260 --> 00:45:15,350
you can't make claims on the product but

1171
00:45:12,150 --> 00:45:18,599
you can say may assist with or may help

1172
00:45:15,349 --> 00:45:19,769
you can't say it kills anything but the

1173
00:45:18,599 --> 00:45:21,539
other thing we have here and I don't

1174
00:45:19,769 --> 00:45:23,159
know if you have the same as we have in

1175
00:45:21,539 --> 00:45:25,889
most of our pharmacies we have

1176
00:45:23,159 --> 00:45:28,230
consulting iridology and naturopaths and

1177
00:45:25,889 --> 00:45:30,750
you can go and see them for free and

1178
00:45:28,230 --> 00:45:32,369
i'll give you some pharmacies I haven't

1179
00:45:30,750 --> 00:45:34,139
seen now they either you could there's

1180
00:45:32,369 --> 00:45:35,910
thoroughly homeopathic remedies and

1181
00:45:34,139 --> 00:45:38,789
whatnot in pharmacies and in drug stores

1182
00:45:35,909 --> 00:45:42,179
and supermarkets and then we have

1183
00:45:38,789 --> 00:45:42,809

separate it's like boutique nutrition

1184

00:45:42,179 --> 00:45:44,699
stores

1185

00:45:42,809 --> 00:45:48,809
the selling vitamins and minerals they

1186

00:45:44,699 --> 00:45:51,649
they will often have the iridology store

1187

00:45:48,809 --> 00:45:53,960
what whoever there but pharmacies

1188

00:45:51,650 --> 00:45:55,950
generally don't have these

1189

00:45:53,960 --> 00:45:57,869
paraprofessionals they're basically run

1190

00:45:55,949 --> 00:45:59,879
by pharmacists one of the things with

1191

00:45:57,869 --> 00:46:03,359
people who are not particularly science

1192

00:45:59,880 --> 00:46:05,519
educated if they try one of these on cam

1193

00:46:03,360 --> 00:46:07,019
therapies and they they claim it works

1194

00:46:05,519 --> 00:46:08,849
they'll say to you well it works for me

1195

00:46:07,019 --> 00:46:10,650
therefore it works you know they have a

1196

00:46:08,849 --> 00:46:12,509
story I will I had an ear infection and

1197

00:46:10,650 --> 00:46:14,070
I was taking conventional drugs and it

1198
00:46:12,510 --> 00:46:15,990
didn't help and then I put an ear candle

1199
00:46:14,070 --> 00:46:19,230
in my ear and it cleared up so it worked

1200
00:46:15,989 --> 00:46:21,329
and the problem is how can you or can

1201
00:46:19,230 --> 00:46:23,579
you even explain to them that that's not

1202
00:46:21,329 --> 00:46:25,500
the case isn't even worth trying to

1203
00:46:23,579 --> 00:46:27,150
explain to those people oh it's worth

1204
00:46:25,500 --> 00:46:28,769
trying to explain it I never get up on

1205
00:46:27,150 --> 00:46:32,190
people ahead of time but it is very very

1206
00:46:28,769 --> 00:46:34,559
very difficult you have to explain some

1207
00:46:32,190 --> 00:46:36,450
concepts of you know how we know what we

1208
00:46:34,559 --> 00:46:39,480
know and how easy it is for people to be

1209
00:46:36,449 --> 00:46:41,219
deceived by the things with you so what

1210
00:46:39,480 --> 00:46:43,289
you're talking about is sort of the Post

1211
00:46:41,219 --> 00:46:45,480
hoc ergo propter hoc logical fallacy you

1212
00:46:43,289 --> 00:46:46,800
know I was sick I took this treatment I

1213
00:46:45,480 --> 00:46:48,150
got better there for the treatment made

1214
00:46:46,800 --> 00:46:49,740
me better well you don't know what would

1215
00:46:48,150 --> 00:46:52,619
happen if you didn't treatment it's not

1216
00:46:49,739 --> 00:46:54,839
a controlled situation there's also the

1217
00:46:52,619 --> 00:46:58,279
placebo effect which is a very confusing

1218
00:46:54,840 --> 00:47:01,130
concept it's been extremely confused

1219
00:46:58,280 --> 00:47:03,870
it's especially by cam proponents as

1220
00:47:01,130 --> 00:47:05,400
most people think of it as the belief in

1221
00:47:03,869 --> 00:47:08,519
the treatment leads to a real

1222
00:47:05,400 --> 00:47:11,880
physiological effect and that in fact is

1223
00:47:08,519 --> 00:47:13,800
not the case that the quote unquote V

1224
00:47:11,880 --> 00:47:15,660
placebo effect is actually many many

1225
00:47:13,800 --> 00:47:18,150
many different effects it's everything

1226

00:47:15,659 --> 00:47:22,289
other than a physiological response to

1227
00:47:18,150 --> 00:47:25,670
an active treatment so that includes a

1228
00:47:22,289 --> 00:47:29,460
host of psychological factors you know

1229
00:47:25,670 --> 00:47:31,860
misperception biased memory confirmation

1230
00:47:29,460 --> 00:47:33,539
bias as well as the fact that there's

1231
00:47:31,860 --> 00:47:36,990
other variables if you're if you're

1232
00:47:33,539 --> 00:47:39,989
doing one thing to treat yourself you're

1233
00:47:36,989 --> 00:47:42,839
probably doing other things as well that

1234
00:47:39,989 --> 00:47:45,479
may be helping there's the need to

1235
00:47:42,840 --> 00:47:47,519
justify your beliefs or the fact that

1236
00:47:45,480 --> 00:47:49,139
you've invested in a treatment there's

1237
00:47:47,519 --> 00:47:51,230
the hope that you want treatments to

1238
00:47:49,139 --> 00:47:54,089
work so there's a lot of factors at work

1239
00:47:51,230 --> 00:47:56,099
that lead to a subjective sense that

1240
00:47:54,090 --> 00:47:56,610

that the treatments are effective even

1241
00:47:56,099 --> 00:47:59,219
when

1242
00:47:56,610 --> 00:48:00,750
by any objective measures happened the

1243
00:47:59,219 --> 00:48:03,389
disease took the course that it takes

1244
00:48:00,750 --> 00:48:04,860
any way or the function of whatever is

1245
00:48:03,389 --> 00:48:07,619
being measured did not improve in any

1246
00:48:04,860 --> 00:48:09,420
way survival did not improve but people

1247
00:48:07,619 --> 00:48:11,549
still say they quote unquote feel better

1248
00:48:09,420 --> 00:48:13,590
and you know to them it's very

1249
00:48:11,550 --> 00:48:16,050
compelling it to convince people that

1250
00:48:13,590 --> 00:48:20,070
even that your own subjective experience

1251
00:48:16,050 --> 00:48:21,900
is misleading it takes a certain level

1252
00:48:20,070 --> 00:48:23,280
of skepticism to really appreciate that

1253
00:48:21,900 --> 00:48:25,860
and that's probably the hardest thing

1254
00:48:23,280 --> 00:48:28,230
that we deal with is you know trying to

1255
00:48:25,860 --> 00:48:30,900
convince people that your own personal

1256
00:48:28,230 --> 00:48:33,240
experience can actually be deceiving and

1257
00:48:30,900 --> 00:48:35,849
you can't rely upon it that we have to

1258
00:48:33,239 --> 00:48:39,089
trust you know these abstract numbers

1259
00:48:35,849 --> 00:48:43,170
that were generated by a study and not

1260
00:48:39,090 --> 00:48:44,760
your actual own experience but mean the

1261
00:48:43,170 --> 00:48:47,070
history clearly demonstrates that

1262
00:48:44,760 --> 00:48:48,720
personal experience is worse than

1263
00:48:47,070 --> 00:48:51,360
worthless in most cases it's misleading

1264
00:48:48,719 --> 00:48:53,069
again you go back to 100 years ago when

1265
00:48:51,360 --> 00:48:54,480
people were drinking radioactive tonics

1266
00:48:53,070 --> 00:48:56,160
well they thought they felt better for

1267
00:48:54,480 --> 00:48:57,780
two you know they thought that that was

1268
00:48:56,159 --> 00:48:59,489
the greatest thing and that they had

1269
00:48:57,780 --> 00:49:02,040
more energy and vitality all the while

1270
00:48:59,489 --> 00:49:05,699
they were slowly killing themselves yes

1271
00:49:02,039 --> 00:49:07,679
and in fact if rate if it was it weren't

1272
00:49:05,699 --> 00:49:09,869
discovered if radioactivity were let's

1273
00:49:07,679 --> 00:49:12,329
say we're harmless rather than then

1274
00:49:09,869 --> 00:49:14,730
actually harm full it probably would

1275
00:49:12,329 --> 00:49:16,440
still be around today as a tonic you

1276
00:49:14,730 --> 00:49:18,300
know these things never go away entirely

1277
00:49:16,440 --> 00:49:19,889
the only reason why it mean there's in

1278
00:49:18,300 --> 00:49:22,260
get this country the FDA had to actually

1279
00:49:19,889 --> 00:49:24,029
step in and ban radioactive times even

1280
00:49:22,260 --> 00:49:26,310
as late as the 1940s people were still

1281
00:49:24,030 --> 00:49:30,030
believing in it they had to actually ban

1282
00:49:26,309 --> 00:49:31,889
it but you know the Hiroshi Mundson of

1283

00:49:30,030 --> 00:49:34,440
the change in cultural ideas about the

1284
00:49:31,889 --> 00:49:36,719
dangers of of radiant radioactivity was

1285
00:49:34,440 --> 00:49:38,670
really what killed radioactive tonics

1286
00:49:36,719 --> 00:49:40,889
but here you have you know countless

1287
00:49:38,670 --> 00:49:42,930
people who absolutely believe that it

1288
00:49:40,889 --> 00:49:45,179
was helping them so they were totally

1289
00:49:42,929 --> 00:49:47,879
wrong they were profoundly demonstrably

1290
00:49:45,179 --> 00:49:49,500
wrong so you have to extrapolate that to

1291
00:49:47,880 --> 00:49:52,289
yourself and to everybody else if they

1292
00:49:49,500 --> 00:49:55,469
can be that wrong then anybody could be

1293
00:49:52,289 --> 00:49:57,900
wrong about any subjective experience of

1294
00:49:55,469 --> 00:49:59,489
their own treatment but we have this

1295
00:49:57,900 --> 00:50:02,010
sort of psychological effect where we

1296
00:49:59,489 --> 00:50:04,049
think we're like immune psychological

1297
00:50:02,010 --> 00:50:05,820

factors that affect everybody else in

1298

00:50:04,050 --> 00:50:08,039

the world that where everyone thinks

1299

00:50:05,820 --> 00:50:09,809

they're special in that guard oh yeah

1300

00:50:08,039 --> 00:50:10,559

other people can be deceived by this but

1301

00:50:09,809 --> 00:50:13,409

not me

1302

00:50:10,559 --> 00:50:14,610

they experience yeah no wrong you're a

1303

00:50:13,409 --> 00:50:16,049

human you got the same brain as

1304

00:50:14,610 --> 00:50:17,789

everybody else you could be deceived we

1305

00:50:16,050 --> 00:50:20,070

all could be deceived I could be if it's

1306

00:50:17,789 --> 00:50:22,500

just it's just human nature it's the

1307

00:50:20,070 --> 00:50:24,300

same concept as some people saying oh I

1308

00:50:22,500 --> 00:50:26,909

know there are fraudulent psychics out

1309

00:50:24,300 --> 00:50:29,220

there but mines real mines mines fine

1310

00:50:26,909 --> 00:50:30,869

it's just everybody every all the rest

1311

00:50:29,219 --> 00:50:33,179

of them are fraudulent and doing cold

1312
00:50:30,869 --> 00:50:35,909
reading but mine is absolutely spot-on

1313
00:50:33,179 --> 00:50:38,489
you know they don't know all those odds

1314
00:50:35,909 --> 00:50:40,980
like maybe frauds but not mine not mine

1315
00:50:38,489 --> 00:50:43,139
young yeah you mentioned side effects

1316
00:50:40,980 --> 00:50:45,329
just before and I recently had an

1317
00:50:43,139 --> 00:50:47,730
exchange by email with someone about

1318
00:50:45,329 --> 00:50:50,819
homeopathy which is one of my favorite

1319
00:50:47,730 --> 00:50:52,769
pants and his his point was well

1320
00:50:50,820 --> 00:50:54,780
obviously homeopathy is safer because

1321
00:50:52,769 --> 00:50:56,940
there are no side effects whereas

1322
00:50:54,780 --> 00:50:58,830
Orthodox conventional medicine has side

1323
00:50:56,940 --> 00:51:01,289
effects now I'm wondering if you can

1324
00:50:58,829 --> 00:51:02,730
just explain to the listeners why it is

1325
00:51:01,289 --> 00:51:05,099
that there are no side effects with

1326
00:51:02,730 --> 00:51:06,750
homeopathy and what it means when you

1327
00:51:05,099 --> 00:51:08,460
get side effects with conventional drugs

1328
00:51:06,750 --> 00:51:11,340
in other words it means that you're

1329
00:51:08,460 --> 00:51:12,780
getting an effect right so there's no

1330
00:51:11,340 --> 00:51:16,050
side effects from homeopathy because

1331
00:51:12,780 --> 00:51:18,360
there's no effects exactly no

1332
00:51:16,050 --> 00:51:20,430
physiological effects the difference

1333
00:51:18,360 --> 00:51:21,840
between a beneficial in effect a

1334
00:51:20,429 --> 00:51:23,699
beneficial effect in a side effect is

1335
00:51:21,840 --> 00:51:25,680
really just all context it's what's the

1336
00:51:23,699 --> 00:51:27,899
effect that you're trying to get at an

1337
00:51:25,679 --> 00:51:30,389
intervention and in the proper clinical

1338
00:51:27,900 --> 00:51:32,639
context some effects are desirable for

1339
00:51:30,389 --> 00:51:34,589
example if you're taking a drug to help

1340

00:51:32,639 --> 00:51:37,379
you fall asleep at night it has a

1341
00:51:34,590 --> 00:51:39,840
sedating effect that sedating effect is

1342
00:51:37,380 --> 00:51:42,450
the desired effect of that drug but if

1343
00:51:39,840 --> 00:51:43,890
you're taking a drug for pain and you

1344
00:51:42,449 --> 00:51:46,230
want to be functional at work us

1345
00:51:43,889 --> 00:51:49,139
sedating effect is it unwanted side

1346
00:51:46,230 --> 00:51:50,159
effect it's just the context of what

1347
00:51:49,139 --> 00:51:51,839
you're trying to get out of it there's

1348
00:51:50,159 --> 00:51:54,989
also this concept of a therapeutic range

1349
00:51:51,840 --> 00:51:58,140
that when we r you know developing drugs

1350
00:51:54,989 --> 00:52:02,159
we're looking for a chemical that will

1351
00:51:58,139 --> 00:52:05,400
have a dosing range in which we will get

1352
00:52:02,159 --> 00:52:08,489
a desired effect while undesired effects

1353
00:52:05,400 --> 00:52:11,190
will be minimal minimal or tolerable and

1354
00:52:08,489 --> 00:52:14,639

then and there won't be or the chance of

1355

00:52:11,190 --> 00:52:17,400

any toxic effect is extremely minimal

1356

00:52:14,639 --> 00:52:20,219

and there's certain you know testing

1357

00:52:17,400 --> 00:52:22,050

that is a standard to go through to

1358

00:52:20,219 --> 00:52:24,209

ensure that there's this safe

1359

00:52:22,050 --> 00:52:25,380

therapeutic range for four

1360

00:52:24,210 --> 00:52:26,909

treatment because anything that has a

1361

00:52:25,380 --> 00:52:29,820

physiological effect on the body is

1362

00:52:26,909 --> 00:52:32,279

going to have a host of effects you know

1363

00:52:29,820 --> 00:52:34,019

we're always trying to get the effects

1364

00:52:32,280 --> 00:52:36,150

more and more specific but there's no

1365

00:52:34,019 --> 00:52:38,309

quote-unquote silver bullet or magic

1366

00:52:36,150 --> 00:52:40,980

bullet that has just the precise effect

1367

00:52:38,309 --> 00:52:41,909

that we want and no other effects that's

1368

00:52:40,980 --> 00:52:43,230

we're just not that's just a

1369
00:52:41,909 --> 00:52:45,868
technological thing which is not at that

1370
00:52:43,230 --> 00:52:48,389
level of technology and sometimes it's

1371
00:52:45,869 --> 00:52:50,789
just not possible i mean the body is a

1372
00:52:48,389 --> 00:52:54,629
complex evolved system you know so we

1373
00:52:50,789 --> 00:52:57,150
have for example you know one cell type

1374
00:52:54,630 --> 00:52:59,579
of receptor type may be evolutionarily

1375
00:52:57,150 --> 00:53:02,240
closely related to another that does

1376
00:52:59,579 --> 00:53:05,699
serves another purpose in the body so

1377
00:53:02,239 --> 00:53:07,049
when you make a drug to interact with

1378
00:53:05,699 --> 00:53:08,819
one receptor it's going to have some

1379
00:53:07,050 --> 00:53:09,960
effect on the other one as well even

1380
00:53:08,820 --> 00:53:11,460
though it's not the effect that you're

1381
00:53:09,960 --> 00:53:13,170
going for so they may be to some

1382
00:53:11,460 --> 00:53:15,720
inherent biological limitations on how

1383
00:53:13,170 --> 00:53:18,990
specific we can get in our effects as

1384
00:53:15,719 --> 00:53:21,239
well but homeopathy you asked about has

1385
00:53:18,989 --> 00:53:23,759
no effect or side effects because it's

1386
00:53:21,239 --> 00:53:27,088
literally nothing letters doing there

1387
00:53:23,760 --> 00:53:29,520
there yeah it's a little tough oh so

1388
00:53:27,088 --> 00:53:31,739
that's water it's sugar pulse yeah its

1389
00:53:29,519 --> 00:53:34,739
water placed upon a sugar pill so they

1390
00:53:31,739 --> 00:53:37,919
one of the concepts of homeopathy is the

1391
00:53:34,739 --> 00:53:39,809
so-called law of infinitesimal it's not

1392
00:53:37,920 --> 00:53:43,320
really a lot just something that Samuel

1393
00:53:39,809 --> 00:53:45,150
Hahnemann made up that says it's not it

1394
00:53:43,320 --> 00:53:46,769
hasn't been validated or verify 200

1395
00:53:45,150 --> 00:53:49,139
years of science has not found that it

1396
00:53:46,769 --> 00:53:50,670
actually exists in nature that it's

1397

00:53:49,139 --> 00:53:52,920
describing anything real in the world

1398
00:53:50,670 --> 00:53:55,079
it's just sucks this idea that Hana man

1399
00:53:52,920 --> 00:53:58,230
made up a couple hundred years ago that

1400
00:53:55,079 --> 00:54:00,989
the more you dilute a substance the more

1401
00:53:58,230 --> 00:54:03,599
powerful it becomes and that sounds

1402
00:54:00,989 --> 00:54:05,549
counterintuitive because it is because

1403
00:54:03,599 --> 00:54:10,230
it's not correct it's not an accurate

1404
00:54:05,550 --> 00:54:11,910
description of reality so yeah device

1405
00:54:10,230 --> 00:54:14,760
laws of science physics chemistry and

1406
00:54:11,909 --> 00:54:16,799
common-sense reason this time what

1407
00:54:14,760 --> 00:54:19,830
comment says does not always align with

1408
00:54:16,800 --> 00:54:21,750
reality but in this case it does so in

1409
00:54:19,829 --> 00:54:23,069
fact it's worse than just the notion

1410
00:54:21,750 --> 00:54:25,949
that the more you dilute something more

1411
00:54:23,070 --> 00:54:28,170

powerful it becomes even though the

1412

00:54:25,949 --> 00:54:30,419

notion of Avogadro's number was known at

1413

00:54:28,170 --> 00:54:33,059

the time of Hanuman either he he

1414

00:54:30,420 --> 00:54:36,059

personally didn't know about or did it

1415

00:54:33,059 --> 00:54:38,039

was relevant to his his scheme that when

1416

00:54:36,059 --> 00:54:40,199

you dilute past a certain point

1417

00:54:38,039 --> 00:54:42,509

there's a you know statistically no

1418

00:54:40,199 --> 00:54:45,179

active ingredient left zero not a single

1419

00:54:42,510 --> 00:54:47,160

molecule of whatever it is you started

1420

00:54:45,179 --> 00:54:49,460

out with is left so there's literally

1421

00:54:47,159 --> 00:54:51,899

nothing left there's nothing left behind

1422

00:54:49,460 --> 00:54:55,289

how that can't possibly have any

1423

00:54:51,900 --> 00:54:57,420

physiological effect there's a couple of

1424

00:54:55,289 --> 00:54:58,710

others are the magical beliefs woven

1425

00:54:57,420 --> 00:55:00,720

into homeopathy one is the law of

1426
00:54:58,710 --> 00:55:02,639
similar that like cures leak and that's

1427
00:55:00,719 --> 00:55:05,579
just sympathetic magic that's just plain

1428
00:55:02,639 --> 00:55:08,039
old superstition sympathetic you know

1429
00:55:05,579 --> 00:55:11,730
you grind up a rhinoceros horn and take

1430
00:55:08,039 --> 00:55:13,199
that to enhance male sexuality because

1431
00:55:11,730 --> 00:55:15,389
the horn looks like an erect penis

1432
00:55:13,199 --> 00:55:16,500
that's about the level of logic that

1433
00:55:15,389 --> 00:55:18,359
we're dealing with it's just it looks

1434
00:55:16,500 --> 00:55:20,820
like it therefore or it's similar to it

1435
00:55:18,360 --> 00:55:23,880
therefore it has some desired effect um

1436
00:55:20,820 --> 00:55:25,620
and then there's the other component of

1437
00:55:23,880 --> 00:55:28,079
it that you have to shake the remedy in

1438
00:55:25,619 --> 00:55:29,639
between dilution like 10 times in each of

1439
00:55:28,079 --> 00:55:30,840
the three planes and that's just ritual

1440
00:55:29,639 --> 00:55:33,269
magic you know it's just going through

1441
00:55:30,840 --> 00:55:35,789
some nonsensical ritual that's it is

1442
00:55:33,269 --> 00:55:37,349
that's a homeopathy is this the caution

1443
00:55:35,789 --> 00:55:40,050
though is that to instill the memory of

1444
00:55:37,349 --> 00:55:41,849
the active ingredient into the water

1445
00:55:40,050 --> 00:55:43,800
because they did talk about the water

1446
00:55:41,849 --> 00:55:46,289
having a memory don't they yeah but

1447
00:55:43,800 --> 00:55:48,240
that's a very new or recent concept

1448
00:55:46,289 --> 00:55:49,739
hatem and never wrote or talked about

1449
00:55:48,239 --> 00:55:51,589
water member that is the kind of thing

1450
00:55:49,739 --> 00:55:53,879
that so that's a very recent

1451
00:55:51,590 --> 00:55:56,010
rationalization to try to again lend

1452
00:55:53,880 --> 00:55:58,590
some scientific jargon to this

1453
00:55:56,010 --> 00:56:01,650
nonsensical notion homeopathy and this

1454

00:55:58,590 --> 00:56:04,230
is the equally absurd notion that water

1455
00:56:01,650 --> 00:56:06,780
molecules can retain the quote-unquote

1456
00:56:04,230 --> 00:56:09,300
memory of more complex molecules that

1457
00:56:06,780 --> 00:56:12,090
were previously diluted in it and but

1458
00:56:09,300 --> 00:56:14,310
there's no known you know mechanism of

1459
00:56:12,090 --> 00:56:17,059
physics or chemistry that can make that

1460
00:56:14,309 --> 00:56:18,989
happen studies that you know people

1461
00:56:17,059 --> 00:56:20,909
homeopaths and others trying to

1462
00:56:18,989 --> 00:56:23,549
demonstrate this effect a bit unable to

1463
00:56:20,909 --> 00:56:26,099
do so you know water is a liquid it's

1464
00:56:23,550 --> 00:56:27,570
fluid you know in the molecules even

1465
00:56:26,099 --> 00:56:29,759
though there may be some you know

1466
00:56:27,570 --> 00:56:32,220
transient relationships among the water

1467
00:56:29,760 --> 00:56:34,770
molecules they're extremely extremely

1468
00:56:32,219 --> 00:56:36,899

fleeting they certainly will not survive

1469

00:56:34,769 --> 00:56:39,300
for any long period of time they

1470

00:56:36,900 --> 00:56:42,360
wouldn't survive being you know

1471

00:56:39,300 --> 00:56:44,190
dissolved on a sugar pill eaten absorbed

1472

00:56:42,360 --> 00:56:46,559
into the bloodstream and getting to

1473

00:56:44,190 --> 00:56:48,360
whatever target in the body where

1474

00:56:46,559 --> 00:56:51,960
they're having their their action it's

1475

00:56:48,360 --> 00:56:54,358
really just explaining one bit of non

1476

00:56:51,960 --> 00:56:56,338
with an even more absurd bit of nonsense

1477

00:56:54,358 --> 00:56:58,650
there's zero science to it but it's not

1478

00:56:56,338 --> 00:57:02,159
about the signs to the homeopath it's

1479

00:56:58,650 --> 00:57:05,519
about using nonsensical scientific

1480

00:57:02,159 --> 00:57:07,799
jargon as plausible cover for the masses

1481

00:57:05,519 --> 00:57:09,719
that's what that's what about actually

1482

00:57:07,800 --> 00:57:13,130
it seems to me that water is that is the

1483
00:57:09,719 --> 00:57:15,750
new buzz can but the recent mind body

1484
00:57:13,130 --> 00:57:18,510
spirit that I went to everyone's selling

1485
00:57:15,750 --> 00:57:20,608
alkaline water these days or ionized

1486
00:57:18,510 --> 00:57:22,770
water and telling you that it will

1487
00:57:20,608 --> 00:57:25,049
replace minerals in your body and you'll

1488
00:57:22,769 --> 00:57:26,880
absorb it better and I tried to point

1489
00:57:25,050 --> 00:57:28,859
out to one of these people that if you

1490
00:57:26,880 --> 00:57:32,369
drink alkaline water it goes into your

1491
00:57:28,858 --> 00:57:34,440
gut which is pH to approximately and

1492
00:57:32,369 --> 00:57:37,200
that's no longer alkaline they didn't

1493
00:57:34,440 --> 00:57:39,329
want to hear about that right yeah don't

1494
00:57:37,199 --> 00:57:42,149
confuse him with this come on all right

1495
00:57:39,329 --> 00:57:44,429
sorry maybe that's the whole acid-base

1496
00:57:42,150 --> 00:57:47,190
thing is ridiculous I mean that our

1497
00:57:44,429 --> 00:57:49,829
bodies have very elaborate evolved

1498
00:57:47,190 --> 00:57:51,530
mechanisms to keep the pH of our tissue

1499
00:57:49,829 --> 00:57:55,650
and our blood in a very very narrow

1500
00:57:51,530 --> 00:57:58,080
optimal range and you have to drink

1501
00:57:55,650 --> 00:58:00,660
poison you know or really do something

1502
00:57:58,079 --> 00:58:02,969
extreme physiologically to overwhelm our

1503
00:58:00,659 --> 00:58:04,379
mechanism maintaining our own body pH so

1504
00:58:02,969 --> 00:58:06,059
any you know just drinking alkaline

1505
00:58:04,380 --> 00:58:07,650
water as you say first of all just mixes

1506
00:58:06,059 --> 00:58:09,960
with the acid in your stomach and it

1507
00:58:07,650 --> 00:58:12,930
doesn't have any effect on your body pH

1508
00:58:09,960 --> 00:58:14,309
but the water thing is that's one of

1509
00:58:12,929 --> 00:58:16,379
that's actually been around for a very

1510
00:58:14,309 --> 00:58:18,449
long time the concept of using water as

1511

00:58:16,380 --> 00:58:21,300
a healing mechanism that actually goes

1512
00:58:18,449 --> 00:58:24,449
way back to like just the original spas

1513
00:58:21,300 --> 00:58:26,519
where mineral water and and then later

1514
00:58:24,449 --> 00:58:29,699
carbonated water was given as a healthy

1515
00:58:26,519 --> 00:58:31,889
tonic and in fact that this soda pop

1516
00:58:29,699 --> 00:58:35,838
that we drink today essentially evolved

1517
00:58:31,889 --> 00:58:38,098
out of that tradition of a spas and

1518
00:58:35,838 --> 00:58:40,829
mineral a carbonated water spots that's

1519
00:58:38,099 --> 00:58:43,349
why you know many of the the popular

1520
00:58:40,829 --> 00:58:45,960
drinks have herbal type names like

1521
00:58:43,349 --> 00:58:47,960
ginger era el root beer even you know

1522
00:58:45,960 --> 00:58:50,789
coca-cola these are these are all

1523
00:58:47,960 --> 00:58:53,550
initially where health tonics no that's

1524
00:58:50,789 --> 00:58:56,369
not beverages they only became beverages

1525
00:58:53,550 --> 00:59:00,089

after refrigeration was invented and

1526

00:58:56,369 --> 00:59:01,579

then they tasted better right so just to

1527

00:59:00,088 --> 00:59:03,900

change the subject a little bit Steve

1528

00:59:01,579 --> 00:59:05,940

congratulations on your new president

1529

00:59:03,900 --> 00:59:08,010

elect we're all very happy about that

1530

00:59:05,940 --> 00:59:10,380

and it looks like this might be good for

1531

00:59:08,010 --> 00:59:12,329

science the Democrats seem to be a bit

1532

00:59:10,380 --> 00:59:14,700

more science friendly than the

1533

00:59:12,329 --> 00:59:16,890

Republicans and I believe Barack Obama

1534

00:59:14,699 --> 00:59:20,029

in one of his speeches said that he

1535

00:59:16,889 --> 00:59:22,559

wants to double the funding to the NIH

1536

00:59:20,030 --> 00:59:24,480

is it the case do you think it's going

1537

00:59:22,559 --> 00:59:25,139

to be good for science well I think it

1538

00:59:24,480 --> 00:59:27,000

would be better than the last

1539

00:59:25,139 --> 00:59:29,670

administration and the Bush

1540
00:59:27,000 --> 00:59:31,550
administration has the one thing that

1541
00:59:29,670 --> 00:59:33,930
they have done that has really

1542
00:59:31,550 --> 00:59:38,789
aggravated the scientific community is

1543
00:59:33,929 --> 00:59:41,338
subvert the integrity of science as a

1544
00:59:38,789 --> 00:59:43,199
way of informing government now no one

1545
00:59:41,338 --> 00:59:44,608
thinks that scientists should be running

1546
00:59:43,199 --> 00:59:47,519
the government or should be setting

1547
00:59:44,608 --> 00:59:49,049
policy and even policies that have a lot

1548
00:59:47,519 --> 00:59:51,420
to do with science or not determined

1549
00:59:49,050 --> 00:59:54,900
entirely by scientific information

1550
00:59:51,420 --> 00:59:58,139
itself you still have to make value

1551
00:59:54,900 --> 00:59:59,639
judgments allocate resources etc there's

1552
00:59:58,139 --> 01:00:01,710
lots of other issues that come into play

1553
00:59:59,639 --> 01:00:05,219
that make it just put a political

1554
01:00:01,710 --> 01:00:07,079
process but but but everyone agrees you

1555
01:00:05,219 --> 01:00:10,409
know the most reasonable people agree

1556
01:00:07,079 --> 01:00:13,289
that that accurate unbiased science

1557
01:00:10,409 --> 01:00:15,389
should inform government or policy

1558
01:00:13,289 --> 01:00:17,550
decisions and that you shouldn't go

1559
01:00:15,389 --> 01:00:19,170
backwards which seems what the British

1560
01:00:17,550 --> 01:00:22,260
administration true was trying to do is

1561
01:00:19,170 --> 01:00:24,920
start with the policy that they want and

1562
01:00:22,260 --> 01:00:28,109
then try to backfill the science or

1563
01:00:24,920 --> 01:00:31,460
subvert the science to that ideology or

1564
01:00:28,108 --> 01:00:34,920
to their policy agenda and they really

1565
01:00:31,460 --> 01:00:37,920
significantly downgraded the role that

1566
01:00:34,920 --> 01:00:40,230
science advisors play in you know the

1567
01:00:37,920 --> 01:00:41,460
creation of policy in both the

1568

01:00:40,230 --> 01:00:43,349
legislative and executive branch

1569
01:00:41,460 --> 01:00:45,449
actually is is happening over over the

1570
01:00:43,349 --> 01:00:46,800
last eight years and now and that was

1571
01:00:45,449 --> 01:00:49,919
happening at a time obviously when the

1572
01:00:46,800 --> 01:00:51,630
Republicans were in power and you know

1573
01:00:49,920 --> 01:00:53,490
there were certain specific issues where

1574
01:00:51,630 --> 01:00:54,960
you know they didn't like what the

1575
01:00:53,489 --> 01:00:57,029
science was saying so they had a

1576
01:00:54,960 --> 01:00:59,818
separate agenda like a global warming

1577
01:00:57,030 --> 01:01:00,900
for so that sort of earned them the

1578
01:00:59,818 --> 01:01:02,670
reputation and you know as you know

1579
01:01:00,900 --> 01:01:05,099
chris mooney in fact wrote the book the

1580
01:01:02,670 --> 01:01:07,108
republican war on science which pretty

1581
01:01:05,099 --> 01:01:09,900
much says that flat out that's what they

1582
01:01:07,108 --> 01:01:12,059

think is going on taking a broader view

1583

01:01:09,900 --> 01:01:15,329

i don't think that that is an issue that

1584

01:01:12,059 --> 01:01:17,460

is unique to conservatives or two

1585

01:01:15,329 --> 01:01:19,680

republicans i think that all ideologies

1586

01:01:17,460 --> 01:01:19,920

tend to do that certainly both sides of

1587

01:01:19,679 --> 01:01:22,529

the

1588

01:01:19,920 --> 01:01:26,250

spectrum in this country have to varying

1589

01:01:22,530 --> 01:01:29,940

degrees both candidates McCain and Obama

1590

01:01:26,250 --> 01:01:31,769

vowed in there quite the responses to

1591

01:01:29,940 --> 01:01:34,039

the science 2008 questions that were

1592

01:01:31,769 --> 01:01:36,119

posed to them and on the campaign trail

1593

01:01:34,039 --> 01:01:38,009

distanced themselves from the bush

1594

01:01:36,119 --> 01:01:39,929

policy they both promised more funding

1595

01:01:38,010 --> 01:01:42,300

for NASA more funding for you know for

1596

01:01:39,929 --> 01:01:44,940

research more support for scientific

1597
01:01:42,300 --> 01:01:48,060
ation restoring the integrity of science

1598
01:01:44,940 --> 01:01:49,440
so they both work we're saying the same

1599
01:01:48,059 --> 01:01:50,909
kind of thing so I think that we were

1600
01:01:49,440 --> 01:01:53,700
going to be moving away from the bush

1601
01:01:50,909 --> 01:01:57,690
policy and the bush would a way of

1602
01:01:53,699 --> 01:01:59,730
dealing with science regardless but it

1603
01:01:57,690 --> 01:02:01,170
certainly is much more of a significant

1604
01:01:59,730 --> 01:02:03,420
and clean break by switching to the

1605
01:02:01,170 --> 01:02:06,800
other political partying and we'll see

1606
01:02:03,420 --> 01:02:11,900
although I was yesterday I was handed a

1607
01:02:06,800 --> 01:02:13,380
letter written by Barack Obama to

1608
01:02:11,900 --> 01:02:16,440
chiropractors in the United States

1609
01:02:13,380 --> 01:02:18,269
promising to integrate more chiropractic

1610
01:02:16,440 --> 01:02:20,340
care into the Veterans Affairs system

1611
01:02:18,269 --> 01:02:24,389
and 22 into the health care system

1612
01:02:20,340 --> 01:02:27,690
general so good nice that's not good

1613
01:02:24,389 --> 01:02:30,000
news so then the alternative medicine is

1614
01:02:27,690 --> 01:02:32,730
the one area that we're pseudoscience

1615
01:02:30,000 --> 01:02:33,869
has found bipartisan support in this

1616
01:02:32,730 --> 01:02:35,880
country they really know how to work

1617
01:02:33,869 --> 01:02:38,099
both sides of the aisle extremely well I

1618
01:02:35,880 --> 01:02:39,599
haven't seen an advantage to one side or

1619
01:02:38,099 --> 01:02:43,049
the other it's just you just deal with

1620
01:02:39,599 --> 01:02:45,269
different issues one side of them you've

1621
01:02:43,050 --> 01:02:46,680
got you've got Oprah as well and she's

1622
01:02:45,269 --> 01:02:48,630
the most powerful person in the country

1623
01:02:46,679 --> 01:02:50,579
isn't she I mean when she endorses

1624
01:02:48,630 --> 01:02:54,180
something like Jenny McCarthy everyone

1625

01:02:50,579 --> 01:02:56,369
believes it so she certainly is a media

1626
01:02:54,179 --> 01:02:59,069
powerhouse and that gives her a

1627
01:02:56,369 --> 01:03:00,449
tremendous amount of power but if you're

1628
01:02:59,070 --> 01:03:02,010
if you're a buzz on Oprah's Book Club

1629
01:03:00,449 --> 01:03:03,299
and it's an instant bestseller I mean

1630
01:03:02,010 --> 01:03:05,580
that's that's the kind of power that she

1631
01:03:03,300 --> 01:03:07,470
has and unfortunately she has chosen to

1632
01:03:05,579 --> 01:03:10,619
use that power for evil instead of good

1633
01:03:07,469 --> 01:03:13,649
if she has chosen to promote super

1634
01:03:10,619 --> 01:03:16,319
science quackery and and nonsense at

1635
01:03:13,650 --> 01:03:18,900
every chance she gets Jenny McCarthy

1636
01:03:16,320 --> 01:03:21,720
just yeah the secret Jenny McCarthy it's

1637
01:03:18,900 --> 01:03:23,220
all it's all bad foods she's done

1638
01:03:21,719 --> 01:03:25,709
probably more than any under any other

1639
01:03:23,219 --> 01:03:27,899

individual to promote you know one suit

1640

01:03:25,710 --> 01:03:30,900

o science and Tom Cruise as well we

1641

01:03:27,900 --> 01:03:32,880

can't forgive her for that through

1642

01:03:30,900 --> 01:03:33,690

although I do think that you know Tom

1643

01:03:32,880 --> 01:03:36,360

Cruise

1644

01:03:33,690 --> 01:03:39,150

escapades probably hurts an italic

1645

01:03:36,360 --> 01:03:41,480

anything else I mean anyone who thought

1646

01:03:39,150 --> 01:03:44,490

maybe psychology was a little wonky

1647

01:03:41,480 --> 01:03:48,449

after seeing Tom Cruise was probably

1648

01:03:44,489 --> 01:03:50,489

convinced of it removed yeah you're

1649

01:03:48,449 --> 01:03:53,460

probably right okay Steve semi final

1650

01:03:50,489 --> 01:03:55,829

question is a tough one is skeptical

1651

01:03:53,460 --> 01:03:57,329

dirtier words an atheist and what do you

1652

01:03:55,829 --> 01:04:00,179

think will make the concept of being a

1653

01:03:57,329 --> 01:04:03,029

skeptic more socially acceptable uh in

1654
01:04:00,179 --> 01:04:05,849
terms of public perception I think that

1655
01:04:03,030 --> 01:04:07,230
atheists has it far more at least in

1656
01:04:05,849 --> 01:04:11,029
this country of a negative connotation

1657
01:04:07,230 --> 01:04:13,769
than skeptic you can in a lot of

1658
01:04:11,030 --> 01:04:16,710
situations and contexts you can call

1659
01:04:13,769 --> 01:04:19,009
yourself a skeptic and that may provoke

1660
01:04:16,710 --> 01:04:21,300
a positive response in some people a

1661
01:04:19,010 --> 01:04:23,850
confused or sort of questioning response

1662
01:04:21,300 --> 01:04:26,160
and others and you know I think a

1663
01:04:23,849 --> 01:04:28,230
negative response you know if it's

1664
01:04:26,159 --> 01:04:29,670
confused with the word cynic that's sort

1665
01:04:28,230 --> 01:04:31,530
of the biggest ones that we running that

1666
01:04:29,670 --> 01:04:34,019
people confuse skepticism with cynicism

1667
01:04:31,530 --> 01:04:36,450
and then really only among true

1668
01:04:34,019 --> 01:04:38,009
believers who have run afoul of the

1669
01:04:36,449 --> 01:04:41,129
skeptical movement do they actually try

1670
01:04:38,010 --> 01:04:43,340
to make skeptic into a bad word but uh

1671
01:04:41,130 --> 01:04:47,010
at least in this kind of United States

1672
01:04:43,340 --> 01:04:51,570
you know atheism is is it is definitely

1673
01:04:47,010 --> 01:04:53,460
I mean and I gets thrown around a lot as

1674
01:04:51,570 --> 01:04:55,950
a pejorative as a way of sort of

1675
01:04:53,460 --> 01:04:58,650
branding some you know a bad person it

1676
01:04:55,949 --> 01:05:00,899
probably would be impossible for a an

1677
01:04:58,650 --> 01:05:02,550
open atheist I would say to get It2

1678
01:05:00,900 --> 01:05:04,920
national any kind of national office in

1679
01:05:02,550 --> 01:05:07,170
this country at least in the environment

1680
01:05:04,920 --> 01:05:08,639
probably even more so more difficult

1681
01:05:07,170 --> 01:05:12,599
than somebody who is openly homosexual

1682

01:05:08,639 --> 01:05:16,679
for example well it's bad it's really

1683
01:05:12,599 --> 01:05:20,219
bad so but you know there are approach

1684
01:05:16,679 --> 01:05:21,869
to skepticism is what we call scientific

1685
01:05:20,219 --> 01:05:25,500
skepticism where about promoting science

1686
01:05:21,869 --> 01:05:28,529
and education and critical thinking we

1687
01:05:25,500 --> 01:05:32,639
don't deal directly with religious faith

1688
01:05:28,530 --> 01:05:34,650
you know we deal with religion as when

1689
01:05:32,639 --> 01:05:36,299
it interferes with science you know and

1690
01:05:34,650 --> 01:05:38,160
when it intrudes upon science which they

1691
01:05:36,300 --> 01:05:41,130
happily do all the time so it's really

1692
01:05:38,159 --> 01:05:42,750
not that much of a limitation but if

1693
01:05:41,130 --> 01:05:44,700
someone says I have a personal faith in

1694
01:05:42,750 --> 01:05:46,050
God not based upon any evidence or logic

1695
01:05:44,699 --> 01:05:47,278
or anything I just reserve it for myself

1696
01:05:46,050 --> 01:05:48,739

I say that congratulate

1697

01:05:47,278 --> 01:05:51,630

good for you hey what can I say about

1698

01:05:48,739 --> 01:05:53,548

there's nothing to say to address that

1699

01:05:51,630 --> 01:05:55,108

it's you now you're a great at best

1700

01:05:53,548 --> 01:05:57,478

you're in the realm of a philosophy

1701

01:05:55,108 --> 01:05:59,578

which I find interesting it's just not

1702

01:05:57,478 --> 01:06:03,568

something you know that that we deal

1703

01:05:59,579 --> 01:06:05,849

with directly and there's a bit of a

1704

01:06:03,568 --> 01:06:07,469

split in the skeptical movement again on

1705

01:06:05,849 --> 01:06:10,439

that issue whether or not we should

1706

01:06:07,469 --> 01:06:13,139

address faith issue directing a pure

1707

01:06:10,438 --> 01:06:15,509

faith issues as if they were any claim

1708

01:06:13,139 --> 01:06:18,088

or do we make this distinct between

1709

01:06:15,509 --> 01:06:21,568

science or evidence-based claims and and

1710

01:06:18,088 --> 01:06:22,918

personal faith and we've chosen for a

1711
01:06:21,568 --> 01:06:24,208
variety of reasons mainly because it's

1712
01:06:22,918 --> 01:06:25,768
what we're interested in and it's I

1713
01:06:24,208 --> 01:06:29,009
think we just where our talents lie just

1714
01:06:25,768 --> 01:06:30,718
to focus on the science and yeah right I

1715
01:06:29,009 --> 01:06:32,429
Jack shake right overweight even the

1716
01:06:30,719 --> 01:06:34,019
word religion because that it creates a

1717
01:06:32,429 --> 01:06:35,909
bit of a misconception we actually do

1718
01:06:34,018 --> 01:06:39,028
deal with religion when religion

1719
01:06:35,909 --> 01:06:40,890
intrudes upon science show creationism

1720
01:06:39,028 --> 01:06:42,748
about the most obvious example yeah

1721
01:06:40,889 --> 01:06:44,219
that's a religion based pseudoscience

1722
01:06:42,748 --> 01:06:46,828
will absolutely deal with all of the

1723
01:06:44,219 --> 01:06:48,869
claims and shenanigans of intelligent as

1724
01:06:46,829 --> 01:06:50,189
a bouns and creationists but we don't

1725
01:06:48,869 --> 01:06:51,929
deal with faith because faith by

1726
01:06:50,188 --> 01:06:53,639
definitions outside the rump science as

1727
01:06:51,929 --> 01:06:55,858
long as you understand what it is and

1728
01:06:53,639 --> 01:06:57,688
keep it separate from science so it

1729
01:06:55,858 --> 01:07:01,048
actually puts that into a much much

1730
01:06:57,688 --> 01:07:02,998
smaller box than us you know we can do

1731
01:07:01,048 --> 01:07:04,650
with really anyone who makes any kind of

1732
01:07:02,998 --> 01:07:06,838
claim we're anything we're lot or

1733
01:07:04,650 --> 01:07:09,389
evidence can write out to bear if you

1734
01:07:06,838 --> 01:07:12,088
remove yourself entirely from any sort

1735
01:07:09,389 --> 01:07:13,650
of logical or evidentiary basis and it's

1736
01:07:12,088 --> 01:07:17,099
just a personal statement of faith well

1737
01:07:13,650 --> 01:07:18,358
that's your freedom to believe whatever

1738
01:07:17,099 --> 01:07:19,919
you want we don't really care what

1739

01:07:18,358 --> 01:07:22,409
people believe we want them to

1740
01:07:19,918 --> 01:07:25,768
understand and to think critically but I

1741
01:07:22,409 --> 01:07:27,719
we don't concern ourselves with what

1742
01:07:25,768 --> 01:07:30,568
people believe alright well thank you

1743
01:07:27,719 --> 01:07:32,400
very much for your time Steve and as hey

1744
01:07:30,568 --> 01:07:33,478
it was a lot of fun too ya know it's

1745
01:07:32,400 --> 01:07:35,039
great well we've we've got a little

1746
01:07:33,478 --> 01:07:37,158
present for you which is currently on

1747
01:07:35,039 --> 01:07:40,259
its way probably on a plane right now

1748
01:07:37,159 --> 01:07:42,509
we've sent you the great skeptic CD 2

1749
01:07:40,259 --> 01:07:45,659
which is the Australian skeptics journal

1750
01:07:42,509 --> 01:07:48,989
on DVD searchable sorry searchable CD

1751
01:07:45,659 --> 01:07:51,028
we've also sent you a DVD called the

1752
01:07:48,989 --> 01:07:54,418
rhyme keeper which is 26 original

1753
01:07:51,028 --> 01:07:58,498

Australian poems and Richard Saunders

1754

01:07:54,418 --> 01:08:00,538
let DVD the fold along origami DVD

1755

01:07:58,498 --> 01:08:01,109
excellent well thanks so much for having

1756

01:08:00,539 --> 01:08:03,600
me it was a

1757

01:08:01,110 --> 01:08:05,460
a lot of fun thanks very much Damon we

1758

01:08:03,599 --> 01:08:08,569
can't wait to see you in 2010 in

1759

01:08:05,460 --> 01:08:10,860
Australia finally very exciting we're

1760

01:08:08,570 --> 01:08:19,590
all looking forward to it that will be

1761

01:08:10,860 --> 01:08:22,350
great you're listening to the skeptic

1762

01:08:19,590 --> 01:08:25,409
zone I'm Brian Dunning from sceptile

1763

01:08:22,350 --> 01:08:28,289
calm when I'm not tuned into the skeptic

1764

01:08:25,409 --> 01:08:30,899
zone I'm recording thus kept I'd podcast

1765

01:08:28,289 --> 01:08:32,720
doing what I can to further knowledge by

1766

01:08:30,899 --> 01:08:35,219
blasting away the widespread

1767

01:08:32,720 --> 01:08:37,980
pseudo-sciences that infect popular

1768
01:08:35,220 --> 01:08:40,140
culture I've also compiled a 40 minute

1769
01:08:37,979 --> 01:08:43,379
educational video on critical thinking

1770
01:08:40,140 --> 01:08:47,100
called here be dragons at here be

1771
01:08:43,380 --> 01:08:50,100
dragons movie.com I hope you check those

1772
01:08:47,100 --> 01:08:55,170
out and I hope you enjoy the skeptic

1773
01:08:50,100 --> 01:08:58,920
zone death from the skies these are the

1774
01:08:55,170 --> 01:09:00,539
ways the world will end wow that sounds

1775
01:08:58,920 --> 01:09:03,149
pretty dreadful but it's not it's

1776
01:09:00,539 --> 01:09:05,579
fabulous it's the new book by dr. Phil

1777
01:09:03,149 --> 01:09:07,979
Plait the bad astronomer death from the

1778
01:09:05,579 --> 01:09:10,229
skies a scientific look at the way the

1779
01:09:07,979 --> 01:09:12,059
world will end yeah it still sounds a

1780
01:09:10,229 --> 01:09:14,039
bit the grim doesn't it know but it's a

1781
01:09:12,060 --> 01:09:15,600
fabulous read I'm about halfway through

1782
01:09:14,039 --> 01:09:17,460
it and I want to keep reading it right

1783
01:09:15,600 --> 01:09:19,710
now but I better not as I'm making this

1784
01:09:17,460 --> 01:09:22,140
announcement death from the skies you

1785
01:09:19,710 --> 01:09:24,420
can win a copy of this fabulous book for

1786
01:09:22,140 --> 01:09:25,980
yourself we're looking for a funny or

1787
01:09:24,420 --> 01:09:28,909
interesting caption for one of our

1788
01:09:25,979 --> 01:09:31,829
t-shirts some you do of skepticism

1789
01:09:28,909 --> 01:09:37,319
podcasting something like that send your

1790
01:09:31,829 --> 01:09:39,569
ideas to Kylie at skeptic zone TV and

1791
01:09:37,319 --> 01:09:41,880
the winner will be announced in our show

1792
01:09:39,569 --> 01:09:45,029
in two weeks time it'll be early

1793
01:09:41,880 --> 01:09:48,090
December but if you can't wait run out

1794
01:09:45,029 --> 01:09:53,819
and buy yourself a copy of birth from

1795
01:09:48,090 --> 01:09:56,909
the skies and a new site on the internet

1796

01:09:53,819 --> 01:09:58,859
young Australian skeptics just google

1797
01:09:56,909 --> 01:10:02,849
young Australian skeptics and see a new

1798
01:09:58,859 --> 01:10:05,339
site dedicated to a young Australian

1799
01:10:02,850 --> 01:10:08,460
skeptics with interesting articles blogs

1800
01:10:05,340 --> 01:10:12,000
pogs frogs and all sorts of other things

1801
01:10:08,460 --> 01:10:14,189
young Australian skeptics well worth a

1802
01:10:12,000 --> 01:10:18,060
look especially if you're a young

1803
01:10:14,189 --> 01:10:23,669
young Australian skeptic I think I'll

1804
01:10:18,060 --> 01:10:31,590
stop now join us now for drinking

1805
01:10:23,670 --> 01:10:33,420
skeptically in the think tank Sydney's

1806
01:10:31,590 --> 01:10:35,400
Chinatown and i'm here with Philip

1807
01:10:33,420 --> 01:10:38,159
Peters from the skeptics committee hello

1808
01:10:35,399 --> 01:10:40,859
Philip hi Richard and Richard on up hi

1809
01:10:38,159 --> 01:10:44,130
Rachel hi Ricardo and we've all just

1810
01:10:40,859 --> 01:10:45,809

spent a couple of happy hours or three

1811

01:10:44,130 --> 01:10:47,520

or four actually actually yes at the

1812

01:10:45,810 --> 01:10:48,870

mind-body wallet festival what did you

1813

01:10:47,520 --> 01:10:51,210

think of the vessel of us here Rachel

1814

01:10:48,869 --> 01:10:53,880

well it was the same all voiced a

1815

01:10:51,210 --> 01:10:56,489

different day I'd be a sudden it

1816

01:10:53,880 --> 01:10:59,130

same sort of mismatch of people

1817

01:10:56,488 --> 01:11:03,029

espousing what you can only really say

1818

01:10:59,130 --> 01:11:06,440

is I guess we had a couple of

1819

01:11:03,029 --> 01:11:06,439

fighths this year we did

1820

01:11:07,569 --> 01:11:11,469

yeah of course you know it's the usual

1821

01:11:09,250 --> 01:11:14,198

suspects again there was life blood

1822

01:11:11,469 --> 01:11:15,908

analysis once more and inherent alisis

1823

01:11:14,198 --> 01:11:18,460

with lots and lots of hair analysis

1824

01:11:15,908 --> 01:11:20,710

which is apparently done using quantum

1825
01:11:18,460 --> 01:11:23,198
physics quantum physics another machine

1826
01:11:20,710 --> 01:11:25,599
that utilizes quantum physics to do my

1827
01:11:23,198 --> 01:11:28,689
hair analysis yes to test for allergies

1828
01:11:25,599 --> 01:11:32,409
to throw yeah I was pretty impressive

1829
01:11:28,689 --> 01:11:35,799
machine wasn't it all right darling yeah

1830
01:11:32,408 --> 01:11:37,420
what did it had it had a dial that would

1831
01:11:35,800 --> 01:11:40,480
move depending on whether you were

1832
01:11:37,420 --> 01:11:42,819
allergic to a compound or not it had a

1833
01:11:40,479 --> 01:11:45,399
and like that we have three red LEDs

1834
01:11:42,819 --> 01:11:47,529
that would blow if you allergic to

1835
01:11:45,399 --> 01:11:51,009
something and over 300 different

1836
01:11:47,529 --> 01:11:52,689
compounds in little vials that could use

1837
01:11:51,010 --> 01:11:55,630
to identify where your allergies lie

1838
01:11:52,689 --> 01:11:59,619
just extraordinary yeah what did you

1839
01:11:55,630 --> 01:12:02,949
think of it good well what was one of

1840
01:11:59,619 --> 01:12:04,630
them was different this year I saw at

1841
01:12:02,949 --> 01:12:06,699
least three vendors see who didn't

1842
01:12:04,630 --> 01:12:08,380
believe anything around them don't just

1843
01:12:06,699 --> 01:12:12,840
say because I will set a guy the kinetic

1844
01:12:08,380 --> 01:12:15,310
art or just food basically yeah yeah so

1845
01:12:12,840 --> 01:12:19,869
there was some beautiful life work and

1846
01:12:15,310 --> 01:12:22,480
then wind catches swirly things yes just

1847
01:12:19,869 --> 01:12:24,099
which is wonderful and close to yes one

1848
01:12:22,479 --> 01:12:26,829
thing I did notice I don't know it

1849
01:12:24,100 --> 01:12:29,920
wasn't such a big thing in May but there

1850
01:12:26,829 --> 01:12:31,630
was a lot of this special water this

1851
01:12:29,920 --> 01:12:35,020
time we were there was a link more than

1852
01:12:31,630 --> 01:12:39,400
there was at least for magic magic water

1853

01:12:35,020 --> 01:12:43,900
one water device work because the water

1854
01:12:39,399 --> 01:12:46,059
was forced through a some sort of magic

1855
01:12:43,899 --> 01:12:48,549
filter with a crystal that's right yes

1856
01:12:46,060 --> 01:12:50,739
and then that broke up the mulch

1857
01:12:48,550 --> 01:12:52,960
rearrange the molecules rearranged

1858
01:12:50,738 --> 01:12:54,939
monetize we have one at free energized

1859
01:12:52,960 --> 01:12:57,520
order and the next person told us that

1860
01:12:54,939 --> 01:13:02,408
they're filtered filtration system used

1861
01:12:57,520 --> 01:13:05,349
magnets which converted far-infrared to

1862
01:13:02,408 --> 01:13:08,920
energize the water no she actually said

1863
01:13:05,349 --> 01:13:10,599
it use magnets and fart in technology to

1864
01:13:08,920 --> 01:13:12,219
re-energize the water that's when I said

1865
01:13:10,599 --> 01:13:14,920
well you're just making this up aren't

1866
01:13:12,219 --> 01:13:19,970
you if you did say that

1867
01:13:14,920 --> 01:13:23,600

yeah go ahead yeah yeah can I please

1868

01:13:19,970 --> 01:13:27,730
have a big dumpling

1869

01:13:23,600 --> 01:13:27,730
and the point engine

1870

01:13:28,850 --> 01:13:32,680
the poor trips with black pencil

1871

01:13:33,520 --> 01:13:37,200
and it's just a stir fry vegetables

1872

01:13:39,679 --> 01:13:45,029
ordering for me too yeah do you want a

1873

01:13:42,208 --> 01:13:46,828
hole now yeah we can share two or

1874

01:13:45,029 --> 01:13:48,840
something we could all just dig in well

1875

01:13:46,828 --> 01:13:52,380
because I've ordered I wanted to see

1876

01:13:48,840 --> 01:13:54,869
lots of dumplings ribs which twin tower

1877

01:13:52,380 --> 01:13:56,550
and then that sounds good to me and

1878

01:13:54,868 --> 01:13:58,029
maybe your fried rice but it's how we

1879

01:13:56,550 --> 01:14:02,409
agony

1880

01:13:58,029 --> 01:14:06,368
yep oh yes lovely I used to recording

1881

01:14:02,408 --> 01:14:09,578
yeah now listen is once an hour what

1882
01:14:06,368 --> 01:14:11,500
we're having for dinner yes this car

1883
01:14:09,578 --> 01:14:13,829
like they are still file three four cats

1884
01:14:11,500 --> 01:14:15,510
can be quite space

1885
01:14:13,829 --> 01:14:17,189
anyway see if there are lots of

1886
01:14:15,510 --> 01:14:20,460
different sorts of magical water on and

1887
01:14:17,189 --> 01:14:23,250
I try not to lose my temper I really

1888
01:14:20,460 --> 01:14:24,510
don't but towards the end when the guy

1889
01:14:23,250 --> 01:14:26,489
was saying look at this and I was

1890
01:14:24,510 --> 01:14:28,470
reading about the consciousness of water

1891
01:14:26,489 --> 01:14:30,630
i jus said this is just ridiculous but

1892
01:14:28,470 --> 01:14:32,789
reaches that's based on the the German

1893
01:14:30,630 --> 01:14:36,409
web for food which is leaving sweetie

1894
01:14:32,789 --> 01:14:36,409
aren't directly translate says

1895
01:14:36,850 --> 01:14:42,100
I should know I know Jim but that's when

1896
01:14:39,550 --> 01:14:45,820
he because after he left and he actually

1897
01:14:42,100 --> 01:14:48,880
showed me the next page of that book

1898
01:14:45,819 --> 01:14:51,279
yeah where it was talking about oh my

1899
01:14:48,880 --> 01:14:52,270
god I didn't tell you this and it was

1900
01:14:51,279 --> 01:14:56,469
talking about something called the

1901
01:14:52,270 --> 01:14:58,630
Oxford studies where milk that was

1902
01:14:56,470 --> 01:15:01,690
analyzed biochemically and chemically

1903
01:14:58,630 --> 01:15:04,600
before pasteurization showed a different

1904
01:15:01,689 --> 01:15:06,519
profile after pasteurization and this

1905
01:15:04,600 --> 01:15:09,070
allegedly broke down the consciousness

1906
01:15:06,520 --> 01:15:11,770
of the milk and so a calf that was given

1907
01:15:09,069 --> 01:15:13,090
milk that was not pasteurized was fine

1908
01:15:11,770 --> 01:15:15,460
and one that was given look there was

1909
01:15:13,090 --> 01:15:18,489
pasteurized I'd and this was because the

1910

01:15:15,460 --> 01:15:20,829
body could no longer interpret the milk

1911
01:15:18,489 --> 01:15:22,809
and this guy said to me and I felt sorry

1912
01:15:20,829 --> 01:15:25,659
for him I mean he's had really you've

1913
01:15:22,810 --> 01:15:27,490
had cancer and then he recovered but he

1914
01:15:25,659 --> 01:15:30,159
correlated that with his alkaline water

1915
01:15:27,489 --> 01:15:33,279
and he was a nice old guy who lives on a

1916
01:15:30,159 --> 01:15:35,920
farm and grows organic veggies I know I

1917
01:15:33,279 --> 01:15:38,199
know where the point is if some people

1918
01:15:35,920 --> 01:15:40,720
actually believe what ru is saying it's

1919
01:15:38,199 --> 01:15:43,630
not using his wacko method and go off

1920
01:15:40,720 --> 01:15:45,730
their real medicine that is nice and

1921
01:15:43,630 --> 01:15:51,069
deluded as he is he is doing real harm

1922
01:15:45,729 --> 01:15:54,009
has promised a cure potential sir oh

1923
01:15:51,069 --> 01:15:56,799
yeah yeah yeah his talk which was in the

1924
01:15:54,010 --> 01:16:03,550

speaker's corner or whatever was how

1925

01:15:56,800 --> 01:16:05,110

would a computer and curable please did

1926

01:16:03,550 --> 01:16:07,360

you want caffeine free I don't really

1927

01:16:05,109 --> 01:16:10,380

mind you have it without oh yeah yes no

1928

01:16:07,359 --> 01:16:10,380

I know yeah

1929

01:16:13,010 --> 01:16:20,349

suddenly there's money everywhere that's

1930

01:16:15,288 --> 01:16:23,029

your trade right goodbye Thank You Emily

1931

01:16:20,349 --> 01:16:26,480

now the next mind-body what festival

1932

01:16:23,029 --> 01:16:29,149

will be in some may I guess in 2009 art

1933

01:16:26,479 --> 01:16:31,279

certainly be here I hope you guys come

1934

01:16:29,149 --> 01:16:33,109

along well yeah well I hope all our

1935

01:16:31,279 --> 01:16:35,359

listeners come along to you come along

1936

01:16:33,109 --> 01:16:36,848

and recognize Richard and make faces at

1937

01:16:35,359 --> 01:16:40,788

him which happened a little bit today

1938

01:16:36,849 --> 01:16:43,219

yeah some someone came up and said mr.

1939
01:16:40,788 --> 01:16:46,880
skeptic which is also thank you which is

1940
01:16:43,219 --> 01:16:48,500
always a new dication they didn't help

1941
01:16:46,880 --> 01:16:51,409
that you were wearing a tan 6 t-shirt

1942
01:16:48,500 --> 01:16:55,399
that says in huge bright yellow letters

1943
01:16:51,408 --> 01:16:58,518
I skeptic and I was wearing piggy

1944
01:16:55,399 --> 01:17:00,348
earrings niggas this earring yeah we

1945
01:16:58,519 --> 01:17:02,030
still that a little bit we stood out of

1946
01:17:00,349 --> 01:17:05,050
it there were some some positive

1947
01:17:02,029 --> 01:17:08,800
comments really

1948
01:17:05,050 --> 01:17:11,230
yes yes a gang of people spend either

1949
01:17:08,800 --> 01:17:12,760
rips read my t-shirt or recognized who I

1950
01:17:11,229 --> 01:17:15,479
was so that was quite fun I gave them

1951
01:17:12,760 --> 01:17:15,480
the skipping tonight

1952
01:17:16,090 --> 01:17:19,300
yep

1953

01:17:17,800 --> 01:17:20,800

what's a lovely evening here in

1954

01:17:19,300 --> 01:17:22,179

Chinatown so I guess we will look

1955

01:17:20,800 --> 01:17:26,590

forward to our dinner which we just

1956

01:17:22,179 --> 01:17:30,059

ordered cuz we're wait out aren't we

1957

01:17:26,590 --> 01:17:30,059

we're rude of me

1958

01:17:47,229 --> 01:17:52,339

Stefan I I just can't describe to you

1959

01:17:50,270 --> 01:17:53,750

how much I enjoy doing this show and

1960

01:17:52,340 --> 01:17:55,130

then would think for me is because I

1961

01:17:53,750 --> 01:17:57,500

only sort of do the beginning in the end

1962

01:17:55,130 --> 01:17:59,029

it's just that long wait in between yeah

1963

01:17:57,500 --> 01:18:00,500

cuz I go sit here in the studio while

1964

01:17:59,029 --> 01:18:02,090

you do all these things all around the

1965

01:18:00,500 --> 01:18:03,859

place I just gotta wait and wait wait

1966

01:18:02,090 --> 01:18:05,510

just to do the clothes but it's great to

1967

01:18:03,859 --> 01:18:06,949
be back I'm glad you waited around I was

1968
01:18:05,510 --> 01:18:09,260
a good episode of it was a great episode

1969
01:18:06,949 --> 01:18:11,300
offers Carl what a legend what else

1970
01:18:09,260 --> 01:18:13,070
legend and what big news hey what about

1971
01:18:11,300 --> 01:18:14,690
that big news about the skeptics guide

1972
01:18:13,069 --> 01:18:17,569
to the universe people coming out here

1973
01:18:14,689 --> 01:18:19,429
are me here november 2010 all you

1974
01:18:17,569 --> 01:18:21,799
listeners out there look out I mean it

1975
01:18:19,430 --> 01:18:24,050
is it's kind of like the zone is is like

1976
01:18:21,800 --> 01:18:25,850
a vortex just sort of pulling skeptics

1977
01:18:24,050 --> 01:18:28,159
in from the entire galaxy every wish to

1978
01:18:25,850 --> 01:18:31,370
Sydney the skeptic black hole zone yeah

1979
01:18:28,159 --> 01:18:34,010
skeptical takes over knowledge on

1980
01:18:31,369 --> 01:18:36,319
skepticism ah yes now but dr. Carl is

1981
01:18:34,010 --> 01:18:38,270

he's a religion as far as a popularized

1982

01:18:36,319 --> 01:18:39,979

in science I think he's done a great job

1983

01:18:38,270 --> 01:18:41,840

for that there's a whole generation of

1984

01:18:39,979 --> 01:18:44,569

kids in Australia that have been raised

1985

01:18:41,840 --> 01:18:46,699

because he's been a guest on this sort

1986

01:18:44,569 --> 01:18:49,009

of cool radio station for so long triple

1987

01:18:46,699 --> 01:18:50,840

j yeah there's a whole generation of

1988

01:18:49,010 --> 01:18:52,850

kids that have kind of been inculcated

1989

01:18:50,840 --> 01:18:55,039

yet with this with such scientific

1990

01:18:52,850 --> 01:18:56,360

concepts and things I think it's a good

1991

01:18:55,039 --> 01:18:58,100

thing he's a top bloke and I'm sure

1992

01:18:56,359 --> 01:19:00,799

we'll have him as a guest again you know

1993

01:18:58,100 --> 01:19:02,690

next our next episode in two weeks time

1994

01:19:00,800 --> 01:19:05,119

we're going to very special guest indeed

1995

01:19:02,689 --> 01:19:07,879

a very famous researcher into the

1996
01:19:05,119 --> 01:19:09,949
paranormal investigator Ben Redford from

1997
01:19:07,880 --> 01:19:11,810
the United States been read for these

1998
01:19:09,949 --> 01:19:13,489
very famous but I haven't quite heard of

1999
01:19:11,810 --> 01:19:15,350
him bloodied it was very famous of the

2000
01:19:13,489 --> 01:19:17,029
United States he's a sort of guy who'll

2001
01:19:15,350 --> 01:19:19,160
go out in a wet suit and look for

2002
01:19:17,029 --> 01:19:21,170
monsters and like something oh also that

2003
01:19:19,159 --> 01:19:23,630
dedicated he's out there goes out and

2004
01:19:21,170 --> 01:19:25,460
looks at haunted houses and does real on

2005
01:19:23,630 --> 01:19:26,750
the spot investigate actually that's a

2006
01:19:25,460 --> 01:19:29,000
bit like you could you like to give

2007
01:19:26,750 --> 01:19:31,189
Nadal my house is amazing yeah they

2008
01:19:29,000 --> 01:19:33,409
never been scared never been bumped in

2009
01:19:31,189 --> 01:19:35,219
the night what can I say no

2010
01:19:33,409 --> 01:19:36,750
well that's going to be great so that's

2011
01:19:35,220 --> 01:19:39,030
next week skeptics are number seven

2012
01:19:36,750 --> 01:19:41,369
number seven in two weeks time in fact

2013
01:19:39,029 --> 01:19:43,590
and and lots of other things that are so

2014
01:19:41,369 --> 01:19:45,479
good I can't even tell you about but and

2015
01:19:43,590 --> 01:19:47,340
once again can I please thank you on

2016
01:19:45,479 --> 01:19:49,259
behalf of the skeptic zone and all the

2017
01:19:47,340 --> 01:19:51,449
team here for all the listeners that

2018
01:19:49,260 --> 01:19:53,909
have been dead devotedly downloading the

2019
01:19:51,449 --> 01:19:55,229
podcast each time and giving us lots of

2020
01:19:53,909 --> 01:19:56,970
good feedback and thank you to the

2021
01:19:55,229 --> 01:19:58,739
listeners to thank you for the feedback

2022
01:19:56,970 --> 01:20:00,840
it's in all the feedback we're getting

2023
01:19:58,739 --> 01:20:02,550
from Australians writing and saying we

2024

01:20:00,840 --> 01:20:04,440
really don't love the show because it's

2025
01:20:02,550 --> 01:20:06,720
Australian try the other skeptical

2026
01:20:04,439 --> 01:20:08,579
podcast they love to yeah great but

2027
01:20:06,720 --> 01:20:10,650
they're American find it we're the only

2028
01:20:08,579 --> 01:20:12,420
real australian line yeah well you know

2029
01:20:10,649 --> 01:20:14,309
it's a big hemisphere down here with a

2030
01:20:12,420 --> 01:20:16,199
lot lot to cover and you'll be doing our

2031
01:20:14,310 --> 01:20:17,610
bit we're doing a bit well I'll see you

2032
01:20:16,199 --> 01:20:19,380
in a couple of weeks Stefan we can do a

2033
01:20:17,609 --> 01:20:22,049
bit all over looking forward to it and

2034
01:20:19,380 --> 01:20:27,359
guess what he comes a theme song oh wait

2035
01:20:22,050 --> 01:20:31,650
for it you've been listening to the

2036
01:20:27,359 --> 01:20:34,920
skeptic zone visit her website at wwc a

2037
01:20:31,649 --> 01:20:38,629
petting zoo TV for comments contacts and

2038
01:20:34,920 --> 01:20:38,630

extra video reports

2039

01:20:49,840 --> 01:20:51,869

Oh

2040

01:20:56,979 --> 01:20:59,039

you