

Episode 546

THE
**SKEPTIC
ZONE**
PODCAST

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7 April 2019

The Skeptic Zone Podcast



Dr Kate Carter

Episode 546 - 7 April 2019

Dr Kate Carter
Science Outreach
and Education

Essential oils on the nose
in New Zealand

Mind Body Spirit
and Money

1
00:00:22,390 --> 00:00:09,100
welcome to the skeptic zone the podcast

2
00:00:29,990 --> 00:00:24,890
yes it's the skeptic zone podcast

3
00:00:31,970 --> 00:00:30,000
episode number 546 for the well it's

4
00:00:33,340 --> 00:00:31,980
sort of the 7th of April I'll get back

5
00:00:38,680 --> 00:00:33,350
to that in a minute

6
00:00:42,860 --> 00:00:38,690
2019 Richard Saunders here with you from

7
00:00:44,930 --> 00:00:42,870
okay so all right there is no 7th of

8
00:00:48,460 --> 00:00:44,940
April this year for me personally and

9
00:00:50,420 --> 00:00:48,470
I'm somewhere somewhere over the Pacific

10
00:00:54,590 --> 00:00:50,430
about to cross the International

11
00:00:59,119 --> 00:00:54,600
Dateline which means I go from the 6th

12
00:01:00,680 --> 00:00:59,129
of April to the 8th of April go figure

13
00:01:03,439 --> 00:01:00,690

that one out coming up on this week's

14

00:01:05,510 --> 00:01:03,449

show regardless we have an interview

15

00:01:07,160 --> 00:01:05,520

with Kate Carter from the National

16

00:01:09,650 --> 00:01:07,170

Center for science education

17

00:01:11,870 --> 00:01:09,660

Kate is the director of community

18

00:01:14,540 --> 00:01:11,880

science and she's involved with many

19

00:01:17,540 --> 00:01:14,550

wonderful things very interesting video

20

00:01:19,580 --> 00:01:17,550

projects that explain some of what she

21

00:01:21,650 --> 00:01:19,590

does are available online links in the

22

00:01:24,770 --> 00:01:21,660

show notes and she knows an awful lot

23

00:01:27,590 --> 00:01:24,780

about wisdom teeth that's Kate Carter

24

00:01:28,969 --> 00:01:27,600

coming up at the top of the show after

25

00:01:32,420 --> 00:01:28,979

that it's Heidi Robertson the raw

26

00:01:34,460 --> 00:01:32,430

skeptic with a smelly story from New

27

00:01:37,969 --> 00:01:34,470

Zealand about aromatherapy and essential

28

00:01:41,539 --> 00:01:37,979

oils something does not smell right in

29

00:01:43,719 --> 00:01:41,549

New Zealand it's on the nose can we say

30

00:01:47,390 --> 00:01:43,729

that alternative medicine wrapped around

31

00:01:51,230 --> 00:01:47,400

pseudoscience stinks oh it goes on and

32

00:01:54,830 --> 00:01:51,240

on this story involves a school that was

33

00:01:58,190 --> 00:01:54,840

was passed hence using essential oils to

34

00:02:00,859 --> 00:01:58,200

calm the children and make them better

35

00:02:04,730 --> 00:02:00,869

then to round off the show a timely

36

00:02:07,240 --> 00:02:04,740

story the timely story it's 30 years

37

00:02:09,530 --> 00:02:07,250

this year since the first

38

00:02:12,949 --> 00:02:09,540

mind/body/spirit or mind/body wallet as

39

00:02:16,039 --> 00:02:12,959

we call it festival appeared in Sydney

40

00:02:18,080 --> 00:02:16,049

or was staged in Sydney and 30 years ago

41

00:02:20,630 --> 00:02:18,090

Tim Mendham the current editor of the

42

00:02:24,050 --> 00:02:20,640

skeptic magazine journal from Australian

43

00:02:26,750 --> 00:02:24,060

skeptics attended mind/body/spirit and

44

00:02:29,420 --> 00:02:26,760

wrote a report and that report we will

45

00:02:32,539 --> 00:02:29,430

bring you this week and I happen to know

46

00:02:34,670 --> 00:02:32,549

Tim Mendham just in the last couple of

47

00:02:37,900 --> 00:02:34,680

days attend

48

00:02:42,230 --> 00:02:37,910

the current mind-body-spirit festival a

49

00:02:45,290 --> 00:02:42,240

big shout-out to my friend Yein Lu who I

50

00:02:48,740 --> 00:02:45,300

used to work with Oh many years ago with

51
00:02:51,440 --> 00:02:48,750
Stefan Stefan soika who is the other

52
00:02:55,040 --> 00:02:51,450
co-host of the skeptic zone from time to

53
00:02:58,250 --> 00:02:55,050
time Stefan and I were the original

54
00:03:00,890 --> 00:02:58,260
hosts of the skeptics and of course but

55
00:03:05,000 --> 00:03:00,900
many years ago yin and I worked with

56
00:03:07,310 --> 00:03:05,010
Stefan and ye Inge who is now based in

57
00:03:10,060 --> 00:03:07,320
San Francisco who bought me a wonderful

58
00:03:13,910 --> 00:03:10,070
lunch the other day is the creator of

59
00:03:19,010 --> 00:03:13,920
the fail whale used by Twitter the

60
00:03:21,710 --> 00:03:19,020
famous picture of the whale being lifted

61
00:03:25,160 --> 00:03:21,720
into the sky by lots of little birdies

62
00:03:26,750 --> 00:03:25,170
or a wonderfully talented artist and I

63
00:03:29,240 --> 00:03:26,760

had the pleasure of a private tour of

64

00:03:31,850 --> 00:03:29,250

some of her collection well that's

65

00:03:34,160 --> 00:03:31,860

enough from me at the moment stay tuned

66

00:03:36,740 --> 00:03:34,170

at the end of the show for another

67

00:03:39,500 --> 00:03:36,750

announcement or to some upcoming events

68

00:03:42,020 --> 00:03:39,510

but now it's time for me to run upstairs

69

00:03:45,290 --> 00:03:42,030

and have another bowl of that delicious

70

00:04:10,390 --> 00:03:45,300

San Francisco clam chowder well I do

71

00:04:15,649 --> 00:04:13,160

once again I find myself in beautiful

72

00:04:17,870 --> 00:04:15,659

downtown Oakland California at the

73

00:04:19,909 --> 00:04:17,880

offices of the National Center for

74

00:04:21,800 --> 00:04:19,919

Science education I've been visiting the

75

00:04:24,890 --> 00:04:21,810

National Center science education now

76
00:04:27,529 --> 00:04:24,900
for for many years since 2004 mainly to

77
00:04:29,090 --> 00:04:27,539
speak to our friend dr. eugenie Scott

78
00:04:31,400 --> 00:04:29,100
but today I'm going to be speaking with

79
00:04:35,659 --> 00:04:31,410
the director of community science

80
00:04:37,159 --> 00:04:35,669
education Kate Carter hello Kate hi how

81
00:04:39,110 --> 00:04:37,169
are you doing this afternoon

82
00:04:40,490 --> 00:04:39,120
this just gone afternoon I'm doing very

83
00:04:42,529 --> 00:04:40,500
well it's wonderful to be here we're

84
00:04:45,680 --> 00:04:42,539
sitting in the library and I'm like

85
00:04:47,990 --> 00:04:45,690
gazing around and what a collection I've

86
00:04:50,990 --> 00:04:48,000
never seen such a wonderful including

87
00:04:52,839 --> 00:04:51,000
skulls including skulls on the in the

88
00:04:56,420 --> 00:04:52,849

bookshelf Darwin Darwin Darwin

89

00:04:59,659 --> 00:04:56,430

creationism evolution over here it's

90

00:05:01,640 --> 00:04:59,669

it's quite something No is this a dream

91

00:05:04,279 --> 00:05:01,650

job for someone like you to work at such

92

00:05:07,719 --> 00:05:04,289

a facility absolutely

93

00:05:10,040 --> 00:05:07,729

I left academia after a postdoc and

94

00:05:12,050 --> 00:05:10,050

transitioned to something where I could

95

00:05:13,939 --> 00:05:12,060

really work directly with the public so

96

00:05:16,520 --> 00:05:13,949

I get to share my enthusiasm for

97

00:05:18,950 --> 00:05:16,530

evolution with a really wide audience

98

00:05:20,480 --> 00:05:18,960

and what's your doctorate in exactly my

99

00:05:23,719 --> 00:05:20,490

doctorate is in human evolutionary

100

00:05:27,020 --> 00:05:23,729

biology hmm so I worked on the evolution

101
00:05:30,560 --> 00:05:27,030
of wisdom teeth oh right I good to talk

102
00:05:33,080 --> 00:05:30,570
to you I had a miserable time in my

103
00:05:35,210 --> 00:05:33,090
mid-30s with wisdom teeth

104
00:05:37,700 --> 00:05:35,220
oh my goodness me I had to have three

105
00:05:38,420 --> 00:05:37,710
out at once huh what's the deal with

106
00:05:42,050 --> 00:05:38,430
wisdom teeth

107
00:05:43,850 --> 00:05:42,060
so my first question to you is did you

108
00:05:47,689 --> 00:05:43,860
only have three or did you have all four

109
00:05:50,089 --> 00:05:47,699
I had four one was taken out in advance

110
00:05:52,310 --> 00:05:50,099
it was a bad one and had a big hook on

111
00:05:54,620 --> 00:05:52,320
it oh and it was hooked it was

112
00:05:56,270 --> 00:05:54,630
incredible I had it out in the chair and

113
00:05:57,830 --> 00:05:56,280

then I think the dentist took pity on me

114

00:06:00,560 --> 00:05:57,840

and I had to rest out under general

115

00:06:02,450 --> 00:06:00,570

anaesthetic oh wow okay so you're not

116

00:06:04,190 --> 00:06:02,460

first of all if you only have three

117

00:06:08,060 --> 00:06:04,200

wisdom teeth I would say that that was

118

00:06:11,330 --> 00:06:08,070

the rarest condition so most people have

119

00:06:14,710 --> 00:06:11,340

zero or four but three is the the most

120

00:06:18,590 --> 00:06:14,720

rare so you're not special in that way

121

00:06:20,690 --> 00:06:18,600

but a lot of times so when you talk

122

00:06:22,670 --> 00:06:20,700

about the evolution of wisdom teeth the

123

00:06:25,270 --> 00:06:22,680

first thing that happens when you talk

124

00:06:28,880 --> 00:06:25,280

to the general public is they think that

125

00:06:31,430 --> 00:06:28,890

humans and primates didn't have their

126

00:06:34,100 --> 00:06:31,440

third molar but it turned out and that

127

00:06:35,420 --> 00:06:34,110

humans have evolved its special run and

128

00:06:39,590 --> 00:06:35,430

so that's where you have to start with a

129

00:06:41,870 --> 00:06:39,600

lot of people but it is actually mammals

130

00:06:43,850 --> 00:06:41,880

started off early mammals had four

131

00:06:44,260 --> 00:06:43,860

molars and we've been gradually losing

132

00:06:49,270 --> 00:06:44,270

them

133

00:06:51,890 --> 00:06:49,280

so humans actually have two or three and

134

00:06:53,720 --> 00:06:51,900

what we think is going on and what I've

135

00:06:57,250 --> 00:06:53,730

showed that was going on in in my

136

00:07:00,080 --> 00:06:57,260

dissertation is we really soft foods

137

00:07:02,780 --> 00:07:00,090

relative to what you what you might

138

00:07:04,340 --> 00:07:02,790

think a chimp and a gorilla eat a chimp

139

00:07:07,760 --> 00:07:04,350

and a gorilla actually can spend eight

140

00:07:10,220 --> 00:07:07,770

hours of their day chewing so just

141

00:07:12,590 --> 00:07:10,230

imagine if from instead of nine to five

142

00:07:15,460 --> 00:07:12,600

you're at work if nine to five was spent

143

00:07:17,450 --> 00:07:15,470

just chewing leaves because of the

144

00:07:20,150 --> 00:07:17,460

coarseness and the toughness of that

145

00:07:21,740 --> 00:07:20,160

yeah right so because we switch to

146

00:07:25,310 --> 00:07:21,750

softer foods we don't spend as much time

147

00:07:26,260 --> 00:07:25,320

chewing and our dolls are smaller than

148

00:07:29,360 --> 00:07:26,270

they used to be

149

00:07:30,980 --> 00:07:29,370

so we have a much higher rate of wisdom

150

00:07:33,110 --> 00:07:30,990

tooth impaction and so what you

151

00:07:39,920 --> 00:07:33,120

experience is the downside of wisdom

152

00:07:43,250 --> 00:07:39,930

tooth impaction and so because impaction

153

00:07:45,530 --> 00:07:43,260

can actually be pretty pretty nasty and

154

00:07:47,150 --> 00:07:45,540

before the rise of antibiotics and

155

00:07:48,710 --> 00:07:47,160

before modern dentistry if you had an

156

00:07:52,550 --> 00:07:48,720

impacted wisdom tooth you were pretty

157

00:07:54,680 --> 00:07:52,560

much down for the count as soon as it's

158

00:07:56,480 --> 00:07:54,690

swelled up in the back of your jaw it

159

00:07:57,770 --> 00:07:56,490

could very easily move to your throat it

160

00:08:01,850 --> 00:07:57,780

turns out breathing and eating are

161

00:08:05,030 --> 00:08:01,860

pretty important to staying alive so

162

00:08:08,540 --> 00:08:05,040

very often what we would see is that if

163

00:08:11,090 --> 00:08:08,550

you have populations eating softer foods

164

00:08:13,340 --> 00:08:11,100

the individuals with two is sorry two

165

00:08:14,690 --> 00:08:13,350

teeth two molars would do much better

166

00:08:16,840 --> 00:08:14,700

than the individuals with three molars

167

00:08:19,040 --> 00:08:16,850

so it's natural selection in action

168

00:08:21,060 --> 00:08:19,050

really only a couple hundred years ago

169

00:08:23,490 --> 00:08:21,070

that's interesting to say I mean

170

00:08:25,410 --> 00:08:23,500

was horrible and and listeners out there

171

00:08:26,130 --> 00:08:25,420

who have had wisdom teeth problems know

172

00:08:29,090 --> 00:08:26,140

what we mean

173

00:08:31,290 --> 00:08:29,100

but you to but I never I never really

174

00:08:32,940 --> 00:08:31,300

took the time to think well what

175

00:08:35,490 --> 00:08:32,950

happened if they weren't taken out I

176

00:08:38,130 --> 00:08:35,500

would simply think I'd still have pain

177

00:08:41,490 --> 00:08:38,140

but no no it could get a lot worse yeah

178

00:08:43,640 --> 00:08:41,500

so abscesses I don't know if yours got

179

00:08:47,040 --> 00:08:43,650

to the point where they were obsessed

180

00:08:49,170 --> 00:08:47,050

mine um one of mine did so I can speak

181

00:08:52,500 --> 00:08:49,180

from experience it is a terrible amount

182

00:08:54,570 --> 00:08:52,510

of pain and so an abscess is an

183

00:08:57,540 --> 00:08:54,580

infection and especially on the upper

184

00:08:59,430 --> 00:08:57,550

part of your mouth if you get an abscess

185

00:09:01,590 --> 00:08:59,440

it can very easily cross them to the

186

00:09:03,690 --> 00:09:01,600

sinus and cross them to the and go

187

00:09:05,220 --> 00:09:03,700

straight to the brain which infections

188

00:09:08,310 --> 00:09:05,230

in the brain are never a good thing in

189

00:09:11,400 --> 00:09:08,320

the lower jaw very often infections can

190

00:09:13,470 --> 00:09:11,410

spread to the the throat and so you can

191

00:09:16,350 --> 00:09:13,480

end up with basically a swollen throat

192

00:09:18,420 --> 00:09:16,360

that won't won't allow you to breathe so

193

00:09:21,300 --> 00:09:18,430

I suppose there was quite a deal of our

194

00:09:24,900 --> 00:09:21,310

ancestors who had an unhappy end with

195

00:09:27,390 --> 00:09:24,910

the wisdom teeth that's correct so and

196

00:09:28,860 --> 00:09:27,400

if you made it past early childhood

197

00:09:31,200 --> 00:09:28,870

where there are lots of ways for you to

198

00:09:33,000 --> 00:09:31,210

die before antibiotics and if you

199

00:09:35,100 --> 00:09:33,010

survived to the point where if you

200

00:09:37,260 --> 00:09:35,110

reached your 18th birthday which not a

201
00:09:41,790 --> 00:09:37,270
lot of people did back then that was yet

202
00:09:44,940 --> 00:09:41,800
another way that you could die or it

203
00:09:47,330 --> 00:09:44,950
would a teary topic to you now and I I

204
00:09:49,650 --> 00:09:47,340
also had the a very unfortunate

205
00:09:52,560 --> 00:09:49,660
unpleasant condition of dry socket which

206
00:09:54,810 --> 00:09:52,570
you probably know about yeah yeah well I

207
00:09:57,480 --> 00:09:54,820
don't want to make our listeners feel

208
00:09:59,280 --> 00:09:57,490
too bad but anyway let's talk about what

209
00:10:01,530 --> 00:09:59,290
you do here the director of community

210
00:10:02,100 --> 00:10:01,540
science education what does that mean

211
00:10:04,410 --> 00:10:02,110
exactly

212
00:10:06,480 --> 00:10:04,420
so I think of my role and this is kind

213
00:10:07,860 --> 00:10:06,490

of highfalutin and silly is really

214

00:10:09,600 --> 00:10:07,870

breaking down barriers between a

215

00:10:13,140 --> 00:10:09,610

scientist in a non scientist

216

00:10:15,440 --> 00:10:13,150

so a lot of times especially in the u.s.

217

00:10:18,660 --> 00:10:15,450

there are people who are just really

218

00:10:23,100 --> 00:10:18,670

they're not naive to science they're

219

00:10:24,810 --> 00:10:23,110

just opposed to science hmm and when we

220

00:10:28,290 --> 00:10:24,820

because we work a lot in the Midwest

221

00:10:30,090 --> 00:10:28,300

when we think about why that is a lot of

222

00:10:31,830 --> 00:10:30,100

times we see people who have had really

223

00:10:35,100 --> 00:10:31,840

negative experiences with science as a

224

00:10:38,240 --> 00:10:35,110

kid maybe they had a teacher that

225

00:10:42,120 --> 00:10:38,250

called on them and made them feel stupid

226

00:10:44,940 --> 00:10:42,130

maybe they you know their parents were

227

00:10:46,290 --> 00:10:44,950

you know opposed to science there's lots

228

00:10:49,470 --> 00:10:46,300

of different reasons that people can get

229

00:10:52,710 --> 00:10:49,480

turned off to science and so we're

230

00:10:54,960 --> 00:10:52,720

really interested in kind of helping

231

00:10:56,509 --> 00:10:54,970

people realize that there's not a

232

00:11:00,269 --> 00:10:56,519

fundamental difference between

233

00:11:02,490 --> 00:11:00,279

scientists and non-scientists we all eat

234

00:11:04,949 --> 00:11:02,500

breakfast and brush our teeth and do

235

00:11:08,910 --> 00:11:04,959

normal things and we actually think

236

00:11:11,400 --> 00:11:08,920

about things in much the same way so

237

00:11:13,769 --> 00:11:11,410

even people who are opposed to science

238

00:11:15,210 --> 00:11:13,779

if you've talked to them you can pick

239

00:11:18,780 --> 00:11:15,220

apart how they're actually thinking

240

00:11:20,940 --> 00:11:18,790

scientifically and as an aside it's a

241

00:11:22,560 --> 00:11:20,950

great way to if someone is really anti

242

00:11:23,819 --> 00:11:22,570

science it's a great way to undermine

243

00:11:28,110 --> 00:11:23,829

them by being a little that's a great

244

00:11:29,819 --> 00:11:28,120

hypothesis you said well you seem to be

245

00:11:33,600 --> 00:11:29,829

using evidence to support a conclusion

246

00:11:36,030 --> 00:11:33,610

oh wow you're doing science you may hate

247

00:11:39,449 --> 00:11:36,040

it but that's what you're doing

248

00:11:41,340 --> 00:11:39,459

that's interesting and so what I do is I

249

00:11:45,420 --> 00:11:41,350

spend a lot of time trying to work in

250

00:11:46,860 --> 00:11:45,430

populations that are they have a greater

251
00:11:49,829 --> 00:11:46,870
percentage of people who are opposed to

252
00:11:52,350 --> 00:11:49,839
science to try and really break down

253
00:11:54,360 --> 00:11:52,360
that kind of divide yeah you make an

254
00:11:56,579 --> 00:11:54,370
interesting point here because I've

255
00:11:58,440 --> 00:11:56,589
always considered that a lot of people

256
00:12:01,470 --> 00:11:58,450
simply ignorant of the scientific method

257
00:12:03,449 --> 00:12:01,480
what science is in the skeptical

258
00:12:05,069 --> 00:12:03,459
community will get people from the New

259
00:12:06,690 --> 00:12:05,079
Age quite often looking at us in saying

260
00:12:09,510 --> 00:12:06,700
well science can't explain everything

261
00:12:11,250 --> 00:12:09,520
can it so they're ganging yeah which to

262
00:12:14,040 --> 00:12:11,260
us means they don't understand really

263
00:12:16,370 --> 00:12:14,050

what they're talking about so but you're

264

00:12:18,750 --> 00:12:16,380

suggesting a lot of people simply aren't

265

00:12:20,670 --> 00:12:18,760

ignorant of the scientific method and

266

00:12:24,210 --> 00:12:20,680

why it's here and what it does but just

267

00:12:27,290 --> 00:12:24,220

opposed to it on principle yeah I mean I

268

00:12:29,579 --> 00:12:27,300

believe and this is a belief not

269

00:12:32,610 --> 00:12:29,589

supported by a huge amount of evidence

270

00:12:34,500 --> 00:12:32,620

I'm gonna flag that up here that most

271

00:12:38,160 --> 00:12:34,510

children are born thinking like

272

00:12:41,610 --> 00:12:38,170

scientists so when you are building with

273

00:12:43,650 --> 00:12:41,620

blocks you learn gravity by knocking

274

00:12:46,350 --> 00:12:43,660

things over you do repeated experiments

275

00:12:48,060 --> 00:12:46,360

and then you come up with a theorem and

276

00:12:48,960 --> 00:12:48,070

then later on you learn that that's

277

00:12:50,429 --> 00:12:48,970

called gravity and

278

00:12:54,540 --> 00:12:50,439

you learned some numbers attached to it

279

00:12:57,059 --> 00:12:54,550

but you the way that we reason with the

280

00:13:00,059 --> 00:12:57,069

world is using is is through a

281

00:13:02,490 --> 00:13:00,069

scientific context now it's imperfect

282

00:13:04,350 --> 00:13:02,500

and they're certain there are certain

283

00:13:07,470 --> 00:13:04,360

ways that people can take advantage of

284

00:13:11,059 --> 00:13:07,480

our reasoning to lead us to believe all

285

00:13:14,910 --> 00:13:11,069

sorts of silly things but in general we

286

00:13:17,240 --> 00:13:14,920

we reason through like scientists and

287

00:13:19,650 --> 00:13:17,250

even people who are opposed to it

288

00:13:21,360 --> 00:13:19,660

they're opposed to it not because of the

289

00:13:23,220 --> 00:13:21,370

underlying fundamental principles of

290

00:13:24,869 --> 00:13:23,230

science but they're opposed to it

291

00:13:26,819 --> 00:13:24,879

because some sort of silly political

292

00:13:33,929 --> 00:13:26,829

dressings that has been put on top of the

293

00:13:36,829 --> 00:13:33,939

science scaring so so what are we what

294

00:13:39,840 --> 00:13:36,839

are you doing here at the center to help

295

00:13:41,129 --> 00:13:39,850

negate that I mean I know that for

296

00:13:44,009 --> 00:13:41,139

example and I was just having a quick

297

00:13:46,889 --> 00:13:44,019

look before you are engaged in making a

298

00:13:48,629 --> 00:13:46,899

very interesting series of videos but

299

00:13:50,970 --> 00:13:48,639

the videos have a point and they talk

300

00:13:51,929 --> 00:13:50,980

about things like the science Booster

301

00:13:53,939 --> 00:13:51,939

Club what's that all about

302

00:13:55,170 --> 00:13:53,949

sure so the science Booster Club is one

303

00:13:57,929 --> 00:13:55,180

of the three things that we're doing to

304

00:14:02,129 --> 00:13:57,939

try and bring science into the community

305

00:14:06,299 --> 00:14:02,139

and every month it's kind of like a blue

306

00:14:08,910 --> 00:14:06,309

apron for your for science where we send

307

00:14:10,199 --> 00:14:08,920

all of our clubs a kit run do it

308

00:14:12,179 --> 00:14:10,209

yourself do it yourself

309

00:14:16,019 --> 00:14:12,189

so you add sometimes you have to add

310

00:14:17,910 --> 00:14:16,029

water so now if you have to add sand but

311

00:14:21,420 --> 00:14:17,920

we send pretty much all of the all of

312

00:14:23,939 --> 00:14:21,430

the interesting things and you open up a

313

00:14:28,079 --> 00:14:23,949

box and you can do a science activity

314

00:14:30,929 --> 00:14:28,089

Wow so we this month I guess this is

315

00:14:33,569 --> 00:14:30,939

April now when March we did a nitrate

316

00:14:35,549 --> 00:14:33,579

activity talking about how the effects

317

00:14:39,150 --> 00:14:35,559

of climate change will change the

318

00:14:41,100 --> 00:14:39,160

effects of nitrate pollution which for

319

00:14:43,679 --> 00:14:41,110

us living in a city here is not super

320

00:14:46,920 --> 00:14:43,689

relevant but if you're a farmer in Iowa

321

00:14:49,049 --> 00:14:46,930

that is a very big thing and this month

322

00:14:51,509 --> 00:14:49,059

we're doing an activity about the heat

323

00:14:54,090 --> 00:14:51,519

island effect in cities which is called

324

00:14:56,249 --> 00:14:54,100

cool cities where you actually build a

325

00:14:59,519 --> 00:14:56,259

little model city an ice cube trays and

326

00:15:01,769 --> 00:14:59,529

then heat it up so what just just for my

327

00:15:02,519 --> 00:15:01,779

benefit a heat island what does that

328

00:15:05,939 --> 00:15:02,529

mean exactly

329

00:15:09,059 --> 00:15:05,949

so because we are in an urban area and

330

00:15:11,639 --> 00:15:09,069

the things that we use to build

331

00:15:16,050 --> 00:15:11,649

buildings and roads they tend to absorb

332

00:15:19,290 --> 00:15:16,060

a lot of heat and not so much in Oakland

333

00:15:22,470 --> 00:15:19,300

but certainly in big cities that don't

334

00:15:23,910 --> 00:15:22,480

are not beside a body of water it tends

335

00:15:25,319 --> 00:15:23,920

to get really hot in the summer because

336

00:15:26,850 --> 00:15:25,329

the city is absorb heat and don't

337

00:15:28,079 --> 00:15:26,860

release it as much and there are a lot

338

00:15:30,600 --> 00:15:28,089

of different things there are a lot of

339

00:15:34,769 --> 00:15:30,610

different reasons behind that mm we are

340

00:15:36,840 --> 00:15:34,779

trying to help people find architectural

341

00:15:39,689 --> 00:15:36,850

solutions and city planning solutions

342

00:15:41,939 --> 00:15:39,699

for mitigating the effects so it's a way

343

00:15:43,110 --> 00:15:41,949

of taking the climate change argument so

344

00:15:45,119 --> 00:15:43,120

it's not we're not having an argument

345

00:15:46,970 --> 00:15:45,129

about climate change the presupposition

346

00:15:49,829 --> 00:15:46,980

of the activity is that it's happening

347

00:15:50,850 --> 00:15:49,839

but we're helping people find solutions

348

00:15:53,100 --> 00:15:50,860

to deal with it

349

00:15:55,410 --> 00:15:53,110

and so what we know is that once people

350

00:15:57,150 --> 00:15:55,420

find success once people can be

351
00:15:59,579 --> 00:15:57,160
successful at finding a solution to

352
00:16:02,369 --> 00:15:59,589
climate change they kind of brand

353
00:16:03,960 --> 00:16:02,379
themselves as on the side of it even if

354
00:16:06,780 --> 00:16:03,970
if you had asked them before they did

355
00:16:09,600 --> 00:16:06,790
the activity they would have said oh I

356
00:16:11,639 --> 00:16:09,610
don't really know about that I see seven

357
00:16:14,400 --> 00:16:11,649
and what age groups are you really

358
00:16:16,920 --> 00:16:14,410
looking at all ages we're really looking

359
00:16:20,040 --> 00:16:16,930
at all ages and so we actually create

360
00:16:22,139 --> 00:16:20,050
the activities with you know different

361
00:16:25,110 --> 00:16:22,149
modifications for different age groups

362
00:16:25,980 --> 00:16:25,120
so that we can really reach you know

363
00:16:33,749 --> 00:16:25,990

what

364

00:16:35,699 --> 00:16:33,759

schoolers and so there are different

365

00:16:37,710 --> 00:16:35,709

ways of modifying the activity to really

366

00:16:39,900 --> 00:16:37,720

resonate with with each age group and

367

00:16:41,460 --> 00:16:39,910

what and I was just looking also I've

368

00:16:43,290 --> 00:16:41,470

seen the walk like a chip you did with

369

00:16:44,879 --> 00:16:43,300

dr. eugenie Scott that's that's that's

370

00:16:46,619 --> 00:16:44,889

great I thought that was really

371

00:16:49,889 --> 00:16:46,629

interesting but funny at the same time

372

00:16:50,220 --> 00:16:49,899

and this rising tides what's that all

373

00:16:53,579 --> 00:16:50,230

about

374

00:16:55,049 --> 00:16:53,589

so sea-level rise is a big problem and

375

00:16:58,410 --> 00:16:55,059

we're very much worried about it when

376

00:17:01,559 --> 00:16:58,420

you look throughout the next 50 to 100

377

00:17:04,880 --> 00:17:01,569

years if you do an activity and you go

378

00:17:08,760 --> 00:17:04,890

out into the community and you say

379

00:17:10,889 --> 00:17:08,770

you're terrible did you know you're

380

00:17:12,360 --> 00:17:10,899

contributing to climate change and these

381

00:17:15,120 --> 00:17:12,370

are all the bad things that are gonna

382

00:17:16,169 --> 00:17:15,130

happen mm-hmm what people some people

383

00:17:17,579 --> 00:17:16,179

listen

384

00:17:19,019 --> 00:17:17,589

but most people stick their fingers in

385

00:17:22,949 --> 00:17:19,029

their ears and go about their business

386

00:17:26,759 --> 00:17:22,959

who are you go away yeah so what we do

387

00:17:29,220 --> 00:17:26,769

instead is we say hey I bet you can help

388

00:17:31,859 --> 00:17:29,230

us come up with a solution so we place

389

00:17:36,419 --> 00:17:31,869

these little plastic monopoly houses on

390

00:17:38,580 --> 00:17:36,429

a beach and we say can you design a way

391

00:17:39,810 --> 00:17:38,590

to keep this house dry because the sea

392

00:17:41,070 --> 00:17:39,820

level is gonna rise and it's gonna

393

00:17:43,619 --> 00:17:41,080

really affect this house

394

00:17:46,019 --> 00:17:43,629

and so with young kids we just let them

395

00:17:48,090 --> 00:17:46,029

build but for older kids we say hey and

396

00:17:51,239 --> 00:17:48,100

you also have to think well you're gonna

397

00:17:54,359 --> 00:17:51,249

be working on a budget but also you know

398

00:17:57,720 --> 00:17:54,369

you're paying for premium you know

399

00:18:00,960 --> 00:17:57,730

oceanfront views so if your idea was to

400

00:18:03,899 --> 00:18:00,970

put a big wall which is which is a very

401
00:18:07,379 --> 00:18:03,909
effective way takes down the property

402
00:18:09,539 --> 00:18:07,389
value of the monopoly house so that's

403
00:18:13,049 --> 00:18:09,549
not gonna work so we have them not just

404
00:18:15,570 --> 00:18:13,059
find something that will work just to

405
00:18:19,499 --> 00:18:15,580
keep it dry but also taking into account

406
00:18:22,049 --> 00:18:19,509
real-world situations and then we we

407
00:18:25,680 --> 00:18:22,059
pour in lots and lots of water and we

408
00:18:28,379 --> 00:18:25,690
see what happens so we make it pretty

409
00:18:30,389 --> 00:18:28,389
easy to do it kind of level one because

410
00:18:31,889 --> 00:18:30,399
we want to encourage success but then we

411
00:18:34,619 --> 00:18:31,899
make it progressively harder and make

412
00:18:36,320 --> 00:18:34,629
them take into account progressively

413
00:18:39,119 --> 00:18:36,330

more variables that they might have to

414

00:18:41,100 --> 00:18:39,129

encounter so it's a way of thinking

415

00:18:42,239 --> 00:18:41,110

about science it's a way of going

416

00:18:44,249 --> 00:18:42,249

through the engineering design process

417

00:18:46,680 --> 00:18:44,259

and most importantly it's a way about

418

00:18:47,999 --> 00:18:46,690

fine to think about finding solutions to

419

00:18:48,749 --> 00:18:48,009

climate change and having a bit of fun

420

00:18:50,340 --> 00:18:48,759

along the way

421

00:18:52,049 --> 00:18:50,350

well hopefully and making a huge mess

422

00:18:53,879 --> 00:18:52,059

and making a huge mess now you're

423

00:18:56,999 --> 00:18:53,889

involved with coming up with these

424

00:19:00,869 --> 00:18:57,009

concepts yes so that is the best part of

425

00:19:03,060 --> 00:19:00,879

my job maybe probably it's really fun I

426

00:19:05,009 --> 00:19:03,070

get to play with arts and crafts and I

427

00:19:07,619 --> 00:19:05,019

get to take more trips to Michael's than

428

00:19:09,509 --> 00:19:07,629

ever before in my life now Michaels is

429

00:19:12,899 --> 00:19:09,519

for international listeners what's that

430

00:19:17,220 --> 00:19:12,909

it's an arts and crafts store yes with

431

00:19:18,960 --> 00:19:17,230

you now and so folks look where there'll

432

00:19:22,379 --> 00:19:18,970

be a link in the weeks this week's show

433

00:19:24,119 --> 00:19:22,389

notes of course but it's in C is calm

434

00:19:26,520 --> 00:19:24,129

and when you go there at the top of the

435

00:19:28,200 --> 00:19:26,530

page there's a little YouTube

436

00:19:29,930 --> 00:19:28,210

go little icon click that and you can

437

00:19:32,220 --> 00:19:29,940

see all the wonderful and fun videos

438

00:19:34,470 --> 00:19:32,230

that everybody here is put out

439

00:19:36,650 --> 00:19:34,480

especially by Kate and Drake you to

440

00:19:39,360 --> 00:19:36,660

those ones do you get to do much

441

00:19:41,640 --> 00:19:39,370

traveling or you office bound more or

442

00:19:45,720 --> 00:19:41,650

less in this job um I travel out to

443

00:19:48,000 --> 00:19:45,730

conferences so I'm leaving you know I I

444

00:19:51,120 --> 00:19:48,010

do a lot of training and speaking about

445

00:19:53,490 --> 00:19:51,130

what we do so next week I'm going to the

446

00:19:56,250 --> 00:19:53,500

Smithsonian to talk about the no

447

00:19:58,770 --> 00:19:56,260

conflict approach with their volunteers

448

00:20:03,140 --> 00:19:58,780

and do some training with them and then

449

00:20:06,900 --> 00:20:03,150

somebody to carry about I'm very excited

450

00:20:10,020 --> 00:20:06,910

and I'm also spending some time in

451

00:20:12,930 --> 00:20:10,030

Portland at the end of this week going

452

00:20:16,170 --> 00:20:12,940

to a science communication conference so

453

00:20:18,120 --> 00:20:16,180

I'm talking about one of the one of the

454

00:20:21,390 --> 00:20:18,130

biggest and the coolest problems that

455

00:20:23,690 --> 00:20:21,400

I've been working with which is I'm how

456

00:20:26,970 --> 00:20:23,700

do you engage people who have you know

457

00:20:29,550 --> 00:20:26,980

CRISPR or something you know really

458

00:20:31,380 --> 00:20:29,560

pulled from the headlines but maybe they

459

00:20:35,160 --> 00:20:31,390

had a high school biology class twenty

460

00:20:37,560 --> 00:20:35,170

years ago and how do you have helped

461

00:20:40,020 --> 00:20:37,570

them find an engaging answer to a

462

00:20:43,740 --> 00:20:40,030

question when they don't really have the

463

00:20:47,100 --> 00:20:43,750

background to they have they're missing

464

00:20:48,480 --> 00:20:47,110

you know 20 steps so that is something

465

00:20:50,400 --> 00:20:48,490

that I've been working with especially

466

00:20:53,730 --> 00:20:50,410

when I do outreach geared toward adults

467

00:20:58,290 --> 00:20:53,740

and I'm gonna go over some different

468

00:21:00,480 --> 00:20:58,300

strategies so finding where they are and

469

00:21:01,650 --> 00:21:00,490

kind of really making a connection with

470

00:21:05,040 --> 00:21:01,660

who they are and where they're coming

471

00:21:07,080 --> 00:21:05,050

from and also really creating what in

472

00:21:09,990 --> 00:21:07,090

the pedagogy world is kind of a

473

00:21:11,640 --> 00:21:10,000

problem-based learning environment so if

474

00:21:13,500 --> 00:21:11,650

you actually get them invested in

475

00:21:16,380 --> 00:21:13,510

solving a problem or living through an

476

00:21:19,020 --> 00:21:16,390

experience then you can really tailor

477

00:21:21,660 --> 00:21:19,030

their specific interests and their

478

00:21:24,510 --> 00:21:21,670

background - you can tailor their

479

00:21:29,220 --> 00:21:24,520

learning to that so rather than having

480

00:21:34,050 --> 00:21:29,230

to talk at them about what is DNA which

481

00:21:37,080 --> 00:21:34,060

most people don't know you can get them

482

00:21:39,810 --> 00:21:37,090

involved in solving a problem and they

483

00:21:40,399 --> 00:21:39,820

can maybe accidentally learn about what

484

00:21:43,710 --> 00:21:40,409

it is

485

00:21:46,049 --> 00:21:43,720

but it's more a process of kind of

486

00:21:47,880 --> 00:21:46,059

self-discovery interesting what you say

487

00:21:50,880 --> 00:21:47,890

about DNA you say what most people don't

488

00:21:52,649 --> 00:21:50,890

know yes of course they don't and I come

489

00:21:56,070 --> 00:21:52,659

across this too and then my second

490

00:21:57,779 --> 00:21:56,080

thought is well why why why would they

491

00:21:59,580 --> 00:21:57,789

but most people go about their daily

492

00:22:01,500 --> 00:21:59,590

lives not knowing about a lot of things

493

00:22:05,190 --> 00:22:01,510

now that probably everybody has heard

494

00:22:06,990 --> 00:22:05,200

the term DNA and now you can get DNA

495

00:22:08,940 --> 00:22:07,000

tests and people realize that it's

496

00:22:11,340 --> 00:22:08,950

something to do with like a fingerprint

497

00:22:14,340 --> 00:22:11,350

answer but the complexity of it and the

498

00:22:17,430 --> 00:22:14,350

double helix in the RNA no no I mean

499

00:22:18,899 --> 00:22:17,440

your average person on the street might

500

00:22:21,180 --> 00:22:18,909

not have that knowledge and I wouldn't

501
00:22:24,720 --> 00:22:21,190
be too down on them for not having it so

502
00:22:27,419 --> 00:22:24,730
I guess yeah you have a lot of Education

503
00:22:29,279 --> 00:22:27,429
to do don't you great well I mean when

504
00:22:33,629 --> 00:22:29,289
you when people talk to me about their

505
00:22:36,269 --> 00:22:33,639
23andme results they say things like I'm

506
00:22:38,789 --> 00:22:36,279
two percent Neanderthal and then they

507
00:22:41,070 --> 00:22:38,799
you know I've had people point to the

508
00:22:42,509 --> 00:22:41,080
part of themselves that's the two

509
00:22:45,029 --> 00:22:42,519
percent of my body that's new

510
00:22:49,980 --> 00:22:45,039
oh yeah what yeah of course I think my

511
00:22:51,680 --> 00:22:49,990
big toe might be there you go well

512
00:22:54,149 --> 00:22:51,690
that's interesting

513
00:22:54,840 --> 00:22:54,159

expresses itself at one particular yeah

514

00:22:57,210 --> 00:22:54,850

Wow

515

00:22:59,070 --> 00:22:57,220

well because if you've done a DNA test

516

00:23:00,320 --> 00:22:59,080

but you don't have any fundamental

517

00:23:02,940 --> 00:23:00,330

understanding of how it works

518

00:23:05,460 --> 00:23:02,950

another thing we do is we go to we were

519

00:23:08,399 --> 00:23:05,470

at the State Fair and we extracted DNA

520

00:23:12,360 --> 00:23:08,409

from from applesauce

521

00:23:15,120 --> 00:23:12,370

right okay yes yeah this is super easy

522

00:23:16,980 --> 00:23:15,130

activity so one of the really surprising

523

00:23:20,519 --> 00:23:16,990

questions that I got and I was kind of

524

00:23:22,560 --> 00:23:20,529

taken aback by that is someone was like

525

00:23:24,899 --> 00:23:22,570

so there's DNA in there and I was like

526

00:23:29,009 --> 00:23:24,909

yes most food has DNA in it and they're

527

00:23:31,259 --> 00:23:29,019

like so if I eat applesauce I'm eating

528

00:23:33,629 --> 00:23:31,269

DNA and it was like yes but that's true

529

00:23:37,919 --> 00:23:33,639

of all the food that you eat so I'm part

530

00:23:43,620 --> 00:23:41,220

it is funny I had to try really hard not

531

00:23:45,149 --> 00:23:43,630

to laugh when it was asked but it does

532

00:23:47,519 --> 00:23:45,159

you know that's that's actually thinking

533

00:23:49,529 --> 00:23:47,529

like a scientist and again it gets back

534

00:23:50,820 --> 00:23:49,539

to the point well why does it why should

535

00:23:53,159 --> 00:23:50,830

people in the street know the

536

00:23:54,330 --> 00:23:53,169

complexities of it but they have to live

537

00:23:57,600 --> 00:23:54,340

in a world where

538

00:23:59,760 --> 00:23:57,610

or people are talking about the

539

00:24:01,409 --> 00:23:59,770

complexities of it they have to live in

540

00:24:03,450 --> 00:24:01,419

a world where they're voting for

541

00:24:05,840 --> 00:24:03,460

politicians who have opinions on it and

542

00:24:08,250 --> 00:24:05,850

they're supposed to be you know there is

543

00:24:11,130 --> 00:24:08,260

science knowledge based on science

544

00:24:12,810 --> 00:24:11,140

science knowledge is it's becoming more

545

00:24:16,140 --> 00:24:12,820

and more important for living in this

546

00:24:18,180 --> 00:24:16,150

world why I have to agree I have to

547

00:24:19,740 --> 00:24:18,190

agree with you there and the more people

548

00:24:22,380 --> 00:24:19,750

like you who can get out there and

549

00:24:23,130 --> 00:24:22,390

communicate science and make it fun make

550

00:24:26,190 --> 00:24:23,140

it interesting

551
00:24:28,710 --> 00:24:26,200
make it stick maybe didn't don't make it

552
00:24:31,529 --> 00:24:28,720
scary I think is a wonderful thing well

553
00:24:33,779 --> 00:24:31,539
folks again ice directly to the National

554
00:24:35,370 --> 00:24:33,789
Center for Science education links in

555
00:24:37,409 --> 00:24:35,380
this week's show notes don't forget to

556
00:24:39,659 --> 00:24:37,419
check out the videos especially by the

557
00:24:43,440 --> 00:24:39,669
ones of Cape Cara the director of

558
00:24:45,180 --> 00:24:43,450
community science education Kate a real

559
00:24:47,519 --> 00:24:45,190
pleasure to spend some time with you

560
00:24:50,100 --> 00:24:47,529
here in the wonderful library complete

561
00:24:53,159 --> 00:24:50,110
with books and skulls and I look forward

562
00:24:54,240 --> 00:24:53,169
to maybe interviewing you down the track

563
00:25:10,560 --> 00:24:54,250

to see how things are going

564

00:25:16,480 --> 00:25:13,930

calling all skeptics or listeners the

565

00:25:18,820 --> 00:25:16,490

aleph end or near Glasgow are are you

566

00:25:21,100 --> 00:25:18,830

planning to visit sometime then you're

567

00:25:24,580 --> 00:25:21,110

in luck because the Glasgow skeptics

568

00:25:25,840 --> 00:25:24,590

have got your Monday nights sorted we

569

00:25:28,570 --> 00:25:25,850

are committed to filling up every

570

00:25:31,270 --> 00:25:28,580

available Monday night talks on science

571

00:25:33,399 --> 00:25:31,280

and skepticism past speakers include

572

00:25:34,630 --> 00:25:33,409

Eugenie Scott Jerry Coyne make up

573

00:25:36,669 --> 00:25:34,640

Marshall Nate Phelps

574

00:25:40,060 --> 00:25:36,679

tormund Cecil from cognitive dissonance

575

00:25:42,220 --> 00:25:40,070

PZ Myers Richard Wiseman EC drilling

576

00:25:45,250 --> 00:25:42,230

Noah Heath and Eli from the scathing

577

00:25:47,500 --> 00:25:45,260

atheist Simon Singh Rebecca Watson and a

578

00:25:49,870 --> 00:25:47,510

multitude of local academics and

579

00:25:51,940 --> 00:25:49,880

skeptics there's literally nothing

580

00:25:54,279 --> 00:25:51,950

better you can do on a Monday night in

581

00:25:57,100 --> 00:25:54,289

Glasgow it doesn't involve taking your

582

00:25:59,289 --> 00:25:57,110

clothes off so come join us we've also

583

00:26:01,510 --> 00:25:59,299

got a vibrant online community you can

584

00:26:03,789 --> 00:26:01,520

find us on Facebook Twitter and get

585

00:26:18,529 --> 00:26:03,799

involved with the discussion Glasgow

586

00:26:31,200 --> 00:26:22,499

it's the raw skeptic report with Heidi

587

00:26:33,509 --> 00:26:31,210

Robertson hello everyone

588

00:26:39,180 --> 00:26:33,519

Heidi Robertson here from the Northern

589

00:26:41,690 --> 00:26:39,190

Rivers vaccination supporters so I was

590

00:26:44,749 --> 00:26:41,700

procrastinating a couple of days ago

591

00:26:48,480 --> 00:26:44,759

just scrolling through my Facebook feed

592

00:26:51,450 --> 00:26:48,490

when a post by asthma Australia caught

593

00:26:53,759 --> 00:26:51,460

my attention the asthma Australia

594

00:26:56,159 --> 00:26:53,769

website is a legitimate and

595

00:26:59,100 --> 00:26:56,169

well-respected source of information for

596

00:27:03,450 --> 00:26:59,110

people newly diagnosed or living with

597

00:27:06,960 --> 00:27:03,460

asthma asthma is not a minor ailment for

598

00:27:10,649 --> 00:27:06,970

many people in Australia and New Zealand

599

00:27:13,259 --> 00:27:10,659

there are around 1 in 8 or 9 people

600

00:27:16,169 --> 00:27:13,269

living with asthma and thousands are

601
00:27:19,649 --> 00:27:16,179
hospitalized every year and some of

602
00:27:22,320 --> 00:27:19,659
those asthma attacks are fatal asthma

603
00:27:24,740 --> 00:27:22,330
has many triggers which can be different

604
00:27:28,619 --> 00:27:24,750
for each person that has the diagnosis

605
00:27:31,889 --> 00:27:28,629
exercise pollen dust mold and smoke our

606
00:27:36,180 --> 00:27:31,899
common triggers and so are strong scents

607
00:27:38,190 --> 00:27:36,190
like perfume or deodorants the Facebook

608
00:27:40,860 --> 00:27:38,200
post that caught my eye links readers to

609
00:27:44,549 --> 00:27:40,870
an article by Kirsty wind in the New

610
00:27:46,560 --> 00:27:44,559
Zealand Herald titled father threatens

611
00:27:49,950 --> 00:27:46,570
legal action if school keeps using

612
00:27:55,110 --> 00:27:49,960
essential oils in class and it's dated

613
00:27:58,110 --> 00:27:55,120

the 30th of March 2019 but before I go

614

00:28:02,310 --> 00:27:58,120

on to quote the article what exactly is

615

00:28:05,759 --> 00:28:02,320

an essential oil turns out that it is

616

00:28:08,100 --> 00:28:05,769

not an oil that is essential the

617

00:28:10,139 --> 00:28:08,110

essential part of essential oil means

618

00:28:13,019 --> 00:28:10,149

that it contains the essence of the

619

00:28:15,869 --> 00:28:13,029

plant from which it is derived it is a

620

00:28:18,560 --> 00:28:15,879

concentrated liquid extracted from a

621

00:28:21,060 --> 00:28:18,570

particular plant and often used for

622

00:28:23,030 --> 00:28:21,070

aromatherapy a form of alternative

623

00:28:25,590 --> 00:28:23,040

medicine

624

00:28:27,990 --> 00:28:25,600

essential oils have been described by

625

00:28:30,480 --> 00:28:28,000

their proponents as being useful in

626
00:28:33,240 --> 00:28:30,490
preventing or treating disease and other

627
00:28:37,470 --> 00:28:33,250
ailments although there is little

628
00:28:40,110 --> 00:28:37,480
scientific evidence to back this up the

629
00:28:42,270 --> 00:28:40,120
multi marketing doTERRA company

630
00:28:45,410 --> 00:28:42,280
mentioned in the following article has

631
00:28:49,830 --> 00:28:45,420
four diffusers for sale on its website

632
00:28:52,560 --> 00:28:49,840
from \$62 ranging through to one hundred

633
00:28:54,720 --> 00:28:52,570
and nineteen dollars to be used in

634
00:28:56,880 --> 00:28:54,730
conjunction with one or more of their

635
00:29:00,960 --> 00:28:56,890
essential oils priced at forty five

636
00:29:03,620 --> 00:29:00,970
dollars for 15 milliliters so with that

637
00:29:07,710 --> 00:29:03,630
bit of background on to the article

638
00:29:10,140 --> 00:29:07,720

quote an Auckland primary school has

639

00:29:12,960 --> 00:29:10,150

pulled therapeutic diffusers from the

640

00:29:15,480 --> 00:29:12,970

classroom after a high court threat from

641

00:29:18,650 --> 00:29:15,490

a parent who said the essential oils

642

00:29:21,360 --> 00:29:18,660

could trigger asthma attacks on

643

00:29:24,810 --> 00:29:21,370

Wednesday Milford primary school on

644

00:29:27,060 --> 00:29:24,820

Auckland's North Shore put diffusers in

645

00:29:30,240 --> 00:29:27,070

twenty classrooms with oil blends

646

00:29:32,880 --> 00:29:30,250

designed to quote stop the spread of

647

00:29:34,520 --> 00:29:32,890

viruses and keep children focused at

648

00:29:37,410 --> 00:29:34,530

school end quote

649

00:29:39,870 --> 00:29:37,420

that evening the school board received a

650

00:29:43,640 --> 00:29:39,880

letter threatening high court action

651
00:29:46,680 --> 00:29:43,650
from a parent who is also a lawyer

652
00:29:49,200 --> 00:29:46,690
Auckland barrister Tim Rainey who has a

653
00:29:51,420 --> 00:29:49,210
son at the school said he took action

654
00:29:53,400 --> 00:29:51,430
because there was no consultation with

655
00:29:57,360 --> 00:29:53,410
parents before the decision was made to

656
00:29:59,220 --> 00:29:57,370
use diffusers in the classrooms he spoke

657
00:30:01,830 --> 00:29:59,230
to his son's teacher on Wednesday

658
00:30:06,450 --> 00:30:01,840
morning and she agreed not to use the

659
00:30:08,670 --> 00:30:06,460
diffuser in class that day but he said

660
00:30:10,950 --> 00:30:08,680
it was not a long-term solution and had

661
00:30:13,980 --> 00:30:10,960
spoken to other parents who were also

662
00:30:16,020 --> 00:30:13,990
concerned Rainey said that the first he

663
00:30:18,300 --> 00:30:16,030

heard of the diffusers was in a

664

00:30:20,280 --> 00:30:18,310

newsletter earlier in the month that

665

00:30:23,760 --> 00:30:20,290

said there would be an information

666

00:30:26,580 --> 00:30:23,770

evening about the product the diffusers

667

00:30:29,580 --> 00:30:26,590

and oils supplied by multi-level

668

00:30:32,130 --> 00:30:29,590

marketing business doTERRA work by

669

00:30:35,010 --> 00:30:32,140

dispersing a mist of water and essential

670

00:30:37,430 --> 00:30:35,020

oils into the air to be inhaled and

671

00:30:40,140 --> 00:30:37,440

easily absorbed by the body

672

00:30:42,210 --> 00:30:40,150

this decision has been made without any

673

00:30:44,280 --> 00:30:42,220

consultation with parents and without

674

00:30:48,570 --> 00:30:44,290

obtaining parental consent

675

00:30:51,270 --> 00:30:48,580

he said Rainey said some essential oils

676
00:30:53,850 --> 00:30:51,280
such as wild orange and a cinnamon bark

677
00:30:56,580 --> 00:30:53,860
used in the doTERRA OnGuard

678
00:30:59,970 --> 00:30:56,590
blend were irritants for people with

679
00:31:00,930 --> 00:30:59,980
allergies and asthma in a letter to the

680
00:31:03,750 --> 00:31:00,940
Board of Trustees

681
00:31:07,320 --> 00:31:03,760
Rainie said he wanted the diffusers

682
00:31:09,120 --> 00:31:07,330
removed immediately quote if the board

683
00:31:11,430 --> 00:31:09,130
is not prepared to confirm that this

684
00:31:14,310 --> 00:31:11,440
experiment will cease by 9:00 a.m.

685
00:31:16,950 --> 00:31:14,320
tomorrow I will commence proceedings in

686
00:31:19,500 --> 00:31:16,960
the High Court seeking an injunction to

687
00:31:21,419 --> 00:31:19,510
restrain the school from continuing to

688
00:31:25,530 --> 00:31:21,429

expose students to this risk

689

00:31:28,080 --> 00:31:25,540

end quote he stated quote given the

690

00:31:32,580 --> 00:31:28,090

urgency of the situation I may make that

691

00:31:34,530 --> 00:31:32,590

application without notice and quote he

692

00:31:36,690 --> 00:31:34,540

said the school's decision to use oils

693

00:31:39,180 --> 00:31:36,700

that could harm one student to help

694

00:31:40,770 --> 00:31:39,190

others was the same as quote making

695

00:31:43,290 --> 00:31:40,780

everyone eat a peanut butter sandwich

696

00:31:45,410 --> 00:31:43,300

because someone said it was brain food

697

00:31:48,570 --> 00:31:45,420

end quote

698

00:31:50,760 --> 00:31:48,580

neither the school nor I have any idea

699

00:31:52,830 --> 00:31:50,770

what effect the use of these essential

700

00:31:57,780 --> 00:31:52,840

oils will have on him or any of his

701
00:32:00,450 --> 00:31:57,790
classmates he said at a PTA meeting in

702
00:32:02,700 --> 00:32:00,460
March this year two thousand dollars was

703
00:32:04,710 --> 00:32:02,710
approved to purchase twenty two fuses

704
00:32:08,940 --> 00:32:04,720
and two different blends of essential

705
00:32:12,450 --> 00:32:08,950
oils from doTERRA school principal sue

706
00:32:14,490 --> 00:32:12,460
Cottle told The Weeknd Herald the legal

707
00:32:18,299 --> 00:32:14,500
letter was the first negative contact

708
00:32:20,549 --> 00:32:18,309
she had regarding the diffusers quote we

709
00:32:23,160 --> 00:32:20,559
trialed the diffusers in one class last

710
00:32:25,260 --> 00:32:23,170
year and that class had fewer students

711
00:32:28,740 --> 00:32:25,270
off sick and the teacher said the

712
00:32:30,510 --> 00:32:28,750
behavior had improved she said we want

713
00:32:32,669 --> 00:32:30,520

to stop the spread of illness and have

714

00:32:36,060 --> 00:32:32,679

children in the class learning not at

715

00:32:37,980 --> 00:32:36,070

home sick and quote she said other

716

00:32:40,290 --> 00:32:37,990

schools used the diffusers with no issue

717

00:32:43,500 --> 00:32:40,300

and she had cleared the use with the

718

00:32:45,270 --> 00:32:43,510

Ministry of Education Kartell said the

719

00:32:47,850 --> 00:32:45,280

diffusers were now locked away in an

720

00:32:49,370 --> 00:32:47,860

office until the board decided what to

721

00:32:52,530 --> 00:32:49,380

do next

722

00:32:54,900 --> 00:32:52,540

the teachers were behind the use 100%

723

00:32:57,060 --> 00:32:54,910

and so many parents have told me they

724

00:32:59,430 --> 00:32:57,070

loved the idea of the diffusers in class

725

00:33:03,300 --> 00:32:59,440

there was so much positive feedback and

726

00:33:05,580 --> 00:33:03,310

quote she said but no school wants the

727

00:33:08,460 --> 00:33:05,590

threat of legal action so we pulled them

728

00:33:10,430 --> 00:33:08,470

straight away we have other battles end

729

00:33:14,370 --> 00:33:10,440

quote

730

00:33:16,860 --> 00:33:14,380

and that's the end of the article one of

731

00:33:18,540 --> 00:33:16,870

the things that stood out for me was the

732

00:33:20,430 --> 00:33:18,550

apparent presumption both in the

733

00:33:23,550 --> 00:33:20,440

comments section of the Facebook post

734

00:33:25,620 --> 00:33:23,560

and the article itself that essential

735

00:33:27,750 --> 00:33:25,630

oil diffusers were in fact effective as

736

00:33:29,880 --> 00:33:27,760

a way of as the principal was quoted as

737

00:33:32,990 --> 00:33:29,890

saying stopping the spread of viruses

738

00:33:36,120 --> 00:33:33,000

and keeping children focused at school

739

00:33:37,980 --> 00:33:36,130

this was their starting point and nobody

740

00:33:41,430 --> 00:33:37,990

was questioning the veracity or

741

00:33:43,800 --> 00:33:41,440

plausibility of it so I went on a bit of

742

00:33:46,470 --> 00:33:43,810

a hunt and thus began my journey down a

743

00:33:49,260 --> 00:33:46,480

convoluted rabbit hole and the end

744

00:33:52,530 --> 00:33:49,270

result was that there have been studies

745

00:33:54,830 --> 00:33:52,540

in vitro of various essential oils

746

00:33:58,800 --> 00:33:54,840

potentially having some antimicrobial

747

00:34:03,290 --> 00:33:58,810

effects but no human clinical trials of

748

00:34:06,780 --> 00:34:03,300

this particular blend of diffused oil

749

00:34:09,810 --> 00:34:06,790

now bear with me while I go off on a bit

750

00:34:11,610 --> 00:34:09,820

of a tangent here because as I was

751
00:34:15,419 --> 00:34:11,620
looking into this story I found a couple

752
00:34:17,369 --> 00:34:15,429
of extra interesting tidbits doterra

753
00:34:20,070 --> 00:34:17,379
have their headquarters in Utah and the

754
00:34:23,490 --> 00:34:20,080
United States and officers and

755
00:34:26,010 --> 00:34:23,500
distributors worldwide the chairman of

756
00:34:28,950 --> 00:34:26,020
the scientific advisory committee of

757
00:34:31,280 --> 00:34:28,960
doTERRA is a chiropractor with a passion

758
00:34:34,020 --> 00:34:31,290
for essential oils

759
00:34:37,379 --> 00:34:34,030
he has just moved to a different branch

760
00:34:40,159 --> 00:34:37,389
of the company replaced with of all

761
00:34:43,500 --> 00:34:40,169
things and infectious diseases

762
00:34:45,930 --> 00:34:43,510
pediatrician this pediatrician will

763
00:34:48,440 --> 00:34:45,940

apparently be not only leading doe

764

00:34:51,570 --> 00:34:48,450

terrors health care and research teams

765

00:34:55,169 --> 00:34:51,580

but will also be senior medical director

766

00:34:58,350 --> 00:34:55,179

of doe terrrors new prime meridian

767

00:35:02,670 --> 00:34:58,360

medical complex which will open this

768

00:35:07,020 --> 00:35:02,680

month April 2019 from doe terrrors

769

00:35:10,650 --> 00:35:07,030

website quote the 41,000 square foot

770

00:35:12,570 --> 00:35:10,660

direct primary care facility located

771

00:35:15,060 --> 00:35:12,580

directly across the street from Doe

772

00:35:18,840 --> 00:35:15,070

terrors Global Campus in Pleasant Grove

773

00:35:22,290 --> 00:35:18,850

Utah will be open to the public in April

774

00:35:24,960 --> 00:35:22,300

2009 teen along with addressing those

775

00:35:28,350 --> 00:35:24,970

modern healthcare realities of long wait

776

00:35:30,660 --> 00:35:28,360

times scheduling difficulties and little

777

00:35:33,240 --> 00:35:30,670

time actually spent with your medical

778

00:35:36,660 --> 00:35:33,250

provider we are certain that the

779

00:35:39,900 --> 00:35:36,670

integrated approach to health based on

780

00:35:43,200 --> 00:35:39,910

the doTERRA wellness lifestyle pyramid

781

00:35:45,840 --> 00:35:43,210

will offer a breadth of essential oil

782

00:35:50,790 --> 00:35:45,850

infused fresh air and a better

783

00:35:54,810 --> 00:35:50,800

experience for patients end quote as one

784

00:35:55,650 --> 00:35:54,820

commenter on reddit said so let me get

785

00:35:58,440 --> 00:35:55,660

this straight

786

00:36:01,560 --> 00:35:58,450

infectious disease medical doctor is now

787

00:36:04,290 --> 00:36:01,570

chief medical officer for a multi-level

788

00:36:07,230 --> 00:36:04,300

marketing company that pedals essential

789

00:36:10,160 --> 00:36:07,240

oils and aromatherapy as medical cures

790

00:36:13,530 --> 00:36:10,170

for just about everything under the Sun

791

00:36:18,240 --> 00:36:13,540

except essential oils can't do through

792

00:36:23,040 --> 00:36:18,250

infectious diseases all the irony and

793

00:36:25,440 --> 00:36:23,050

quote indeed I'm sure we'll be hearing

794

00:36:28,590 --> 00:36:25,450

more about doTERRA and their new prime

795

00:36:29,940 --> 00:36:28,600

meridian venture in the future but in

796

00:36:32,360 --> 00:36:29,950

the meantime getting back to the

797

00:36:35,040 --> 00:36:32,370

original story of the new zealand school

798

00:36:37,200 --> 00:36:35,050

the particular blend that was to be used

799

00:36:38,510 --> 00:36:37,210

in the diffusers at school called

800

00:36:41,520 --> 00:36:38,520

OnGuard

801
00:36:43,290 --> 00:36:41,530
contains the essential oils of wild

802
00:36:46,320 --> 00:36:43,300
orange peel clove bud

803
00:36:50,130 --> 00:36:46,330
cinnamon leaf cinnamon bark eucalyptus

804
00:36:53,510 --> 00:36:50,140
leaf and rosemary leaf benefits as per

805
00:36:56,580 --> 00:36:53,520
the doTERRA website include quote

806
00:37:00,210 --> 00:36:56,590
supports healthy immune and respiratory

807
00:37:03,620 --> 00:37:00,220
function protects against environmental

808
00:37:07,050 --> 00:37:03,630
threats supports the body's natural

809
00:37:11,280 --> 00:37:07,060
antioxidant defenses promotes healthy

810
00:37:14,210 --> 00:37:11,290
circulation and has an energizing and

811
00:37:15,910 --> 00:37:14,220
uplifting aroma end quote

812
00:37:19,480 --> 00:37:15,920
there is

813
00:37:23,170 --> 00:37:19,490

asterisk after these listed benefits

814

00:37:25,000 --> 00:37:23,180

which points to a disclaimer quote these

815

00:37:26,890 --> 00:37:25,010

statements have not been evaluated by

816

00:37:28,660 --> 00:37:26,900

the Food and Drug Administration this

817

00:37:31,270 --> 00:37:28,670

product is not intended to diagnose

818

00:37:34,120 --> 00:37:31,280

treat cure or prevent any disease end

819

00:37:36,490 --> 00:37:34,130

quote now it would appear that that

820

00:37:40,000 --> 00:37:36,500

disclaimer was placed on the doTERRA

821

00:37:43,599 --> 00:37:40,010

website in multiple places after the FDA

822

00:37:47,440 --> 00:37:43,609

sent a lengthy warning letter to doTERRA

823

00:37:50,710 --> 00:37:47,450

international in 2014 and I'll quote a

824

00:37:52,030 --> 00:37:50,720

small part of that quote your

825

00:37:54,160 --> 00:37:52,040

consultants promotes your

826
00:37:56,710 --> 00:37:54,170
above-mentioned doTERRA essential oil

827
00:37:59,319 --> 00:37:56,720
products for conditions including but

828
00:38:02,710 --> 00:37:59,329
not limited to viral infections

829
00:38:06,960 --> 00:38:02,720
including Ebola bacterial infections

830
00:38:10,450 --> 00:38:06,970
cancer brain injury autism endometriosis

831
00:38:15,430 --> 00:38:10,460
Graves disease Alzheimer's disease tumor

832
00:38:18,609 --> 00:38:15,440
reduction a DD ADHD and other conditions

833
00:38:21,069 --> 00:38:18,619
that are not amenable to self diagnosis

834
00:38:23,710 --> 00:38:21,079
and treatment by individuals who are not

835
00:38:26,109 --> 00:38:23,720
medical practitioners end quote and

836
00:38:29,049 --> 00:38:26,119
further on in the same warning letter

837
00:38:31,210 --> 00:38:29,059
quote the cited violations in this

838
00:38:33,280 --> 00:38:31,220

letter should not be viewed to apply

839

00:38:35,289 --> 00:38:33,290

solely to the specific products

840

00:38:37,240 --> 00:38:35,299

mentioned in this letter it is your

841

00:38:39,670 --> 00:38:37,250

responsibility to ensure that all of

842

00:38:42,130 --> 00:38:39,680

your products are in compliance with all

843

00:38:44,620 --> 00:38:42,140

requirements of the Act and federal

844

00:38:47,620 --> 00:38:44,630

regulations you should take prompt

845

00:38:51,060 --> 00:38:47,630

action to correct the violations cited

846

00:38:53,800 --> 00:38:51,070

in this letter end quote

847

00:38:55,840 --> 00:38:53,810

but what about the teachers who said

848

00:38:58,090 --> 00:38:55,850

that children were better behaved and

849

00:39:00,550 --> 00:38:58,100

had less sick days during a trial run of

850

00:39:04,750 --> 00:39:00,560

the diffuser in one classroom the year

851
00:39:07,750 --> 00:39:04,760
before well that could be explained by

852
00:39:09,910 --> 00:39:07,760
observer bias the expectation that

853
00:39:11,680 --> 00:39:09,920
benefits will result when one is told

854
00:39:14,290 --> 00:39:11,690
that for example a product will have a

855
00:39:16,240 --> 00:39:14,300
positive effect there may have been an

856
00:39:18,220 --> 00:39:16,250
expectation on the teachers to report

857
00:39:20,050 --> 00:39:18,230
positive results if it were a person in

858
00:39:23,200 --> 00:39:20,060
authority such as the principal who was

859
00:39:25,990 --> 00:39:23,210
asking them to report back to her of

860
00:39:28,060 --> 00:39:26,000
course there are also the expected peaks

861
00:39:30,640 --> 00:39:28,070
and troughs of infectious disease

862
00:39:33,070 --> 00:39:30,650
throughout the year which could account

863
00:39:36,550 --> 00:39:33,080

for less children being off sick at any

864

00:39:40,510 --> 00:39:36,560

given time and I'm sure other factors

865

00:39:42,730 --> 00:39:40,520

not taken into consideration as we say

866

00:39:45,910 --> 00:39:42,740

all the time correlation does not equal

867

00:39:47,860 --> 00:39:45,920

causation and a trial run in one

868

00:39:50,260 --> 00:39:47,870

classroom with a handful of students

869

00:39:54,840 --> 00:39:50,270

does not make for a robust and solid

870

00:39:57,550 --> 00:39:54,850

argument in favor of essential oil use

871

00:40:00,940 --> 00:39:57,560

as morote acts are not the only danger

872

00:40:02,920 --> 00:40:00,950

from essential oil exposure it turns out

873

00:40:05,530 --> 00:40:02,930

that as a follow-up to the article in

874

00:40:09,220 --> 00:40:05,540

the online New Zealand Herald on the

875

00:40:11,560 --> 00:40:09,230

30th of March 2019 a New Zealand

876
00:40:13,420 --> 00:40:11,570
neurologist spoke up about the dangers

877
00:40:16,930 --> 00:40:13,430
of some essential oils triggering

878
00:40:20,200 --> 00:40:16,940
seizures in children with epilepsy quote

879
00:40:22,150 --> 00:40:20,210
professor Gareth Perry who is an officer

880
00:40:25,270 --> 00:40:22,160
of the New Zealand Order of Merit for

881
00:40:27,430 --> 00:40:25,280
services to neurology said eucalyptus

882
00:40:29,980 --> 00:40:27,440
oil and rosemary oil were just two of

883
00:40:31,180 --> 00:40:29,990
eleven essential oils that potentially

884
00:40:34,180 --> 00:40:31,190
caused seizures

885
00:40:35,500 --> 00:40:34,190
end quote it is concerning that a

886
00:40:38,860 --> 00:40:35,510
taxpayer-funded

887
00:40:41,880 --> 00:40:38,870
educational facility would jump on board

888
00:40:44,830 --> 00:40:41,890

the pseudoscience bandwagon spending

889

00:40:47,350 --> 00:40:44,840

\$2,000 of pnc money on a probably

890

00:40:50,950 --> 00:40:47,360

ineffective and potentially dangerous

891

00:40:53,130 --> 00:40:50,960

product i personally applaud this parent

892

00:40:57,120 --> 00:40:53,140

who happened to also be a lawyer in

893

00:41:00,120 --> 00:40:57,130

confronting his son's school about it

894

00:41:02,640 --> 00:41:00,130

that's all from me for now thank you for

895

00:41:04,620 --> 00:41:02,650

listening this has been Heidi Robertson

896

00:41:13,490 --> 00:41:04,630

of the Northern Rivers vaccination

897

00:41:37,290 --> 00:41:34,440

www.export.gov pamela gay from astronomy

898

00:41:39,210 --> 00:41:37,300

cast each week Fraser Cain and I take

899

00:41:41,400 --> 00:41:39,220

our listeners on a fact-based journey

900

00:41:44,160 --> 00:41:41,410

through the cosmos with our weekly

901
00:41:46,920 --> 00:41:44,170
podcast we explain not just what we know

902
00:41:49,800 --> 00:41:46,930
but how we know what we know about this

903
00:41:52,260 --> 00:41:49,810
universe that we share check us out at

904
00:41:54,660 --> 00:41:52,270
astronomy cast calm and look for us in

905
00:42:13,319 --> 00:41:54,670
itunes google play and wherever you

906
00:42:18,999 --> 00:42:16,209
now we continue our series reports

907
00:42:21,009 --> 00:42:19,009
articles items interviews and stories

908
00:42:26,979 --> 00:42:21,019
from the skeptic magazine the journal

909
00:42:31,229 --> 00:42:26,989
from Australian skeptics this week we

910
00:42:38,499 --> 00:42:31,239
turn to volume nine number four from

911
00:42:41,319 --> 00:42:38,509
1989 so thirty years ago and it's a

912
00:42:48,180 --> 00:42:41,329
report that could have been written last

913
00:42:55,569 --> 00:42:48,190

week by Tim Mendham New Age festival the

914

00:42:58,239 --> 00:42:55,579

mind-body-spirit and the money Thursday

915

00:43:01,239 --> 00:42:58,249

November the 16th was an auspicious day

916

00:43:04,680 --> 00:43:01,249

for the New Age in Australia it marked

917

00:43:07,209 --> 00:43:04,690

the opening of the four-day festival for

918

00:43:09,249 --> 00:43:07,219

mind/body/spirit that is surely the

919

00:43:12,940 --> 00:43:09,259

largest gathering so far of New Age

920

00:43:14,799 --> 00:43:12,950

marketing yet held in this country held

921

00:43:16,900 --> 00:43:14,809

at Sydney's darling harbour exhibition

922

00:43:19,660 --> 00:43:16,910

centre the event brought together about

923

00:43:21,269 --> 00:43:19,670

a hundred and thirty exhibitors about 60

924

00:43:24,670 --> 00:43:21,279

free demonstrations of New Age

925

00:43:27,279 --> 00:43:24,680

lifestyles almost 40 lectures and

926
00:43:30,729 --> 00:43:27,289
workshop sessions and no doubt many

927
00:43:32,950 --> 00:43:30,739
new-age adherents and customers the

928
00:43:35,380 --> 00:43:32,960
organisers were expecting over 20,000

929
00:43:38,170 --> 00:43:35,390
visitors and it seems quite possible

930
00:43:40,390 --> 00:43:38,180
that this was achieved the range of

931
00:43:42,479 --> 00:43:40,400
exhibitors was great with about 40

932
00:43:44,890 --> 00:43:42,489
percent dedicated to various aspects of

933
00:43:47,620 --> 00:43:44,900
alternative health aromatherapy

934
00:43:50,019 --> 00:43:47,630
essential oils herbal cures vitamins

935
00:43:52,299 --> 00:43:50,029
galore massage pyramids crystal healing

936
00:43:56,019 --> 00:43:52,309
microbiotic iridology flotation tanks

937
00:43:59,739 --> 00:43:56,029
acupuncture including needless ear

938
00:44:05,109 --> 00:43:59,749

version energy balancing reflexology

939

00:44:08,259 --> 00:44:05,119

faith healing etc etc etc mixed in were

940

00:44:11,680 --> 00:44:08,269

a range of cults such as Perry Krishna

941

00:44:16,089 --> 00:44:11,690

each Anka several different schools

942

00:44:19,240 --> 00:44:16,099

yoga mirror Buddha spiritualists even

943

00:44:21,690 --> 00:44:19,250

the quaint Aetherius society which still

944

00:44:24,550 --> 00:44:21,700

after 35 years supports the quote

945

00:44:27,849 --> 00:44:24,560

teachings from other planets unquote

946

00:44:32,550 --> 00:44:27,859

transmitted from the quote cosmic

947

00:44:34,930 --> 00:44:32,560

masters end quote new and not so new-age

948

00:44:37,839 --> 00:44:34,940

motivational and philosophical groups

949

00:44:41,470 --> 00:44:37,849

were also there in number including the

950

00:44:44,440 --> 00:44:41,480

conflict resolution Network accelerated

951
00:44:47,579 --> 00:44:44,450
learning money & hué discovery

952
00:44:52,059 --> 00:44:47,589
foundation and rope lthaca movement

953
00:44:54,970 --> 00:44:52,069
Swedenborgian 'z and even Scientology

954
00:44:56,710 --> 00:44:54,980
albeit in the guise of Dianetics mixed

955
00:44:59,740 --> 00:44:56,720
among all these were some strange

956
00:45:02,650 --> 00:44:59,750
bedfellows including Animal Liberation a

957
00:45:05,650 --> 00:45:02,660
company selling new-age capes another

958
00:45:07,900 --> 00:45:05,660
selling shower roses an unusually

959
00:45:10,720 --> 00:45:07,910
mundane and useful product for such a

960
00:45:13,720 --> 00:45:10,730
show another selling a compound to keep

961
00:45:16,540 --> 00:45:13,730
your spectacles from fogging up another

962
00:45:21,220 --> 00:45:16,550
with books on practical spirituality for

963
00:45:23,349 --> 00:45:21,230

children and on it goes if you wanted to

964

00:45:26,770 --> 00:45:23,359

you could outfit an entire New Age

965

00:45:30,220 --> 00:45:26,780

lifestyle on the one spot complete with

966

00:45:33,609 --> 00:45:30,230

pyramid hats crystals of every shape and

967

00:45:36,430 --> 00:45:33,619

style for every application enough pills

968

00:45:40,960 --> 00:45:36,440

to start your own shop in fact the

969

00:45:43,329 --> 00:45:40,970

diversity was mind-boggling and this is

970

00:45:46,800 --> 00:45:43,339

the problem so much at the exhibition

971

00:45:50,640 --> 00:45:46,810

lectures and demonstrations was mutually

972

00:45:53,290 --> 00:45:50,650

exclusive who runs your life the Stars

973

00:45:55,630 --> 00:45:53,300

disembodied spirits and guardian angels

974

00:45:59,829 --> 00:45:55,640

extraterrestrials dreams dolphins or

975

00:46:02,770 --> 00:45:59,839

dare I say it yourself all work proposed

976
00:46:05,500 --> 00:46:02,780
as the answer along with surefire means

977
00:46:07,450 --> 00:46:05,510
to propagate them how does this equate

978
00:46:10,480 --> 00:46:07,460
with the aims of animal liberation or

979
00:46:13,720 --> 00:46:10,490
Oscar Chow so the founder of rica who

980
00:46:15,430 --> 00:46:13,730
says quote if we start believing that we

981
00:46:17,859 --> 00:46:15,440
are the cause of our own world we are

982
00:46:21,370 --> 00:46:17,869
totally mistaken since we don't create

983
00:46:24,490 --> 00:46:21,380
anything not even how dreams end quote

984
00:46:25,390 --> 00:46:24,500
pity the poor environmentalists in the

985
00:46:27,490 --> 00:46:25,400
audience

986
00:46:29,320 --> 00:46:27,500
a visitor could fill an entire library

987
00:46:29,890 --> 00:46:29,330
with the brochures pamphlets books and

988
00:46:33,160 --> 00:46:29,900

booklets

989

00:46:35,830 --> 00:46:33,170

being handed out and very little if any

990

00:46:38,380 --> 00:46:35,840

printed on recycled paper everything

991

00:46:41,640 --> 00:46:38,390

from sad little photocopied single

992

00:46:44,590 --> 00:46:41,650

sheeta's to massive glossy colored tomes

993

00:46:47,050 --> 00:46:44,600

pity the poor dolphins who have to live

994

00:46:48,810 --> 00:46:47,060

in the chlorine polluted sea caused by

995

00:46:51,940 --> 00:46:48,820

the production of this lot

996

00:46:54,730 --> 00:46:51,950

my favorite however was the brochure

997

00:46:57,370 --> 00:46:54,740

promoting the Second World heelas

998

00:47:00,220 --> 00:46:57,380

Congress to be held in New Zealand which

999

00:47:02,710 --> 00:47:00,230

folded up into a pyramid shape if the

1000

00:47:05,650 --> 00:47:02,720

Congress doesn't help you then maybe the

1001
00:47:07,720 --> 00:47:05,660
brochure will certainly the visitors

1002
00:47:10,870 --> 00:47:07,730
didn't seem to mind the contradictions

1003
00:47:13,420 --> 00:47:10,880
listening to new-age music full of peace

1004
00:47:15,640 --> 00:47:13,430
and light followed by a demonstration of

1005
00:47:19,410 --> 00:47:15,650
how you can train your kids to jump on

1006
00:47:22,330 --> 00:47:19,420
people with Taekwondo wearing a wire

1007
00:47:25,480 --> 00:47:22,340
arrangement on your head and taking part

1008
00:47:28,630 --> 00:47:25,490
in self-healing workshop the aisles were

1009
00:47:31,030 --> 00:47:28,640
full of potential customers all ages

1010
00:47:34,150 --> 00:47:31,040
were present young and innocent the old

1011
00:47:36,390 --> 00:47:34,160
and willing and no doubt a few trying to

1012
00:47:38,710 --> 00:47:36,400
solve the problems of their past lives

1013
00:47:42,400 --> 00:47:38,720

there was something for everyone

1014

00:47:44,320 --> 00:47:42,410

in fact in true new-age style everything

1015

00:47:46,900 --> 00:47:44,330

was there for everyone

1016

00:47:48,550 --> 00:47:46,910

Richard Glover began one of his reports

1017

00:47:50,800 --> 00:47:48,560

in The Sydney Morning Herald November

1018

00:47:53,710 --> 00:47:50,810

the 24th with a quotation from the

1019

00:47:55,720 --> 00:47:53,720

notice board of a Sydney Church quote we

1020

00:47:57,990 --> 00:47:55,730

can't build a good society just on

1021

00:48:00,490 --> 00:47:58,000

selfishness and tolerance unquote

1022

00:48:03,100 --> 00:48:00,500

initially confused by what appeared to

1023

00:48:06,820 --> 00:48:03,110

be opposites it dawned on him that the

1024

00:48:10,320 --> 00:48:06,830

message applied to the new-age tolerance

1025

00:48:13,690 --> 00:48:10,330

was the key word anything goes

1026
00:48:17,200 --> 00:48:13,700
regardless of how silly pointless or how

1027
00:48:19,570 --> 00:48:17,210
mutually exclusive new ages despite

1028
00:48:22,930 --> 00:48:19,580
their concerns for the well-being of the

1029
00:48:26,110 --> 00:48:22,940
world upon which they live one of their

1030
00:48:29,190 --> 00:48:26,120
magazines is called the planet really

1031
00:48:32,790 --> 00:48:29,200
more interested in self self healing

1032
00:48:35,650 --> 00:48:32,800
self-acceptance revealing your destiny

1033
00:48:38,630 --> 00:48:35,660
transforming your life secrets of the

1034
00:48:41,450 --> 00:48:38,640
inner self remembering your past lives

1035
00:48:44,390 --> 00:48:41,460
all of these phrases taken from titles

1036
00:48:47,349 --> 00:48:44,400
of workshop sessions admittedly there

1037
00:48:49,839 --> 00:48:47,359
were mixed in talks on our

1038
00:48:54,289 --> 00:48:49,849

responsibility to the environment a

1039

00:48:58,089 --> 00:48:54,299

vision of global healing earth repair

1040

00:49:01,519 --> 00:48:58,099

action and revolution for world peace

1041

00:49:04,160 --> 00:49:01,529

but as at least some of these involved

1042

00:49:07,279 --> 00:49:04,170

self healing and a program from the

1043

00:49:10,279 --> 00:49:07,289

people who talk to squirrels what hope

1044

00:49:13,670 --> 00:49:10,289

is there the organizers of the festival

1045

00:49:14,690 --> 00:49:13,680

of mind body spirit can be congratulated

1046

00:49:17,479 --> 00:49:14,700

for putting together a

1047

00:49:19,880 --> 00:49:17,489

professional-looking show it should be

1048

00:49:22,009 --> 00:49:19,890

as it is an offshoot of similar events

1049

00:49:26,089 --> 00:49:22,019

which have been going on in the UK and

1050

00:49:29,329 --> 00:49:26,099

elsewhere since 1977 the \$6 entry fee

1051

00:49:31,239 --> 00:49:29,339

was not too expensive and despite the

1052

00:49:35,120 --> 00:49:31,249

media coverage which seemed to be

1053

00:49:38,269 --> 00:49:35,130

without exception cynical and/or mocking

1054

00:49:41,029 --> 00:49:38,279

the followers were out in force there is

1055

00:49:43,120 --> 00:49:41,039

no indication how well the exhibitors

1056

00:49:46,160 --> 00:49:43,130

lecturers and workshop holders did

1057

00:49:48,650 --> 00:49:46,170

probably very well if numbers are any

1058

00:49:52,160 --> 00:49:48,660

indication they probably did a lot

1059

00:49:54,900 --> 00:49:52,170

better than the ethiopians but then they

1060

00:49:58,270 --> 00:49:54,910

weren't exhibiting

1061

00:50:02,020 --> 00:49:58,280

and that story was new-age festival for

1062

00:50:04,630 --> 00:50:02,030

mind body spirit and money by Tim

1063

00:50:08,620 --> 00:50:04,640

Mendham and you can find that in the

1064

00:50:14,440 --> 00:50:08,630

skeptic magazine vol 9 number 4 from

1065

00:50:33,700 --> 00:50:14,450

1989 and that's available at WWF Dexcom

1066

00:50:35,650 --> 00:50:33,710

Ju thank you for listening to the

1067

00:50:38,080 --> 00:50:35,660

skeptics ode now our friends in Canberra

1068

00:50:40,510 --> 00:50:38,090

social skeptics Canberra group

1069

00:50:43,180 --> 00:50:40,520

remind me that their next meeting will

1070

00:50:47,170 --> 00:50:43,190

be on Tuesday the 16th of April from 6

1071

00:50:49,330 --> 00:50:47,180

to 7:30 p.m. at the Belconnen community

1072

00:50:53,550 --> 00:50:49,340

service which is in Chandler Street

1073

00:50:56,470 --> 00:50:53,560

Belconnen may the odds be in your favor

1074

00:50:59,590 --> 00:50:56,480

superstitions and elite athletes this

1075

00:51:03,820 --> 00:50:59,600

will be a talk by Christine done and the

1076

00:51:06,400 --> 00:51:03,830

cost is free elite sport has a healthy

1077

00:51:07,080 --> 00:51:06,410

dose of uncertainty and the stakes are

1078

00:51:09,520 --> 00:51:07,090

high

1079

00:51:11,800 --> 00:51:09,530

athletes train hard to prepare mentally

1080

00:51:16,480 --> 00:51:11,810

and physically to perform on the world

1081

00:51:20,050 --> 00:51:16,490

stage learning to manage anxiety to get

1082

00:51:22,720 --> 00:51:20,060

in the zone may be the skeptic zone is

1083

00:51:26,020 --> 00:51:22,730

one way that sports psychologists help

1084

00:51:28,900 --> 00:51:26,030

athletes but why do athletes some

1085

00:51:31,630 --> 00:51:28,910

athletes hold superstitions wherever

1086

00:51:33,280 --> 00:51:31,640

they help or not this sounds like an

1087

00:51:35,950 --> 00:51:33,290

absolutely fascinating talk and you can

1088

00:51:39,490 --> 00:51:35,960

find out more by visiting Canberra

1089

00:51:42,130 --> 00:51:39,500

skeptics org and I will link to the meet

1090

00:51:43,060 --> 00:51:42,140

up in this week's show notes coming up

1091

00:51:46,030 --> 00:51:43,070

on next week's show

1092

00:51:50,020 --> 00:51:46,040

Maynard at Sydney skeptics in the pub

1093

00:51:54,820 --> 00:51:50,030

and may not last the big question what

1094

00:51:56,700 --> 00:51:54,830

topics should skeptics drop what's been

1095

00:52:00,340 --> 00:51:56,710

done what should we no longer

1096

00:52:02,920 --> 00:52:00,350

concentrate on we get the views of

1097

00:52:04,960 --> 00:52:02,930

puppies that skeptics in the pub may nod

1098

00:52:06,530 --> 00:52:04,970

will also interview the speaker that

1099

00:52:10,370 --> 00:52:06,540

night carry Dodie

1100

00:52:13,640 --> 00:52:10,380

about the role Australia had in the

1101
00:52:15,950 --> 00:52:13,650
Apollo lunar program and what I didn't

1102
00:52:20,750 --> 00:52:15,960
know was Australia had a role a very

1103
00:52:23,090 --> 00:52:20,760
important role in the Apollo 13 incident

1104
00:52:25,160 --> 00:52:23,100
I hasten to add we didn't create it but

1105
00:52:27,410 --> 00:52:25,170
we hoped would he help to resolve it

1106
00:52:31,070 --> 00:52:27,420
also on next week's show a story about

1107
00:52:33,050 --> 00:52:31,080
psychic detectives well people who call

1108
00:52:35,330 --> 00:52:33,060
themselves psychic detectives in New

1109
00:52:38,900 --> 00:52:35,340
Zealand but for this week this is

1110
00:52:49,250 --> 00:52:38,910
Richard Saunders signing off from the

1111
00:52:52,040 --> 00:52:49,260
Twilight Zone you've been listening to

1112
00:52:56,810 --> 00:52:52,050
the skeptic Zone podcast please visit

1113
00:53:00,110 --> 00:52:56,820

our website at WWDC be for show notes

1114

00:53:04,160 --> 00:53:00,120

contacts and to access the bat catalog

1115

00:53:06,020 --> 00:53:04,170

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1116

00:53:09,080 --> 00:53:06,030

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1117

00:53:11,360 --> 00:53:09,090

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1118

00:53:14,720 --> 00:53:11,370

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1119

00:53:18,110 --> 00:53:14,730

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1120

00:53:20,450 --> 00:53:18,120

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1121

00:53:22,400 --> 00:53:20,460

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1122

00:53:24,590 --> 00:53:22,410

production reviews and opinions

1123

00:53:26,750 --> 00:53:24,600

expressed on the skeptic zone are not