

1  
00:00:06,169 --> 00:00:13,958  
welcome to the skeptic zone the podcast

2  
00:00:09,109 --> 00:00:13,958  
from Australia for science and reason

3  
00:00:22,399 --> 00:00:30,000  
yes it's the skeptic zone podcast

4  
00:00:24,899 --> 00:00:31,979  
episode number 546 for the well it's

5  
00:00:30,000 --> 00:00:33,350  
sort of the 7th of April I'll get back

6  
00:00:31,980 --> 00:00:38,689  
to that in a minute

7  
00:00:33,350 --> 00:00:42,870  
2019 Richard Saunders here with you from

8  
00:00:38,689 --> 00:00:44,939  
okay so all right there is no 7th of

9  
00:00:42,869 --> 00:00:48,469  
April this year for me personally and

10  
00:00:44,939 --> 00:00:50,429  
I'm somewhere somewhere over the Pacific

11  
00:00:48,469 --> 00:00:54,600  
about to cross the International

12  
00:00:50,429 --> 00:00:59,128  
Dateline which means I go from the 6th

13  
00:00:54,600 --> 00:01:00,689  
of April to the 8th of April go figure

14  
00:00:59,128 --> 00:01:03,448  
that one out coming up on this week's

15  
00:01:00,689 --> 00:01:05,519  
show regardless we have an interview

16  
00:01:03,448 --> 00:01:07,170  
with Kate Carter from the National

17  
00:01:05,519 --> 00:01:09,659  
Center for science education

18  
00:01:07,170 --> 00:01:11,879  
Kate is the director of community

19  
00:01:09,659 --> 00:01:14,549  
science and she's involved with many

20  
00:01:11,879 --> 00:01:17,549  
wonderful things very interesting video

21  
00:01:14,549 --> 00:01:19,590  
projects that explain some of what she

22  
00:01:17,549 --> 00:01:21,659  
does are available online links in the

23  
00:01:19,590 --> 00:01:24,780  
show notes and she knows an awful lot

24  
00:01:21,659 --> 00:01:27,599  
about wisdom teeth that's Kate Carter

25  
00:01:24,780 --> 00:01:28,978  
coming up at the top of the show after

26  
00:01:27,599 --> 00:01:32,429  
that it's Heidi Robertson the raw

27  
00:01:28,978 --> 00:01:34,469  
skeptic with a smelly story from New

28  
00:01:32,430 --> 00:01:37,979  
Zealand about aromatherapy and essential

29

00:01:34,469 --> 00:01:41,548  
oils something does not smell right in

30  
00:01:37,978 --> 00:01:43,728  
New Zealand it's on the nose can we say

31  
00:01:41,549 --> 00:01:47,400  
that alternative medicine wrapped around

32  
00:01:43,728 --> 00:01:51,239  
pseudoscience stinks oh it goes on and

33  
00:01:47,400 --> 00:01:54,840  
on this story involves a school that was

34  
00:01:51,239 --> 00:01:58,199  
was passed hence using essential oils to

35  
00:01:54,840 --> 00:02:00,868  
calm the children and make them better

36  
00:01:58,200 --> 00:02:04,740  
then to round off the show a timely

37  
00:02:00,868 --> 00:02:07,250  
story the timely story it's 30 years

38  
00:02:04,739 --> 00:02:09,539  
this year since the first

39  
00:02:07,250 --> 00:02:12,959  
mind/body/spirit or mind/body wallet as

40  
00:02:09,539 --> 00:02:16,048  
we call it festival appeared in Sydney

41  
00:02:12,959 --> 00:02:18,090  
or was staged in Sydney and 30 years ago

42  
00:02:16,049 --> 00:02:20,640  
Tim Mendham the current editor of the

43  
00:02:18,090 --> 00:02:24,060

skeptic magazine journal from Australian

44

00:02:20,639 --> 00:02:26,759

skeptics attended mind/body/spirit and

45

00:02:24,060 --> 00:02:29,430

wrote a report and that report we will

46

00:02:26,759 --> 00:02:32,548

bring you this week and I happen to know

47

00:02:29,430 --> 00:02:34,680

Tim Mendham just in the last couple of

48

00:02:32,549 --> 00:02:37,909

days attend

49

00:02:34,680 --> 00:02:42,240

the current mind-body-spirit festival a

50

00:02:37,909 --> 00:02:45,299

big shout-out to my friend Yein Lu who I

51

00:02:42,240 --> 00:02:48,750

used to work with Oh many years ago with

52

00:02:45,300 --> 00:02:51,450

Stefan Stefan soika who is the other

53

00:02:48,750 --> 00:02:55,050

co-host of the skeptic zone from time to

54

00:02:51,449 --> 00:02:58,259

time Stefan and I were the original

55

00:02:55,050 --> 00:03:00,900

hosts of the skeptics and of course but

56

00:02:58,259 --> 00:03:05,009

many years ago yin and I worked with

57

00:03:00,900 --> 00:03:07,319

Stefan and ye Inge who is now based in

58  
00:03:05,009 --> 00:03:10,069  
San Francisco who bought me a wonderful

59  
00:03:07,319 --> 00:03:13,919  
lunch the other day is the creator of

60  
00:03:10,069 --> 00:03:19,019  
the fail whale used by Twitter the

61  
00:03:13,919 --> 00:03:21,719  
famous picture of the whale being lifted

62  
00:03:19,020 --> 00:03:25,170  
into the sky by lots of little birdies

63  
00:03:21,719 --> 00:03:26,759  
or a wonderfully talented artist and I

64  
00:03:25,169 --> 00:03:29,250  
had the pleasure of a private tour of

65  
00:03:26,759 --> 00:03:31,859  
some of her collection well that's

66  
00:03:29,250 --> 00:03:34,169  
enough from me at the moment stay tuned

67  
00:03:31,860 --> 00:03:36,750  
at the end of the show for another

68  
00:03:34,169 --> 00:03:39,509  
announcement or to some upcoming events

69  
00:03:36,750 --> 00:03:42,030  
but now it's time for me to run upstairs

70  
00:03:39,509 --> 00:03:45,299  
and have another bowl of that delicious

71  
00:03:42,030 --> 00:03:49,879  
San Francisco clam chowder well I do

72  
00:03:45,300 --> 00:03:49,880  
that I hope you enjoy this gift exam

73  
00:04:10,400 --> 00:04:15,658  
once again I find myself in beautiful

74  
00:04:13,169 --> 00:04:17,879  
downtown Oakland California at the

75  
00:04:15,658 --> 00:04:19,918  
offices of the National Center for

76  
00:04:17,879 --> 00:04:21,810  
Science education I've been visiting the

77  
00:04:19,918 --> 00:04:24,899  
National Center science education now

78  
00:04:21,810 --> 00:04:27,538  
for for many years since 2004 mainly to

79  
00:04:24,899 --> 00:04:29,099  
speak to our friend dr. eugenie Scott

80  
00:04:27,538 --> 00:04:31,409  
but today I'm going to be speaking with

81  
00:04:29,100 --> 00:04:35,669  
the director of community science

82  
00:04:31,410 --> 00:04:37,169  
education Kate Carter hello Kate hi how

83  
00:04:35,668 --> 00:04:39,120  
are you doing this afternoon

84  
00:04:37,168 --> 00:04:40,500  
this just gone afternoon I'm doing very

85  
00:04:39,120 --> 00:04:42,538  
well it's wonderful to be here we're

86

00:04:40,500 --> 00:04:45,689  
sitting in the library and I'm like

87  
00:04:42,538 --> 00:04:48,000  
gazing around and what a collection I've

88  
00:04:45,689 --> 00:04:51,000  
never seen such a wonderful including

89  
00:04:48,000 --> 00:04:52,848  
skulls including skulls on the in the

90  
00:04:51,000 --> 00:04:56,430  
bookshelf Darwin Darwin Darwin

91  
00:04:52,848 --> 00:04:59,668  
creationism evolution over here it's

92  
00:04:56,430 --> 00:05:01,650  
it's quite something No is this a dream

93  
00:04:59,668 --> 00:05:04,288  
job for someone like you to work at such

94  
00:05:01,649 --> 00:05:07,728  
a facility absolutely

95  
00:05:04,288 --> 00:05:10,050  
I left academia after a postdoc and

96  
00:05:07,728 --> 00:05:12,060  
transitioned to something where I could

97  
00:05:10,050 --> 00:05:13,949  
really work directly with the public so

98  
00:05:12,060 --> 00:05:16,530  
I get to share my enthusiasm for

99  
00:05:13,949 --> 00:05:18,960  
evolution with a really wide audience

100  
00:05:16,529 --> 00:05:20,489

and what's your doctorate in exactly my

101

00:05:18,959 --> 00:05:23,728

doctorate is in human evolutionary

102

00:05:20,490 --> 00:05:27,030

biology hmm so I worked on the evolution

103

00:05:23,728 --> 00:05:30,569

of wisdom teeth oh right I good to talk

104

00:05:27,029 --> 00:05:33,089

to you I had a miserable time in my

105

00:05:30,569 --> 00:05:35,219

mid-30s with wisdom teeth

106

00:05:33,089 --> 00:05:37,709

oh my goodness me I had to have three

107

00:05:35,220 --> 00:05:38,430

out at once huh what's the deal with

108

00:05:37,709 --> 00:05:42,060

wisdom teeth

109

00:05:38,430 --> 00:05:43,860

so my first question to you is did you

110

00:05:42,060 --> 00:05:47,699

only have three or did you have all four

111

00:05:43,860 --> 00:05:50,098

I had four one was taken out in advance

112

00:05:47,699 --> 00:05:52,319

it was a bad one and had a big hook on

113

00:05:50,098 --> 00:05:54,629

it oh and it was hooked it was

114

00:05:52,319 --> 00:05:56,279

incredible I had it out in the chair and

115  
00:05:54,629 --> 00:05:57,839  
then I think the dentist took pity on me

116  
00:05:56,279 --> 00:06:00,569  
and I had to rest out under general

117  
00:05:57,839 --> 00:06:02,459  
anaesthetic oh wow okay so you're not

118  
00:06:00,569 --> 00:06:04,199  
first of all if you only have three

119  
00:06:02,459 --> 00:06:08,069  
wisdom teeth I would say that that was

120  
00:06:04,199 --> 00:06:11,339  
the rarest condition so most people have

121  
00:06:08,069 --> 00:06:14,719  
zero or four but three is the the most

122  
00:06:11,339 --> 00:06:18,599  
rare so you're not special in that way

123  
00:06:14,720 --> 00:06:20,700  
but a lot of times so when you talk

124  
00:06:18,600 --> 00:06:22,680  
about the evolution of wisdom teeth the

125  
00:06:20,699 --> 00:06:25,279  
first thing that happens when you talk

126  
00:06:22,680 --> 00:06:28,889  
to the general public is they think that

127  
00:06:25,279 --> 00:06:31,439  
humans and primates didn't have their

128  
00:06:28,889 --> 00:06:34,110  
third molar but it turned out and that

129  
00:06:31,439 --> 00:06:35,430  
humans have evolved its special run and

130  
00:06:34,110 --> 00:06:39,600  
so that's where you have to start with a

131  
00:06:35,430 --> 00:06:41,879  
lot of people but it is actually mammals

132  
00:06:39,600 --> 00:06:43,860  
started off early mammals had four

133  
00:06:41,879 --> 00:06:44,269  
molars and we've been gradually losing

134  
00:06:43,860 --> 00:06:49,280  
them

135  
00:06:44,269 --> 00:06:51,899  
so humans actually have two or three and

136  
00:06:49,279 --> 00:06:53,729  
what we think is going on and what I've

137  
00:06:51,899 --> 00:06:57,259  
showed that was going on in in my

138  
00:06:53,730 --> 00:07:00,090  
dissertation is we really soft foods

139  
00:06:57,259 --> 00:07:02,789  
relative to what you what you might

140  
00:07:00,089 --> 00:07:04,349  
think a chimp and a gorilla eat a chimp

141  
00:07:02,790 --> 00:07:07,770  
and a gorilla actually can spend eight

142  
00:07:04,350 --> 00:07:10,230  
hours of their day chewing so just

143

00:07:07,769 --> 00:07:12,599  
imagine if from instead of nine to five

144  
00:07:10,230 --> 00:07:15,470  
you're at work if nine to five was spent

145  
00:07:12,600 --> 00:07:17,460  
just chewing leaves because of the

146  
00:07:15,470 --> 00:07:20,160  
coarseness and the toughness of that

147  
00:07:17,459 --> 00:07:21,750  
yeah right so because we switch to

148  
00:07:20,160 --> 00:07:25,320  
softer foods we don't spend as much time

149  
00:07:21,750 --> 00:07:26,269  
chewing and our dolls are smaller than

150  
00:07:25,319 --> 00:07:29,370  
they used to be

151  
00:07:26,269 --> 00:07:30,990  
so we have a much higher rate of wisdom

152  
00:07:29,370 --> 00:07:33,120  
tooth impaction and so what you

153  
00:07:30,990 --> 00:07:39,930  
experience is the downside of wisdom

154  
00:07:33,120 --> 00:07:43,259  
tooth impaction and so because impaction

155  
00:07:39,930 --> 00:07:45,540  
can actually be pretty pretty nasty and

156  
00:07:43,259 --> 00:07:47,159  
before the rise of antibiotics and

157  
00:07:45,540 --> 00:07:48,720

before modern dentistry if you had an

158

00:07:47,160 --> 00:07:52,560

impacted wisdom tooth you were pretty

159

00:07:48,720 --> 00:07:54,690

much down for the count as soon as it's

160

00:07:52,560 --> 00:07:56,490

swelled up in the back of your jaw it

161

00:07:54,689 --> 00:07:57,779

could very easily move to your throat it

162

00:07:56,490 --> 00:08:01,860

turns out breathing and eating are

163

00:07:57,779 --> 00:08:05,039

pretty important to staying alive so

164

00:08:01,860 --> 00:08:08,550

very often what we would see is that if

165

00:08:05,040 --> 00:08:11,100

you have populations eating softer foods

166

00:08:08,550 --> 00:08:13,350

the individuals with two is sorry two

167

00:08:11,100 --> 00:08:14,700

teeth two molars would do much better

168

00:08:13,350 --> 00:08:16,850

than the individuals with three molars

169

00:08:14,699 --> 00:08:19,050

so it's natural selection in action

170

00:08:16,850 --> 00:08:21,070

really only a couple hundred years ago

171

00:08:19,050 --> 00:08:23,500

that's interesting to say I mean

172  
00:08:21,069 --> 00:08:25,420  
was horrible and and listeners out there

173  
00:08:23,500 --> 00:08:26,139  
who have had wisdom teeth problems know

174  
00:08:25,420 --> 00:08:29,100  
what we mean

175  
00:08:26,139 --> 00:08:31,300  
but you to but I never I never really

176  
00:08:29,100 --> 00:08:32,950  
took the time to think well what

177  
00:08:31,300 --> 00:08:35,500  
happened if they weren't taken out I

178  
00:08:32,950 --> 00:08:38,140  
would simply think I'd still have pain

179  
00:08:35,500 --> 00:08:41,500  
but no no it could get a lot worse yeah

180  
00:08:38,139 --> 00:08:43,649  
so abscesses I don't know if yours got

181  
00:08:41,500 --> 00:08:47,049  
to the point where they were obsessed

182  
00:08:43,649 --> 00:08:49,179  
mine um one of mine did so I can speak

183  
00:08:47,049 --> 00:08:52,509  
from experience it is a terrible amount

184  
00:08:49,179 --> 00:08:54,579  
of pain and so an abscess is an

185  
00:08:52,509 --> 00:08:57,549  
infection and especially on the upper

186  
00:08:54,580 --> 00:08:59,440  
part of your mouth if you get an abscess

187  
00:08:57,549 --> 00:09:01,599  
it can very easily cross them to the

188  
00:08:59,440 --> 00:09:03,700  
sinus and cross them to the and go

189  
00:09:01,600 --> 00:09:05,230  
straight to the brain which infections

190  
00:09:03,700 --> 00:09:08,320  
in the brain are never a good thing in

191  
00:09:05,230 --> 00:09:11,409  
the lower jaw very often infections can

192  
00:09:08,320 --> 00:09:13,480  
spread to the the throat and so you can

193  
00:09:11,409 --> 00:09:16,360  
end up with basically a swollen throat

194  
00:09:13,480 --> 00:09:18,430  
that won't won't allow you to breathe so

195  
00:09:16,360 --> 00:09:21,310  
I suppose there was quite a deal of our

196  
00:09:18,429 --> 00:09:24,909  
ancestors who had an unhappy end with

197  
00:09:21,309 --> 00:09:27,399  
the wisdom teeth that's correct so and

198  
00:09:24,909 --> 00:09:28,870  
if you made it past early childhood

199  
00:09:27,399 --> 00:09:31,209  
where there are lots of ways for you to

200

00:09:28,870 --> 00:09:33,009  
die before antibiotics and if you

201  
00:09:31,210 --> 00:09:35,110  
survived to the point where if you

202  
00:09:33,009 --> 00:09:37,269  
reached your 18th birthday which not a

203  
00:09:35,110 --> 00:09:41,800  
lot of people did back then that was yet

204  
00:09:37,269 --> 00:09:44,949  
another way that you could die or it

205  
00:09:41,799 --> 00:09:47,339  
would a teary topic to you now and I I

206  
00:09:44,950 --> 00:09:49,660  
also had the a very unfortunate

207  
00:09:47,340 --> 00:09:52,570  
unpleasant condition of dry socket which

208  
00:09:49,659 --> 00:09:54,819  
you probably know about yeah yeah well I

209  
00:09:52,570 --> 00:09:57,490  
don't want to make our listeners feel

210  
00:09:54,820 --> 00:09:59,290  
too bad but anyway let's talk about what

211  
00:09:57,490 --> 00:10:01,539  
you do here the director of community

212  
00:09:59,289 --> 00:10:02,110  
science education what does that mean

213  
00:10:01,539 --> 00:10:04,419  
exactly

214  
00:10:02,110 --> 00:10:06,490

so I think of my role and this is kind

215

00:10:04,419 --> 00:10:07,870  
of highfalutin and silly is really

216

00:10:06,490 --> 00:10:09,610  
breaking down barriers between a

217

00:10:07,870 --> 00:10:13,149  
scientist in a non scientist

218

00:10:09,610 --> 00:10:15,450  
so a lot of times especially in the u.s.

219

00:10:13,149 --> 00:10:18,669  
there are people who are just really

220

00:10:15,450 --> 00:10:23,110  
they're not naive to science they're

221

00:10:18,669 --> 00:10:24,819  
just opposed to science hmm and when we

222

00:10:23,110 --> 00:10:28,300  
because we work a lot in the Midwest

223

00:10:24,820 --> 00:10:30,100  
when we think about why that is a lot of

224

00:10:28,299 --> 00:10:31,839  
times we see people who have had really

225

00:10:30,100 --> 00:10:35,110  
negative experiences with science as a

226

00:10:31,840 --> 00:10:38,250  
kid maybe they had a teacher that

227

00:10:35,110 --> 00:10:42,129  
called on them and made them feel stupid

228

00:10:38,250 --> 00:10:44,950  
maybe they you know their parents were

229  
00:10:42,129 --> 00:10:46,299  
you know opposed to science there's lots

230  
00:10:44,950 --> 00:10:49,480  
of different reasons that people can get

231  
00:10:46,299 --> 00:10:52,719  
turned off to science and so we're

232  
00:10:49,480 --> 00:10:54,970  
really interested in kind of helping

233  
00:10:52,720 --> 00:10:56,519  
people realize that there's not a

234  
00:10:54,970 --> 00:11:00,278  
fundamental difference between

235  
00:10:56,519 --> 00:11:02,500  
scientists and non-scientists we all eat

236  
00:11:00,278 --> 00:11:04,958  
breakfast and brush our teeth and do

237  
00:11:02,500 --> 00:11:08,919  
normal things and we actually think

238  
00:11:04,958 --> 00:11:11,409  
about things in much the same way so

239  
00:11:08,919 --> 00:11:13,778  
even people who are opposed to science

240  
00:11:11,409 --> 00:11:15,219  
if you've talked to them you can pick

241  
00:11:13,778 --> 00:11:18,789  
apart how they're actually thinking

242  
00:11:15,220 --> 00:11:20,950  
scientifically and as an aside it's a

243  
00:11:18,789 --> 00:11:22,569  
great way to if someone is really anti

244  
00:11:20,950 --> 00:11:23,829  
science it's a great way to undermine

245  
00:11:22,570 --> 00:11:28,120  
them by being a little that's a great

246  
00:11:23,828 --> 00:11:29,828  
hypothesis you said well you seem to be

247  
00:11:28,120 --> 00:11:33,610  
using evidence to support a conclusion

248  
00:11:29,828 --> 00:11:36,039  
oh wow you're doing science you may hate

249  
00:11:33,610 --> 00:11:39,459  
it but that's what you're doing

250  
00:11:36,039 --> 00:11:41,349  
that's interesting and so what I do is I

251  
00:11:39,458 --> 00:11:45,429  
spend a lot of time trying to work in

252  
00:11:41,350 --> 00:11:46,870  
populations that are they have a greater

253  
00:11:45,429 --> 00:11:49,838  
percentage of people who are opposed to

254  
00:11:46,870 --> 00:11:52,360  
science to try and really break down

255  
00:11:49,839 --> 00:11:54,370  
that kind of divide yeah you make an

256  
00:11:52,360 --> 00:11:56,589  
interesting point here because I've

257

00:11:54,370 --> 00:11:58,450  
always considered that a lot of people

258  
00:11:56,589 --> 00:12:01,480  
simply ignorant of the scientific method

259  
00:11:58,450 --> 00:12:03,459  
what science is in the skeptical

260  
00:12:01,480 --> 00:12:05,079  
community will get people from the New

261  
00:12:03,458 --> 00:12:06,699  
Age quite often looking at us in saying

262  
00:12:05,078 --> 00:12:09,519  
well science can't explain everything

263  
00:12:06,700 --> 00:12:11,259  
can it so they're ganging yeah which to

264  
00:12:09,519 --> 00:12:14,049  
us means they don't understand really

265  
00:12:11,259 --> 00:12:16,379  
what they're talking about so but you're

266  
00:12:14,049 --> 00:12:18,759  
suggesting a lot of people simply aren't

267  
00:12:16,379 --> 00:12:20,679  
ignorant of the scientific method and

268  
00:12:18,759 --> 00:12:24,220  
why it's here and what it does but just

269  
00:12:20,679 --> 00:12:27,299  
opposed to it on principle yeah I mean I

270  
00:12:24,220 --> 00:12:29,589  
believe and this is a belief not

271  
00:12:27,299 --> 00:12:32,620

supported by a huge amount of evidence

272

00:12:29,589 --> 00:12:34,510

I'm gonna flag that up here that most

273

00:12:32,620 --> 00:12:38,169

children are born thinking like

274

00:12:34,509 --> 00:12:41,620

scientists so when you are building with

275

00:12:38,169 --> 00:12:43,659

blocks you learn gravity by knocking

276

00:12:41,620 --> 00:12:46,360

things over you do repeated experiments

277

00:12:43,659 --> 00:12:48,069

and then you come up with a theorem and

278

00:12:46,360 --> 00:12:48,970

then later on you learn that that's

279

00:12:48,070 --> 00:12:50,439

called gravity and

280

00:12:48,970 --> 00:12:54,550

you learned some numbers attached to it

281

00:12:50,438 --> 00:12:57,068

but you the way that we reason with the

282

00:12:54,549 --> 00:13:00,068

world is using is is through a

283

00:12:57,068 --> 00:13:02,500

scientific context now it's imperfect

284

00:13:00,068 --> 00:13:04,360

and they're certain there are certain

285

00:13:02,500 --> 00:13:07,480

ways that people can take advantage of

286  
00:13:04,360 --> 00:13:11,068  
our reasoning to lead us to believe all

287  
00:13:07,480 --> 00:13:14,920  
sorts of silly things but in general we

288  
00:13:11,068 --> 00:13:17,250  
we reason through like scientists and

289  
00:13:14,919 --> 00:13:19,659  
even people who are opposed to it

290  
00:13:17,250 --> 00:13:21,370  
they're opposed to it not because of the

291  
00:13:19,659 --> 00:13:23,230  
underlying fundamental principles of

292  
00:13:21,370 --> 00:13:24,879  
science but they're opposed to it

293  
00:13:23,230 --> 00:13:26,829  
because some sort of silly political

294  
00:13:24,879 --> 00:13:33,938  
dressing that has been put on top of the

295  
00:13:26,828 --> 00:13:36,838  
science scaring so so what are we what

296  
00:13:33,938 --> 00:13:39,849  
are you doing here at the center to help

297  
00:13:36,839 --> 00:13:41,139  
negate that I mean I know that for

298  
00:13:39,850 --> 00:13:44,019  
example and I was just having a quick

299  
00:13:41,139 --> 00:13:46,899  
look before you are engaged in making a

300  
00:13:44,019 --> 00:13:48,639  
very interesting series of videos but

301  
00:13:46,899 --> 00:13:50,980  
the videos have a point and they talk

302  
00:13:48,639 --> 00:13:51,938  
about things like the science Booster

303  
00:13:50,980 --> 00:13:53,949  
Club what's that all about

304  
00:13:51,938 --> 00:13:55,179  
sure so the science Booster Club is one

305  
00:13:53,948 --> 00:13:57,938  
of the three things that we're doing to

306  
00:13:55,179 --> 00:14:02,138  
try and bring science into the community

307  
00:13:57,938 --> 00:14:06,308  
and every month it's kind of like a blue

308  
00:14:02,139 --> 00:14:08,919  
apron for your for science where we send

309  
00:14:06,308 --> 00:14:10,208  
all of our clubs a kit run do it

310  
00:14:08,919 --> 00:14:12,188  
yourself do it yourself

311  
00:14:10,208 --> 00:14:16,028  
so you add sometimes you have to add

312  
00:14:12,188 --> 00:14:17,919  
water so now if you have to add sand but

313  
00:14:16,028 --> 00:14:21,429  
we send pretty much all of the all of

314

00:14:17,919 --> 00:14:23,948  
the interesting things and you open up a

315  
00:14:21,429 --> 00:14:28,088  
box and you can do a science activity

316  
00:14:23,948 --> 00:14:30,938  
Wow so we this month I guess this is

317  
00:14:28,089 --> 00:14:33,579  
April now when March we did a nitrate

318  
00:14:30,938 --> 00:14:35,558  
activity talking about how the effects

319  
00:14:33,578 --> 00:14:39,159  
of climate change will change the

320  
00:14:35,558 --> 00:14:41,110  
effects of nitrate pollution which for

321  
00:14:39,159 --> 00:14:43,688  
us living in a city here is not super

322  
00:14:41,110 --> 00:14:46,930  
relevant but if you're a farmer in Iowa

323  
00:14:43,688 --> 00:14:49,058  
that is a very big thing and this month

324  
00:14:46,929 --> 00:14:51,519  
we're doing an activity about the heat

325  
00:14:49,058 --> 00:14:54,100  
island effect in cities which is called

326  
00:14:51,519 --> 00:14:56,259  
cool cities where you actually build a

327  
00:14:54,100 --> 00:14:59,528  
little model city an ice cube trays and

328  
00:14:56,259 --> 00:15:01,778

then heat it up so what just just for my

329

00:14:59,528 --> 00:15:02,528

benefit a heat island what does that

330

00:15:01,778 --> 00:15:05,948

mean exactly

331

00:15:02,528 --> 00:15:09,068

so because we are in an urban area and

332

00:15:05,948 --> 00:15:11,649

the things that we use to build

333

00:15:09,068 --> 00:15:16,059

buildings and roads they tend to absorb

334

00:15:11,649 --> 00:15:19,299

a lot of heat and not so much in Oakland

335

00:15:16,059 --> 00:15:22,479

but certainly in big cities that don't

336

00:15:19,299 --> 00:15:23,919

are not beside a body of water it tends

337

00:15:22,480 --> 00:15:25,329

to get really hot in the summer because

338

00:15:23,919 --> 00:15:26,860

the city is absorb heat and don't

339

00:15:25,328 --> 00:15:28,088

release it as much and there are a lot

340

00:15:26,860 --> 00:15:30,610

of different things there are a lot of

341

00:15:28,089 --> 00:15:34,779

different reasons behind that mm we are

342

00:15:30,610 --> 00:15:36,850

trying to help people find architectural

343  
00:15:34,778 --> 00:15:39,698  
solutions and city planning solutions

344  
00:15:36,850 --> 00:15:41,949  
for mitigating the effects so it's a way

345  
00:15:39,698 --> 00:15:43,120  
of taking the climate change argument so

346  
00:15:41,948 --> 00:15:45,128  
it's not we're not having an argument

347  
00:15:43,120 --> 00:15:46,980  
about climate change the presupposition

348  
00:15:45,129 --> 00:15:49,839  
of the activity is that it's happening

349  
00:15:46,980 --> 00:15:50,860  
but we're helping people find solutions

350  
00:15:49,839 --> 00:15:53,110  
to deal with it

351  
00:15:50,860 --> 00:15:55,419  
and so what we know is that once people

352  
00:15:53,110 --> 00:15:57,159  
find success once people can be

353  
00:15:55,419 --> 00:15:59,588  
successful at finding a solution to

354  
00:15:57,159 --> 00:16:02,379  
climate change they kind of brand

355  
00:15:59,589 --> 00:16:03,970  
themselves as on the side of it even if

356  
00:16:02,379 --> 00:16:06,789  
if you had asked them before they did

357  
00:16:03,970 --> 00:16:09,610  
the activity they would have said oh I

358  
00:16:06,789 --> 00:16:11,649  
don't really know about that I see seven

359  
00:16:09,610 --> 00:16:14,409  
and what age groups are you really

360  
00:16:11,649 --> 00:16:16,929  
looking at all ages we're really looking

361  
00:16:14,409 --> 00:16:20,049  
at all ages and so we actually create

362  
00:16:16,929 --> 00:16:22,149  
the activities with you know different

363  
00:16:20,049 --> 00:16:25,120  
modifications for different age groups

364  
00:16:22,149 --> 00:16:25,990  
so that we can really reach you know

365  
00:16:25,120 --> 00:16:27,818  
what

366  
00:16:25,990 --> 00:16:30,039  
what did two to five year olds need to

367  
00:16:27,818 --> 00:16:32,378  
know what elementary schoolers need to

368  
00:16:30,039 --> 00:16:33,759  
know what what bothers middle and high

369  
00:16:32,379 --> 00:16:35,709  
schoolers and so there are different

370  
00:16:33,759 --> 00:16:37,720  
ways of modifying the activity to really

371

00:16:35,708 --> 00:16:39,909  
resonate with with each age group and

372  
00:16:37,720 --> 00:16:41,470  
what and I was just looking also I've

373  
00:16:39,909 --> 00:16:43,299  
seen the walk like a chip you did with

374  
00:16:41,470 --> 00:16:44,889  
dr. eugenie Scott that's that's that's

375  
00:16:43,299 --> 00:16:46,628  
great I thought that was really

376  
00:16:44,889 --> 00:16:49,899  
interesting but funny at the same time

377  
00:16:46,629 --> 00:16:50,230  
and this rising tides what's that all

378  
00:16:49,899 --> 00:16:53,589  
about

379  
00:16:50,230 --> 00:16:55,058  
so sea-level rise is a big problem and

380  
00:16:53,589 --> 00:16:58,420  
we're very much worried about it when

381  
00:16:55,058 --> 00:17:01,568  
you look throughout the next 50 to 100

382  
00:16:58,419 --> 00:17:04,889  
years if you do an activity and you go

383  
00:17:01,568 --> 00:17:08,769  
out into the community and you say

384  
00:17:04,890 --> 00:17:10,899  
you're terrible did you know you're

385  
00:17:08,769 --> 00:17:12,369

contributing to climate change and these

386

00:17:10,898 --> 00:17:15,129

are all the bad things that are gonna

387

00:17:12,369 --> 00:17:16,178

happen mm-hmm what people some people

388

00:17:15,130 --> 00:17:17,589

listen

389

00:17:16,179 --> 00:17:19,028

but most people stick their fingers in

390

00:17:17,588 --> 00:17:22,958

their ears and go about their business

391

00:17:19,028 --> 00:17:26,769

who are you go away yeah so what we do

392

00:17:22,959 --> 00:17:29,230

instead is we say hey I bet you can help

393

00:17:26,769 --> 00:17:31,868

us come up with a solution so we place

394

00:17:29,230 --> 00:17:36,429

these little plastic monopoly houses on

395

00:17:31,868 --> 00:17:38,589

a beach and we say can you design a way

396

00:17:36,429 --> 00:17:39,820

to keep this house dry because the sea

397

00:17:38,589 --> 00:17:41,079

level is gonna rise and it's gonna

398

00:17:39,819 --> 00:17:43,628

really affect this house

399

00:17:41,079 --> 00:17:46,028

and so with young kids we just let them

400  
00:17:43,628 --> 00:17:48,099  
build but for older kids we say hey and

401  
00:17:46,028 --> 00:17:51,249  
you also have to think well you're gonna

402  
00:17:48,099 --> 00:17:54,368  
be working on a budget but also you know

403  
00:17:51,249 --> 00:17:57,730  
you're paying for premium you know

404  
00:17:54,368 --> 00:18:00,970  
oceanfront views so if your idea was to

405  
00:17:57,730 --> 00:18:03,909  
put a big wall which is which is a very

406  
00:18:00,970 --> 00:18:07,389  
effective way takes down the property

407  
00:18:03,909 --> 00:18:09,549  
value of the monopoly house so that's

408  
00:18:07,388 --> 00:18:13,058  
not gonna work so we have them not just

409  
00:18:09,548 --> 00:18:15,579  
find something that will work just to

410  
00:18:13,058 --> 00:18:19,509  
keep it dry but also taking into account

411  
00:18:15,579 --> 00:18:22,058  
real-world situations and then we we

412  
00:18:19,509 --> 00:18:25,690  
pour in lots and lots of water and we

413  
00:18:22,058 --> 00:18:28,388  
see what happens so we make it pretty

414  
00:18:25,690 --> 00:18:30,399  
easy to do it kind of level one because

415  
00:18:28,388 --> 00:18:31,898  
we want to encourage success but then we

416  
00:18:30,398 --> 00:18:34,628  
make it progressively harder and make

417  
00:18:31,898 --> 00:18:36,329  
them take into account progressively

418  
00:18:34,628 --> 00:18:39,128  
more variables that they might have to

419  
00:18:36,329 --> 00:18:41,109  
encounter so it's a way of thinking

420  
00:18:39,128 --> 00:18:42,248  
about science it's a way of going

421  
00:18:41,109 --> 00:18:44,258  
through the engineering design process

422  
00:18:42,249 --> 00:18:46,690  
and most importantly it's a way about

423  
00:18:44,259 --> 00:18:48,009  
fine to think about finding solutions to

424  
00:18:46,690 --> 00:18:48,759  
climate change and having a bit of fun

425  
00:18:48,009 --> 00:18:50,349  
along the way

426  
00:18:48,759 --> 00:18:52,058  
well hopefully and making a huge mess

427  
00:18:50,349 --> 00:18:53,888  
and making a huge mess now you're

428

00:18:52,058 --> 00:18:57,009  
involved with coming up with these

429  
00:18:53,888 --> 00:19:00,878  
concepts yes so that is the best part of

430  
00:18:57,009 --> 00:19:03,069  
my job maybe probably it's really fun I

431  
00:19:00,878 --> 00:19:05,019  
get to play with arts and crafts and I

432  
00:19:03,069 --> 00:19:07,628  
get to take more trips to Michael's than

433  
00:19:05,019 --> 00:19:09,519  
ever before in my life now Michaels is

434  
00:19:07,628 --> 00:19:12,908  
for international listeners what's that

435  
00:19:09,519 --> 00:19:17,230  
it's an arts and crafts store yes with

436  
00:19:12,909 --> 00:19:18,970  
you now and so folks look where there'll

437  
00:19:17,230 --> 00:19:22,389  
be a link in the weeks this week's show

438  
00:19:18,970 --> 00:19:24,129  
notes of course but it's in C is calm

439  
00:19:22,388 --> 00:19:26,529  
and when you go there at the top of the

440  
00:19:24,128 --> 00:19:28,209  
page there's a little YouTube

441  
00:19:26,529 --> 00:19:29,940  
go little icon click that and you can

442  
00:19:28,210 --> 00:19:32,230

see all the wonderful and fun videos

443

00:19:29,940 --> 00:19:34,480  
that everybody here is put out

444

00:19:32,230 --> 00:19:36,660  
especially by Kate and Drake you to

445

00:19:34,480 --> 00:19:39,370  
those ones do you get to do much

446

00:19:36,660 --> 00:19:41,650  
traveling or you office bound more or

447

00:19:39,369 --> 00:19:45,729  
less in this job um I travel out to

448

00:19:41,650 --> 00:19:48,009  
conferences so I'm leaving you know I I

449

00:19:45,730 --> 00:19:51,130  
do a lot of training and speaking about

450

00:19:48,009 --> 00:19:53,500  
what we do so next week I'm going to the

451

00:19:51,130 --> 00:19:56,260  
Smithsonian to talk about the no

452

00:19:53,500 --> 00:19:58,779  
conflict approach with their volunteers

453

00:19:56,259 --> 00:20:03,150  
and do some training with them and then

454

00:19:58,779 --> 00:20:06,910  
somebody to carry about I'm very excited

455

00:20:03,150 --> 00:20:10,030  
and I'm also spending some time in

456

00:20:06,910 --> 00:20:12,940  
Portland at the end of this week going

457  
00:20:10,029 --> 00:20:16,180  
to a science communication conference so

458  
00:20:12,940 --> 00:20:18,130  
I'm talking about one of the one of the

459  
00:20:16,180 --> 00:20:21,400  
biggest and the coolest problems that

460  
00:20:18,130 --> 00:20:23,700  
I've been working with which is I'm how

461  
00:20:21,400 --> 00:20:26,980  
do you engage people who have you know

462  
00:20:23,700 --> 00:20:29,559  
CRISPR or something you know really

463  
00:20:26,980 --> 00:20:31,390  
pulled from the headlines but maybe they

464  
00:20:29,559 --> 00:20:35,169  
had a high school biology class twenty

465  
00:20:31,390 --> 00:20:37,570  
years ago and how do you have helped

466  
00:20:35,170 --> 00:20:40,029  
them find an engaging answer to a

467  
00:20:37,569 --> 00:20:43,750  
question when they don't really have the

468  
00:20:40,029 --> 00:20:47,109  
background to they have they're missing

469  
00:20:43,750 --> 00:20:48,490  
you know 20 steps so that is something

470  
00:20:47,109 --> 00:20:50,409  
that I've been working with especially

471  
00:20:48,490 --> 00:20:53,740  
when I do outreach geared toward adults

472  
00:20:50,410 --> 00:20:58,300  
and I'm gonna go over some different

473  
00:20:53,740 --> 00:21:00,490  
strategies so finding where they are and

474  
00:20:58,299 --> 00:21:01,659  
kind of really making a connection with

475  
00:21:00,490 --> 00:21:05,049  
who they are and where they're coming

476  
00:21:01,660 --> 00:21:07,090  
from and also really creating what in

477  
00:21:05,049 --> 00:21:10,000  
the pedagogy world is kind of a

478  
00:21:07,089 --> 00:21:11,649  
problem-based learning environment so if

479  
00:21:10,000 --> 00:21:13,509  
you actually get them invested in

480  
00:21:11,650 --> 00:21:16,390  
solving a problem or living through an

481  
00:21:13,509 --> 00:21:19,029  
experience then you can really tailor

482  
00:21:16,390 --> 00:21:21,670  
their specific interests and their

483  
00:21:19,029 --> 00:21:24,519  
background - you can tailor their

484  
00:21:21,670 --> 00:21:29,230  
learning to that so rather than having

485

00:21:24,519 --> 00:21:34,059  
to talk at them about what is DNA which

486  
00:21:29,230 --> 00:21:37,089  
most people don't know you can get them

487  
00:21:34,059 --> 00:21:39,819  
involved in solving a problem and they

488  
00:21:37,089 --> 00:21:40,408  
can maybe accidentally learn about what

489  
00:21:39,819 --> 00:21:43,720  
it is

490  
00:21:40,409 --> 00:21:46,059  
but it's more a process of kind of

491  
00:21:43,720 --> 00:21:47,890  
self-discovery interesting what you say

492  
00:21:46,058 --> 00:21:50,889  
about DNA you say what most people don't

493  
00:21:47,890 --> 00:21:52,659  
know yes of course they don't and I come

494  
00:21:50,890 --> 00:21:56,080  
across this too and then my second

495  
00:21:52,659 --> 00:21:57,789  
thought is well why why why would they

496  
00:21:56,079 --> 00:21:59,589  
but most people go about their daily

497  
00:21:57,788 --> 00:22:01,509  
lives not knowing about a lot of things

498  
00:21:59,589 --> 00:22:05,199  
now that probably everybody has heard

499  
00:22:01,509 --> 00:22:07,000

the term DNA and now you can get DNA

500

00:22:05,200 --> 00:22:08,950  
tests and people realize that it's

501

00:22:07,000 --> 00:22:11,349  
something to do with like a fingerprint

502

00:22:08,950 --> 00:22:14,350  
answer but the complexity of it and the

503

00:22:11,349 --> 00:22:17,439  
double helix in the RNA no no I mean

504

00:22:14,349 --> 00:22:18,908  
your average person on the street might

505

00:22:17,440 --> 00:22:21,190  
not have that knowledge and I wouldn't

506

00:22:18,909 --> 00:22:24,730  
be too down on them for not having it so

507

00:22:21,190 --> 00:22:27,429  
I guess yeah you have a lot of Education

508

00:22:24,730 --> 00:22:29,288  
to do don't you great well I mean when

509

00:22:27,429 --> 00:22:33,639  
you when people talk to me about their

510

00:22:29,288 --> 00:22:36,278  
23andme results they say things like I'm

511

00:22:33,638 --> 00:22:38,798  
two percent Neanderthal and then they

512

00:22:36,278 --> 00:22:41,079  
you know I've had people point to the

513

00:22:38,798 --> 00:22:42,519  
part of themselves that's the two

514  
00:22:41,079 --> 00:22:45,038  
percent of my body that's new

515  
00:22:42,519 --> 00:22:49,990  
oh yeah what yeah of course I think my

516  
00:22:45,038 --> 00:22:51,690  
big toe might be there you go well

517  
00:22:49,990 --> 00:22:54,159  
that's interesting

518  
00:22:51,690 --> 00:22:54,850  
expresses itself at one particular yeah

519  
00:22:54,159 --> 00:22:57,220  
Wow

520  
00:22:54,849 --> 00:22:59,079  
well because if you've done a DNA test

521  
00:22:57,220 --> 00:23:00,329  
but you don't have any fundamental

522  
00:22:59,079 --> 00:23:02,949  
understanding of how it works

523  
00:23:00,329 --> 00:23:05,470  
another thing we do is we go to we were

524  
00:23:02,950 --> 00:23:08,409  
at the State Fair and we extracted DNA

525  
00:23:05,470 --> 00:23:12,370  
from from applesauce

526  
00:23:08,409 --> 00:23:15,130  
right okay yes yeah this is super easy

527  
00:23:12,369 --> 00:23:16,989  
activity so one of the really surprising

528  
00:23:15,130 --> 00:23:20,528  
questions that I got and I was kind of

529  
00:23:16,990 --> 00:23:22,569  
taken aback by that is someone was like

530  
00:23:20,528 --> 00:23:24,909  
so there's DNA in there and I was like

531  
00:23:22,569 --> 00:23:29,019  
yes most food has DNA in it and they're

532  
00:23:24,909 --> 00:23:31,269  
like so if I eat applesauce I'm eating

533  
00:23:29,019 --> 00:23:33,638  
DNA and it was like yes but that's true

534  
00:23:31,269 --> 00:23:36,149  
of all the food that you eat so I'm part

535  
00:23:33,638 --> 00:23:36,148  
applesauce

536  
00:23:37,929 --> 00:23:43,630  
it is funny I had to try really hard not

537  
00:23:41,230 --> 00:23:45,159  
to laugh when it was asked but it does

538  
00:23:43,630 --> 00:23:47,528  
you know that's that's actually thinking

539  
00:23:45,159 --> 00:23:49,539  
like a scientist and again it gets back

540  
00:23:47,528 --> 00:23:50,829  
to the point well why does it why should

541  
00:23:49,538 --> 00:23:53,169  
people in the street know the

542

00:23:50,829 --> 00:23:54,339  
complexities of it but they have to live

543  
00:23:53,169 --> 00:23:57,610  
in a world where

544  
00:23:54,339 --> 00:23:59,769  
or people are talking about the

545  
00:23:57,609 --> 00:24:01,418  
complexities of it they have to live in

546  
00:23:59,769 --> 00:24:03,460  
a world where they're voting for

547  
00:24:01,419 --> 00:24:05,850  
politicians who have opinions on it and

548  
00:24:03,460 --> 00:24:08,259  
they're supposed to be you know there is

549  
00:24:05,849 --> 00:24:11,139  
science knowledge based on science

550  
00:24:08,259 --> 00:24:12,819  
science knowledge is it's becoming more

551  
00:24:11,140 --> 00:24:16,150  
and more important for living in this

552  
00:24:12,819 --> 00:24:18,189  
world why I have to agree I have to

553  
00:24:16,150 --> 00:24:19,750  
agree with you there and the more people

554  
00:24:18,190 --> 00:24:22,390  
like you who can get out there and

555  
00:24:19,750 --> 00:24:23,140  
communicate science and make it fun make

556  
00:24:22,390 --> 00:24:26,200

it interesting

557

00:24:23,140 --> 00:24:28,720

make it stick maybe didn't don't make it

558

00:24:26,200 --> 00:24:31,538

scary I think is a wonderful thing well

559

00:24:28,720 --> 00:24:33,788

folks again ice directly to the National

560

00:24:31,538 --> 00:24:35,379

Center for Science education links in

561

00:24:33,788 --> 00:24:37,419

this week's show notes don't forget to

562

00:24:35,380 --> 00:24:39,669

check out the videos especially by the

563

00:24:37,419 --> 00:24:43,450

ones of Cape Cara the director of

564

00:24:39,669 --> 00:24:45,190

community science education Kate a real

565

00:24:43,450 --> 00:24:47,528

pleasure to spend some time with you

566

00:24:45,190 --> 00:24:50,110

here in the wonderful library complete

567

00:24:47,528 --> 00:24:53,169

with books and skulls and I look forward

568

00:24:50,109 --> 00:24:54,250

to maybe interviewing you down the track

569

00:24:53,169 --> 00:24:57,270

to see how things are going

570

00:24:54,250 --> 00:24:57,269

sounds great

571  
00:25:10,569 --> 00:25:16,490  
calling all skeptics or listeners the

572  
00:25:13,940 --> 00:25:18,830  
aleph end or near Glasgow are are you

573  
00:25:16,490 --> 00:25:21,109  
planning to visit sometime then you're

574  
00:25:18,829 --> 00:25:24,589  
in luck because the Glasgow skeptics

575  
00:25:21,109 --> 00:25:25,849  
have got your Monday nights sorted we

576  
00:25:24,589 --> 00:25:28,579  
are committed to filling up every

577  
00:25:25,849 --> 00:25:31,279  
available Monday night talks on science

578  
00:25:28,579 --> 00:25:33,408  
and skepticism past speakers include

579  
00:25:31,279 --> 00:25:34,639  
Eugenie Scott Jerry Coyne make up

580  
00:25:33,409 --> 00:25:36,679  
Marshall Nate Phelps

581  
00:25:34,640 --> 00:25:40,070  
tormund Cecil from cognitive dissonance

582  
00:25:36,679 --> 00:25:42,230  
PZ Myers Richard Wiseman EC drilling

583  
00:25:40,069 --> 00:25:45,259  
Noah Heath and Eli from the scathing

584  
00:25:42,230 --> 00:25:47,509  
atheist Simon Singh Rebecca Watson and a

585  
00:25:45,259 --> 00:25:49,879  
multitude of local academics and

586  
00:25:47,509 --> 00:25:51,950  
skeptics there's literally nothing

587  
00:25:49,880 --> 00:25:54,289  
better you can do on a Monday night in

588  
00:25:51,950 --> 00:25:57,110  
Glasgow it doesn't involve taking your

589  
00:25:54,288 --> 00:25:59,298  
clothes off so come join us we've also

590  
00:25:57,109 --> 00:26:01,519  
got a vibrant online community you can

591  
00:25:59,298 --> 00:26:03,798  
find us on Facebook Twitter and get

592  
00:26:01,519 --> 00:26:08,230  
involved with the discussion Glasgow

593  
00:26:03,798 --> 00:26:08,230  
skeptics self-help for your brain

594  
00:26:18,538 --> 00:26:31,210  
it's the raw skeptic report with Heidi

595  
00:26:22,509 --> 00:26:33,519  
Robertson hello everyone

596  
00:26:31,210 --> 00:26:39,190  
Heidi Robertson here from the Northern

597  
00:26:33,519 --> 00:26:41,700  
Rivers vaccination supporters so I was

598  
00:26:39,190 --> 00:26:44,759  
procrastinating a couple of days ago

599

00:26:41,700 --> 00:26:48,490  
just scrolling through my Facebook feed

600  
00:26:44,759 --> 00:26:51,460  
when a post by asthma Australia caught

601  
00:26:48,490 --> 00:26:53,769  
my attention the asthma Australia

602  
00:26:51,460 --> 00:26:56,169  
website is a legitimate and

603  
00:26:53,769 --> 00:26:59,109  
well-respected source of information for

604  
00:26:56,169 --> 00:27:03,460  
people newly diagnosed or living with

605  
00:26:59,109 --> 00:27:06,969  
asthma asthma is not a minor ailment for

606  
00:27:03,460 --> 00:27:10,659  
many people in Australia and New Zealand

607  
00:27:06,970 --> 00:27:13,269  
there are around 1 in 8 or 9 people

608  
00:27:10,659 --> 00:27:16,179  
living with asthma and thousands are

609  
00:27:13,269 --> 00:27:19,659  
hospitalized every year and some of

610  
00:27:16,179 --> 00:27:22,330  
those asthma attacks are fatal asthma

611  
00:27:19,659 --> 00:27:24,750  
has many triggers which can be different

612  
00:27:22,329 --> 00:27:28,628  
for each person that has the diagnosis

613  
00:27:24,750 --> 00:27:31,898

exercise pollen dust mold and smoke our

614

00:27:28,628 --> 00:27:36,189

common triggers and so are strong scents

615

00:27:31,898 --> 00:27:38,199

like perfume or deodorants the Facebook

616

00:27:36,190 --> 00:27:40,870

post that caught my eye links readers to

617

00:27:38,200 --> 00:27:44,558

an article by Kirsty wind in the New

618

00:27:40,869 --> 00:27:46,569

Zealand Herald titled father threatens

619

00:27:44,558 --> 00:27:49,960

legal action if school keeps using

620

00:27:46,569 --> 00:27:55,119

essential oils in class and it's dated

621

00:27:49,960 --> 00:27:58,120

the 30th of March 2019 but before I go

622

00:27:55,119 --> 00:28:02,319

on to quote the article what exactly is

623

00:27:58,119 --> 00:28:05,768

an essential oil turns out that it is

624

00:28:02,319 --> 00:28:08,109

not an oil that is essential the

625

00:28:05,769 --> 00:28:10,149

essential part of essential oil means

626

00:28:08,109 --> 00:28:13,028

that it contains the essence of the

627

00:28:10,148 --> 00:28:15,878

plant from which it is derived it is a

628  
00:28:13,028 --> 00:28:18,569  
concentrated liquid extracted from a

629  
00:28:15,878 --> 00:28:21,069  
particular plant and often used for

630  
00:28:18,569 --> 00:28:23,039  
aromatherapy a form of alternative

631  
00:28:21,069 --> 00:28:25,599  
medicine

632  
00:28:23,039 --> 00:28:28,000  
essential oils have been described by

633  
00:28:25,599 --> 00:28:30,490  
their proponents as being useful in

634  
00:28:28,000 --> 00:28:33,250  
preventing or treating disease and other

635  
00:28:30,490 --> 00:28:37,480  
ailments although there is little

636  
00:28:33,250 --> 00:28:40,119  
scientific evidence to back this up the

637  
00:28:37,480 --> 00:28:42,279  
multi marketing doTERRA company

638  
00:28:40,119 --> 00:28:45,419  
mentioned in the following article has

639  
00:28:42,279 --> 00:28:49,839  
four diffusers for sale on its website

640  
00:28:45,420 --> 00:28:52,570  
from \$62 ranging through to one hundred

641  
00:28:49,839 --> 00:28:54,730  
and nineteen dollars to be used in

642  
00:28:52,569 --> 00:28:56,889  
conjunction with one or more of their

643  
00:28:54,730 --> 00:29:00,970  
essential oils priced at forty five

644  
00:28:56,890 --> 00:29:03,630  
dollars for 15 milliliters so with that

645  
00:29:00,970 --> 00:29:07,720  
bit of background on to the article

646  
00:29:03,630 --> 00:29:10,150  
quote an Auckland primary school has

647  
00:29:07,720 --> 00:29:12,970  
pulled therapeutic diffusers from the

648  
00:29:10,150 --> 00:29:15,490  
classroom after a high court threat from

649  
00:29:12,970 --> 00:29:18,660  
a parent who said the essential oils

650  
00:29:15,490 --> 00:29:21,370  
could trigger asthma attacks on

651  
00:29:18,660 --> 00:29:24,820  
Wednesday Milford primary school on

652  
00:29:21,369 --> 00:29:27,069  
Auckland's North Shore put diffusers in

653  
00:29:24,819 --> 00:29:30,250  
twenty classrooms with oil blends

654  
00:29:27,069 --> 00:29:32,889  
designed to quote stop the spread of

655  
00:29:30,250 --> 00:29:34,529  
viruses and keep children focused at

656

00:29:32,890 --> 00:29:37,420  
school end quote

657  
00:29:34,529 --> 00:29:39,879  
that evening the school board received a

658  
00:29:37,420 --> 00:29:43,650  
letter threatening high court action

659  
00:29:39,880 --> 00:29:46,690  
from a parent who is also a lawyer

660  
00:29:43,650 --> 00:29:49,210  
Auckland barrister Tim Rainey who has a

661  
00:29:46,690 --> 00:29:51,430  
son at the school said he took action

662  
00:29:49,210 --> 00:29:53,410  
because there was no consultation with

663  
00:29:51,430 --> 00:29:57,370  
parents before the decision was made to

664  
00:29:53,410 --> 00:29:59,230  
use diffusers in the classrooms he spoke

665  
00:29:57,369 --> 00:30:01,839  
to his son's teacher on Wednesday

666  
00:29:59,230 --> 00:30:06,460  
morning and she agreed not to use the

667  
00:30:01,839 --> 00:30:08,679  
diffuser in class that day but he said

668  
00:30:06,460 --> 00:30:10,960  
it was not a long-term solution and had

669  
00:30:08,680 --> 00:30:13,990  
spoken to other parents who were also

670  
00:30:10,960 --> 00:30:16,029

concerned Rainey said that the first he

671

00:30:13,990 --> 00:30:18,309

heard of the diffusers was in a

672

00:30:16,029 --> 00:30:20,289

newsletter earlier in the month that

673

00:30:18,309 --> 00:30:23,769

said there would be an information

674

00:30:20,289 --> 00:30:26,589

evening about the product the diffusers

675

00:30:23,769 --> 00:30:29,589

and oils supplied by multi-level

676

00:30:26,589 --> 00:30:32,139

marketing business doTERRA work by

677

00:30:29,589 --> 00:30:35,019

dispersing a mist of water and essential

678

00:30:32,140 --> 00:30:37,440

oils into the air to be inhaled and

679

00:30:35,019 --> 00:30:40,150

easily absorbed by the body

680

00:30:37,440 --> 00:30:42,220

this decision has been made without any

681

00:30:40,150 --> 00:30:44,290

consultation with parents and without

682

00:30:42,220 --> 00:30:48,579

obtaining parental consent

683

00:30:44,289 --> 00:30:51,279

he said Rainey said some essential oils

684

00:30:48,579 --> 00:30:53,859

such as wild orange and a cinnamon bark

685  
00:30:51,279 --> 00:30:56,589  
used in the doTERRA OnGuard

686  
00:30:53,859 --> 00:30:59,979  
blend were irritants for people with

687  
00:30:56,589 --> 00:31:00,939  
allergies and asthma in a letter to the

688  
00:30:59,980 --> 00:31:03,759  
Board of Trustees

689  
00:31:00,940 --> 00:31:07,330  
Rainie said he wanted the diffusers

690  
00:31:03,759 --> 00:31:09,129  
removed immediately quote if the board

691  
00:31:07,329 --> 00:31:11,439  
is not prepared to confirm that this

692  
00:31:09,130 --> 00:31:14,320  
experiment will cease by 9:00 a.m.

693  
00:31:11,440 --> 00:31:16,960  
tomorrow I will commence proceedings in

694  
00:31:14,319 --> 00:31:19,509  
the High Court seeking an injunction to

695  
00:31:16,960 --> 00:31:21,429  
restrain the school from continuing to

696  
00:31:19,509 --> 00:31:25,539  
expose students to this risk

697  
00:31:21,429 --> 00:31:28,090  
end quote he stated quote given the

698  
00:31:25,539 --> 00:31:32,589  
urgency of the situation I may make that

699  
00:31:28,089 --> 00:31:34,539  
application without notice and quote he

700  
00:31:32,589 --> 00:31:36,699  
said the school's decision to use oils

701  
00:31:34,539 --> 00:31:39,190  
that could harm one student to help

702  
00:31:36,700 --> 00:31:40,779  
others was the same as quote making

703  
00:31:39,190 --> 00:31:43,299  
everyone eat a peanut butter sandwich

704  
00:31:40,779 --> 00:31:45,420  
because someone said it was brain food

705  
00:31:43,299 --> 00:31:48,579  
end quote

706  
00:31:45,420 --> 00:31:50,769  
neither the school nor I have any idea

707  
00:31:48,579 --> 00:31:52,839  
what effect the use of these essential

708  
00:31:50,769 --> 00:31:57,789  
oils will have on him or any of his

709  
00:31:52,839 --> 00:32:00,459  
classmates he said at a PTA meeting in

710  
00:31:57,789 --> 00:32:02,710  
March this year two thousand dollars was

711  
00:32:00,460 --> 00:32:04,720  
approved to purchase twenty two fuses

712  
00:32:02,710 --> 00:32:08,950  
and two different blends of essential

713

00:32:04,720 --> 00:32:12,460  
oils from doTERRA school principal sue

714  
00:32:08,950 --> 00:32:14,500  
Cottle told The Weeknd Herald the legal

715  
00:32:12,460 --> 00:32:18,308  
letter was the first negative contact

716  
00:32:14,500 --> 00:32:20,558  
she had regarding the diffusers quote we

717  
00:32:18,308 --> 00:32:23,170  
trialed the diffusers in one class last

718  
00:32:20,558 --> 00:32:25,269  
year and that class had fewer students

719  
00:32:23,170 --> 00:32:28,750  
off sick and the teacher said the

720  
00:32:25,269 --> 00:32:30,519  
behavior had improved she said we want

721  
00:32:28,750 --> 00:32:32,679  
to stop the spread of illness and have

722  
00:32:30,519 --> 00:32:36,069  
children in the class learning not at

723  
00:32:32,679 --> 00:32:37,990  
home sick and quote she said other

724  
00:32:36,069 --> 00:32:40,299  
schools used the diffusers with no issue

725  
00:32:37,990 --> 00:32:43,509  
and she had cleared the use with the

726  
00:32:40,299 --> 00:32:45,279  
Ministry of Education Kartell said the

727  
00:32:43,509 --> 00:32:47,859

diffusers were now locked away in an

728

00:32:45,279 --> 00:32:49,379

office until the board decided what to

729

00:32:47,859 --> 00:32:52,539

do next

730

00:32:49,380 --> 00:32:54,910

the teachers were behind the use 100%

731

00:32:52,539 --> 00:32:57,069

and so many parents have told me they

732

00:32:54,910 --> 00:32:59,440

loved the idea of the diffusers in class

733

00:32:57,069 --> 00:33:03,309

there was so much positive feedback and

734

00:32:59,440 --> 00:33:05,590

quote she said but no school wants the

735

00:33:03,309 --> 00:33:08,470

threat of legal action so we pulled them

736

00:33:05,589 --> 00:33:10,439

straight away we have other battles end

737

00:33:08,470 --> 00:33:14,380

quote

738

00:33:10,440 --> 00:33:16,870

and that's the end of the article one of

739

00:33:14,380 --> 00:33:18,550

the things that stood out for me was the

740

00:33:16,869 --> 00:33:20,439

apparent presumption both in the

741

00:33:18,549 --> 00:33:23,559

comments section of the Facebook post

742  
00:33:20,440 --> 00:33:25,630  
and the article itself that essential

743  
00:33:23,559 --> 00:33:27,759  
oil diffusers were in fact effective as

744  
00:33:25,630 --> 00:33:29,890  
a way of as the principal was quoted as

745  
00:33:27,759 --> 00:33:33,000  
saying stopping the spread of viruses

746  
00:33:29,890 --> 00:33:36,130  
and keeping children focused at school

747  
00:33:33,000 --> 00:33:37,990  
this was their starting point and nobody

748  
00:33:36,130 --> 00:33:41,440  
was questioning the veracity or

749  
00:33:37,990 --> 00:33:43,809  
plausibility of it so I went on a bit of

750  
00:33:41,440 --> 00:33:46,480  
a hunt and thus began my journey down a

751  
00:33:43,809 --> 00:33:49,269  
convoluted rabbit hole and the end

752  
00:33:46,480 --> 00:33:52,539  
result was that there have been studies

753  
00:33:49,269 --> 00:33:54,839  
in vitro of various essential oils

754  
00:33:52,539 --> 00:33:58,809  
potentially having some antimicrobial

755  
00:33:54,839 --> 00:34:03,299  
effects but no human clinical trials of

756  
00:33:58,809 --> 00:34:06,789  
this particular blend of diffused oil

757  
00:34:03,299 --> 00:34:09,820  
now bear with me while I go off on a bit

758  
00:34:06,789 --> 00:34:11,619  
of a tangent here because as I was

759  
00:34:09,820 --> 00:34:15,429  
looking into this story I found a couple

760  
00:34:11,619 --> 00:34:17,378  
of extra interesting tidbits doterra

761  
00:34:15,429 --> 00:34:20,079  
have their headquarters in Utah and the

762  
00:34:17,378 --> 00:34:23,500  
United States and officers and

763  
00:34:20,079 --> 00:34:26,019  
distributors worldwide the chairman of

764  
00:34:23,500 --> 00:34:28,960  
the scientific advisory committee of

765  
00:34:26,019 --> 00:34:31,289  
doTERRA is a chiropractor with a passion

766  
00:34:28,960 --> 00:34:34,030  
for essential oils

767  
00:34:31,289 --> 00:34:37,389  
he has just moved to a different branch

768  
00:34:34,030 --> 00:34:40,169  
of the company replaced with of all

769  
00:34:37,389 --> 00:34:43,510  
things and infectious diseases

770

00:34:40,168 --> 00:34:45,940  
pediatrician this pediatrician will

771  
00:34:43,510 --> 00:34:48,450  
apparently be not only leading doe

772  
00:34:45,940 --> 00:34:51,579  
terrors health care and research teams

773  
00:34:48,449 --> 00:34:55,178  
but will also be senior medical director

774  
00:34:51,579 --> 00:34:58,360  
of doe terrors new prime meridian

775  
00:34:55,179 --> 00:35:02,680  
medical complex which will open this

776  
00:34:58,360 --> 00:35:07,030  
month April 2019 from doe terrors

777  
00:35:02,679 --> 00:35:10,659  
website quote the 41,000 square foot

778  
00:35:07,030 --> 00:35:12,580  
direct primary care facility located

779  
00:35:10,659 --> 00:35:15,069  
directly across the street from Doe

780  
00:35:12,579 --> 00:35:18,849  
terrors Global Campus in Pleasant Grove

781  
00:35:15,070 --> 00:35:22,300  
Utah will be open to the public in April

782  
00:35:18,849 --> 00:35:24,969  
2009 teen along with addressing those

783  
00:35:22,300 --> 00:35:28,360  
modern healthcare realities of long wait

784  
00:35:24,969 --> 00:35:30,669

times scheduling difficulties and little

785

00:35:28,360 --> 00:35:33,250

time actually spent with your medical

786

00:35:30,670 --> 00:35:36,670

provider we are certain that the

787

00:35:33,250 --> 00:35:39,909

integrated approach to health based on

788

00:35:36,670 --> 00:35:43,210

the doTERRA wellness lifestyle pyramid

789

00:35:39,909 --> 00:35:45,849

will offer a breadth of essential oil

790

00:35:43,210 --> 00:35:50,800

infused fresh air and a better

791

00:35:45,849 --> 00:35:54,819

experience for patients end quote as one

792

00:35:50,800 --> 00:35:55,660

commenter on reddit said so let me get

793

00:35:54,820 --> 00:35:58,450

this straight

794

00:35:55,659 --> 00:36:01,569

infectious disease medical doctor is now

795

00:35:58,449 --> 00:36:04,299

chief medical officer for a multi-level

796

00:36:01,570 --> 00:36:07,240

marketing company that pedals essential

797

00:36:04,300 --> 00:36:10,170

oils and aromatherapy as medical cures

798

00:36:07,239 --> 00:36:13,539

for just about everything under the Sun

799  
00:36:10,170 --> 00:36:18,250  
except essential oils can't do through

800  
00:36:13,539 --> 00:36:23,050  
infectious diseases all the irony and

801  
00:36:18,250 --> 00:36:25,449  
quote indeed I'm sure we'll be hearing

802  
00:36:23,050 --> 00:36:28,600  
more about doTERRA and their new prime

803  
00:36:25,449 --> 00:36:29,949  
meridian venture in the future but in

804  
00:36:28,599 --> 00:36:32,369  
the meantime getting back to the

805  
00:36:29,949 --> 00:36:35,049  
original story of the new zealand school

806  
00:36:32,369 --> 00:36:37,210  
the particular blend that was to be used

807  
00:36:35,050 --> 00:36:38,519  
in the diffusers at school called

808  
00:36:37,210 --> 00:36:41,530  
OnGuard

809  
00:36:38,519 --> 00:36:43,300  
contains the essential oils of wild

810  
00:36:41,530 --> 00:36:46,330  
orange peel clove bud

811  
00:36:43,300 --> 00:36:50,140  
cinnamon leaf cinnamon bark eucalyptus

812  
00:36:46,329 --> 00:36:53,519  
leaf and rosemary leaf benefits as per

813  
00:36:50,139 --> 00:36:56,589  
the doTERRA website include quote

814  
00:36:53,519 --> 00:37:00,219  
supports healthy immune and respiratory

815  
00:36:56,590 --> 00:37:03,630  
function protects against environmental

816  
00:37:00,219 --> 00:37:07,059  
threats supports the body's natural

817  
00:37:03,630 --> 00:37:11,289  
antioxidant defenses promotes healthy

818  
00:37:07,059 --> 00:37:14,219  
circulation and has an energizing and

819  
00:37:11,289 --> 00:37:15,920  
uplifting aroma end quote

820  
00:37:14,219 --> 00:37:19,489  
there is

821  
00:37:15,920 --> 00:37:23,180  
asterisk after these listed benefits

822  
00:37:19,489 --> 00:37:25,009  
which points to a disclaimer quote these

823  
00:37:23,179 --> 00:37:26,899  
statements have not been evaluated by

824  
00:37:25,010 --> 00:37:28,670  
the Food and Drug Administration this

825  
00:37:26,900 --> 00:37:31,280  
product is not intended to diagnose

826  
00:37:28,670 --> 00:37:34,130  
treat cure or prevent any disease end

827

00:37:31,280 --> 00:37:36,500  
quote now it would appear that that

828  
00:37:34,130 --> 00:37:40,010  
disclaimer was placed on the doTERRA

829  
00:37:36,500 --> 00:37:43,608  
website in multiple places after the FDA

830  
00:37:40,010 --> 00:37:47,450  
sent a lengthy warning letter to doTERRA

831  
00:37:43,608 --> 00:37:50,719  
international in 2014 and I'll quote a

832  
00:37:47,449 --> 00:37:52,039  
small part of that quote your

833  
00:37:50,719 --> 00:37:54,169  
consultants promotes your

834  
00:37:52,039 --> 00:37:56,719  
above-mentioned doTERRA essential oil

835  
00:37:54,170 --> 00:37:59,329  
products for conditions including but

836  
00:37:56,719 --> 00:38:02,719  
not limited to viral infections

837  
00:37:59,329 --> 00:38:06,970  
including Ebola bacterial infections

838  
00:38:02,719 --> 00:38:10,459  
cancer brain injury autism endometriosis

839  
00:38:06,969 --> 00:38:15,439  
Graves disease Alzheimer's disease tumor

840  
00:38:10,460 --> 00:38:18,619  
reduction a DD ADHD and other conditions

841  
00:38:15,440 --> 00:38:21,079

that are not amenable to self diagnosis

842

00:38:18,619 --> 00:38:23,720

and treatment by individuals who are not

843

00:38:21,079 --> 00:38:26,119

medical practitioners end quote and

844

00:38:23,719 --> 00:38:29,058

further on in the same warning letter

845

00:38:26,119 --> 00:38:31,220

quote the cited violations in this

846

00:38:29,059 --> 00:38:33,290

letter should not be viewed to apply

847

00:38:31,219 --> 00:38:35,298

solely to the specific products

848

00:38:33,289 --> 00:38:37,250

mentioned in this letter it is your

849

00:38:35,298 --> 00:38:39,679

responsibility to ensure that all of

850

00:38:37,250 --> 00:38:42,139

your products are in compliance with all

851

00:38:39,679 --> 00:38:44,629

requirements of the Act and federal

852

00:38:42,139 --> 00:38:47,629

regulations you should take prompt

853

00:38:44,630 --> 00:38:51,070

action to correct the violations cited

854

00:38:47,630 --> 00:38:53,809

in this letter end quote

855

00:38:51,070 --> 00:38:55,850

but what about the teachers who said

856  
00:38:53,809 --> 00:38:58,099  
that children were better behaved and

857  
00:38:55,849 --> 00:39:00,559  
had less sick days during a trial run of

858  
00:38:58,099 --> 00:39:04,759  
the diffusor in one classroom the year

859  
00:39:00,559 --> 00:39:07,759  
before well that could be explained by

860  
00:39:04,760 --> 00:39:09,920  
observer bias the expectation that

861  
00:39:07,760 --> 00:39:11,690  
benefits will result when one is told

862  
00:39:09,920 --> 00:39:14,300  
that for example a product will have a

863  
00:39:11,690 --> 00:39:16,250  
positive effect there may have been an

864  
00:39:14,300 --> 00:39:18,230  
expectation on the teachers to report

865  
00:39:16,250 --> 00:39:20,059  
positive results if it were a person in

866  
00:39:18,230 --> 00:39:23,210  
authority such as the principal who was

867  
00:39:20,059 --> 00:39:26,000  
asking them to report back to her of

868  
00:39:23,210 --> 00:39:28,070  
course there are also the expected peaks

869  
00:39:26,000 --> 00:39:30,650  
and troughs of infectious disease

870  
00:39:28,070 --> 00:39:33,080  
throughout the year which could account

871  
00:39:30,650 --> 00:39:36,559  
for less children being off sick at any

872  
00:39:33,079 --> 00:39:40,519  
given time and I'm sure other factors

873  
00:39:36,559 --> 00:39:42,739  
not taken into consideration as we say

874  
00:39:40,519 --> 00:39:45,920  
all the time correlation does not equal

875  
00:39:42,739 --> 00:39:47,869  
causation and a trial run in one

876  
00:39:45,920 --> 00:39:50,269  
classroom with a handful of students

877  
00:39:47,869 --> 00:39:54,849  
does not make for a robust and solid

878  
00:39:50,269 --> 00:39:57,559  
argument in favor of essential oil use

879  
00:39:54,849 --> 00:40:00,949  
as morote acts are not the only danger

880  
00:39:57,559 --> 00:40:02,929  
from essential oil exposure it turns out

881  
00:40:00,949 --> 00:40:05,539  
that as a follow-up to the article in

882  
00:40:02,929 --> 00:40:09,230  
the online New Zealand Herald on the

883  
00:40:05,539 --> 00:40:11,570  
30th of March 2019 a New Zealand

884

00:40:09,230 --> 00:40:13,429  
neurologist spoke up about the dangers

885  
00:40:11,570 --> 00:40:16,940  
of some essential oils triggering

886  
00:40:13,429 --> 00:40:20,210  
seizures in children with epilepsy quote

887  
00:40:16,940 --> 00:40:22,159  
professor Gareth Perry who is an officer

888  
00:40:20,210 --> 00:40:25,280  
of the New Zealand Order of Merit for

889  
00:40:22,159 --> 00:40:27,440  
services to neurology said eucalyptus

890  
00:40:25,280 --> 00:40:29,990  
oil and rosemary oil were just two of

891  
00:40:27,440 --> 00:40:31,190  
eleven essential oils that potentially

892  
00:40:29,989 --> 00:40:34,189  
caused seizures

893  
00:40:31,190 --> 00:40:35,510  
end quote it is concerning that a

894  
00:40:34,190 --> 00:40:38,869  
taxpayer-funded

895  
00:40:35,510 --> 00:40:41,890  
educational facility would jump on board

896  
00:40:38,869 --> 00:40:44,839  
the pseudoscience bandwagon spending

897  
00:40:41,889 --> 00:40:47,359  
\$2,000 of pnc money on a probably

898  
00:40:44,840 --> 00:40:50,960

ineffective and potentially dangerous

899

00:40:47,360 --> 00:40:53,140

product i personally applaud this parent

900

00:40:50,960 --> 00:40:57,130

who happened to also be a lawyer in

901

00:40:53,139 --> 00:41:00,129

confronting his son's school about it

902

00:40:57,130 --> 00:41:02,650

that's all from me for now thank you for

903

00:41:00,130 --> 00:41:04,630

listening this has been Heidi Robertson

904

00:41:02,650 --> 00:41:09,150

of the Northern Rivers vaccination

905

00:41:04,630 --> 00:41:09,150

supporters you can find us at

906

00:41:13,500 --> 00:41:37,300

www.export.gov pamelagay from astronomy

907

00:41:34,449 --> 00:41:39,219

cast each week Fraser Cain and I take

908

00:41:37,300 --> 00:41:41,410

our listeners on a fact-based journey

909

00:41:39,219 --> 00:41:44,169

through the cosmos with our weekly

910

00:41:41,409 --> 00:41:46,929

podcast we explain not just what we know

911

00:41:44,170 --> 00:41:49,809

but how we know what we know about this

912

00:41:46,929 --> 00:41:52,269

universe that we share check us out at

913  
00:41:49,809 --> 00:41:54,670  
astronomy cast calm and look for us in

914  
00:41:52,269 --> 00:41:58,829  
itunes google play and wherever you

915  
00:41:54,670 --> 00:41:58,829  
download podcasts see online

916  
00:42:13,329 --> 00:42:19,009  
now we continue our series reports

917  
00:42:16,219 --> 00:42:21,019  
articles items interviews and stories

918  
00:42:19,009 --> 00:42:26,989  
from the skeptic magazine the journal

919  
00:42:21,018 --> 00:42:31,238  
from Australian skeptics this week we

920  
00:42:26,989 --> 00:42:38,509  
turn to volume nine number four from

921  
00:42:31,239 --> 00:42:41,329  
1989 so thirty years ago and it's a

922  
00:42:38,509 --> 00:42:48,190  
report that could have been written last

923  
00:42:41,329 --> 00:42:55,579  
week by Tim Mendham New Age festival the

924  
00:42:48,190 --> 00:42:58,249  
mind-body-spirit and the money Thursday

925  
00:42:55,579 --> 00:43:01,249  
November the 16th was an auspicious day

926  
00:42:58,248 --> 00:43:04,689  
for the New Age in Australia it marked

927  
00:43:01,248 --> 00:43:07,218  
the opening of the four-day festival for

928  
00:43:04,690 --> 00:43:09,259  
mind/body/spirit that is surely the

929  
00:43:07,219 --> 00:43:12,950  
largest gathering so far of New Age

930  
00:43:09,259 --> 00:43:14,809  
marketing yet held in this country held

931  
00:43:12,949 --> 00:43:16,909  
at Sydney's darling harbour exhibition

932  
00:43:14,809 --> 00:43:19,670  
centre the event brought together about

933  
00:43:16,909 --> 00:43:21,278  
a hundred and thirty exhibitors about 60

934  
00:43:19,670 --> 00:43:24,680  
free demonstrations of New Age

935  
00:43:21,278 --> 00:43:27,289  
lifestyles almost 40 lectures and

936  
00:43:24,679 --> 00:43:30,739  
workshop sessions and no doubt many

937  
00:43:27,289 --> 00:43:32,960  
new-age adherents and customers the

938  
00:43:30,739 --> 00:43:35,389  
organisers were expecting over 20,000

939  
00:43:32,960 --> 00:43:38,179  
visitors and it seems quite possible

940  
00:43:35,389 --> 00:43:40,400  
that this was achieved the range of

941

00:43:38,179 --> 00:43:42,489  
exhibitors was great with about 40

942  
00:43:40,400 --> 00:43:44,900  
percent dedicated to various aspects of

943  
00:43:42,489 --> 00:43:47,630  
alternative health aromatherapy

944  
00:43:44,900 --> 00:43:50,028  
essential oils herbal cures vitamins

945  
00:43:47,630 --> 00:43:52,309  
galore massage pyramids crystal healing

946  
00:43:50,028 --> 00:43:56,028  
microbiotic iridology flotation tanks

947  
00:43:52,309 --> 00:43:59,749  
acupuncture including needless ear

948  
00:43:56,028 --> 00:44:05,119  
version energy balancing reflexology

949  
00:43:59,748 --> 00:44:08,268  
faith healing etc etc etc mixed in were

950  
00:44:05,119 --> 00:44:11,690  
a range of cults such as Perry Krishna

951  
00:44:08,268 --> 00:44:16,098  
each Anka several different schools

952  
00:44:11,690 --> 00:44:19,250  
yoga mirror Buddha spiritualists even

953  
00:44:16,099 --> 00:44:21,700  
the quaint Aetherius society which still

954  
00:44:19,250 --> 00:44:24,559  
after 35 years supports the quote

955  
00:44:21,699 --> 00:44:27,858

teachings from other planets unquote

956

00:44:24,559 --> 00:44:32,559

transmitted from the quote cosmic

957

00:44:27,858 --> 00:44:34,940

masters end quote new and not so new-age

958

00:44:32,559 --> 00:44:37,849

motivational and philosophical groups

959

00:44:34,940 --> 00:44:41,480

were also there in number including the

960

00:44:37,849 --> 00:44:44,450

conflict resolution Network accelerated

961

00:44:41,480 --> 00:44:47,588

learning money & hué discovery

962

00:44:44,449 --> 00:44:52,068

foundation and rope Ithaca movement

963

00:44:47,588 --> 00:44:54,980

Swedenborgian 'z and even Scientology

964

00:44:52,068 --> 00:44:56,719

albeit in the guise of Dianetics mixed

965

00:44:54,980 --> 00:44:59,750

among all these were some strange

966

00:44:56,719 --> 00:45:02,659

bedfellows including Animal Liberation a

967

00:44:59,750 --> 00:45:05,659

company selling new-age capes another

968

00:45:02,659 --> 00:45:07,909

selling shower roses an unusually

969

00:45:05,659 --> 00:45:10,730

mundane and useful product for such a

970  
00:45:07,909 --> 00:45:13,730  
show another selling a compound to keep

971  
00:45:10,730 --> 00:45:16,550  
your spectacles from fogging up another

972  
00:45:13,730 --> 00:45:21,230  
with books on practical spirituality for

973  
00:45:16,550 --> 00:45:23,359  
children and on it goes if you wanted to

974  
00:45:21,230 --> 00:45:26,780  
you could outfit an entire New Age

975  
00:45:23,358 --> 00:45:30,230  
lifestyle on the one spot complete with

976  
00:45:26,780 --> 00:45:33,619  
pyramid hats crystals of every shape and

977  
00:45:30,230 --> 00:45:36,440  
style for every application enough pills

978  
00:45:33,619 --> 00:45:40,970  
to start your own shop in fact the

979  
00:45:36,440 --> 00:45:43,338  
diversity was mind-boggling and this is

980  
00:45:40,969 --> 00:45:46,809  
the problem so much at the exhibition

981  
00:45:43,338 --> 00:45:50,650  
lectures and demonstrations was mutually

982  
00:45:46,809 --> 00:45:53,299  
exclusive who runs your life the Stars

983  
00:45:50,650 --> 00:45:55,639  
disembodied spirits and guardian angels

984  
00:45:53,300 --> 00:45:59,839  
extraterrestrials dreams dolphins or

985  
00:45:55,639 --> 00:46:02,779  
dare I say it yourself all work proposed

986  
00:45:59,838 --> 00:46:05,509  
as the answer along with surefire means

987  
00:46:02,780 --> 00:46:07,460  
to propagate them how does this equate

988  
00:46:05,510 --> 00:46:10,490  
with the aims of animal liberation or

989  
00:46:07,460 --> 00:46:13,730  
Oscar Chow so the founder of rica who

990  
00:46:10,489 --> 00:46:15,439  
says quote if we start believing that we

991  
00:46:13,730 --> 00:46:17,869  
are the cause of our own world we are

992  
00:46:15,440 --> 00:46:21,380  
totally mistaken since we don't create

993  
00:46:17,869 --> 00:46:24,500  
anything not even how dreams end quote

994  
00:46:21,380 --> 00:46:25,400  
pity the poor environmentalists in the

995  
00:46:24,500 --> 00:46:27,500  
audience

996  
00:46:25,400 --> 00:46:29,329  
a visitor could fill an entire library

997  
00:46:27,500 --> 00:46:29,900  
with the brochures pamphlets books and

998

00:46:29,329 --> 00:46:33,170  
booklets

999  
00:46:29,900 --> 00:46:35,840  
being handed out and very little if any

1000  
00:46:33,170 --> 00:46:38,389  
printed on recycled paper everything

1001  
00:46:35,840 --> 00:46:41,650  
from sad little photocopied single

1002  
00:46:38,389 --> 00:46:44,599  
sheeta's to massive glossy colored tomes

1003  
00:46:41,650 --> 00:46:47,059  
pity the poor dolphins who have to live

1004  
00:46:44,599 --> 00:46:48,819  
in the chlorine polluted sea caused by

1005  
00:46:47,059 --> 00:46:51,949  
the production of this lot

1006  
00:46:48,820 --> 00:46:54,740  
my favorite however was the brochure

1007  
00:46:51,949 --> 00:46:57,379  
promoting the Second World heelas

1008  
00:46:54,739 --> 00:47:00,229  
Congress to be held in New Zealand which

1009  
00:46:57,380 --> 00:47:02,720  
folded up into a pyramid shape if the

1010  
00:47:00,230 --> 00:47:05,659  
Congress doesn't help you then maybe the

1011  
00:47:02,719 --> 00:47:07,730  
brochure will certainly the visitors

1012  
00:47:05,659 --> 00:47:10,879

didn't seem to mind the contradictions

1013

00:47:07,730 --> 00:47:13,429

listening to new-age music full of peace

1014

00:47:10,880 --> 00:47:15,650

and light followed by a demonstration of

1015

00:47:13,429 --> 00:47:19,419

how you can train your kids to jump on

1016

00:47:15,650 --> 00:47:22,340

people with Taekwondo wearing a wire

1017

00:47:19,420 --> 00:47:25,490

arrangement on your head and taking part

1018

00:47:22,340 --> 00:47:28,640

in self-healing workshop the aisles were

1019

00:47:25,489 --> 00:47:31,039

full of potential customers all ages

1020

00:47:28,639 --> 00:47:34,159

were present young and innocent the old

1021

00:47:31,039 --> 00:47:36,400

and willing and no doubt a few trying to

1022

00:47:34,159 --> 00:47:38,719

solve the problems of their past lives

1023

00:47:36,400 --> 00:47:42,410

there was something for everyone

1024

00:47:38,719 --> 00:47:44,329

in fact in true new-age style everything

1025

00:47:42,409 --> 00:47:46,909

was there for everyone

1026

00:47:44,329 --> 00:47:48,559

Richard Glover began one of his reports

1027  
00:47:46,909 --> 00:47:50,809  
in The Sydney Morning Herald November

1028  
00:47:48,559 --> 00:47:53,719  
the 24th with a quotation from the

1029  
00:47:50,809 --> 00:47:55,730  
notice board of a Sydney Church quote we

1030  
00:47:53,719 --> 00:47:58,000  
can't build a good society just on

1031  
00:47:55,730 --> 00:48:00,500  
selfishness and tolerance unquote

1032  
00:47:58,000 --> 00:48:03,110  
initially confused by what appeared to

1033  
00:48:00,500 --> 00:48:06,829  
be opposites it dawned on him that the

1034  
00:48:03,110 --> 00:48:10,329  
message applied to the new-age tolerance

1035  
00:48:06,829 --> 00:48:13,699  
was the key word anything goes

1036  
00:48:10,329 --> 00:48:17,210  
regardless of how silly pointless or how

1037  
00:48:13,699 --> 00:48:19,579  
mutually exclusive new ages despite

1038  
00:48:17,210 --> 00:48:22,940  
their concerns for the well-being of the

1039  
00:48:19,579 --> 00:48:26,119  
world upon which they live one of their

1040  
00:48:22,940 --> 00:48:29,200  
magazines is called the planet really

1041  
00:48:26,119 --> 00:48:32,799  
more interested in self self healing

1042  
00:48:29,199 --> 00:48:35,659  
self-acceptance revealing your destiny

1043  
00:48:32,800 --> 00:48:38,640  
transforming your life secrets of the

1044  
00:48:35,659 --> 00:48:41,460  
inner self remembering your past lives

1045  
00:48:38,639 --> 00:48:44,400  
all of these phrases taken from titles

1046  
00:48:41,460 --> 00:48:47,358  
of workshop sessions admittedly there

1047  
00:48:44,400 --> 00:48:49,849  
were mixed in talks on our

1048  
00:48:47,358 --> 00:48:54,298  
responsibility to the environment a

1049  
00:48:49,849 --> 00:48:58,099  
vision of global healing earth repair

1050  
00:48:54,298 --> 00:49:01,528  
action and revolution for world peace

1051  
00:48:58,099 --> 00:49:04,170  
but as at least some of these involved

1052  
00:49:01,528 --> 00:49:07,289  
self healing and a program from the

1053  
00:49:04,170 --> 00:49:10,289  
people who talk to squirrels what hope

1054  
00:49:07,289 --> 00:49:13,680  
is there the organizers of the festival

1055

00:49:10,289 --> 00:49:14,700  
of mind body spirit can be congratulated

1056  
00:49:13,679 --> 00:49:17,489  
for putting together a

1057  
00:49:14,699 --> 00:49:19,889  
professional-looking show it should be

1058  
00:49:17,489 --> 00:49:22,019  
as it is an offshoot of similar events

1059  
00:49:19,889 --> 00:49:26,098  
which have been going on in the UK and

1060  
00:49:22,018 --> 00:49:29,338  
elsewhere since 1977 the \$6 entry fee

1061  
00:49:26,099 --> 00:49:31,249  
was not too expensive and despite the

1062  
00:49:29,338 --> 00:49:35,130  
media coverage which seemed to be

1063  
00:49:31,248 --> 00:49:38,278  
without exception cynical and/or mocking

1064  
00:49:35,130 --> 00:49:41,039  
the followers were out in force there is

1065  
00:49:38,278 --> 00:49:43,130  
no indication how well the exhibitors

1066  
00:49:41,039 --> 00:49:46,170  
lecturers and workshop holders did

1067  
00:49:43,130 --> 00:49:48,660  
probably very well if numbers are any

1068  
00:49:46,170 --> 00:49:52,170  
indication they probably did a lot

1069  
00:49:48,659 --> 00:49:54,909

better than the ethiopians but then they

1070

00:49:52,170 --> 00:49:58,280  
weren't exhibiting

1071

00:49:54,909 --> 00:50:02,029  
and that story was new-age festival for

1072

00:49:58,280 --> 00:50:04,640  
mind body spirit and money by Tim

1073

00:50:02,030 --> 00:50:08,630  
Mendham and you can find that in the

1074

00:50:04,639 --> 00:50:14,449  
skeptic magazine vol 9 number 4 from

1075

00:50:08,630 --> 00:50:33,710  
1989 and that's available at WWF Dexcom

1076

00:50:14,449 --> 00:50:35,659  
Ju thank you for listening to the

1077

00:50:33,710 --> 00:50:38,090  
skeptics ode now our friends in Canberra

1078

00:50:35,659 --> 00:50:40,519  
social skeptics Canberra group

1079

00:50:38,090 --> 00:50:43,190  
remind me that their next meeting will

1080

00:50:40,519 --> 00:50:47,179  
be on Tuesday the 16th of April from 6

1081

00:50:43,190 --> 00:50:49,340  
to 7:30 p.m. at the Belconnen community

1082

00:50:47,179 --> 00:50:53,559  
service which is in Chandler Street

1083

00:50:49,340 --> 00:50:56,480  
Belconnen may the odds be in your favor

1084  
00:50:53,559 --> 00:50:59,599  
superstitions and elite athletes this

1085  
00:50:56,480 --> 00:51:03,829  
will be a talk by Christine done and the

1086  
00:50:59,599 --> 00:51:06,409  
cost is free elite sport has a healthy

1087  
00:51:03,829 --> 00:51:07,090  
dose of uncertainty and the stakes are

1088  
00:51:06,409 --> 00:51:09,529  
high

1089  
00:51:07,090 --> 00:51:11,809  
athletes train hard to prepare mentally

1090  
00:51:09,530 --> 00:51:16,490  
and physically to perform on the world

1091  
00:51:11,809 --> 00:51:20,059  
stage learning to manage anxiety to get

1092  
00:51:16,489 --> 00:51:22,729  
in the zone may be the skeptic zone is

1093  
00:51:20,059 --> 00:51:26,029  
one way that sports psychologists help

1094  
00:51:22,730 --> 00:51:28,909  
athletes but why do athletes some

1095  
00:51:26,030 --> 00:51:31,640  
athletes hold superstitions wherever

1096  
00:51:28,909 --> 00:51:33,289  
they help or not this sounds like an

1097  
00:51:31,639 --> 00:51:35,960  
absolutely fascinating talk and you can

1098  
00:51:33,289 --> 00:51:39,500  
find out more by visiting Canberra

1099  
00:51:35,960 --> 00:51:42,139  
skeptics org and I will link to the meet

1100  
00:51:39,500 --> 00:51:43,070  
up in this week's show notes coming up

1101  
00:51:42,139 --> 00:51:46,039  
on next week's show

1102  
00:51:43,070 --> 00:51:50,030  
Maynard at Sydney skeptics in the pub

1103  
00:51:46,039 --> 00:51:54,829  
and may not last the big question what

1104  
00:51:50,030 --> 00:51:56,710  
topics should skeptics drop what's been

1105  
00:51:54,829 --> 00:52:00,349  
done what should we no longer

1106  
00:51:56,710 --> 00:52:02,929  
concentrate on we get the views of

1107  
00:52:00,349 --> 00:52:04,969  
puppies that skeptics in the pub may nod

1108  
00:52:02,929 --> 00:52:06,539  
will also interview the speaker that

1109  
00:52:04,969 --> 00:52:10,379  
night carry Dodie

1110  
00:52:06,539 --> 00:52:13,650  
about the role Australia had in the

1111  
00:52:10,380 --> 00:52:15,960  
Apollo lunar program and what I didn't

1112

00:52:13,650 --> 00:52:20,760  
know was Australia had a role a very

1113  
00:52:15,960 --> 00:52:23,099  
important role in the Apollo 13 incident

1114  
00:52:20,760 --> 00:52:25,170  
I hasten to add we didn't create it but

1115  
00:52:23,099 --> 00:52:27,420  
we hoped would he help to resolve it

1116  
00:52:25,170 --> 00:52:31,079  
also on next week's show a story about

1117  
00:52:27,420 --> 00:52:33,059  
psychic detectives well people who call

1118  
00:52:31,079 --> 00:52:35,340  
themselves psychic detectives in New

1119  
00:52:33,059 --> 00:52:38,909  
Zealand but for this week this is

1120  
00:52:35,340 --> 00:52:49,260  
Richard Saunders signing off from the

1121  
00:52:38,909 --> 00:52:52,049  
Twilight Zone you've been listening to

1122  
00:52:49,260 --> 00:52:56,820  
the skeptic Zone podcast please visit

1123  
00:52:52,050 --> 00:53:00,120  
our website at WWDC be for show notes

1124  
00:52:56,820 --> 00:53:04,170  
contacts and to access the bat catalog

1125  
00:53:00,119 --> 00:53:06,029  
of episodes going back to 2008 you can

1126  
00:53:04,170 --> 00:53:09,090

follow the skeptic zone podcast on

1127

00:53:06,030 --> 00:53:11,370

twitter at skeptic zone visit our

1128

00:53:09,090 --> 00:53:14,730

facebook page or leave a review on

1129

00:53:11,369 --> 00:53:18,119

itunes you can also support the skeptic

1130

00:53:14,730 --> 00:53:20,460

zone via patreon or PayPal the skeptic

1131

00:53:18,119 --> 00:53:22,409

zone podcast is an independent

1132

00:53:20,460 --> 00:53:24,599

production reviews and opinions

1133

00:53:22,409 --> 00:53:26,759

expressed on the skeptic zone are not

1134

00:53:24,599 --> 00:53:31,519

necessarily those of Australian skeptics

1135

00:53:26,760 --> 00:53:31,520

or any other sceptical organisation