

Episode **598**

THE SKEPTIC ZONE PODCAST

www.skepticzone.tv

29 March 2020

Maynard with
Kirsten Banks - Comet ATLAS

Message from Michelle Franklin

Logical Fallacies with
Michelle Bijkersma
"Post hoc, ergo, procter hoc"

Message from Heidi Robertson

The Book of Tim
Water Divining #2

The Skeptic Zone Podcast
Episode 598 - 29 March 2020



1
00:00:11,860 --> 00:00:09,110
welcome to the skeptic zone the podcast

2
00:00:13,930 --> 00:00:11,870
from Australia for science and reason

3
00:00:16,840 --> 00:00:13,940
[Music]

4
00:00:22,689 --> 00:00:16,850
[Applause]

5
00:00:25,429 --> 00:00:22,699
[Music]

6
00:00:29,390 --> 00:00:25,439
yes it's the skeptic zone podcast

7
00:00:32,030 --> 00:00:29,400
episode number 598 for the 29th of March

8
00:00:33,770 --> 00:00:32,040
2020 Whichard saunders coming to you

9
00:00:36,650 --> 00:00:33,780
from the streets of Sydney Australia

10
00:00:42,020 --> 00:00:36,660
where I'm off for my pre-dawn exercise

11
00:00:43,329 --> 00:00:42,030
walk very important to keep routines and

12
00:00:46,670 --> 00:00:43,339
[Applause]

13
00:00:49,030 --> 00:00:46,680

every now and then a car will drive by

14

00:00:52,270 --> 00:00:49,040

on a nearby street but apart from that

15

00:00:54,920 --> 00:00:52,280

and it's well I don't have to tell you

16

00:00:58,549 --> 00:00:54,930

it's like I've walked out in some sort

17

00:01:00,650 --> 00:00:58,559

of funny Hollywood movie really very

18

00:01:05,630 --> 00:01:00,660

strange coming up on this week's show

19

00:01:08,510 --> 00:01:05,640

maynard talks to astronomer Kirsten

20

00:01:11,359 --> 00:01:08,520

Banks about a comet that's heading our

21

00:01:13,669 --> 00:01:11,369

way comet Atlas hopefully this will be

22

00:01:18,590 --> 00:01:13,679

quite visible in the northern hemisphere

23

00:01:19,999 --> 00:01:18,600

in northern parts of Australia and it's

24

00:01:23,480 --> 00:01:20,009

unknown but it could be quite

25

00:01:26,030 --> 00:01:23,490

spectacular it could be very bright in

26

00:01:26,660 --> 00:01:26,040

the sky so it may not judge the curstyn

27

00:01:29,450 --> 00:01:26,670

about that

28

00:01:30,850 --> 00:01:29,460

and now the matters relating to one of

29

00:01:34,219 --> 00:01:30,860

my favourite topics

30

00:01:37,039 --> 00:01:34,229

astronomy following that we have a

31

00:01:40,399 --> 00:01:37,049

message from Michelle Franklin in the

32

00:01:44,690 --> 00:01:40,409

Northern Territory about how that area

33

00:01:49,160 --> 00:01:44,700

of Australia is coping dealing with the

34

00:01:53,709 --> 00:01:49,170

current covert situation now just come

35

00:01:58,550 --> 00:01:53,719

to a table here in a nearby park and

36

00:02:02,300 --> 00:01:58,560

it's full of empty beer bottles hmmm

37

00:02:04,459 --> 00:02:02,310

what's going on here last night next up

38

00:02:06,560 --> 00:02:04,469

we have the return of logical fallacies

39

00:02:09,889 --> 00:02:06,570

with Michelle because Mar this week

40

00:02:13,460 --> 00:02:09,899

Michelle looks at post hoc ergo propter

41

00:02:15,890 --> 00:02:13,470

hoc then another message from one of our

42

00:02:17,750 --> 00:02:15,900

reporters Heidi Robertson from the

43

00:02:20,630 --> 00:02:17,760

Northern Rivers vaccination supporters

44

00:02:23,810 --> 00:02:20,640

now Heidi is going to tell us what it's

45

00:02:27,790 --> 00:02:23,820

like to be a mum at home suddenly

46

00:02:31,059 --> 00:02:27,800

finding herself in the role of a teacher

47

00:02:33,620 --> 00:02:31,069

like many people are around the world

48

00:02:36,410 --> 00:02:33,630

our bird life here in the

49

00:02:39,080 --> 00:02:36,420

[h__\h] what's that still a bit quiet the

50

00:02:43,730 --> 00:02:39,090

sun's not up yet somebody over there

51
00:02:46,190 --> 00:02:43,740
walking their dog pretty quiet then to

52
00:02:50,630 --> 00:02:46,200
round off the show it's the book of Tim

53
00:02:52,970 --> 00:02:50,640
with part two of Tim's reading of the

54
00:03:03,290 --> 00:02:52,980
adventure we had some years ago testing

55
00:03:05,270 --> 00:03:03,300
water diviners walking around a gazebo a

56
00:03:11,870 --> 00:03:05,280
Bandstand that was built probably a

57
00:03:14,000 --> 00:03:11,880
hundred years ago again and this huge

58
00:03:15,860 --> 00:03:14,010
park that are just two people I can just

59
00:03:19,100 --> 00:03:15,870
see through the gloom getting their

60
00:03:22,700 --> 00:03:19,110
daily exercise I guess we had a lot of

61
00:03:30,470 --> 00:03:22,710
rain last night just walking up across

62
00:03:37,140 --> 00:03:32,850
and it's interesting now working on the

63
00:03:39,510 --> 00:03:37,150

skeptic zone because I had hoped I had

64

00:03:41,340 --> 00:03:39,520

hoped that in a couple of weeks we'd

65

00:03:44,220 --> 00:03:41,350

have a special think tank for the system

66

00:03:47,850 --> 00:03:44,230

six six hundred episode of the show and

67

00:03:49,890 --> 00:03:47,860

I get the local team in Sydney here and

68

00:03:51,720 --> 00:03:49,900

some guests to come to the club at the

69

00:03:54,450 --> 00:03:51,730

end of the street and we'd all have a

70

00:03:59,550 --> 00:03:54,460

nice dinner and do a group recording

71

00:04:00,390 --> 00:03:59,560

well needless to say I'll have to change

72

00:04:02,640 --> 00:04:00,400

those plans

73

00:04:06,290 --> 00:04:02,650

it's a pity not being able to see lots

74

00:04:09,360 --> 00:04:06,300

of people but as we're all discovering

75

00:04:12,360 --> 00:04:09,370

online connections with others it can

76

00:04:14,910 --> 00:04:12,370

still be great and online connections

77

00:04:17,550 --> 00:04:14,920

with people that you miss or people that

78

00:04:23,070 --> 00:04:17,560

you love is better than nothing I guess

79

00:04:24,810 --> 00:04:23,080

I would hate to think what a similar

80

00:04:28,140 --> 00:04:24,820

situation would have been like 20 years

81

00:04:30,590 --> 00:04:28,150

ago or 30 years ago I guess the phone

82

00:04:34,320 --> 00:04:30,600

lines would be ringing hot with people

83

00:04:37,370 --> 00:04:34,330

constantly calling each other but now we

84

00:04:43,140 --> 00:04:37,380

can have home office home meetings

85

00:04:44,790 --> 00:04:43,150

skyping and all the rest of it there

86

00:04:48,659 --> 00:04:44,800

will be some new industries being born

87

00:04:51,750 --> 00:04:48,669

at the moment it's still bizarre walking

88

00:04:53,880 --> 00:04:51,760

around this empty Park anyway and now

89

00:04:56,850 --> 00:04:53,890

it's time for me to keep on walking to

90

00:04:59,100 --> 00:04:56,860

get those kilometres up to keep fit what

91

00:05:02,060 --> 00:04:59,110

I do that I hope you enjoy the skeptic

92

00:05:17,390 --> 00:05:11,660

[Music]

93

00:05:24,980 --> 00:05:22,310

years may not spooky action at the

94

00:05:28,980 --> 00:05:27,149

on the line I've got someone that they

95

00:05:30,869 --> 00:05:28,990

could be some some big stuff in the sky

96

00:05:32,820 --> 00:05:30,879

people its cub reporter mane aren't here

97

00:05:34,230 --> 00:05:32,830

putting on my astrophysicist this is

98

00:05:35,760 --> 00:05:34,240

that but I think we should actually talk

99

00:05:37,619 --> 00:05:35,770

to a real astrophysicist which is

100

00:05:39,570 --> 00:05:37,629

Kirsten banks hi Kirsten how are you

101
00:05:41,040 --> 00:05:39,580
hello I'm good how are you

102
00:05:42,839 --> 00:05:41,050
hole pretty good people would have seen

103
00:05:44,489 --> 00:05:42,849
your plenty of skeptical things over the

104
00:05:47,519 --> 00:05:44,499
years presenting all sorts of things I

105
00:05:49,320 --> 00:05:47,529
saw your last hunting for emu eggs yes I

106
00:05:51,179 --> 00:05:49,330
brought my email all along onto the

107
00:05:53,730 --> 00:05:51,189
stage and unfortunately Mia came along

108
00:05:57,360 --> 00:05:53,740
oh yeah well you don't get many chats

109
00:05:59,279 --> 00:05:57,370
with these days no well did you get

110
00:06:04,350 --> 00:05:59,289
turkey man's Bush Turkey mounds they

111
00:06:06,119 --> 00:06:04,360
haven't at Chatswood babe yes I'm

112
00:06:07,829 --> 00:06:06,129
ringing you because some it's gonna be a

113
00:06:09,540 --> 00:06:07,839

big buffle in the northern hemisphere

114

00:06:12,059 --> 00:06:09,550

fairly shortly because we're going to

115

00:06:14,670 --> 00:06:12,069

have a near-earth object or a comet come

116

00:06:19,379 --> 00:06:14,680

our way and it's called the Atlas comet

117

00:06:20,879 --> 00:06:19,389

or C 2019 y4 and it will be visible with

118

00:06:22,950 --> 00:06:20,889

the naked eye but in the northern

119

00:06:24,089 --> 00:06:22,960

hemisphere only if it doesn't break up

120

00:06:27,329 --> 00:06:24,099

tell us all about it

121

00:06:29,550 --> 00:06:27,339

so this new comet was discovered using

122

00:06:32,070 --> 00:06:29,560

the Atlas system so it's the asteroid

123

00:06:34,170 --> 00:06:32,080

terrestrial impact last alert system

124

00:06:36,749 --> 00:06:34,180

which sounds pretty dire it does

125

00:06:39,749 --> 00:06:36,759

actually look for asteroid that may

126

00:06:41,730 --> 00:06:39,759

potentially impact the earth however it

127

00:06:45,029 --> 00:06:41,740

does sometimes find comets like this one

128

00:06:46,889 --> 00:06:45,039

see slash 2019 why for very catchy name

129

00:06:49,100 --> 00:06:46,899

isn't it it is I think the Atlas comet

130

00:06:51,749 --> 00:06:49,110

is a much better name for it and I

131

00:06:53,100 --> 00:06:51,759

inserted already through binoculars have

132

00:06:55,110 --> 00:06:53,110

you got your home telescope and have a

133

00:06:56,850 --> 00:06:55,120

look at it yet I do have my home

134

00:06:59,399 --> 00:06:56,860

telescope but unfortunately it's a bit

135

00:07:01,499 --> 00:06:59,409

too low in the sky for us here in

136

00:07:03,629 --> 00:07:01,509

Australia it's over in the north north

137

00:07:05,999 --> 00:07:03,639

western sky which from where I am looks

138

00:07:07,649 --> 00:07:06,009

directly over the sydney city obama

139

00:07:10,049 --> 00:07:07,659

because we won't see this at all in the

140

00:07:11,639 --> 00:07:10,059

southern hemisphere really well if

141

00:07:14,639 --> 00:07:11,649

you're lucky enough to be a bit further

142

00:07:16,799 --> 00:07:14,649

north than us in sydney you might better

143

00:07:19,499 --> 00:07:16,809

see it pretty okay because it will be

144

00:07:21,989 --> 00:07:19,509

near Venus when it starts getting quite

145

00:07:24,089 --> 00:07:21,999

bright and I'm very excited I wish I was

146

00:07:25,920 --> 00:07:24,099

in the northern hemisphere so very happy

147

00:07:28,469 --> 00:07:25,930

for a northern hemisphere friend to be

148

00:07:30,839 --> 00:07:28,479

enjoying this in a few months time but

149

00:07:33,269 --> 00:07:30,849

currently this comment the atlas comment

150

00:07:35,310 --> 00:07:33,279

is crossing Martha's orbit and coming

151
00:07:39,000 --> 00:07:35,320
into the inner solar system so

152
00:07:40,620 --> 00:07:39,010
Komets come into the central part of our

153
00:07:43,710 --> 00:07:40,630
solar system they're starting to get

154
00:07:47,730 --> 00:07:43,720
vaporized and melted essentially by the

155
00:07:49,980 --> 00:07:47,740
heat and the radiation of the Sun those

156
00:07:51,600 --> 00:07:49,990
comets are essentially dirty snowballs

157
00:07:54,120 --> 00:07:51,610
so when it comes out they're filthy

158
00:07:55,620 --> 00:07:54,130
they're filthy dirty snowballs like I've

159
00:07:57,990 --> 00:07:55,630
had enough of them they come around here

160
00:07:59,820 --> 00:07:58,000
in their filthy deathtrap sometimes they

161
00:08:02,220 --> 00:07:59,830
leave us a lovely little view that's

162
00:08:03,870 --> 00:08:02,230
true so will we see is it the reflection

163
00:08:05,490 --> 00:08:03,880

of the ice in the comet that makes them

164

00:08:09,930 --> 00:08:05,500

so visible or just the fact they're just

165

00:08:13,050 --> 00:08:09,940

so close to the Sun Sun depending on how

166

00:08:14,640 --> 00:08:13,060

big they are I'm pretty sure and the

167

00:08:17,160 --> 00:08:14,650

league starts to get vaporized by the

168

00:08:20,340 --> 00:08:17,170

Sun so you see this ice tail is

169

00:08:22,860 --> 00:08:20,350

vaporization tail as it moves closer to

170

00:08:25,140 --> 00:08:22,870

the Sun at the moment as I said it's

171

00:08:26,940 --> 00:08:25,150

moving past Mars and coming close to yes

172

00:08:30,540 --> 00:08:26,950

it will be closest to the earth on the

173

00:08:33,690 --> 00:08:30,550

23rd of May this year but when I say

174

00:08:35,520 --> 00:08:33,700

close it'll be about 117 million

175

00:08:37,500 --> 00:08:35,530

kilometers away from the earth which is

176
00:08:39,360 --> 00:08:37,510
about three hundred and three times the

177
00:08:40,409 --> 00:08:39,370
distance from us to the moon I want to

178
00:08:42,630 --> 00:08:40,419
bring this up with you because I was

179
00:08:43,710 --> 00:08:42,640
looking this up because I recommended

180
00:08:46,950 --> 00:08:43,720
there should be a link in the show notes

181
00:08:48,870 --> 00:08:46,960
to the near-earth object table and

182
00:08:51,210 --> 00:08:48,880
they've got everything there in lunar

183
00:08:52,920 --> 00:08:51,220
units at lunar distance and astronomical

184
00:08:54,420 --> 00:08:52,930
units now what do they mean to someone

185
00:08:55,890 --> 00:08:54,430
like me who just goes down to the shops

186
00:08:58,890 --> 00:08:55,900
what is a lunar distance and an

187
00:09:00,450 --> 00:08:58,900
astronomical unit the lunar distance

188
00:09:02,970 --> 00:09:00,460

we'll start without one that's a smaller

189

00:09:04,950 --> 00:09:02,980

one it's the average distance that the

190

00:09:06,030 --> 00:09:04,960

earth is from the moon or the moon is

191

00:09:09,440 --> 00:09:06,040

from the earth whichever way you'd like

192

00:09:12,930 --> 00:09:09,450

to look at it which is usually around

193

00:09:14,490 --> 00:09:12,940

300,000 kilometers more or less well I

194

00:09:15,690 --> 00:09:14,500

saw on the day we're recording this

195

00:09:17,670 --> 00:09:15,700

there's something coming through at

196

00:09:20,190 --> 00:09:17,680

point six of a lunar distance that

197

00:09:21,810 --> 00:09:20,200

sounds close that is pretty close but

198

00:09:23,910 --> 00:09:21,820

point six on lunar distance would be

199

00:09:26,970 --> 00:09:23,920

still about a hundred and seventy

200

00:09:29,010 --> 00:09:26,980

thousand kilometers away so I'm not too

201
00:09:30,600 --> 00:09:29,020
worried about that one okay and

202
00:09:32,400 --> 00:09:30,610
everything else seems to be coming a lot

203
00:09:33,990 --> 00:09:32,410
further than that and on the Sunday that

204
00:09:35,640 --> 00:09:34,000
this goes out I see there's something at

205
00:09:40,020 --> 00:09:35,650
two point nine lunar distance so that's

206
00:09:42,270 --> 00:09:40,030
fairly safe yeah yeah and there's a bit

207
00:09:44,430 --> 00:09:42,280
of talk that this this may be due this

208
00:09:48,030 --> 00:09:44,440
comet that common atlas comment might be

209
00:09:48,580 --> 00:09:48,040
a part of the great comet of 1844 that

210
00:09:50,140 --> 00:09:48,590
might have broke

211
00:09:52,030 --> 00:09:50,150
when it ran around that time if you

212
00:09:53,470 --> 00:09:52,040
heard anything about that I haven't

213
00:09:55,450 --> 00:09:53,480

heard about that it's quite interesting

214

00:09:58,080 --> 00:09:55,460

to see that it might be just a bit of a

215

00:10:02,170 --> 00:09:58,090

chunk of this extra comet that's come by

216

00:10:03,910 --> 00:10:02,180

earlier yeah and and is it possible that

217

00:10:06,100 --> 00:10:03,920

it could actually break up by the Sun's

218

00:10:07,470 --> 00:10:06,110

gravity and we might have not seen it

219

00:10:09,970 --> 00:10:07,480

all from the northern hemisphere

220

00:10:12,280 --> 00:10:09,980

possibly I have my feet across but that

221

00:10:15,250 --> 00:10:12,290

doesn't happen because the prediction of

222

00:10:18,490 --> 00:10:15,260

they're made of how bright this comet

223

00:10:20,260 --> 00:10:18,500

might be is possibly it will be brighter

224

00:10:21,970 --> 00:10:20,270

than Venus and Venus if you've seen it

225

00:10:24,940 --> 00:10:21,980

in the night sky it is there brilliantly

226

00:10:27,550 --> 00:10:24,950

bright white light it's quite fantastic

227

00:10:30,550 --> 00:10:27,560

so if this comet is brighter than Venus

228

00:10:32,020 --> 00:10:30,560

I really hope we get to see that because

229

00:10:33,820 --> 00:10:32,030

that would be fantastic especially it

230

00:10:36,130 --> 00:10:33,830

sometime missed Halley's Comet by 11

231

00:10:37,420 --> 00:10:36,140

years oh I saw that I saw that from the

232

00:10:39,640 --> 00:10:37,430

beach once

233

00:10:41,220 --> 00:10:39,650

yeah it was kind of interesting and this

234

00:10:46,570 --> 00:10:41,230

is gonna be brighter than that

235

00:10:48,460 --> 00:10:46,580

potentially yes people got a bit got

236

00:10:50,200 --> 00:10:48,470

their knickers it or not when that went

237

00:10:51,910 --> 00:10:50,210

through and of course at the every time

238

00:10:54,310 --> 00:10:51,920

Halley's Comet comes past people go oh

239

00:10:56,260 --> 00:10:54,320

it's a portent it's a harbinger of

240

00:10:57,850 --> 00:10:56,270

something evil and bad and that will be

241

00:11:00,760 --> 00:10:57,860

when a lot of people are gonna be locked

242

00:11:04,540 --> 00:11:00,770

in their homes possibly with sounds like

243

00:11:05,920 --> 00:11:04,550

symptoms it could very well be a bit of

244

00:11:07,900 --> 00:11:05,930

a bad I mean which it

245

00:11:10,210 --> 00:11:07,910

comets and the appearance of comets in

246

00:11:12,910 --> 00:11:10,220

mythology and other cultural astronomy

247

00:11:15,310 --> 00:11:12,920

is have usually been bad omens but I can

248

00:11:17,620 --> 00:11:15,320

be good omens as well so I'd like to say

249

00:11:20,110 --> 00:11:17,630

to everyone that this is a good omen I

250

00:11:23,650 --> 00:11:20,120

think it will be fantastic and will be a

251
00:11:25,720 --> 00:11:23,660
great way for the world to kind of band

252
00:11:28,270 --> 00:11:25,730
together and enjoy this astronomical

253
00:11:30,520 --> 00:11:28,280
light show fingers crossed if it does

254
00:11:33,850 --> 00:11:30,530
happen we can enjoy that together in

255
00:11:35,380 --> 00:11:33,860
solidarity in isolation and as someone

256
00:11:36,640 --> 00:11:35,390
with an indigenous background what did

257
00:11:39,730 --> 00:11:36,650
the indigenous population of Australia

258
00:11:41,440 --> 00:11:39,740
make of comets did they have a comet

259
00:11:42,540 --> 00:11:41,450
specifically different to other things I

260
00:11:44,500 --> 00:11:42,550
observed in the sky

261
00:11:47,200 --> 00:11:44,510
comets the definitely way different in

262
00:11:49,630 --> 00:11:47,210
their currencies of comets in the

263
00:11:51,340 --> 00:11:49,640

literature and in stories I don't know

264

00:11:53,070 --> 00:11:51,350

enough about comets to speak more

265

00:11:54,880 --> 00:11:53,080

broadly on it but they were definitely

266

00:11:56,830 --> 00:11:54,890

covered if you want to learn more about

267

00:11:58,810 --> 00:11:56,840

comets in Aboriginal astronomy from

268

00:12:00,759 --> 00:11:58,820

Australia you can go to the Aboriginal

269

00:12:02,650 --> 00:12:00,769

astronomy comm go to you website

270

00:12:05,319 --> 00:12:02,660

and you can learn all about comments

271

00:12:07,179 --> 00:12:05,329

from this and you're pretty sure that we

272

00:12:09,850 --> 00:12:07,189

won't be able to see it anywhere in this

273

00:12:12,879 --> 00:12:09,860

drug we should be able to see it from

274

00:12:14,519 --> 00:12:12,889

Sydney it will be near Venus when it

275

00:12:16,269 --> 00:12:14,529

starts to get exciting

276

00:12:18,280 --> 00:12:16,279

unfortunately comments can be quite

277

00:12:20,439 --> 00:12:18,290

unpredictable so we'll just wait and see

278

00:12:23,139 --> 00:12:20,449

but if anywhere further north than

279

00:12:26,259 --> 00:12:23,149

Sydney you should have a good chance of

280

00:12:28,299 --> 00:12:26,269

seeing it higher in the sky and it's on

281

00:12:29,829 --> 00:12:28,309

such a long elliptical orbit that it

282

00:12:30,359 --> 00:12:29,839

won't be back for thousands of years

283

00:12:32,769 --> 00:12:30,369

rumor

284

00:12:34,780 --> 00:12:32,779

exactly it's coming in so tight to the

285

00:12:37,090 --> 00:12:34,790

Sun that if it doesn't survive coming

286

00:12:39,850 --> 00:12:37,100

around the Sun it'll scoot away for a

287

00:12:42,249 --> 00:12:39,860

very long time before it ever decides to

288

00:12:43,869 --> 00:12:42,259

come back and we got anything else like

289

00:12:45,220 --> 00:12:43,879

that coming up interesting in the year

290

00:12:47,439 --> 00:12:45,230

is there anything more visible in the

291

00:12:50,289 --> 00:12:47,449

sky well Kirsten tell us about that so

292

00:12:52,090 --> 00:12:50,299

shut up well there's one thing I'm very

293

00:12:54,879 --> 00:12:52,100

excited about which is happening near

294

00:12:57,970 --> 00:12:54,889

Christmas this year we have what's

295

00:12:59,470 --> 00:12:57,980

called a great conjunction this is where

296

00:13:01,449 --> 00:12:59,480

we're talking about planets so planets

297

00:13:03,129 --> 00:13:01,459

can sometimes appear close to each other

298

00:13:05,710 --> 00:13:03,139

in the sky there are some great photos

299

00:13:07,600 --> 00:13:05,720

of two planets and the moon and a

300

00:13:10,150 --> 00:13:07,610

crescent moon making a smiley face in

301
00:13:13,480 --> 00:13:10,160
the sky through the great photos to see

302
00:13:16,329 --> 00:13:13,490
but in late December this year we will

303
00:13:18,579 --> 00:13:16,339
see Jupiter and Saturn get so close to

304
00:13:21,519 --> 00:13:18,589
each other that they'll look like one

305
00:13:22,809 --> 00:13:21,529
star wow that's gonna be amazing is

306
00:13:24,220 --> 00:13:22,819
there an app you've got on your phone

307
00:13:25,600 --> 00:13:24,230
that you'd recommend that people have to

308
00:13:27,039 --> 00:13:25,610
point at the night sky I've seen them

309
00:13:28,780 --> 00:13:27,049
wearing now you can point it and it does

310
00:13:33,189 --> 00:13:28,790
the yeah doesn't it working it out for

311
00:13:35,139 --> 00:13:33,199
you yes star walk or sky guide hey all

312
00:13:37,239 --> 00:13:35,149
of them are pretty good because they use

313
00:13:40,389 --> 00:13:37,249

generally the same sort of database and

314

00:13:42,129 --> 00:13:40,399

we know where stars and planets are

315

00:13:45,489 --> 00:13:42,139

going to be any time for the next

316

00:13:47,109 --> 00:13:45,499

hundred times n years we've been

317

00:13:49,179 --> 00:13:47,119

studying the Stars for many many years

318

00:13:50,739 --> 00:13:49,189

and I like to bring this up because I

319

00:13:52,989 --> 00:13:50,749

always enjoy a good kerfuffle here

320

00:13:55,389 --> 00:13:52,999

I've always been puzzled by what that

321

00:13:57,309 --> 00:13:55,399

hexagonal shape on me is the North Pole

322

00:13:58,629 --> 00:13:57,319

of Neptune it's like it doesn't look

323

00:14:01,150 --> 00:13:58,639

like a natural feature what do you

324

00:14:04,030 --> 00:14:01,160

think's going on there it does look very

325

00:14:06,039 --> 00:14:04,040

interesting it doesn't it is it seems to

326

00:14:07,900 --> 00:14:06,049

me that it's some sort of resonance with

327

00:14:11,889 --> 00:14:07,910

the spinning of the planet and the

328

00:14:14,170 --> 00:14:11,899

movement of cash and wind around that

329

00:14:17,140 --> 00:14:14,180

area there's one on

330

00:14:19,000 --> 00:14:17,150

fashion as well oh hang on well well I

331

00:14:20,110 --> 00:14:19,010

mean I come on that doesn't sound

332

00:14:22,840 --> 00:14:20,120

natural that's sounding a bit like

333

00:14:24,550 --> 00:14:22,850

someone's put something there well I

334

00:14:26,470 --> 00:14:24,560

guess we'll just have to go and have a

335

00:14:29,050 --> 00:14:26,480

look someday I'm sure we will look what

336

00:14:30,430 --> 00:14:29,060

your favorite planet in the in the solar

337

00:14:32,140 --> 00:14:30,440

system by the way if you've got one

338

00:14:33,760 --> 00:14:32,150

because there's quite a good ones

339

00:14:35,500 --> 00:14:33,770

I mean sentence pretty fantastic with

340

00:14:35,950 --> 00:14:35,510

the Rings but Jupiter's got a lot going

341

00:14:38,650 --> 00:14:35,960

for it

342

00:14:40,440 --> 00:14:38,660

are you a gas giant girl I definitely am

343

00:14:43,570 --> 00:14:40,450

a gas giant girl and I have to say

344

00:14:46,480 --> 00:14:43,580

staffing always makes me feel good

345

00:14:47,920 --> 00:14:46,490

inside plus fashion is clearly the king

346

00:14:50,770 --> 00:14:47,930

of all planets in the solar system now

347

00:14:53,950 --> 00:14:50,780

because a has the best ring undoubtedly

348

00:14:57,460 --> 00:14:53,960

and be it now has more concerned moons

349

00:14:58,810 --> 00:14:57,470

than Jupiter oh oh well I'm will well

350

00:14:59,980 --> 00:14:58,820

that's because I'm a jupiter kind of

351

00:15:02,020 --> 00:14:59,990

person just cuz it's so big and it

352

00:15:04,200 --> 00:15:02,030

protects us from stuff hitting us that's

353

00:15:06,340 --> 00:15:04,210

very true

354

00:15:08,380 --> 00:15:06,350

it does that kinda thing and come here

355

00:15:10,120 --> 00:15:08,390

to see Pluto at all they're usually in

356

00:15:11,770 --> 00:15:10,130

the night sky it's just so far away and

357

00:15:14,650 --> 00:15:11,780

it's not reflective do we ever get to

358

00:15:17,110 --> 00:15:14,660

see it it's very far away it's very

359

00:15:19,120 --> 00:15:17,120

small so we can never see it with the

360

00:15:21,580 --> 00:15:19,130

naked eye in the night sky even with

361

00:15:23,350 --> 00:15:21,590

small telescopes you need to attach a

362

00:15:25,390 --> 00:15:23,360

camera at the back of a telescope and

363

00:15:29,520 --> 00:15:25,400

take a long exposure to leave your

364

00:15:32,170 --> 00:15:29,530

camera lens open for at least 10 seconds

365

00:15:35,950 --> 00:15:32,180

just to see a little little speck Oh

366

00:15:37,780 --> 00:15:35,960

Pluto which I've seen once look I wanted

367

00:15:40,030 --> 00:15:37,790

to been unusual that people who also

368

00:15:42,040 --> 00:15:40,040

watch the sky and and have a look around

369

00:15:43,690 --> 00:15:42,050

it like astrologers haven't mentioned

370

00:15:45,430 --> 00:15:43,700

anything about this comet yet and it's

371

00:15:47,110 --> 00:15:45,440

not visible yet but you think that they

372

00:15:49,960 --> 00:15:47,120

would be saying something about or it

373

00:15:52,810 --> 00:15:49,970

already since they predict stuff yeah

374

00:15:54,790 --> 00:15:52,820

you think so but you know what I think

375

00:15:57,400 --> 00:15:54,800

about astronomy and astrology astrology

376

00:16:00,250 --> 00:15:57,410

is a would not even a pseudoscience it's

377

00:16:02,590 --> 00:16:00,260

not scientific but having said that if

378

00:16:04,720 --> 00:16:02,600

you believe in astrology I think that's

379

00:16:07,300 --> 00:16:04,730

great because that means you're looking

380

00:16:09,370 --> 00:16:07,310

at the Stars and you're appreciating out

381

00:16:11,380 --> 00:16:09,380

universe for how you want to interpret

382

00:16:13,570 --> 00:16:11,390

it and I think that's all I'm happy with

383

00:16:14,740 --> 00:16:13,580

well very diplomatic Kirsten and as a

384

00:16:17,440 --> 00:16:14,750

shout out what's your favorite

385

00:16:21,760 --> 00:16:17,450

constellation before we go favorite

386

00:16:24,670 --> 00:16:21,770

constellation yeah that once you have

387

00:16:26,140 --> 00:16:24,680

someone in your at your trade to pick

388

00:16:27,519 --> 00:16:26,150

their favorite constellation that could

389

00:16:30,699 --> 00:16:27,529

cause a fight it

390

00:16:34,780 --> 00:16:30,709

could it could I would have to say the

391

00:16:36,879 --> 00:16:34,790

Scorpion was the first constellation I

392

00:16:40,389 --> 00:16:36,889

was ever shown in the night sky other

393

00:16:43,119 --> 00:16:40,399

than the Southern Cross and it's been a

394

00:16:44,860 --> 00:16:43,129

very it's been held in my heart for a

395

00:16:46,210 --> 00:16:44,870

very long time tell me what everyone

396

00:16:48,189 --> 00:16:46,220

sort of been locked down at the moment

397

00:16:51,009 --> 00:16:48,199

staying at home is there any less light

398

00:16:53,139 --> 00:16:51,019

pollution than usual not that I've

399

00:16:55,059 --> 00:16:53,149

noticed but I think we should change

400

00:16:57,579 --> 00:16:55,069

that since people aren't really going

401
00:16:59,559 --> 00:16:57,589
out at nighttime there's not much need

402
00:17:02,170 --> 00:16:59,569
for all of this excess light pollution

403
00:17:04,329 --> 00:17:02,180
or the light to be toned down or turned

404
00:17:05,679 --> 00:17:04,339
off I think that we should make a

405
00:17:07,659 --> 00:17:05,689
difference about this let's all enjoy

406
00:17:09,610 --> 00:17:07,669
the night sky while we can at the moment

407
00:17:11,890 --> 00:17:09,620
it's quite cloudy where I am so I can't

408
00:17:14,649 --> 00:17:11,900
really enjoy it but when it is clear

409
00:17:17,199 --> 00:17:14,659
let's try and enjoy and feel that

410
00:17:18,699 --> 00:17:17,209
solidarity that we know our place in our

411
00:17:22,750 --> 00:17:18,709
universe and that our university is

412
00:17:24,610 --> 00:17:22,760
gorgeous and beautiful and inspiring one

413
00:17:26,860 --> 00:17:24,620

last controversial question what about

414

00:17:29,140 --> 00:17:26,870

is it Elon Musk Annie's mini satellites

415

00:17:31,240 --> 00:17:29,150

how do you feel about that as someone

416

00:17:35,260 --> 00:17:31,250

who looks at the sky all the time as a

417

00:17:37,930 --> 00:17:35,270

job well I could go into a very long

418

00:17:40,360 --> 00:17:37,940

rant about this I'm not happy about this

419

00:17:42,250 --> 00:17:40,370

as many astronomers are not happy about

420

00:17:43,960 --> 00:17:42,260

this if you'd like to hear more about

421

00:17:46,360 --> 00:17:43,970

what I have to say about that you can

422

00:17:48,549 --> 00:17:46,370

listen to our many many podcast episodes

423

00:17:51,190 --> 00:17:48,559

on the scientists where myself or my

424

00:17:54,130 --> 00:17:51,200

co-host on how lava thunders go through

425

00:17:56,260 --> 00:17:54,140

all the issues we have with Starling and

426

00:17:57,340 --> 00:17:56,270

where can we find that on the web they

427

00:18:00,880 --> 00:17:57,350

find it on all of your favorite

428

00:18:02,770 --> 00:18:00,890

podcasting apps Spotify but we do post

429

00:18:04,480 --> 00:18:02,780

them onto SoundCloud so if you want to

430

00:18:06,340 --> 00:18:04,490

get them straight away they'll be on

431

00:18:07,810 --> 00:18:06,350

soundcloud Kirstin thank you very much

432

00:18:09,340 --> 00:18:07,820

for your time today and it's going to be

433

00:18:12,639 --> 00:18:09,350

a comment we might not see it we might

434

00:18:13,930 --> 00:18:12,649

see it but do not be afraid a track I'm

435

00:18:15,279 --> 00:18:13,940

pretty see a bunch of a scaredy-cat the

436

00:18:32,069 --> 00:18:15,289

best of times but you've made me feel

437

00:18:38,319 --> 00:18:35,499

hi this is dr. Pamela gay from astronomy

438

00:18:40,239 --> 00:18:38,329

cast each week Fraser Cain and I take

439

00:18:42,489 --> 00:18:40,249

our listeners on a fact-based journey

440

00:18:45,189 --> 00:18:42,499

through the cosmos with our weekly

441

00:18:47,979 --> 00:18:45,199

podcast we explain not just what we know

442

00:18:50,859 --> 00:18:47,989

but how we know what we know about this

443

00:18:53,319 --> 00:18:50,869

universe that we share check us out at

444

00:18:55,719 --> 00:18:53,329

astronomy cast calm and look for us in

445

00:19:14,949 --> 00:18:55,729

itunes google play and wherever you

446

00:19:15,930 --> 00:19:14,959

download podcasts see online life is

447

00:19:22,250 --> 00:19:15,940

wild

448

00:19:29,400 --> 00:19:22,260

[Music]

449

00:19:31,320 --> 00:19:29,410

with Michelle Franklin hi guys this is

450

00:19:32,910 --> 00:19:31,330

reporter Michelle Franklin checking in

451
00:19:36,150 --> 00:19:32,920
from the Northern Territory also known

452
00:19:38,580 --> 00:19:36,160
as the top end here in Australia I must

453
00:19:40,260 --> 00:19:38,590
say that for better or for worse this is

454
00:19:41,850 --> 00:19:40,270
the first time that I can remember where

455
00:19:44,370 --> 00:19:41,860
I really feel like part of a whole

456
00:19:46,560 --> 00:19:44,380
planet no matter where we are or what

457
00:19:48,510 --> 00:19:46,570
we're doing we're all facing the same

458
00:19:52,080 --> 00:19:48,520
thing and we're all on the same side

459
00:19:53,070 --> 00:19:52,090
against this one common enemy no matter

460
00:19:55,080 --> 00:19:53,080
who you talk to

461
00:19:56,460 --> 00:19:55,090
we're all thinking about it and you

462
00:19:58,050 --> 00:19:56,470
don't even have to bring it up we all

463
00:20:00,720 --> 00:19:58,060

just know what the main topic of the

464

00:20:02,610 --> 00:20:00,730

conversation is going to be I know it's

465

00:20:10,080 --> 00:20:02,620

a strange way to think of it but this

466

00:20:11,520 --> 00:20:10,090

really is a unifying event things are

467

00:20:14,190 --> 00:20:11,530

the NT are actually going really well

468

00:20:17,820 --> 00:20:14,200

from what I can tell yes we have all the

469

00:20:19,530 --> 00:20:17,830

same societal shutdowns and the flow on

470

00:20:22,560 --> 00:20:19,540

economic issues that everyone else is

471

00:20:26,250 --> 00:20:22,570

facing but aside from that we really are

472

00:20:28,170 --> 00:20:26,260

still in the very early stages we have

473

00:20:30,510 --> 00:20:28,180

had a few cases of people bringing the

474

00:20:33,030 --> 00:20:30,520

virus into the NT either from overseas

475

00:20:34,470 --> 00:20:33,040

or from interstate but due to the border

476
00:20:36,600 --> 00:20:34,480
restrictions and the quarantine measures

477
00:20:38,340 --> 00:20:36,610
that have been put in place everyone's

478
00:20:40,080 --> 00:20:38,350
been very successful with their social

479
00:20:42,600 --> 00:20:40,090
distancing and no one's actually passed

480
00:20:45,660 --> 00:20:42,610
the virus on to anyone else the few

481
00:20:48,360 --> 00:20:45,670
cases we have had 14 currently have all

482
00:20:49,700 --> 00:20:48,370
either fully recovered or they're in

483
00:20:53,040 --> 00:20:49,710
isolation still with no

484
00:20:54,840 --> 00:20:53,050
cross-contamination happening I think

485
00:20:57,870 --> 00:20:54,850
this is a good indication of what social

486
00:20:59,430 --> 00:20:57,880
distancing can achieve and I'm sure it

487
00:21:02,610 --> 00:20:59,440
helps that our population density

488
00:21:04,530 --> 00:21:02,620

averages out to roughly 0.16 people per

489

00:21:06,480 --> 00:21:04,540

square kilometer although that's a

490

00:21:11,280 --> 00:21:06,490

little misleading in Doan City it gets

491

00:21:13,440 --> 00:21:11,290

as high as 45 per square kilometer the

492

00:21:15,300 --> 00:21:13,450

changes for me have been minor in the

493

00:21:18,000 --> 00:21:15,310

grand scheme but it still feels like a

494

00:21:20,760 --> 00:21:18,010

whole new world for now I'm still going

495

00:21:23,280 --> 00:21:20,770

to my job everyday and what that looks

496

00:21:25,470 --> 00:21:23,290

like is changing rapidly we're not in

497

00:21:27,540 --> 00:21:25,480

the office much anymore but fieldwork is

498

00:21:30,630 --> 00:21:27,550

still going ahead as long as we can

499

00:21:32,610 --> 00:21:30,640

maintain the social distances Travel is

500

00:21:34,140 --> 00:21:32,620

heavily restricted to avoid the risk of

501
00:21:35,610 --> 00:21:34,150
spreading it into the aboriginal

502
00:21:38,520 --> 00:21:35,620
communities of the NT

503
00:21:40,470 --> 00:21:38,530
I drove to Catherine and back yesterday

504
00:21:42,900 --> 00:21:40,480
and I went through two police

505
00:21:45,600 --> 00:21:42,910
checkpoints where I was questioned on my

506
00:21:47,730 --> 00:21:45,610
origin and destination apparently this

507
00:21:49,560 --> 00:21:47,740
is just one of the measures in place to

508
00:21:51,330 --> 00:21:49,570
prevent travel and subsequent spread

509
00:21:54,270 --> 00:21:51,340
into the vulnerable populations that are

510
00:21:57,060 --> 00:21:54,280
all around us here visiting cattle

511
00:21:58,410 --> 00:21:57,070
stations isn't the same either instead

512
00:22:00,150 --> 00:21:58,420
of dropping into the homestead for a

513
00:22:02,190 --> 00:22:00,160

cuppa run ask on now we just drive

514

00:22:04,080 --> 00:22:02,200

straight past a locked gate and head

515

00:22:07,440 --> 00:22:04,090

straight to our study sites with just a

516

00:22:10,200 --> 00:22:07,450

radio in for welfare checks the schools

517

00:22:12,840 --> 00:22:10,210

are still open for now but I've chosen

518

00:22:15,240 --> 00:22:12,850

to voluntarily pull my kids out for the

519

00:22:16,890 --> 00:22:15,250

time being and luckily I'm in a position

520

00:22:19,500 --> 00:22:16,900

where I can do that there are some

521

00:22:21,870 --> 00:22:19,510

people who don't have that option but

522

00:22:23,549 --> 00:22:21,880

things are changing fast these days and

523

00:22:28,620 --> 00:22:23,559

I have no idea what will be happening

524

00:22:30,390 --> 00:22:28,630

next week so for now we're safe and well

525

00:22:32,400 --> 00:22:30,400

up here and I'm actually more concerned

526

00:22:35,580 --> 00:22:32,410

about my friends and family in the south

527

00:22:37,980 --> 00:22:35,590

especially those who've casual

528

00:22:39,720 --> 00:22:37,990

employment or those that rely on others

529

00:22:41,850 --> 00:22:39,730

who may be doing it tough

530

00:22:44,880 --> 00:22:41,860

[Music]

531

00:22:46,980 --> 00:22:44,890

I know that the skeptic zone relies on

532

00:22:48,870 --> 00:22:46,990

the patronage of you the listeners and

533

00:22:51,419 --> 00:22:48,880

of course many of you are now going to

534

00:22:53,250 --> 00:22:51,429

be struggling but if you can't afford to

535

00:22:55,860 --> 00:22:53,260

keep contributing I know it would make a

536

00:22:57,960 --> 00:22:55,870

world of difference for Richard so thank

537

00:23:00,000 --> 00:22:57,970

you to those who can continue to help

538

00:23:02,820 --> 00:23:00,010

and for those who can't

539

00:23:04,889 --> 00:23:02,830

don't feel bad we will all get through

540

00:23:22,200 --> 00:23:04,899

this however we can and trust that the

541

00:23:24,180 --> 00:23:22,210

zone will make it through to yellow

542

00:23:26,340 --> 00:23:24,190

severity peer group skeptic may be

543

00:23:28,680 --> 00:23:26,350

limited : para llegar mr. LaRouche much

544

00:23:30,720 --> 00:23:28,690

gonna be rat Apollo no module tops on

545

00:23:32,730 --> 00:23:30,730

the illustration jello scandal nayak

546

00:23:35,549 --> 00:23:32,740

demo still if assistance intolerant

547

00:23:37,769 --> 00:23:35,559

director Bob Arum diversity miss Connell

548

00:23:39,240 --> 00:23:37,779

era VFR topic Chaka Demus a yellow

549

00:23:41,580 --> 00:23:39,250

Savard knocked org address in

550

00:23:43,440 --> 00:23:41,590

derivatives Dennison lasciviousness so

551
00:23:45,750 --> 00:23:43,450
she our mediator busy violence of our

552
00:23:48,120 --> 00:23:45,760
colony J Dilla Twitter that the Facebook

553
00:23:50,100 --> 00:23:48,130
site from Santa Cuba David Parker

554
00:23:51,750 --> 00:23:50,110
Colorado mosquito the green tree so

555
00:23:54,269 --> 00:23:51,760
Peter is saying allow several YouTube

556
00:23:56,370 --> 00:23:54,279
calendar is a business visibility uncle

557
00:23:58,799 --> 00:23:56,380
max Carson is rich fat yellow Savar

558
00:24:01,500 --> 00:23:58,809
eight gmail noctilum address members a

559
00:24:03,370 --> 00:24:01,510
post-secondary Pierce or equivalently

560
00:24:34,880 --> 00:24:03,380
Girish Magdalena so logical

561
00:24:36,810 --> 00:24:34,890
[Music]

562
00:24:39,580 --> 00:24:36,820
logical fallacies

563
00:24:42,740 --> 00:24:39,590

[Music]

564

00:24:44,810 --> 00:24:42,750

what are the logical fallacies and why

565

00:24:47,120 --> 00:24:44,820

is it important that critical thinkers

566

00:24:49,850 --> 00:24:47,130

should know about them

567

00:24:52,880 --> 00:24:49,860

a logical fallacy is an error we can

568

00:24:55,130 --> 00:24:52,890

make in reasoning but it usually crops

569

00:24:58,850 --> 00:24:55,140

up when we are discussing or arguing our

570

00:25:01,310 --> 00:24:58,860

point of view some people might even

571

00:25:03,500 --> 00:25:01,320

knowingly use them to try and score

572

00:25:05,740 --> 00:25:03,510

cheap points in an argument due to

573

00:25:09,080 --> 00:25:05,750

intellectual laziness

574

00:25:11,540 --> 00:25:09,090

they are traps we can fall into but if

575

00:25:13,520 --> 00:25:11,550

we know what to look out for we can spot

576
00:25:20,210 --> 00:25:13,530
them when they occur and stop ourselves

577
00:25:23,860 --> 00:25:20,220
from using them this week we'll look at

578
00:25:27,320 --> 00:25:23,870
post hoc ergo propter hoc

579
00:25:30,350 --> 00:25:27,330
also known as assuming the cause the

580
00:25:33,050 --> 00:25:30,360
faulty causal assumption or just post

581
00:25:35,600 --> 00:25:33,060
hoc this is when two events occur in

582
00:25:38,510 --> 00:25:35,610
succession and it is believed that the

583
00:25:40,850 --> 00:25:38,520
first event must have caused the second

584
00:25:43,370 --> 00:25:40,860
event I want to put it another way the

585
00:25:44,000 --> 00:25:43,380
second event is a result of the first

586
00:25:46,250 --> 00:25:44,010
event

587
00:25:48,920 --> 00:25:46,260
it's the fallacy that applies when

588
00:25:52,730 --> 00:25:48,930

believing in superstition like positive

589

00:25:55,430 --> 00:25:52,740

outcomes due to Lucky Charms etc it also

590

00:25:58,400 --> 00:25:55,440

commonly occurs when alternative

591

00:26:01,430 --> 00:25:58,410

medicine is credited as providing a cure

592

00:26:04,970 --> 00:26:01,440

or science-based medicine is blamed for

593

00:26:07,310 --> 00:26:04,980

an unrelated condition we all know

594

00:26:11,270 --> 00:26:07,320

mother's chicken soup will cure the

595

00:26:13,730 --> 00:26:11,280

common cold right I mean only a few days

596

00:26:16,670 --> 00:26:13,740

after you eat some the cold will get

597

00:26:19,190 --> 00:26:16,680

better I put up an umbrella in the house

598

00:26:21,500 --> 00:26:19,200

today and you know what shortly after I

599

00:26:25,610 --> 00:26:21,510

lost my wallet good things and bad

600

00:26:28,340 --> 00:26:25,620

things happen to us all normally that's

601
00:26:30,620 --> 00:26:28,350
just part of everyday life and we don't

602
00:26:33,890 --> 00:26:30,630
think much about it once in a while

603
00:26:36,880 --> 00:26:33,900
however something very bad happens to us

604
00:26:40,340 --> 00:26:36,890
and we are left looking for a reason

605
00:26:43,040 --> 00:26:40,350
putting up an umbrella inside walking

606
00:26:45,890 --> 00:26:43,050
under a ladder or a black cat crossing

607
00:26:49,100 --> 00:26:45,900
your path are all classic superstitions

608
00:26:51,830 --> 00:26:49,110
and it's easy to see why some people

609
00:26:54,680 --> 00:26:51,840
might latch on to these when looking for

610
00:26:58,660 --> 00:26:54,690
a reason as to why they had bad luck

611
00:27:00,950 --> 00:26:58,670
later on oh and don't forget

612
00:27:04,220 --> 00:27:00,960
superstitions are as

613
00:27:07,669 --> 00:27:04,230

Webster's dictionary has it a belief or

614

00:27:11,450 --> 00:27:07,679

practice resulting from ignorant fear of

615

00:27:15,830 --> 00:27:11,460

the unknown trust in magic or chance or

616

00:27:17,659 --> 00:27:15,840

a false conception of causation I was

617

00:27:21,830 --> 00:27:17,669

perfectly healthy until I started using

618

00:27:24,380 --> 00:27:21,840

a 5g cellphone now I have cancer it

619

00:27:26,539 --> 00:27:24,390

could be insensitive to start schooling

620

00:27:30,139 --> 00:27:26,549

a person battling cancer on it's

621

00:27:32,510 --> 00:27:30,149

possible causes but I think we can

622

00:27:35,659 --> 00:27:32,520

understand how people need to find a

623

00:27:38,990 --> 00:27:35,669

reason for things especially things they

624

00:27:42,100 --> 00:27:39,000

are trying to come to terms with even if

625

00:27:47,260 --> 00:27:45,350

sometimes any conclusion is better than

626
00:27:51,710 --> 00:27:47,270
none at all

627
00:27:56,210 --> 00:27:51,720
why did this happen to me is a question

628
00:27:59,690 --> 00:27:56,220
as old as our species in this case the

629
00:28:02,930 --> 00:27:59,700
reality is that while ionizing radiation

630
00:28:06,260 --> 00:28:02,940
is indeed dangerous the non ionizing

631
00:28:10,220 --> 00:28:06,270
level of radiation we are exposed to via

632
00:28:14,029 --> 00:28:10,230
5g does not present any known risks to

633
00:28:17,180 --> 00:28:14,039
us the worst we are likely to experience

634
00:28:21,260 --> 00:28:17,190
is warming on the skin that is so slight

635
00:28:23,870 --> 00:28:21,270
that we won't even notice it but this

636
00:28:27,190 --> 00:28:23,880
fact doesn't stop people from blaming it

637
00:28:30,080 --> 00:28:27,200
for health problems real or imagined I

638
00:28:33,830 --> 00:28:30,090

was suffering from too many negative

639

00:28:36,289 --> 00:28:33,840

emotions until I tried smudging since

640

00:28:40,130 --> 00:28:36,299

then my mind is clear and I feel

641

00:28:42,409 --> 00:28:40,140

positive smudging is a practice trending

642

00:28:46,490 --> 00:28:42,419

in the wellness industry that has been

643

00:28:49,010 --> 00:28:46,500

popularized by social media in Western

644

00:28:51,620 --> 00:28:49,020

culture it involves burning small

645

00:28:55,029 --> 00:28:51,630

bundles of foliage containing white sage

646

00:28:58,310 --> 00:28:55,039

that are commercially available in kits

647

00:29:01,250 --> 00:28:58,320

it is based on the ancient ceremonial

648

00:29:04,700 --> 00:29:01,260

practice of sage burning by First

649

00:29:08,049 --> 00:29:04,710

Nations people in the Americas maybe in

650

00:29:10,850 --> 00:29:08,059

some ways smudging does offer some help

651
00:29:13,940 --> 00:29:10,860
perhaps the act of waiving the smoking

652
00:29:14,899 --> 00:29:13,950
sticks around is enjoyable and negative

653
00:29:18,529 --> 00:29:14,909
emotions are

654
00:29:21,440 --> 00:29:18,539
placed with positive ones and let's not

655
00:29:25,580 --> 00:29:21,450
forget how powerful rituals are in human

656
00:29:27,619 --> 00:29:25,590
societies however there are no chemical

657
00:29:31,450 --> 00:29:27,629
properties of smoke that promote

658
00:29:34,219 --> 00:29:31,460
emotional and physical health in fact

659
00:29:38,899 --> 00:29:34,229
inhaling smoke is more likely to cause

660
00:29:41,839 --> 00:29:38,909
harm therefore it is a fallacy to think

661
00:29:45,859 --> 00:29:41,849
the improvement is caused by the smoky

662
00:29:48,560 --> 00:29:45,869
air per se it could also be a placebo

663
00:29:50,839 --> 00:29:48,570

effect or a mood that eventually

664

00:29:54,019 --> 00:29:50,849

improves on its own anyway

665

00:29:57,289 --> 00:29:54,029

my child was perfectly fine until they

666

00:30:00,109 --> 00:29:57,299

had the MMR vaccine then only months

667

00:30:02,479 --> 00:30:00,119

later they were diagnosed with autism

668

00:30:05,690 --> 00:30:02,489

here we see causality assigned

669

00:30:08,570 --> 00:30:05,700

incorrectly and the vaccines blamed as a

670

00:30:12,799 --> 00:30:08,580

cause for what is probably a genetic

671

00:30:15,349 --> 00:30:12,809

condition from systematic reviews of

672

00:30:18,560 --> 00:30:15,359

studies based on millions of children

673

00:30:21,680 --> 00:30:18,570

around the world we know that vaccines

674

00:30:25,729 --> 00:30:21,690

do not result in children developing

675

00:30:28,789 --> 00:30:25,739

autism the love and the need you have to

676

00:30:33,799 --> 00:30:28,799

protect your children can very easily

677

00:30:36,169 --> 00:30:33,809

color your thinking how satisfying it is

678

00:30:39,859 --> 00:30:36,179

when we think we have found the reason

679

00:30:43,129 --> 00:30:39,869

why something is happening it's a very

680

00:30:50,259 --> 00:30:43,139

deep need within us all to find out the

681

00:30:56,180 --> 00:30:53,239

jumping to a false conclusion can be

682

00:31:00,169 --> 00:30:56,190

more satisfying than having no

683

00:31:02,029 --> 00:31:00,179

conclusion at all in the end when a

684

00:31:05,149 --> 00:31:02,039

signing credit or blame to one

685

00:31:07,549 --> 00:31:05,159

occurrence that preceded another be sure

686

00:31:11,289 --> 00:31:07,559

that you have credible evidence that

687

00:31:15,770 --> 00:31:11,299

there really is a true cause-and-effect

688

00:31:20,830 --> 00:31:18,120

[Music]

689

00:31:23,290 --> 00:31:20,840

knowing a logical fallacy when you hear

690

00:31:25,660 --> 00:31:23,300

one and even knowing its name is

691

00:31:29,350 --> 00:31:25,670

important when arguing your point of

692

00:31:32,170 --> 00:31:29,360

view however you may come across as

693

00:31:34,750 --> 00:31:32,180

arrogant and not get very far if you

694

00:31:38,500 --> 00:31:34,760

call it out by name to your opponent

695

00:31:40,810 --> 00:31:38,510

when you hear it being used if your

696

00:31:43,630 --> 00:31:40,820

opponent calls you out for using one

697

00:31:47,230 --> 00:31:43,640

it's time to stop and think about how

698

00:31:49,540 --> 00:31:47,240

you were making your case use your

699

00:31:52,840 --> 00:31:49,550

knowledge of logical fallacies wisely

700

00:31:55,120 --> 00:31:52,850

and remember that even if your point of

701
00:31:58,360 --> 00:31:55,130
view is right and you know all the

702
00:32:01,660 --> 00:31:58,370
pitfalls in arguing your case it doesn't

703
00:32:05,050 --> 00:32:01,670
always mean you'll win on the day and a

704
00:32:10,080 --> 00:32:05,060
skeptics we must also remember that we

705
00:32:13,510 --> 00:32:10,090
too can be wrong at times I'm sure

706
00:32:24,490 --> 00:32:13,520
because now from the VEX skeptics thanks

707
00:32:28,150 --> 00:32:24,500
for listening hi I'm Brad McCoy and I'm

708
00:32:29,770 --> 00:32:28,160
a GP coronavirus is dangerous you can

709
00:32:31,690 --> 00:32:29,780
spread the virus even when you don't

710
00:32:33,700 --> 00:32:31,700
have symptoms which means you're putting

711
00:32:37,240 --> 00:32:33,710
yourself and your loved ones at risk if

712
00:32:49,430 --> 00:32:37,250
you leave the house please stay at home

713
00:33:03,329 --> 00:32:53,430

it's the raw skeptic report with Heidi

714

00:33:05,219 --> 00:33:03,339

Robertson hello everyone Heidi Robertson

715

00:33:08,430 --> 00:33:05,229

from the Northern Rivers vaccination

716

00:33:10,289 --> 00:33:08,440

supporters I don't know about you but

717

00:33:12,779 --> 00:33:10,299

I'm going through periods of time when I

718

00:33:16,019 --> 00:33:12,789

can't quite believe this situation is

719

00:33:19,379 --> 00:33:16,029

happening it's surreal like we're in the

720

00:33:21,989 --> 00:33:19,389

twilight zone or something speaking of

721

00:33:23,969 --> 00:33:21,999

which I am currently watching the

722

00:33:28,919 --> 00:33:23,979

original series of The Twilight Zone

723

00:33:31,739 --> 00:33:28,929

with my kids one Episode a day two short

724

00:33:34,519 --> 00:33:31,749

months ago myself and my family were

725

00:33:37,289 --> 00:33:34,529

returning from a family holiday in Japan

726

00:33:39,509 --> 00:33:37,299

we never would have predicted that a few

727

00:33:41,029 --> 00:33:39,519

weeks later we would be in

728

00:33:45,269 --> 00:33:41,039

self-isolation

729

00:33:47,489 --> 00:33:45,279

homeschooling me out of work and my

730

00:33:51,930 --> 00:33:47,499

husband's industry in construction also

731

00:33:55,619 --> 00:33:51,940

threatened I want to extend my heartfelt

732

00:33:58,079 --> 00:33:55,629

sympathies and empathy to you all out

733

00:34:00,509 --> 00:33:58,089

there if you are similarly facing

734

00:34:03,959 --> 00:34:00,519

financial and emotional hardship right

735

00:34:07,099 --> 00:34:03,969

now not that my empathy helps in any

736

00:34:10,260 --> 00:34:07,109

tangible way but it is there nonetheless

737

00:34:13,079 --> 00:34:10,270

it's really hard not knowing what the

738

00:34:16,319 --> 00:34:13,089

future will hold the uncertainty is

739

00:34:18,599 --> 00:34:16,329

really difficult to deal with my focus

740

00:34:21,329 --> 00:34:18,609

right now is on taking each day as it

741

00:34:23,579 --> 00:34:21,339

comes and trying to make sure our kids

742

00:34:26,609 --> 00:34:23,589

are as protected as they can be both

743

00:34:30,480 --> 00:34:26,619

from the virus and from the saturation

744

00:34:35,279 --> 00:34:30,490

of covert 19:00 information that can be

745

00:34:37,289 --> 00:34:35,289

so easy to succumb to they need and for

746

00:34:40,409 --> 00:34:37,299

that matter I need to be informed and

747

00:34:43,529 --> 00:34:40,419

aware but not scared out of their minds

748

00:34:47,549 --> 00:34:43,539

and that is a delicate balance to

749

00:34:50,839 --> 00:34:47,559

maintain so here are a few things I've

750

00:34:53,099 --> 00:34:50,849

found that I can be positive about my

751

00:34:54,320 --> 00:34:53,109

kids are finding ways to be creative

752

00:34:56,660 --> 00:34:54,330

with their sudden

753

00:34:59,600 --> 00:34:56,670

changing routine day one of

754

00:35:03,080 --> 00:34:59,610

homeschooling saw my youngest 11 years

755

00:35:06,260 --> 00:35:03,090

of age son blow up six balloons

756

00:35:08,180 --> 00:35:06,270

he drew faces on each one he then lined

757

00:35:10,640 --> 00:35:08,190

up the kitchen stools in a school bus

758

00:35:13,160 --> 00:35:10,650

seat formation put one balloon on each

759

00:35:15,020 --> 00:35:13,170

kitchen stool and then we all pretended

760

00:35:19,040 --> 00:35:15,030

to hop on the bus and drive the balloons

761

00:35:20,900 --> 00:35:19,050

to school I'm becoming more involved in

762

00:35:23,180 --> 00:35:20,910

their learning we have created a

763

00:35:26,510 --> 00:35:23,190

timetable which we've refined every day

764

00:35:30,440 --> 00:35:26,520

and it includes academic work quiet time

765

00:35:33,020 --> 00:35:30,450

playtime and exercise time we force

766

00:35:35,120 --> 00:35:33,030

ourselves to stick to the routine and it

767

00:35:38,080 --> 00:35:35,130

has really helped with providing them

768

00:35:40,610 --> 00:35:38,090

and me with some structure to the day

769

00:35:43,490 --> 00:35:40,620

I've also encouraged them to keep a

770

00:35:45,440 --> 00:35:43,500

daily journal of this time it is after

771

00:35:47,600 --> 00:35:45,450

all an historic event we're living

772

00:35:50,150 --> 00:35:47,610

through right now and to have a

773

00:35:52,490 --> 00:35:50,160

day-to-day log of the events and how

774

00:35:54,740 --> 00:35:52,500

they're feeling I feel will be

775

00:35:57,980 --> 00:35:54,750

invaluable for their future selves and

776

00:36:02,120 --> 00:35:57,990

also as a strategy for helping to manage

777

00:36:03,680 --> 00:36:02,130

their current mental health and I'm

778

00:36:05,930 --> 00:36:03,690

finally going to have some time to get

779

00:36:08,090 --> 00:36:05,940

around to all the things I previously

780

00:36:12,080 --> 00:36:08,100

didn't make time for like finishing that

781

00:36:14,420 --> 00:36:12,090

online photography course I have more of

782

00:36:16,730 --> 00:36:14,430

an appreciation for teachers health care

783

00:36:20,090 --> 00:36:16,740

workers petrol station operators

784

00:36:22,040 --> 00:36:20,100

supermarket workers the researchers who

785

00:36:25,040 --> 00:36:22,050

are working so hard on a vaccine for

786

00:36:27,110 --> 00:36:25,050

this and other treatment options all the

787

00:36:29,000 --> 00:36:27,120

people out there who are helping with

788

00:36:31,790 --> 00:36:29,010

essential services for the rest of us

789

00:36:37,070 --> 00:36:31,800

thank you if you're one of these people

790

00:36:46,320 --> 00:36:37,080

you are appreciated take care everyone

791

00:36:55,500 --> 00:36:52,220

[Music]

792

00:36:57,480 --> 00:36:55,510

Alaura ciao mi chiamo profesora de vo

793

00:37:00,990 --> 00:36:57,490

tuvalu incendiary totally casa su

794

00:37:03,440 --> 00:37:01,000

licencia para la moda physica de chemica

795

00:37:06,390 --> 00:37:03,450

bureau gia astronomia

796

00:37:09,510 --> 00:37:06,400

mathematica atonte otra cosa

797

00:37:11,370 --> 00:37:09,520

guarda me su YouTube arrivederci

798

00:37:13,080 --> 00:37:11,380

hey everyone this is Professor Dave I

799

00:37:14,820 --> 00:37:13,090

want to teach you about all kinds of

800

00:37:16,740 --> 00:37:14,830

things regarding science I want to tell

801

00:37:20,160 --> 00:37:16,750

you about physics I want to tell you

802

00:37:22,890 --> 00:37:20,170

about chemistry biology astronomy math

803

00:37:24,570 --> 00:37:22,900

and many many more things come check me

804

00:37:39,380 --> 00:37:24,580

out on youtube the channel is called

805

00:37:46,230 --> 00:37:39,390

professor Dave explains take it easy and

806

00:37:47,100 --> 00:37:46,240

now a reading from the book of Tim with

807

00:37:58,960 --> 00:37:47,110

Tim Mendham

808

00:38:01,510 --> 00:37:58,970

executive officer of Australian skeptics

809

00:38:04,210 --> 00:38:01,520

Inc I'm also the editor of our magazine

810

00:38:07,000 --> 00:38:04,220

the skeptic and this time we're looking

811

00:38:10,030 --> 00:38:07,010

at one of our challenges which was about

812

00:38:12,820 --> 00:38:10,040

water divining at MIT er this is part 2

813

00:38:14,650 --> 00:38:12,830

of that article covering the tests

814

00:38:19,380 --> 00:38:14,660

themselves and disappeared in the

815

00:38:22,600 --> 00:38:19,390

skeptic June 2013 which is volume 33

816

00:38:24,250 --> 00:38:22,610

number 2 this was written by Steve

817

00:38:26,980 --> 00:38:24,260

Roberts one of our committee members and

818

00:38:28,270 --> 00:38:26,990

a good man with mathematics and he had

819

00:38:31,510 --> 00:38:28,280

to because this covered a lot of

820

00:38:36,819 --> 00:38:31,520

statistics and his report is looking at

821

00:38:41,890 --> 00:38:39,559

annual mighty meter master takes place

822

00:38:45,109 --> 00:38:41,900

at meta meter a town near Albury Wodonga

823

00:38:48,620 --> 00:38:45,119

well two hours drive Steve says so it's

824

00:38:50,510 --> 00:38:48,630

not really near anywhere in March 2013

825

00:38:53,569 --> 00:38:50,520

the skeptics repeated their tests of

826

00:38:57,710 --> 00:38:53,579

water dowsers first held there in 2001

827

00:38:59,809 --> 00:38:57,720

and 2002 this time we made several

828

00:39:01,819 --> 00:38:59,819

changes to the test protocols to

829

00:39:03,440 --> 00:39:01,829

accommodate practical considerations and

830

00:39:06,319 --> 00:39:03,450

to present the challenge to the dowsers

831

00:39:09,589 --> 00:39:06,329

in the fairest way possible a lot of

832

00:39:11,390 --> 00:39:09,599

people do not think scientifically and

833

00:39:14,059 --> 00:39:11,400

it was an interesting and relevant

834

00:39:15,770 --> 00:39:14,069

challenge for us to offer our tests in a

835

00:39:18,980 --> 00:39:15,780

way that could be easily understood and

836

00:39:21,380 --> 00:39:18,990

seen to be fair we had the free use of

837

00:39:24,020 --> 00:39:21,390

the meter tennis court and surrounding

838

00:39:25,609 --> 00:39:24,030

grassy areas we had a lot of volunteers

839

00:39:27,770 --> 00:39:25,619

not only from the local group the

840

00:39:30,230 --> 00:39:27,780

borderline skeptics but also from

841

00:39:31,880 --> 00:39:30,240

Melbourne and Sydney we had to devise

842

00:39:33,589 --> 00:39:31,890

ways of preparing and setting out the

843

00:39:37,640 --> 00:39:33,599

samples that were practical and fair

844

00:39:39,920 --> 00:39:37,650

without revealing the contents with

845

00:39:42,290 --> 00:39:39,930

\$100,000 of Australian skeptics money at

846

00:39:44,900 --> 00:39:42,300

stake the temptation to cheat had to be

847

00:39:46,670 --> 00:39:44,910

accounted for and avoided we were

848

00:39:48,740 --> 00:39:46,680

gratified not to see any attempt to

849

00:39:51,440 --> 00:39:48,750

cheat and none of the dowsers complained

850

00:39:53,450 --> 00:39:51,450

that our tests was unfair except for one

851
00:39:57,520 --> 00:39:53,460
gentleman who protested that our sand

852
00:40:00,790 --> 00:39:57,530
had minerals in it which it probably did

853
00:40:03,170 --> 00:40:00,800
so here's a bit about the test setup an

854
00:40:05,960 --> 00:40:03,180
immediate obligation for us is to have

855
00:40:08,359 --> 00:40:05,970
clear wording for the challenge problems

856
00:40:10,309 --> 00:40:08,369
arise with such phrasings as the bottles

857
00:40:13,309 --> 00:40:10,319
contain a mixture of water and sand

858
00:40:16,130 --> 00:40:13,319
which could be misinterpreted likewise

859
00:40:19,220 --> 00:40:16,140
does better than chance mean any score

860
00:40:21,650 --> 00:40:19,230
more than 10 out of 20 we decided to

861
00:40:24,230 --> 00:40:21,660
present two litre plastic milk cartons

862
00:40:26,690 --> 00:40:24,240
each one full of either water or dry

863
00:40:28,460 --> 00:40:26,700

sand the containers were wrapped in

864

00:40:31,010 --> 00:40:28,470

canvas bags so one couldn't see the

865

00:40:32,900 --> 00:40:31,020

contents the sand ones were carefully

866

00:40:35,120 --> 00:40:32,910

made the same weight as the water ones

867

00:40:37,940 --> 00:40:35,130

and you could not distinguish them by

868

00:40:39,589 --> 00:40:37,950

sloshing them about though you could

869

00:40:42,200 --> 00:40:39,599

still tell the contents by squeezing

870

00:40:43,819 --> 00:40:42,210

them or seeing how they bounced it

871

00:40:45,829 --> 00:40:43,829

follows that whoever set out the

872

00:40:47,960 --> 00:40:45,839

containers on the ground had to be kept

873

00:40:48,440 --> 00:40:47,970

away from the dowsers or at least should

874

00:40:52,460 --> 00:40:48,450

not be

875

00:40:54,950 --> 00:40:52,470

to claim the prize as dowsers have wind

876

00:40:58,370 --> 00:40:54,960

in the past and did so again about

877

00:41:00,710 --> 00:40:58,380

impure water city water etc we use local

878

00:41:03,950 --> 00:41:00,720

sand and took our water from the foaming

879

00:41:05,750 --> 00:41:03,960

Rapids of the meta River at the site his

880

00:41:07,970 --> 00:41:05,760

freezing cold water gave problems with

881

00:41:11,300 --> 00:41:07,980

condensation but we managed to wipe the

882

00:41:13,550 --> 00:41:11,310

cartons enough to hide it now how many

883

00:41:16,520 --> 00:41:13,560

containers should there be and at what

884

00:41:20,950 --> 00:41:16,530

odds in 2001 we'd used 20 samples

885

00:41:23,480 --> 00:41:20,960

randomly filled 13 sand and 7 water in

886

00:41:26,030 --> 00:41:23,490

2002 we tried to be fair to the dowers

887

00:41:28,520 --> 00:41:26,040

by having 25 samples and letting them

888

00:41:30,579 --> 00:41:28,530

discard 5 attempts and choose what they

889

00:41:33,710 --> 00:41:30,589

thought would be their best 20 results

890

00:41:35,390 --> 00:41:33,720

this was impossible to explain and cause

891

00:41:37,280 --> 00:41:35,400

more chaos and disputes as well as

892

00:41:40,400 --> 00:41:37,290

making it harder for us to analyze the

893

00:41:42,680 --> 00:41:40,410

results if there were 10 sand and 10

894

00:41:44,930 --> 00:41:42,690

water samples and the dowsers knew this

895

00:41:47,300 --> 00:41:44,940

then their scores could be biased toward

896

00:41:50,540 --> 00:41:47,310

getting a 10/10 result and this makes it

897

00:41:53,240 --> 00:41:50,550

harder to analyze but in 2001 with 13

898

00:41:56,990 --> 00:41:53,250

sand samples anyone who guessed 20 sands

899

00:41:59,780 --> 00:41:57,000

would have got 13 out of 20 right this

900

00:42:02,120 --> 00:41:59,790

year we wanted to do more than one test

901
00:42:04,550 --> 00:42:02,130
we were trying to get as much data as

902
00:42:07,579 --> 00:42:04,560
possible to make a decent histogram of

903
00:42:09,710 --> 00:42:07,589
results we decided to again have 20

904
00:42:12,470 --> 00:42:09,720
samples but to conduct multiple tests

905
00:42:14,780 --> 00:42:12,480
with rearranged samples and to guarantee

906
00:42:18,140 --> 00:42:14,790
that there would be between 8 and 12

907
00:42:20,390 --> 00:42:18,150
sand or water samples out of the 20 this

908
00:42:21,349 --> 00:42:20,400
was accomplished by preparing 28 samples

909
00:42:24,710 --> 00:42:21,359
yes 28

910
00:42:27,530 --> 00:42:24,720
bare with me of which 14 was sand and 14

911
00:42:30,500 --> 00:42:27,540
water two of each were laid out at the

912
00:42:32,569 --> 00:42:30,510
start of the course as known samples one

913
00:42:35,599 --> 00:42:32,579

unwrapped and one wrapped in the same

914

00:42:38,059 --> 00:42:35,609

canvas bags we were using this had to be

915

00:42:40,339 --> 00:42:38,069

doused correctly to avoid dowsers simply

916

00:42:43,670 --> 00:42:40,349

saying they were unable to perform for

917

00:42:45,319 --> 00:42:43,680

whatever reason the remaining 24 samples

918

00:42:48,170 --> 00:42:45,329

were then dumped into a wheelbarrow at

919

00:42:50,599 --> 00:42:48,180

random in privacy which was taken out

920

00:42:52,250 --> 00:42:50,609

onto the tennis court by two of us one

921

00:42:55,220 --> 00:42:52,260

of whom then drew a plain card to

922

00:42:56,780 --> 00:42:55,230

determine a location 1 to 20 the other

923

00:42:59,150 --> 00:42:56,790

person grabbed any sample of the

924

00:43:01,099 --> 00:42:59,160

wheelbarrow and put it there handling it

925

00:43:03,770 --> 00:43:01,109

carefully to avoid visibly shaking him

926
00:43:06,109 --> 00:43:03,780
the dowsers were then let out one by one

927
00:43:08,839 --> 00:43:06,119
each with a clipboard bearer who wrote

928
00:43:11,270 --> 00:43:08,849
down their results in two copies one of

929
00:43:13,670 --> 00:43:11,280
which was given to the dowser after the

930
00:43:16,160 --> 00:43:13,680
dowsing the samples were visibly tipped

931
00:43:18,500 --> 00:43:16,170
out of the bags to show what they were

932
00:43:20,809 --> 00:43:18,510
the dowsers then all felt the need to

933
00:43:23,630 --> 00:43:20,819
read out and see where they went wrong

934
00:43:25,300 --> 00:43:23,640
they all did none scoring above

935
00:43:27,920 --> 00:43:25,310
statistical chance

936
00:43:31,010 --> 00:43:27,930
the exposed samples were then collected

937
00:43:33,140 --> 00:43:31,020
and in privacy rebate and put back into

938
00:43:34,940 --> 00:43:33,150

the wheelbarrow in this way we could

939

00:43:35,990 --> 00:43:34,950

clear the whole field and set it up

940

00:43:38,930 --> 00:43:36,000

again in ten minutes

941

00:43:41,260 --> 00:43:38,940

and we ran three separate tests with the

942

00:43:43,579 --> 00:43:41,270

samples not correlated across tests

943

00:43:45,410 --> 00:43:43,589

doing this was simpler than it sounds

944

00:43:47,750 --> 00:43:45,420

but a lot of work went into working it

945

00:43:49,760 --> 00:43:47,760

all out from past experience we knew

946

00:43:51,740 --> 00:43:49,770

there would be havoc and uncontrollable

947

00:43:54,440 --> 00:43:51,750

crowds on the day and we had to work

948

00:43:57,069 --> 00:43:54,450

within that for this reason it was not

949

00:43:59,450 --> 00:43:57,079

possible to exhibit out \$100,000 price

950

00:44:02,210 --> 00:43:59,460

plus ten thousand dollars added locally

951
00:44:03,920 --> 00:44:02,220
for the day to the crowds of people that

952
00:44:05,930 --> 00:44:03,930
sort of money would attract would have

953
00:44:08,780 --> 00:44:05,940
disturbed the dowers and presented

954
00:44:12,920 --> 00:44:08,790
risks of cheating and theft it's our

955
00:44:16,250 --> 00:44:12,930
money and we make the rules now we look

956
00:44:18,109 --> 00:44:16,260
at checking the odds we decided to set

957
00:44:20,030 --> 00:44:18,119
up odds of about a thousand to one

958
00:44:23,359 --> 00:44:20,040
against succeeding by chance on the day

959
00:44:25,970 --> 00:44:23,369
and this performance would have to be

960
00:44:28,089 --> 00:44:25,980
repeated on another day to claim the

961
00:44:30,740 --> 00:44:28,099
hundred and ten thousand dollars

962
00:44:33,170 --> 00:44:30,750
allowing factors for costs involved in

963
00:44:35,089 --> 00:44:33,180

the odds actually being a bit less than

964

00:44:37,760 --> 00:44:35,099

a thousand to one it was fair for the

965

00:44:39,470 --> 00:44:37,770

dowers to pay \$1 to play and all the

966

00:44:42,950 --> 00:44:39,480

money we raised was donated to the metal

967

00:44:45,650 --> 00:44:42,960

master the odds against the score of 17

968

00:44:49,609 --> 00:44:45,660

out of 20 or better in a single trial

969

00:44:51,710 --> 00:44:49,619

would be about 776 to 1 and the odds

970

00:44:55,910 --> 00:44:51,720

against the score of 18 out of 20 or

971

00:44:58,099 --> 00:44:55,920

better would be about 4970 the one about

972

00:45:00,290 --> 00:44:58,109

because the distribution of samples is

973

00:45:03,079 --> 00:45:00,300

not exactly random and for practical

974

00:45:05,300 --> 00:45:03,089

factors since we encourage the dowers

975

00:45:08,270 --> 00:45:05,310

to have several goals we decided to take

976
00:45:10,820 --> 00:45:08,280
a score of 18 out of 20 or more on any

977
00:45:13,370 --> 00:45:10,830
trial they chose as the criterion for

978
00:45:14,450 --> 00:45:13,380
success we initially thought that if

979
00:45:17,900 --> 00:45:14,460
someone godsake

980
00:45:20,630 --> 00:45:17,910
10 11 and 18 out of 20 we would add

981
00:45:21,109 --> 00:45:20,640
these to make 39 out of 60 which is 70 3

982
00:45:24,020 --> 00:45:21,119
2 1

983
00:45:26,750 --> 00:45:24,030
an insignificant score when there are

984
00:45:29,060 --> 00:45:26,760
dozens of competitors the dowser however

985
00:45:31,310 --> 00:45:29,070
would view this as a success of 18 out

986
00:45:35,270 --> 00:45:31,320
of 20 ignoring the other poor results

987
00:45:38,510 --> 00:45:35,280
and would want the price one of the 52

988
00:45:40,310 --> 00:45:38,520

dowers in 2001 scored 13 out of 20 and

989

00:45:42,859 --> 00:45:40,320

then tried to argue that as he had

990

00:45:45,589 --> 00:45:42,869

doused 13 samples of sand and there were

991

00:45:46,609 --> 00:45:45,599

13 sand samples in total even if they

992

00:45:48,680 --> 00:45:46,619

weren't exactly the ones he had

993

00:45:51,349 --> 00:45:48,690

identified he considered that he had won

994

00:45:53,359 --> 00:45:51,359

and would be sending the check he then

995

00:45:56,270 --> 00:45:53,369

tried to litigate against us with

996

00:45:58,190 --> 00:45:56,280

comparable success so we decided that

997

00:46:00,440 --> 00:45:58,200

the only way to explain this fairly and

998

00:46:02,390 --> 00:46:00,450

visibly to non mathematicians was to

999

00:46:04,310 --> 00:46:02,400

allow a free choice of any set of 20

1000

00:46:07,220 --> 00:46:04,320

results in exchange for making the

1001
00:46:08,599 --> 00:46:07,230
required score as high as 18 out of 20

1002
00:46:12,410 --> 00:46:08,609
in the event

1003
00:46:14,210 --> 00:46:12,420
nobody achieved this here's a section of

1004
00:46:16,609 --> 00:46:14,220
an article called the best score and

1005
00:46:18,500 --> 00:46:16,619
despite the heading it is actually a

1006
00:46:20,599 --> 00:46:18,510
serious mistake to use the phrase of the

1007
00:46:21,380 --> 00:46:20,609
best score unless it is statistically

1008
00:46:25,040 --> 00:46:21,390
significant

1009
00:46:27,650 --> 00:46:25,050
which none work all day but we'll do it

1010
00:46:31,130 --> 00:46:27,660
anyway the highest scoring was by a

1011
00:46:34,010 --> 00:46:31,140
young girl who got 13 15 and 13 out of

1012
00:46:36,620 --> 00:46:34,020
20 the best result that can be made of

1013
00:46:39,470 --> 00:46:36,630

this is 41 out of sixty three hundred

1014

00:46:41,570 --> 00:46:39,480

and twenty-two to one heard hours a

1015

00:46:45,010 --> 00:46:41,580

father bristling with paternal pride

1016

00:46:47,390 --> 00:46:45,020

himself got eight nine and sixteen

1017

00:46:48,920 --> 00:46:47,400

choosing the score of 16 at a twenty

1018

00:46:50,320 --> 00:46:48,930

that is a hundred and sixty nine to one

1019

00:46:52,070 --> 00:46:50,330

against chance

1020

00:46:53,720 --> 00:46:52,080

these figures are nowhere near

1021

00:46:55,670 --> 00:46:53,730

significant given that these results

1022

00:46:58,520 --> 00:46:55,680

were freely chosen from the 79

1023

00:47:00,560 --> 00:46:58,530

independent trials we conducted so

1024

00:47:03,620 --> 00:47:00,570

another year another dowsing test

1025

00:47:05,660 --> 00:47:03,630

another bell curve of results closely

1026
00:47:08,570 --> 00:47:05,670
fitting the Gaussian normal distribution

1027
00:47:10,579 --> 00:47:08,580
to be expected by pure chance why did we

1028
00:47:12,890 --> 00:47:10,589
do this when a skeptics we were pretty

1029
00:47:15,170 --> 00:47:12,900
sure what the results would be well it

1030
00:47:16,880 --> 00:47:15,180
was great fun you said admit emitter a

1031
00:47:19,040 --> 00:47:16,890
couple of nights we had beer and

1032
00:47:20,270 --> 00:47:19,050
barbecues we toured the area and we met

1033
00:47:23,300 --> 00:47:20,280
with old friends and made new friends

1034
00:47:25,670 --> 00:47:23,310
from interstate but most of all it was

1035
00:47:27,620 --> 00:47:25,680
to be able to conduct a fair scientific

1036
00:47:28,540 --> 00:47:27,630
test in the real world and to

1037
00:47:31,810 --> 00:47:28,550
demonstrate to ours

1038
00:47:33,640 --> 00:47:31,820

and everyone else how to do that we

1039

00:47:35,680 --> 00:47:33,650

ourselves learned a lot about devising a

1040

00:47:38,370 --> 00:47:35,690

practical explainable cheap proof

1041

00:47:41,530 --> 00:47:38,380

protocol and calculating real-world odds

1042

00:47:43,030 --> 00:47:41,540

if anyone had performed above chance one

1043

00:47:45,430 --> 00:47:43,040

hundred and ten thousand dollars would

1044

00:47:47,430 --> 00:47:45,440

be nothing to what could be made on the

1045

00:47:49,480 --> 00:47:47,440

back of that sort of success

1046

00:47:51,940 --> 00:47:49,490

several of the dowsers came from a

1047

00:47:54,400 --> 00:47:51,950

nearby valley since the locals know as a

1048

00:47:57,160 --> 00:47:54,410

place with how do I say this

1049

00:47:58,480 --> 00:47:57,170

not many rich people a good closing

1050

00:48:00,610 --> 00:47:58,490

comment is from one of the dowsers

1051
00:48:03,430 --> 00:48:00,620
chatting with his family saying he did

1052
00:48:06,280 --> 00:48:03,440
well to get 12 out of 20 which is sort

1053
00:48:07,870 --> 00:48:06,290
of above average being within earshot I

1054
00:48:10,240 --> 00:48:07,880
pointed out that due to the number of

1055
00:48:12,370 --> 00:48:10,250
tries that he'd had and the randomness

1056
00:48:15,190 --> 00:48:12,380
inherent in reality his score was not

1057
00:48:18,300 --> 00:48:15,200
better than average well I don't mind

1058
00:48:20,830 --> 00:48:18,310
being average he reasonably concluded

1059
00:48:22,690 --> 00:48:20,840
Steve wishes to add that all the dowsers

1060
00:48:25,210 --> 00:48:22,700
were nice people generally with a

1061
00:48:28,450 --> 00:48:25,220
constructive attitude and he wished them

1062
00:48:31,420 --> 00:48:28,460
well he didn't want the skeptics to keep

1063
00:48:33,730 --> 00:48:31,430

picking on dowsers for all of our tests

1064

00:48:35,860 --> 00:48:33,740

but the shaolin's out there know that we

1065

00:48:40,990 --> 00:48:35,870

are serious in that challenge and they

1066

00:48:43,380 --> 00:48:41,000

have been warned that was part two of

1067

00:48:46,150 --> 00:48:43,390

our articles on divining at MIT er

1068

00:48:51,790 --> 00:48:46,160

appeared in the skeptic magazine June

1069

00:48:53,740 --> 00:48:51,800

2013 which is volume 33 number 2 and you

1070

00:48:55,980 --> 00:48:53,750

can download all of these skeptic

1071

00:48:58,290 --> 00:48:55,990

magazines from our website at

1072

00:49:01,810 --> 00:48:58,300

www.att.com/biz

1073

00:49:04,540 --> 00:49:01,820

the magazine and scroll down and you'll

1074

00:49:06,460 --> 00:49:04,550

find 39 years worth of magazines to

1075

00:49:08,290 --> 00:49:06,470

there to have a look at in the next

1076

00:49:11,020 --> 00:49:08,300

installment I'll be looking at the third

1077

00:49:13,390 --> 00:49:11,030

part of our meta meta challenge and

1078

00:49:16,000 --> 00:49:13,400

that's looking at the people involved

1079

00:49:23,280 --> 00:49:16,010

the diviners themselves

1080

00:49:28,660 --> 00:49:26,589

hello Anala needle on solo scoffs of

1081

00:49:31,030 --> 00:49:28,670

deep moments been to an atlas another

1082

00:49:36,130 --> 00:49:31,040

skeptic zone for we to stop and Katie

1083

00:49:41,460 --> 00:49:36,140

snide anger a meeting for Marcy fauna we

1084

00:49:51,330 --> 00:49:42,820

[Applause]

1085

00:49:57,880 --> 00:49:53,890

thank you for listening to the skeptic

1086

00:49:59,800 --> 00:49:57,890

Zone in these strange times and speaking

1087

00:50:01,750 --> 00:49:59,810

about strange things the other week on

1088

00:50:06,700 --> 00:50:01,760

the show you would have heard me talking

1089

00:50:09,730 --> 00:50:06,710

about some dodgy advice when it comes to

1090

00:50:13,630 --> 00:50:09,740

covert 19 including somebody offering a

1091

00:50:16,690 --> 00:50:13,640

test via the phone using the discredited

1092

00:50:19,000 --> 00:50:16,700

modality of applied kinesiology that was

1093

00:50:23,080 --> 00:50:19,010

an outfit called base side kinesiology

1094

00:50:25,900 --> 00:50:23,090

in Queensland and it's sort of inspired

1095

00:50:32,530 --> 00:50:25,910

me to try something with all of your

1096

00:50:34,680 --> 00:50:32,540

help over the next week's months if you

1097

00:50:37,780 --> 00:50:34,690

spot

1098

00:50:39,790 --> 00:50:37,790

advertisement signs or whatever online

1099

00:50:44,020 --> 00:50:39,800

or if you're out and about doing your

1100

00:50:48,180 --> 00:50:44,030

shopping exercising and you spot signs

1101
00:50:52,150 --> 00:50:48,190
for the curve at 19 throwing a virus

1102
00:50:54,849 --> 00:50:52,160
offering treatments or testing or

1103
00:50:58,900 --> 00:50:54,859
something like this will boost your

1104
00:51:02,680 --> 00:50:58,910
immunity against the disease from there

1105
00:51:06,820 --> 00:51:02,690
I say quacks whoo merchants alternative

1106
00:51:10,089 --> 00:51:06,830
medicine energy healers vitamins that

1107
00:51:12,310 --> 00:51:10,099
sort of thing I will ask you to take a

1108
00:51:16,750 --> 00:51:12,320
picture take a screen cap note the

1109
00:51:18,310 --> 00:51:16,760
details where when and eventually I'll

1110
00:51:20,349 --> 00:51:18,320
get you to send those in I haven't

1111
00:51:25,990 --> 00:51:20,359
decided where we're going to put those

1112
00:51:29,320 --> 00:51:26,000
just yet and we can have a a reference a

1113
00:51:31,530 --> 00:51:29,330

catalog a list of people making these

1114

00:51:35,349 --> 00:51:31,540

outrageous and dangerous claims at this

1115

00:51:38,170 --> 00:51:35,359

terrible time and then maybe we can do

1116

00:51:43,150 --> 00:51:38,180

something about it or at least we'll

1117

00:51:44,890 --> 00:51:43,160

have a reference so keep your eyes open

1118

00:51:47,829 --> 00:51:44,900

keep your eyes open I know there's been

1119

00:51:50,859 --> 00:51:47,839

some some already more about that in the

1120

00:51:52,630 --> 00:51:50,869

coming months also for those of you

1121

00:51:55,420 --> 00:51:52,640

stuck at home with kids or just by

1122

00:51:57,940 --> 00:51:55,430

yourself or whatever if you go to the

1123

00:52:00,609 --> 00:51:57,950

Facebook page of the skeptic zone

1124

00:52:01,040 --> 00:52:00,619

podcast and you can find the link on the

1125

00:52:02,570 --> 00:52:01,050

shown

1126

00:52:05,830 --> 00:52:02,580

so if you just go to Facebook and look

1127

00:52:11,300 --> 00:52:05,840

up skeptics on podcast I've been posting

1128

00:52:14,450 --> 00:52:11,310

lately some origami videos now some

1129

00:52:16,400 --> 00:52:14,460

years ago and when was it 2008 my good

1130

00:52:20,510 --> 00:52:16,410

friend Gary Clark and I made a DVD

1131

00:52:23,210 --> 00:52:20,520

called DVD origami and it's got lots of

1132

00:52:26,390 --> 00:52:23,220

her models fun models to make well I'm

1133

00:52:28,160 --> 00:52:26,400

posting up the videos day by day at the

1134

00:52:31,220 --> 00:52:28,170

skeptic zone Facebook page for you to

1135

00:52:32,810 --> 00:52:31,230

fold along at home and people have been

1136

00:52:34,790 --> 00:52:32,820

doing it I've been quite pleased people

1137

00:52:37,130 --> 00:52:34,800

fold along the models and post up the

1138

00:52:40,160 --> 00:52:37,140

photographs you might enjoy that on

1139

00:52:43,100 --> 00:52:40,170

Facebook and probably elsewhere there's

1140

00:52:48,080 --> 00:52:43,110

a picture going around with the word

1141

00:52:49,790 --> 00:52:48,090

corona cor ona which has six letters and

1142

00:52:51,860 --> 00:52:49,800

some bright spark has figured out that

1143

00:52:54,500 --> 00:52:51,870

if you add up all the letters together

1144

00:52:58,340 --> 00:52:54,510

in the English alphabet the total of

1145

00:53:01,670 --> 00:52:58,350

those letters comes to 66 so you get

1146

00:53:06,200 --> 00:53:01,680

Corona six and the total six six and

1147

00:53:08,270 --> 00:53:06,210

they say oh look at 666 and why we might

1148

00:53:09,920 --> 00:53:08,280

think that's a fun coincidence or

1149

00:53:12,320 --> 00:53:09,930

interesting there are actually some

1150

00:53:17,980 --> 00:53:12,330

people taking it seriously thank you do

1151
00:53:24,880 --> 00:53:21,200
work and I was looking for other words

1152
00:53:30,100 --> 00:53:24,890
six little words that also equals 66 I

1153
00:53:32,030 --> 00:53:30,110
was hoping to find a word related to the

1154
00:53:35,330 --> 00:53:32,040
paranormal but I came up with a word

1155
00:53:39,470 --> 00:53:35,340
family so there you go if Corona equals

1156
00:53:42,080 --> 00:53:39,480
666 so does the word family and you can

1157
00:53:44,900 --> 00:53:42,090
see that also at the skeptics own

1158
00:53:47,510 --> 00:53:44,910
Facebook page coming up on next week's

1159
00:53:49,760 --> 00:53:47,520
show the last in the series of the water

1160
00:53:52,100 --> 00:53:49,770
divining story with Tim Mendham more

1161
00:53:56,690 --> 00:53:52,110
logical fallacies with Michelle Becker's

1162
00:54:00,110 --> 00:53:56,700
math and whatever the week will bring us

1163
00:54:02,450 --> 00:54:00,120

and if this last month has taught us

1164

00:54:06,170 --> 00:54:02,460

anything at all is that you never know

1165

00:54:08,510 --> 00:54:06,180

what's coming you never which reminds us

1166

00:54:09,830 --> 00:54:08,520

once again that these thousands of

1167

00:54:11,600 --> 00:54:09,840

people around the world who claim they

1168

00:54:13,499 --> 00:54:11,610

can predict the future of psychic powers

1169

00:54:15,749 --> 00:54:13,509

etc etc

1170

00:54:17,849 --> 00:54:15,759

and I've been doing a lot of research on

1171

00:54:20,309 --> 00:54:17,859

this as you may well know I hope by the

1172

00:54:24,209 --> 00:54:20,319

end of the year to produce a major paper

1173

00:54:27,779 --> 00:54:24,219

on psychic predictions but no spoilers

1174

00:54:30,299 --> 00:54:27,789

roughly 90% of what psychics and seers

1175

00:54:34,529 --> 00:54:30,309

and soothsayers say about the future is

1176

00:54:36,689 --> 00:54:34,539

wrong about 90% on average and lastly as

1177

00:54:40,079 --> 00:54:36,699

ever and now more important than ever

1178

00:54:42,839 --> 00:54:40,089

thank you thank you to the patreon and

1179

00:54:48,689 --> 00:54:42,849

PayPal supporters who have kept with the

1180

00:54:50,969 --> 00:54:48,699

skeptic zone of course it means more to

1181

00:54:52,499 --> 00:54:50,979

me than you can possibly know because I

1182

00:54:54,359 --> 00:54:52,509

really do want to keep this show going

1183

00:54:58,829 --> 00:54:54,369

for your entertainment and your

1184

00:55:01,559 --> 00:54:58,839

education if you're out doing your daily

1185

00:55:03,269 --> 00:55:01,569

exercise which I hope you're doing or

1186

00:55:05,129 --> 00:55:03,279

stuck at home I hope the show means

1187

00:55:07,679 --> 00:55:05,139

something to you and I really do thank

1188

00:55:11,009 --> 00:55:07,689

you people who contribute at skeptic

1189

00:55:18,029 --> 00:55:11,019

zone TV thank you so much but for this

1190

00:55:19,379 --> 00:55:18,039

week from from a very quiet and eerie

1191

00:55:29,089 --> 00:55:19,389

Sydney Australia

1192

00:55:35,120 --> 00:55:31,620

you've been listening to the skeptic

1193

00:55:39,389 --> 00:55:35,130

zone podcast please visit our website at

1194

00:55:41,849 --> 00:55:39,399

WWF dicks on TV for show notes contacts

1195

00:55:45,899 --> 00:55:41,859

and to access the back catalog of

1196

00:55:47,609 --> 00:55:45,909

episodes going back to 2008 you can

1197

00:55:50,669 --> 00:55:47,619

follow the skeptic zone podcast on

1198

00:55:52,949 --> 00:55:50,679

twitter at skeptic zone visit our

1199

00:55:53,839 --> 00:55:52,959

facebook page or leave a review on

1200

00:55:56,519 --> 00:55:53,849

itunes

1201

00:55:59,909 --> 00:55:56,529

you can also support the skeptic zone

1202

00:56:03,299 --> 00:55:59,919

via patreon or PayPal the skeptic zone

1203

00:56:05,009 --> 00:56:03,309

podcast is an independent production the

1204

00:56:07,109 --> 00:56:05,019

views and opinions expressed on the

1205

00:56:09,479 --> 00:56:07,119

skeptic zone are not necessarily those

1206

00:56:11,290 --> 00:56:09,489

of Australian skeptics or any other

1207

00:56:21,850 --> 00:56:11,300

skeptical organisation

1208

00:56:26,840 --> 00:56:25,550

hello to all the chemi hello to all the

1209

00:56:27,650 --> 00:56:26,850

afterthoughts that people who listen

1210

00:56:32,420 --> 00:56:27,660

after the music

1211

00:56:33,380 --> 00:56:32,430

it's Richard Saunders here with what she

1212

00:56:36,460 --> 00:56:33,390

just ran out of the room

1213

00:56:38,750 --> 00:56:36,470

more The Skeptical cat was just here

1214

00:56:42,290 --> 00:56:38,760

running a scratch on the back come on

1215

00:56:45,550 --> 00:56:42,300

can't coming inside come on I'll get the

1216

00:56:47,900 --> 00:56:45,560

back scratcher out here we are just Oh

1217

00:56:54,620 --> 00:56:47,910

suddenly there's a cat what do you want

1218

00:57:00,700 --> 00:56:54,630

mmm you in a back scratch yeah no right

1219

00:57:09,500 --> 00:57:00,710

I'll give you a there we go how's that

1220

00:57:12,530 --> 00:57:09,510

hmm okay now it's time for the dice game

1221

00:57:14,090 --> 00:57:12,540

and this week because people are doing

1222

00:57:17,630 --> 00:57:14,100

lots of things at home and I'm posting

1223

00:57:20,290 --> 00:57:17,640

origami videos online this week I'm

1224

00:57:22,970 --> 00:57:20,300

going to use a six-sided dice die

1225

00:57:23,390 --> 00:57:22,980

six-sided dice made from paper I kid you

1226

00:57:27,560 --> 00:57:23,400

not

1227

00:57:31,040 --> 00:57:27,570

here it is I know you can't see it but

1228

00:57:34,030 --> 00:57:31,050

it is a it's not a cube in sort of a

1229

00:57:36,290 --> 00:57:34,040

weird six-sided shape

1230

00:57:40,910 --> 00:57:36,300

regardless hmm have to look that up

1231

00:57:45,040 --> 00:57:40,920

anyway it works it works so everybody at

1232

00:57:47,240 --> 00:57:45,050

home use your psychic abilities oh yeah

1233

00:57:50,260 --> 00:57:47,250

it's actually there is lots of comment

1234

00:57:52,670 --> 00:57:50,270

on the Internet at the moment how

1235

00:57:55,010 --> 00:57:52,680

psychics completely and utterly failed

1236

00:57:57,560 --> 00:57:55,020

to predict the biggest event since World

1237

00:58:02,600 --> 00:57:57,570

War two but there you go we might do

1238

00:58:04,520 --> 00:58:02,610

more of this later predict away one two

1239

00:58:06,470 --> 00:58:04,530

three four five or six here we go what

1240

00:58:11,210 --> 00:58:06,480

number are you thinking of rolling the

1241

00:58:15,410 --> 00:58:11,220

origami dice five first number this week

1242

00:58:18,530 --> 00:58:15,420

is five all right next number coming up

1243

00:58:31,430 --> 00:58:23,360

four five and four all right that's my

1244

00:58:33,980 --> 00:58:31,440

age how about that and last one to this

1245

00:58:37,880 --> 00:58:33,990

week's origami numbers are five four and