

1
00:00:05,950 --> 00:00:13,679
welcome to the skeptic zone the podcast

2
00:00:09,099 --> 00:00:13,679
from Australia for science and reason

3
00:00:22,920 --> 00:00:29,679
hello and welcome to the skeptic zone

4
00:00:25,719 --> 00:00:32,469
episode number 255 on the 8th of sep

5
00:00:29,679 --> 00:00:35,439
tember 2013 Richard Saunders here with

6
00:00:32,469 --> 00:00:37,810
you from Sydney Australia on today's

7
00:00:35,439 --> 00:00:41,170
show on Today Show well recently in the

8
00:00:37,810 --> 00:00:43,030
past week in fact I went to visit some

9
00:00:41,170 --> 00:00:45,780
friends and give some talks in Melbourne

10
00:00:43,030 --> 00:00:49,058
and I was very lucky at the same time

11
00:00:45,780 --> 00:00:51,189
dr. Colin right was visiting now dr.

12
00:00:49,058 --> 00:00:54,128
Colin right is a juggler he's a

13
00:00:51,189 --> 00:00:56,018
mathematician and he's the sort of

14
00:00:54,128 --> 00:00:57,820
otherworldly character who does all

15
00:00:56,018 --> 00:00:59,969
sorts of crazy fun things full of

16
00:00:57,820 --> 00:01:04,170
puzzles full of interesting things

17
00:00:59,969 --> 00:01:07,150
involved with the maths jam.com

18
00:01:04,170 --> 00:01:09,370
organization I caught up with dr. Colin

19
00:01:07,150 --> 00:01:11,950
right in a cafe in Melbourne where he

20
00:01:09,370 --> 00:01:16,060
teaches me a new memory trick talks

21
00:01:11,950 --> 00:01:19,290
about infinity and infinity you'll

22
00:01:16,060 --> 00:01:22,719
understand soon juggling mathematics and

23
00:01:19,290 --> 00:01:26,020
neckties and after that it's Maynard

24
00:01:22,719 --> 00:01:29,170
spooky action may not talks with Hubert

25
00:01:26,019 --> 00:01:31,989
Vandenberg about his book how to sound

26
00:01:29,170 --> 00:01:34,680
clever master the 600 English words you

27
00:01:31,989 --> 00:01:38,199
pretend to understand when you don't

28
00:01:34,680 --> 00:01:40,900
that's very interesting for people in

29

00:01:38,200 --> 00:01:43,420
this scientifica outlook I suppose the

30
00:01:40,900 --> 00:01:44,710
scientific organization the industry

31
00:01:43,420 --> 00:01:46,719
though what so what I'm looking for I

32
00:01:44,709 --> 00:01:49,269
better read his book it's always

33
00:01:46,719 --> 00:01:50,769
important that you sound clever yes I

34
00:01:49,269 --> 00:01:52,450
think that's very important anyway that

35
00:01:50,769 --> 00:01:55,299
interviews coming up a little later on

36
00:01:52,450 --> 00:01:57,250
in the show and of course we have the

37
00:01:55,299 --> 00:01:59,950
weakened science from our good friends

38
00:01:57,250 --> 00:02:05,829
at the Royal Institution of Australia w

39
00:01:59,950 --> 00:02:07,840
WR I a USO geoau and to round off the

40
00:02:05,829 --> 00:02:09,818
show one from the vaults one from the

41
00:02:07,840 --> 00:02:12,189
digital audio volts I've been looking

42
00:02:09,818 --> 00:02:15,369
through recently some he is back I was a

43
00:02:12,189 --> 00:02:18,699

guest on Cindy radio with their host

44

00:02:15,370 --> 00:02:22,150

Mike Williams and we discuss spontaneous

45

00:02:18,699 --> 00:02:24,250

human combustion and fire walking now

46

00:02:22,150 --> 00:02:26,890

some important notes before we get into

47

00:02:24,250 --> 00:02:28,930

the show a big thank you to my friends

48

00:02:26,889 --> 00:02:31,149

in Melbourne at the amore Alec skeptics

49

00:02:28,930 --> 00:02:32,590

and the Victorian skeptics if you want

50

00:02:31,150 --> 00:02:34,180

to find out more about the Victorian

51

00:02:32,590 --> 00:02:37,390

skeptics and the fine work they do

52

00:02:34,180 --> 00:02:39,730

visit vic skeptics dot wordpress com I

53

00:02:37,389 --> 00:02:43,119

gave a talk down there the Maury attic

54

00:02:39,729 --> 00:02:45,669

sporting club great turnout thanks for

55

00:02:43,120 --> 00:02:48,340

everybody who came along and good news

56

00:02:45,669 --> 00:02:51,009

for sydneyiders skeptic camp is coming

57

00:02:48,340 --> 00:02:53,769

up once again skepta camp at the

58
00:02:51,009 --> 00:02:56,348
university of technology on the twelfth

59
00:02:53,769 --> 00:02:58,780
of october from ten a.m. more news about

60
00:02:56,348 --> 00:03:00,759
that in the coming weeks skeptic camp in

61
00:02:58,780 --> 00:03:04,060
sydney it's been going for some years

62
00:03:00,759 --> 00:03:07,209
now always a great event also good news

63
00:03:04,060 --> 00:03:10,840
for Sydneysiders on sunday the fifteenth

64
00:03:07,209 --> 00:03:12,789
of September so that's Sunday a little

65
00:03:10,840 --> 00:03:15,098
over a week away at five-thirty p.m.

66
00:03:12,789 --> 00:03:17,318
there's a special an extra special

67
00:03:15,098 --> 00:03:19,539
Sydney skeptics in the pub with dr.

68
00:03:17,318 --> 00:03:21,310
Pamela gay now this is going to be at

69
00:03:19,539 --> 00:03:24,578
the crown hotel which is at the corner

70
00:03:21,310 --> 00:03:27,250
of Elizabeth and Goulburn streets best

71
00:03:24,579 --> 00:03:30,129
thing to do is to visit w WC upticks

72
00:03:27,250 --> 00:03:32,438
comdata you and find out more there will

73
00:03:30,128 --> 00:03:36,310
be a ten-dollar door fee but all profits

74
00:03:32,438 --> 00:03:38,408
will go to Pamela's Cosmo quest program

75
00:03:36,310 --> 00:03:40,239
wow I can't wait for that one it's going

76
00:03:38,408 --> 00:03:43,328
to be wonderful to see dr. Pamela gay

77
00:03:40,239 --> 00:03:45,099
very soon and another highlight for

78
00:03:43,329 --> 00:03:47,469
Blackie people in Sydney on the

79
00:03:45,098 --> 00:03:51,339
twenty-eighth of September there's the

80
00:03:47,469 --> 00:03:53,639
Australian skeptics dinner meeting or

81
00:03:51,340 --> 00:03:57,870
this one's going to be good glitzy give

82
00:03:53,639 --> 00:04:02,169
gives a talk about the science behind

83
00:03:57,870 --> 00:04:04,299
chocolate oh ho man oh she makes this

84
00:04:02,169 --> 00:04:08,349
chocolate which is a combination of blue

85
00:04:04,299 --> 00:04:11,979
cheese and dark chocolate it's it's

86

00:04:08,348 --> 00:04:14,378
incredible it's sensational mmm more

87
00:04:11,979 --> 00:04:16,209
details go to the website but that

88
00:04:14,378 --> 00:04:18,608
didn't talk for you Sydneysiders get

89
00:04:16,209 --> 00:04:20,918
your tickets while you still can popular

90
00:04:18,608 --> 00:04:22,839
topic on the twenty-eighth of September

91
00:04:20,918 --> 00:04:26,079
now when i was in melbourne i was

92
00:04:22,839 --> 00:04:29,560
actually a requested by somebody if I

93
00:04:26,079 --> 00:04:31,990
could do this dice thing again I cut my

94
00:04:29,560 --> 00:04:33,908
20-sided dice I got a giant one this is

95
00:04:31,990 --> 00:04:36,579
huge this is when I picked up in Dragon

96
00:04:33,908 --> 00:04:39,610
Con about five years ago it's a giant

97
00:04:36,579 --> 00:04:41,589
20-sided die all right everybody here we

98
00:04:39,610 --> 00:04:44,020
go it's that time again think of a

99
00:04:41,589 --> 00:04:45,819
number one two three four five all the

100
00:04:44,019 --> 00:04:47,500

way to 20 are you thinking let's see how

101

00:04:45,819 --> 00:04:53,349

good you are predicting

102

00:04:47,500 --> 00:04:55,959

and here we go 15 and with that thought

103

00:04:53,350 --> 00:04:57,760

in my head I'm gonna run downstairs see

104

00:04:55,959 --> 00:05:01,889

if I have any blue cheese and crackers

105

00:04:57,759 --> 00:05:01,889

while we all enjoy the skeptics

106

00:05:20,449 --> 00:05:25,979

standing up those are the days shouldn't

107

00:05:22,829 --> 00:05:27,779

go in scale ok there's a line of city

108

00:05:25,980 --> 00:05:30,180

it's all changer than all proportion

109

00:05:27,779 --> 00:05:31,799

episode dr. Steve Roberts is of course

110

00:05:30,180 --> 00:05:33,750

whinging about the good old days for the

111

00:05:31,800 --> 00:05:36,090

Berlin Wall perks are here we had tanks

112

00:05:33,750 --> 00:05:39,149

and pointed guns at each other somebody

113

00:05:36,089 --> 00:05:41,519

sneezes actually look sorry goes flying

114

00:05:39,149 --> 00:05:43,919

over the wall with those are those are

115
00:05:41,519 --> 00:05:46,379
the day I'm sitting here with dr. Colin

116
00:05:43,920 --> 00:05:48,240
right who I met in QED twice now twice

117
00:05:46,379 --> 00:05:50,009
now twice now good to catch up either

118
00:05:48,240 --> 00:05:52,079
way I'm in Melbourne to give some talks

119
00:05:50,009 --> 00:05:54,029
and you're in town at the same time

120
00:05:52,079 --> 00:05:57,359
happen to be visiting my parents from

121
00:05:54,029 --> 00:05:59,069
the UK so yeah so managed to catch up

122
00:05:57,360 --> 00:06:01,319
with you which is a bit of an added

123
00:05:59,069 --> 00:06:03,569
bonus we've had a good day went win big

124
00:06:01,319 --> 00:06:05,670
and books yes and found a book that I

125
00:06:03,569 --> 00:06:07,170
want it actually I found 30 books I

126
00:06:05,670 --> 00:06:09,600
wanted but I can't ship them all back to

127
00:06:07,170 --> 00:06:11,400
the UK so I only bought one very

128
00:06:09,600 --> 00:06:14,490
restrained which what did you buy I

129
00:06:11,399 --> 00:06:18,089
think I bought one by terry pratchett on

130
00:06:14,490 --> 00:06:21,329
on poo actually improve on Pooh yet not

131
00:06:18,089 --> 00:06:23,399
to bear but but who in one of terry

132
00:06:21,329 --> 00:06:25,560
pratchett's books a young lad is it

133
00:06:23,399 --> 00:06:28,139
becomes very fascinated with animals and

134
00:06:25,560 --> 00:06:29,819
their products oh one of which is is

135
00:06:28,139 --> 00:06:31,500
poop then we haven't read the book yet

136
00:06:29,819 --> 00:06:34,680
so I don't exactly know what it's about

137
00:06:31,500 --> 00:06:36,449
it's about food I should imagine it's

138
00:06:34,680 --> 00:06:43,680
about food does it have scratch and

139
00:06:36,449 --> 00:06:45,509
smell pages now why don't you tell our

140
00:06:43,680 --> 00:06:47,850
audience once again remind them of that

141
00:06:45,509 --> 00:06:49,620
fabulous Maps opportunity that awaits

142
00:06:47,850 --> 00:06:52,350
them all around the world oh the mass

143

00:06:49,620 --> 00:06:54,870
jst air mass jam math Jam is a movement

144
00:06:52,350 --> 00:06:57,270
sort of thing that Matt Park has started

145
00:06:54,870 --> 00:06:59,310
in London he he got together with a few

146
00:06:57,269 --> 00:07:01,079
friends one evening and they started

147
00:06:59,310 --> 00:07:02,490
swapping puzzles and at the end of the

148
00:07:01,079 --> 00:07:04,769
evening said that that had such a good

149
00:07:02,490 --> 00:07:07,139
time they just had to do it again and as

150
00:07:04,769 --> 00:07:08,699
you can imagine normally when you say

151
00:07:07,139 --> 00:07:10,680
something like that nothing ever happens

152
00:07:08,699 --> 00:07:12,389
that somebody pulled out their Diaries

153
00:07:10,680 --> 00:07:15,168
it will how about next month so they

154
00:07:12,389 --> 00:07:17,478
ended up meeting on the second last tues

155
00:07:15,168 --> 00:07:20,240
the month in this London pub swapping

156
00:07:17,478 --> 00:07:22,128
puzzles and tricks and games and just

157
00:07:20,240 --> 00:07:24,560

talking about maths generally but not

158

00:07:22,129 --> 00:07:27,110
sort of deep academic math but

159

00:07:24,560 --> 00:07:28,968
recreational Matt yeah where you've got

160

00:07:27,110 --> 00:07:31,580
puzzles and undies you cut yeah exactly

161

00:07:28,968 --> 00:07:33,740
so exactly so and so other people

162

00:07:31,579 --> 00:07:35,120
started to do this so people in

163

00:07:33,740 --> 00:07:38,478
Manchester are doing in fact they're

164

00:07:35,120 --> 00:07:41,120
about 14 places in the UK but there's

165

00:07:38,478 --> 00:07:42,800
also a meeting here in Melbourne second

166

00:07:41,120 --> 00:07:44,959
last Tuesday of the month seven o'clock

167

00:07:42,800 --> 00:07:46,669
and do you know where they mean i think

168

00:07:44,959 --> 00:07:48,649
that the bull and bear in flinders lane

169

00:07:46,668 --> 00:07:50,918
you know that Easton I don't know it all

170

00:07:48,649 --> 00:07:53,658
don't know but it's very easy to find

171

00:07:50,918 --> 00:07:56,109
there's a meeting that comes and goes in

172
00:07:53,658 --> 00:07:58,459
/ but there is a couple in the US and

173
00:07:56,110 --> 00:08:01,038
there's a one in Portugal and a few

174
00:07:58,459 --> 00:08:02,838
around but there's also the annual mask

175
00:08:01,038 --> 00:08:05,598
a meeting which is coming up on the

176
00:08:02,838 --> 00:08:08,689
first weekend of November in the UK

177
00:08:05,598 --> 00:08:10,598
that's a full weekend of people getting

178
00:08:08,689 --> 00:08:12,919
together and just talking about

179
00:08:10,598 --> 00:08:17,569
recreational maths and puzzles and games

180
00:08:12,918 --> 00:08:19,728
and stuff like that wow wow any keen

181
00:08:17,569 --> 00:08:21,979
entrepreneur they would go along and

182
00:08:19,728 --> 00:08:23,990
make lots of notes for a book I could

183
00:08:21,978 --> 00:08:26,508
certainly do that although we do have

184
00:08:23,990 --> 00:08:29,149
some rules oh yes yet the first rule is

185
00:08:26,509 --> 00:08:31,460
that you're there to share so somebody's

186
00:08:29,149 --> 00:08:33,288
there and just making notes that it will

187
00:08:31,459 --> 00:08:35,088
be noted and they don't know somebody

188
00:08:33,288 --> 00:08:37,458
will come up and say well yeah show us

189
00:08:35,089 --> 00:08:40,159
something then but it's never happened

190
00:08:37,458 --> 00:08:42,018
yet so we we don't really know what

191
00:08:40,158 --> 00:08:45,259
we'll do if somebody does that but

192
00:08:42,019 --> 00:08:48,049
there's people there are keen on sharing

193
00:08:45,259 --> 00:08:49,730
what they know keen on showing people

194
00:08:48,049 --> 00:08:51,769
things that are new and then learning

195
00:08:49,730 --> 00:08:53,990
things in return because everybody just

196
00:08:51,769 --> 00:08:56,419
wants to enthuse about this subject is

197
00:08:53,990 --> 00:08:58,850
the ideal place second rule by the way

198
00:08:56,419 --> 00:09:00,349
is that you have to enjoy yourself yeah

199
00:08:58,850 --> 00:09:01,879
so if you see something that if you see

200

00:09:00,350 --> 00:09:03,560
something that's wrong then just go and

201
00:09:01,879 --> 00:09:05,568
fix it don't moan about it just fix it

202
00:09:03,559 --> 00:09:07,518
and the third rule is that if somebody

203
00:09:05,568 --> 00:09:09,948
else is enjoying themselves you're not

204
00:09:07,519 --> 00:09:11,419
allowed to stop them so if you know the

205
00:09:09,948 --> 00:09:12,569
answer to a puzzle that they're working

206
00:09:11,419 --> 00:09:14,639
on

207
00:09:12,570 --> 00:09:16,710
you can go and be smug yeah about it

208
00:09:14,639 --> 00:09:18,449
grin away but you're not allowed to give

209
00:09:16,710 --> 00:09:20,759
them a hint right unless they explicitly

210
00:09:18,450 --> 00:09:23,129
ask you for it no spoilers no spoilers

211
00:09:20,759 --> 00:09:24,720
absolutely no spoilers so if they come

212
00:09:23,129 --> 00:09:26,879
up and say look I'm really stuck on this

213
00:09:24,720 --> 00:09:28,200
give me a hint then that's fine but if

214
00:09:26,879 --> 00:09:29,909

they're working on it for some of them

215

00:09:28,200 --> 00:09:32,700

that's their enjoyment that's the way

216

00:09:29,909 --> 00:09:33,959

they love to spend time doing this so so

217

00:09:32,700 --> 00:09:35,910

you're not allowed to spoil somebody

218

00:09:33,960 --> 00:09:37,470

else's enjoyment this is the fourth one

219

00:09:35,909 --> 00:09:39,480

with hat and so far they've been great

220

00:09:37,470 --> 00:09:41,820

success fourth annual the fourth annual

221

00:09:39,480 --> 00:09:43,680

ow yeah so the mass trans have been

222

00:09:41,820 --> 00:09:47,100

running for about five and a half years

223

00:09:43,679 --> 00:09:49,259

now the the monthly meetings so we've

224

00:09:47,100 --> 00:09:50,550

started up the annual gathering just

225

00:09:49,259 --> 00:09:52,319

sort of a reflection of the gathering

226

00:09:50,549 --> 00:09:54,719

for gardener which is a similar fists in

227

00:09:52,320 --> 00:09:56,400

the US and the colloquium of

228

00:09:54,720 --> 00:09:59,160

recreational maths which is run in

229
00:09:56,399 --> 00:10:01,019
Portugal every two years so gathering

230
00:09:59,159 --> 00:10:02,669
for gardener recreational master's

231
00:10:01,019 --> 00:10:05,159
program and they bounce back and forth

232
00:10:02,669 --> 00:10:07,649
every two years each and the ref stamp

233
00:10:05,159 --> 00:10:09,839
sort of sits between that and where can

234
00:10:07,649 --> 00:10:13,949
people go to find out more about mass

235
00:10:09,840 --> 00:10:16,200
gen 0 ww ms jan calm that's difficult

236
00:10:13,950 --> 00:10:18,450
revenge didn't um if you told me

237
00:10:16,200 --> 00:10:21,740
something earlier today oh yeah we

238
00:10:18,450 --> 00:10:24,780
worked out my bacon number by doing this

239
00:10:21,740 --> 00:10:26,730
I'm a bacon number of two yeah we do

240
00:10:24,779 --> 00:10:29,519
Hugh Jackman that's right you do the let

241
00:10:26,730 --> 00:10:31,470
everybody I'll we're in the cafe into

242
00:10:29,519 --> 00:10:34,049
the cafe sound effects you hear in the

243
00:10:31,470 --> 00:10:37,560
background but you told me a way of a

244
00:10:34,049 --> 00:10:38,909
memory trick oh yeah just if you want to

245
00:10:37,559 --> 00:10:42,059
remember something and it's just this

246
00:10:38,909 --> 00:10:44,279
random fact that's not connected to

247
00:10:42,059 --> 00:10:45,959
anything else usually you can connect

248
00:10:44,279 --> 00:10:48,269
something into something else you

249
00:10:45,960 --> 00:10:49,950
already know to create a patent or a

250
00:10:48,269 --> 00:10:51,689
structure which helps you remember it

251
00:10:49,950 --> 00:10:53,310
which is the way memory champions do

252
00:10:51,690 --> 00:10:55,230
this sort of thing there's a technique

253
00:10:53,309 --> 00:10:58,469
known as spaced repetition spaced

254
00:10:55,230 --> 00:11:02,000
repetition repetition taste yes base

255
00:10:58,470 --> 00:11:05,910
ready yeah so you think to yourself okay

256
00:11:02,000 --> 00:11:07,350
random fact about something got no idea

257

00:11:05,909 --> 00:11:11,129
can really hopeless of pulling these

258
00:11:07,350 --> 00:11:13,529
things out yeah i equals 3.14159265 35

259
00:11:11,129 --> 00:11:15,330
so you just write that down and you look

260
00:11:13,529 --> 00:11:17,009
at it you think okay try and remember it

261
00:11:15,330 --> 00:11:17,379
close my eyes recited try and remember

262
00:11:17,009 --> 00:11:19,328
it

263
00:11:17,379 --> 00:11:22,209
put it down and then one minute later

264
00:11:19,328 --> 00:11:23,738
try to recall it okay and if you do

265
00:11:22,208 --> 00:11:25,628
reasonably if you don't do reasonably

266
00:11:23,739 --> 00:11:27,129
well then one minute after that do it

267
00:11:25,629 --> 00:11:29,379
again right are you doing it one minute

268
00:11:27,129 --> 00:11:32,019
spacing until you remember it for that

269
00:11:29,379 --> 00:11:34,269
and then put it off to two minute

270
00:11:32,019 --> 00:11:35,918
spacing so double the 3rd and then if

271
00:11:34,269 --> 00:11:38,528

you if you do reasonably well then go

272

00:11:35,918 --> 00:11:40,928

out to five minutes and go out to 10

273

00:11:38,528 --> 00:11:43,328

minutes each time more or less doubling

274

00:11:40,928 --> 00:11:45,698

the gap and if you find that you falter

275

00:11:43,328 --> 00:11:47,738

then keep it at that gap until you're

276

00:11:45,698 --> 00:11:49,658

okay and then start doubling the gap

277

00:11:47,739 --> 00:11:52,989

again and it doesn't take very many

278

00:11:49,658 --> 00:11:54,220

doubling to have it one day apart so

279

00:11:52,989 --> 00:11:56,229

it's pull it out look at it in the

280

00:11:54,220 --> 00:11:58,389

morning to refresh your memory you do

281

00:11:56,229 --> 00:11:59,799

that two days in a row and then do it

282

00:11:58,389 --> 00:12:02,139

later in that week and then do it the

283

00:11:59,798 --> 00:12:03,848

next week and you suddenly find that

284

00:12:02,139 --> 00:12:06,369

it's a month before you need to remind

285

00:12:03,849 --> 00:12:08,979

you just pull it out yeah if you never

286
00:12:06,369 --> 00:12:10,989
use it you need to keep refreshing it it

287
00:12:08,979 --> 00:12:13,059
sort of one month's notice or two months

288
00:12:10,989 --> 00:12:15,129
notice but if you use it once a month

289
00:12:13,058 --> 00:12:17,858
there you are you've already got it

290
00:12:15,129 --> 00:12:20,889
often enough that it's keeping it fresh

291
00:12:17,859 --> 00:12:24,249
enough and it's just a great technique

292
00:12:20,889 --> 00:12:27,278
for memorizing stuff so my wife and I

293
00:12:24,249 --> 00:12:30,339
memorized poetry like this you can

294
00:12:27,278 --> 00:12:32,558
remember theorems for exams you can

295
00:12:30,339 --> 00:12:35,019
remember bits of prose you can remember

296
00:12:32,558 --> 00:12:36,938
magic tricks bits of manipulation

297
00:12:35,019 --> 00:12:39,188
anything you need to remember so it's

298
00:12:36,938 --> 00:12:41,558
not just memorizing a sequence of words

299
00:12:39,188 --> 00:12:44,288
so to speak like a poem or a theorem or

300
00:12:41,558 --> 00:12:46,778
something but a technique yeah if and

301
00:12:44,288 --> 00:12:49,629
spaced repetition is a technique to

302
00:12:46,778 --> 00:12:51,338
memorize anything that you can keep with

303
00:12:49,629 --> 00:12:54,339
a bit of practice it helps you to

304
00:12:51,339 --> 00:12:56,409
practice it often enough so practice it

305
00:12:54,339 --> 00:12:58,329
now and again then double the spacing

306
00:12:56,408 --> 00:13:00,399
practica should try that with origami

307
00:12:58,328 --> 00:13:02,198
yeah no I mean you I'm sure you'll find

308
00:13:00,399 --> 00:13:04,869
it there it was you fold it yeah that

309
00:13:02,198 --> 00:13:07,149
you forgot oh my god there are meaning

310
00:13:04,869 --> 00:13:09,278
yeah mini I someone else enemy or can

311
00:13:07,149 --> 00:13:11,350
you make this that's great I get a bit

312
00:13:09,278 --> 00:13:13,808
of paper out and that what do I do next

313
00:13:11,350 --> 00:13:15,278
yeah because my it's been a long time

314

00:13:13,808 --> 00:13:16,699
since I've made it there are some things

315
00:13:15,278 --> 00:13:18,350
in fact I can make up

316
00:13:16,700 --> 00:13:20,509
20 years because they're so ingrained in

317
00:13:18,350 --> 00:13:22,610
my head but there are a number of things

318
00:13:20,509 --> 00:13:24,500
that I have to quickly refer back to my

319
00:13:22,610 --> 00:13:26,419
notes I never mind doing that no it's

320
00:13:24,500 --> 00:13:27,860
more fun to do it just if you can do it

321
00:13:26,419 --> 00:13:29,360
just on but yeah I and the flight the

322
00:13:27,860 --> 00:13:30,560
same with juggling campus people will

323
00:13:29,360 --> 00:13:32,300
come to me and say can you juggle this

324
00:13:30,559 --> 00:13:33,889
can you juggle this and I'll go yeah and

325
00:13:32,299 --> 00:13:36,349
then I get pick up the balls my body

326
00:13:33,889 --> 00:13:38,539
just won't do it so if you have a list

327
00:13:36,350 --> 00:13:40,009
of things start with one of them

328
00:13:38,539 --> 00:13:41,539

practice it sort of every five minutes

329

00:13:40,009 --> 00:13:43,399

every 10 minutes every hour and then

330

00:13:41,539 --> 00:13:44,659

then you find that you largely got that

331

00:13:43,399 --> 00:13:47,240

under control but you need to come back

332

00:13:44,659 --> 00:13:48,829

to it the next day and so it is that you

333

00:13:47,240 --> 00:13:50,930

can start to build up your episodes long

334

00:13:48,830 --> 00:13:52,520

as you revisit your repertoire yea or

335

00:13:50,929 --> 00:13:54,709

nah and when you want to get a new one

336

00:13:52,519 --> 00:13:56,120

to add to it well first of all you've

337

00:13:54,710 --> 00:13:58,100

got your body of experience which will

338

00:13:56,120 --> 00:13:59,509

help you yeah but do it once do it again

339

00:13:58,100 --> 00:14:01,250

immediately do it again a little bit

340

00:13:59,509 --> 00:14:03,230

later get distracted by conversation to

341

00:14:01,250 --> 00:14:06,470

it again 10 minutes later and come back

342

00:14:03,230 --> 00:14:09,920

to it with increasing gaps repeating

343
00:14:06,470 --> 00:14:12,740
them at a spacing that increases but a

344
00:14:09,919 --> 00:14:14,719
spaced repetition where did you it's all

345
00:14:12,740 --> 00:14:16,700
like I don't remember reading about it's

346
00:14:14,720 --> 00:14:19,310
all over this works you can find notice

347
00:14:16,700 --> 00:14:21,440
that knowing that didn't work because I

348
00:14:19,309 --> 00:14:23,269
know once I've got the technique yeah I

349
00:14:21,440 --> 00:14:25,520
should I should do more to remember

350
00:14:23,269 --> 00:14:27,350
where I find things that's a really bad

351
00:14:25,519 --> 00:14:29,269
thing that I do forget where I find

352
00:14:27,350 --> 00:14:30,560
things I should remove your valence are

353
00:14:29,269 --> 00:14:32,629
you tried it and it worked as works

354
00:14:30,559 --> 00:14:34,549
brilliantly works brilliantly yeah I've

355
00:14:32,629 --> 00:14:36,350
remembered a couple of poems using this

356
00:14:34,549 --> 00:14:39,289
technique some some mathematics and

357
00:14:36,350 --> 00:14:41,210
tricks and some puzzles it's just works

358
00:14:39,289 --> 00:14:43,549
for intently well when I lead people I

359
00:14:41,210 --> 00:14:45,350
try it and I meet so many people it's

360
00:14:43,549 --> 00:14:47,599
very difficult but you look at the face

361
00:14:45,350 --> 00:14:50,180
when you look at something on the face

362
00:14:47,600 --> 00:14:52,129
and you associate the name and

363
00:14:50,179 --> 00:14:53,659
and you try to make that click I sounded

364
00:14:52,129 --> 00:14:55,070
a new job once many years ago and I

365
00:14:53,659 --> 00:14:57,559
tried that technique with everybody in

366
00:14:55,070 --> 00:14:59,360
the office I don't work like yeah just

367
00:14:57,559 --> 00:15:00,709
worked it just it's just a matter of

368
00:14:59,360 --> 00:15:02,149
making sure you do that when you meet

369
00:15:00,710 --> 00:15:03,740
someone yeah it's also a problem though

370
00:15:02,149 --> 00:15:05,419
sometimes if you if you think all this

371

00:15:03,740 --> 00:15:08,450
person's got a big nose and soil

372
00:15:05,419 --> 00:15:10,579
remembers its name it's a big names

373
00:15:08,450 --> 00:15:12,050
named Bartholomew it starts with a be

374
00:15:10,580 --> 00:15:13,550
and of course you meet you meet by

375
00:15:12,049 --> 00:15:16,629
following me again you think big nose

376
00:15:13,549 --> 00:15:20,389
big nose big nose hole what is the name

377
00:15:16,629 --> 00:15:22,639
so difficult sometimes to move from the

378
00:15:20,389 --> 00:15:24,350
mnemonic to the name so you do need to

379
00:15:22,639 --> 00:15:26,299
be a little bit careful some now how can

380
00:15:24,350 --> 00:15:28,310
people in the UK because that's where

381
00:15:26,299 --> 00:15:30,528
your base out I'm am catch your you're

382
00:15:28,309 --> 00:15:32,659
juggling act or your talks well if you

383
00:15:30,528 --> 00:15:34,909
actually just google for my name call in

384
00:15:32,659 --> 00:15:37,159
right juggling that will do for it would

385
00:15:34,909 --> 00:15:38,778

call in right maths that will do Colin

386

00:15:37,159 --> 00:15:40,039

writes a fairly common name so there are

387

00:15:38,778 --> 00:15:42,169

quite a lot of other people including

388

00:15:40,039 --> 00:15:43,939

some people with big internet presences

389

00:15:42,169 --> 00:15:47,349

so if you're just out juggling or mats

390

00:15:43,940 --> 00:15:55,040

on that my website is difficult to spell

391

00:15:47,350 --> 00:15:56,750

solipsist co uk s.o.l lpsy s co uk but

392

00:15:55,039 --> 00:15:59,208

googling for me is the easiest thing

393

00:15:56,750 --> 00:16:00,740

that not only you'd give talks on

394

00:15:59,208 --> 00:16:02,179

mathematics and juggling where you give

395

00:16:00,740 --> 00:16:04,789

general mathematics talks anyway

396

00:16:02,179 --> 00:16:07,278

absolutely I do around about 120 talks a

397

00:16:04,789 --> 00:16:08,870

year and only 70 or 80 of them are on

398

00:16:07,278 --> 00:16:11,480

juggling the other ones are on things

399

00:16:08,870 --> 00:16:13,879

like topology or infinity or getting

400
00:16:11,480 --> 00:16:16,159
lost in two thousand dimensions or the

401
00:16:13,879 --> 00:16:18,980
physics of radar and then your job is it

402
00:16:16,159 --> 00:16:20,778
is there's more than one infinity

403
00:16:18,980 --> 00:16:22,670
there's more than one size of invalidity

404
00:16:20,778 --> 00:16:24,620
but there's also more than one type of

405
00:16:22,669 --> 00:16:26,750
infinity because there's more than one

406
00:16:24,620 --> 00:16:29,509
type of counting we can we can count

407
00:16:26,750 --> 00:16:31,278
things in how many there are 1 2 3 4 but

408
00:16:29,509 --> 00:16:33,860
we can also count where things are in

409
00:16:31,278 --> 00:16:36,950
line first second third fourth yeah and

410
00:16:33,860 --> 00:16:40,009
if you try and push that to extremist

411
00:16:36,950 --> 00:16:41,420
and think about infinity you can talk

412
00:16:40,009 --> 00:16:44,028
about how many things there are in a

413
00:16:41,419 --> 00:16:46,490
sack yes but there's also a model of

414
00:16:44,028 --> 00:16:48,740
arithmetic in infinity where it matters

415
00:16:46,490 --> 00:16:50,839
which order they come in so if you

416
00:16:48,740 --> 00:16:52,700
imagine having an infinitely line called

417
00:16:50,839 --> 00:16:53,560
a linkedin Utley long line of things

418
00:16:52,700 --> 00:16:55,090
like my

419
00:16:53,559 --> 00:16:56,829
just the numbers themselves not one two

420
00:16:55,090 --> 00:16:58,778
three four votes on and look at it from

421
00:16:56,830 --> 00:17:00,550
a distance it's a great long line of be

422
00:16:58,778 --> 00:17:03,070
stretching off into the distance further

423
00:17:00,549 --> 00:17:04,779
than you can see yes now if you put one

424
00:17:03,070 --> 00:17:06,818
on the front yeah let's just call that

425
00:17:04,779 --> 00:17:09,250
Omega little Annika yes I'd like a curly

426
00:17:06,818 --> 00:17:11,920
W that Omega if you put one on the front

427
00:17:09,250 --> 00:17:14,170
if you take 1 plus Omega but look at it

428

00:17:11,920 --> 00:17:16,539
from a distance it still looks the same

429
00:17:14,170 --> 00:17:19,420
yeah right but if you put one at the

430
00:17:16,539 --> 00:17:21,519
other end if you take omega plus one

431
00:17:19,420 --> 00:17:22,930
yeah now it looks different because

432
00:17:21,519 --> 00:17:25,990
there's something that's bigger than

433
00:17:22,930 --> 00:17:32,080
everything else so there is a last thing

434
00:17:25,990 --> 00:17:33,460
in that case right this is this is the

435
00:17:32,079 --> 00:17:36,819
kind of thing with is actually entire

436
00:17:33,460 --> 00:17:38,740
year university course on arithmetic

437
00:17:36,819 --> 00:17:41,079
beyond the infinite trans finite

438
00:17:38,740 --> 00:17:43,660
arithmetic but if you if you keep the

439
00:17:41,079 --> 00:17:45,579
ordering of things and then try and say

440
00:17:43,660 --> 00:17:48,310
well I want to work with infinity what

441
00:17:45,579 --> 00:17:50,139
happens you get a different arithmetic

442
00:17:48,309 --> 00:17:52,419

than if you just talk about how many

443

00:17:50,140 --> 00:17:53,620

things there are in this sack because if

444

00:17:52,420 --> 00:17:55,360

there's this collection of things in a

445

00:17:53,619 --> 00:17:57,159

second to chat oneindia can't tell the

446

00:17:55,359 --> 00:17:58,599

difference you take two sacks with

447

00:17:57,160 --> 00:18:01,090

infinitely many things and mix them up

448

00:17:58,599 --> 00:18:03,909

you can't tell the difference so it's

449

00:18:01,089 --> 00:18:06,759

difficult to get a bigger infinity but

450

00:18:03,910 --> 00:18:09,429

you can do it and a guy called girdle in

451

00:18:06,759 --> 00:18:12,129

the early 1900's did that actually late

452

00:18:09,429 --> 00:18:14,980

1800s served it did the primary work on

453

00:18:12,130 --> 00:18:17,260

it 1870s did that but it's fascinating

454

00:18:14,980 --> 00:18:21,789

area utterly mind-blowing and it turns

455

00:18:17,259 --> 00:18:24,039

out to be surprisingly useful as a way

456

00:18:21,789 --> 00:18:26,678

of dealing with things above the level

457
00:18:24,039 --> 00:18:27,849
of detail so when you deal with pictures

458
00:18:26,679 --> 00:18:30,070
you want to imagine that that's

459
00:18:27,849 --> 00:18:32,949
perfectly continuous and only afterwards

460
00:18:30,069 --> 00:18:34,899
come to the pixel version where you've

461
00:18:32,950 --> 00:18:37,090
got little cells of color so it's

462
00:18:34,900 --> 00:18:38,620
discreet there's a finite number of them

463
00:18:37,089 --> 00:18:41,199
so you want to start by pretending

464
00:18:38,619 --> 00:18:43,359
there's infinitely many pixels and when

465
00:18:41,200 --> 00:18:45,789
you do the mathematics of image analysis

466
00:18:43,359 --> 00:18:49,039
and image transformations you pretend

467
00:18:45,789 --> 00:18:51,470
that it's continuous it's not pixelated

468
00:18:49,039 --> 00:18:54,349
and you can do your analysis there and

469
00:18:51,470 --> 00:18:56,509
it's much easier and only later turn it

470
00:18:54,349 --> 00:18:58,909
into the pixel version so this

471
00:18:56,509 --> 00:19:00,470
mathematics of the infinite seems like

472
00:18:58,910 --> 00:19:02,930
it's just never going to be useful but

473
00:19:00,470 --> 00:19:05,029
it turns out that it is it's the bizarre

474
00:19:02,930 --> 00:19:06,710
thing about math is it turns out to be

475
00:19:05,029 --> 00:19:09,349
useful in unexpected places in

476
00:19:06,710 --> 00:19:12,710
unexpected ways so juggling a so Julie

477
00:19:09,349 --> 00:19:14,359
ya know exactly we found new juggling

478
00:19:12,710 --> 00:19:16,190
patterns because of mathematics it's

479
00:19:14,359 --> 00:19:18,379
it's just bizarre the way mathematics

480
00:19:16,190 --> 00:19:21,890
will turn up in strange places now also

481
00:19:18,380 --> 00:19:24,530
I really enjoyed your talk on juggling

482
00:19:21,890 --> 00:19:26,750
which I saw online okay and I would

483
00:19:24,529 --> 00:19:29,029
imagine that our listeners are welcome

484
00:19:26,750 --> 00:19:31,099
to google that up absolutely there are

485

00:19:29,029 --> 00:19:32,779
several versions of it although on

486
00:19:31,099 --> 00:19:34,549
youtube if you look for Colin right and

487
00:19:32,779 --> 00:19:36,440
juggling you see this whole presentation

488
00:19:34,549 --> 00:19:39,230
I watched it a couple of weeks ago or a

489
00:19:36,440 --> 00:19:41,000
couple of months ago and I guess after

490
00:19:39,230 --> 00:19:43,069
we met the second time in the UK this

491
00:19:41,000 --> 00:19:45,019
year when I came home I I looked that up

492
00:19:43,069 --> 00:19:50,000
and I was transfixed it was it's a funny

493
00:19:45,019 --> 00:19:53,240
show but it's most interesting way that

494
00:19:50,000 --> 00:19:55,279
Mayor juggling can be described the

495
00:19:53,240 --> 00:19:57,019
beats and the measures of this yeah this

496
00:19:55,279 --> 00:20:00,109
fascinated me night what I've done is

497
00:19:57,019 --> 00:20:01,670
I've taken one way of simplifying the

498
00:20:00,109 --> 00:20:03,349
juggling because there's just so much

499
00:20:01,670 --> 00:20:05,539

you can do in juggling with warping the

500

00:20:03,349 --> 00:20:07,609

timing throwing from strange places

501

00:20:05,539 --> 00:20:10,549

you're the night objects well known oh

502

00:20:07,609 --> 00:20:12,259

yeah absolutely so so what we did was we

503

00:20:10,549 --> 00:20:15,019

said well it's impossible to describe

504

00:20:12,259 --> 00:20:17,599

we've got notations for music dance but

505

00:20:15,019 --> 00:20:19,099

white faux fur language we wanted a

506

00:20:17,599 --> 00:20:21,589

notation for juggling but there's just

507

00:20:19,099 --> 00:20:23,509

so much it's so complicated you can't

508

00:20:21,589 --> 00:20:26,119

get everything all at once so we said

509

00:20:23,509 --> 00:20:28,700

let's go really really simply let's not

510

00:20:26,119 --> 00:20:30,529

walk the timing let's not do cool funky

511

00:20:28,700 --> 00:20:32,690

rhythms let's just a fixed metronomic

512

00:20:30,529 --> 00:20:34,460

beam let's only do it with two hands

513

00:20:32,690 --> 00:20:37,880

let's have the hands taking it in turns

514
00:20:34,460 --> 00:20:39,950
all the time and as when you do that it

515
00:20:37,880 --> 00:20:42,740
becomes quite straightforward yeah to

516
00:20:39,950 --> 00:20:45,319
enumerate completely all of the

517
00:20:42,740 --> 00:20:47,569
different repetitive patterns there are

518
00:20:45,319 --> 00:20:50,000
in juggling and it turned out that there

519
00:20:47,569 --> 00:20:52,220
were some we didn't know and Jennings

520
00:20:50,000 --> 00:20:52,579
been around for thousands of years and

521
00:20:52,220 --> 00:20:54,528
you

522
00:20:52,579 --> 00:20:57,259
because we started this this modeling

523
00:20:54,528 --> 00:20:59,390
method we found new patterns that nobody

524
00:20:57,259 --> 00:21:00,829
had ever done before so we thought

525
00:20:59,390 --> 00:21:02,210
there's got to be maths underneath this

526
00:21:00,829 --> 00:21:04,069
to do it and sure enough there's some

527
00:21:02,210 --> 00:21:05,538
really cool stuff going on underneath so

528
00:21:04,069 --> 00:21:07,428
you know when I saw that nice or the

529
00:21:05,538 --> 00:21:10,609
diagrams that you created it reminded me

530
00:21:07,429 --> 00:21:13,009
of shoelaces oh yeah sure those flying

531
00:21:10,609 --> 00:21:16,339
and actually there's a great book on the

532
00:21:13,009 --> 00:21:18,619
85 ways to tie a time so a couple of

533
00:21:16,339 --> 00:21:21,079
guys did exactly the same thing you do

534
00:21:18,619 --> 00:21:22,908
you pass the loose end over the top or

535
00:21:21,079 --> 00:21:24,109
put it through the middle yeah and if

536
00:21:22,909 --> 00:21:25,850
you put it through the middle you can

537
00:21:24,109 --> 00:21:27,949
then bring it out on the left or on the

538
00:21:25,849 --> 00:21:29,538
right and so they ended up with strings

539
00:21:27,950 --> 00:21:32,450
of these these things and some of them

540
00:21:29,538 --> 00:21:35,089
end up with a nice neat not and some of

541
00:21:32,450 --> 00:21:38,840
them does and they ended up enumerate

542

00:21:35,089 --> 00:21:41,509
all 85 ways to tie a tie and out of this

543
00:21:38,839 --> 00:21:43,879
comes the winds are not the the full

544
00:21:41,509 --> 00:21:46,278
Windsor the half where the four overhand

545
00:21:43,880 --> 00:21:48,830
all of those but there was also a brand

546
00:21:46,278 --> 00:21:52,308
new one get up and it's it's nice it's

547
00:21:48,829 --> 00:21:55,339
neat it's clean its elegant and it was

548
00:21:52,308 --> 00:21:56,928
completely unknown it's symmetrical and

549
00:21:55,339 --> 00:21:58,970
when he went into a habit ashes and said

550
00:21:56,929 --> 00:22:01,580
I'd like to buy a tie I said so try this

551
00:21:58,970 --> 00:22:03,350
one on the he started to tie it using

552
00:22:01,579 --> 00:22:05,210
this new technique and the guy in the

553
00:22:03,349 --> 00:22:12,168
shops it well if Sir learned how to tie

554
00:22:05,210 --> 00:22:14,179
it tight would you do that again sir it

555
00:22:12,169 --> 00:22:16,700
is completely unknown it's a gorgeous

556
00:22:14,179 --> 00:22:18,798

one it's a fascinating little book that

557

00:22:16,700 --> 00:22:20,929

introduces you to this idea of

558

00:22:18,798 --> 00:22:23,658

mathematics arising in unexpected ways

559

00:22:20,929 --> 00:22:25,700

in unexpected places to show you things

560

00:22:23,659 --> 00:22:27,080

you never suspect them and that's why

561

00:22:25,700 --> 00:22:29,360

it's with the juggling and that's what

562

00:22:27,079 --> 00:22:31,730

happens at maths Jam all the time is

563

00:22:29,359 --> 00:22:33,439

we're finding where you just play with

564

00:22:31,730 --> 00:22:35,389

these things and out of these sometimes

565

00:22:33,440 --> 00:22:37,330

come bizarre things like how to measure

566

00:22:35,388 --> 00:22:39,319

the distance to the moon with a pendulum

567

00:22:37,329 --> 00:22:41,689

how to measure the size of the earth

568

00:22:39,319 --> 00:22:44,869

with a stopwatch and a ladder yeah just

569

00:22:41,690 --> 00:22:47,149

just amazing things and that's why we

570

00:22:44,869 --> 00:22:48,798

love to play with maths it's not deep

571
00:22:47,148 --> 00:22:50,979
it's not heavy it's not equations it's

572
00:22:48,798 --> 00:22:53,819
not formulas it's not calculations

573
00:22:50,980 --> 00:22:56,130
sometimes it's patterns and diagrams

574
00:22:53,819 --> 00:22:59,099
and it's just cool to share this with

575
00:22:56,130 --> 00:23:01,800
other people who then have that

576
00:22:59,099 --> 00:23:03,449
enthusiasm as well well Colin right

577
00:23:01,799 --> 00:23:05,579
thank you very much for having a chat

578
00:23:03,450 --> 00:23:07,500
and I don't know I'll catch up with you

579
00:23:05,579 --> 00:23:10,559
in the next kill ed who knows who knows

580
00:23:07,500 --> 00:23:12,720
but next time I'm in the UK and there's

581
00:23:10,559 --> 00:23:14,460
a mouth channel certainly certainly look

582
00:23:12,720 --> 00:23:17,269
me up front and center yeah thank you

583
00:23:14,460 --> 00:23:17,269
very much cheers

584
00:23:31,849 --> 00:23:37,538
the award-winning weekly science show in

585
00:23:34,909 --> 00:23:40,729
hosted by a bunch of crazy enthusiasts

586
00:23:37,538 --> 00:23:43,158
we are convinced that the greatest ideas

587
00:23:40,729 --> 00:23:44,869
in science are quite easy to grasp as

588
00:23:43,159 --> 00:23:47,599
long as they are presented with passion

589
00:23:44,868 --> 00:23:50,028
using a vocabulary common to all curious

590
00:23:47,598 --> 00:23:53,058
minds whatever their academic background

591
00:23:50,028 --> 00:23:56,089
if any you don't understand French yet I

592
00:23:53,058 --> 00:23:57,979
it's never too late all our stories have

593
00:23:56,089 --> 00:23:59,749
a written transcript on the website and

594
00:23:57,979 --> 00:24:01,879
people from all around the world are

595
00:23:59,749 --> 00:24:04,970
using our content to learn Malia's

596
00:24:01,878 --> 00:24:07,248
language our topics range from 0 to

597
00:24:04,970 --> 00:24:09,769
infinity from evolution to artificial

598
00:24:07,249 --> 00:24:12,409
life from electromagnetism to the

599

00:24:09,769 --> 00:24:15,618
science of introverts we just love

600
00:24:12,409 --> 00:24:18,409
mathematics science critical thinking so

601
00:24:15,618 --> 00:24:20,118
do you want to join you can subscribe to

602
00:24:18,409 --> 00:24:22,820
the podcast for free from our website

603
00:24:20,118 --> 00:24:25,459
podcast science starts FM that's in one

604
00:24:22,819 --> 00:24:27,858
word you also find us on itunes and

605
00:24:25,460 --> 00:24:32,409
soundcloud see you soon hopefully at

606
00:24:27,858 --> 00:24:32,408
loser year at the uploads or pedestrians

607
00:24:40,849 --> 00:24:45,480
welcome to a week in science from our

608
00:24:43,200 --> 00:24:47,850
IRS bringing you the science news you

609
00:24:45,480 --> 00:24:49,970
need to know this week in science we saw

610
00:24:47,849 --> 00:24:53,129
computer games for multitasking

611
00:24:49,970 --> 00:24:56,150
circumcision versus HIV and frogs

612
00:24:53,130 --> 00:24:56,150
listening through their mouths

613
00:25:02,480 --> 00:25:07,500

mysterious forest islands and Bolivian

614

00:25:05,039 --> 00:25:10,049

grasslands are evidence of ancient human

615

00:25:07,500 --> 00:25:11,759

use of that area these small forests

616

00:25:10,049 --> 00:25:14,579

were thought to be ancient landforms

617

00:25:11,759 --> 00:25:16,349

long-term bird robberies or termite

618

00:25:14,579 --> 00:25:18,389

mounds what was found was quite

619

00:25:16,349 --> 00:25:20,129

different they have turned out to be

620

00:25:18,390 --> 00:25:22,170

waste piles that have been used for

621

00:25:20,130 --> 00:25:24,390

thousands of years the piles of

622

00:25:22,170 --> 00:25:26,190

freshwater snails animal bones and

623

00:25:24,390 --> 00:25:27,720

charcoal are rubbish from

624

00:25:26,190 --> 00:25:30,210

hunter-gatherers dating back at least

625

00:25:27,720 --> 00:25:32,100

10,000 years this means we're going to

626

00:25:30,210 --> 00:25:35,480

have to rethink how humans use these

627

00:25:32,099 --> 00:25:37,799

challenging grassland environments

628
00:25:35,480 --> 00:25:39,930
playing computer games may be good for

629
00:25:37,799 --> 00:25:42,089
your brain after all particularly if

630
00:25:39,930 --> 00:25:44,400
you're getting old adults aged between

631
00:25:42,089 --> 00:25:46,769
20 and 79 played a specially designed

632
00:25:44,400 --> 00:25:49,410
driving game and were assessed on how

633
00:25:46,769 --> 00:25:50,849
well they multitasked the results show

634
00:25:49,410 --> 00:25:53,880
that the participants performance

635
00:25:50,849 --> 00:25:55,409
decreased with age but older

636
00:25:53,880 --> 00:25:57,630
participants were actually able to

637
00:25:55,410 --> 00:25:59,970
increase their multitasking ability by

638
00:25:57,630 --> 00:26:01,890
playing the game more you're listening

639
00:25:59,970 --> 00:26:06,410
to a week in science from our iOS and

640
00:26:01,890 --> 00:26:08,880
now for signs headlines in 30 seconds

641
00:26:06,410 --> 00:26:10,650
voluntary male circumcision in South

642
00:26:08,880 --> 00:26:13,410
African communities has been linked with

643
00:26:10,650 --> 00:26:15,360
reduced rates of HIV a betrayal of trust

644
00:26:13,410 --> 00:26:16,860
late in a relationship triggers a

645
00:26:15,359 --> 00:26:18,269
different part of the brain than a

646
00:26:16,859 --> 00:26:21,299
similar event early in the relationship

647
00:26:18,269 --> 00:26:23,279
and is more likely to be forgiven eating

648
00:26:21,299 --> 00:26:26,039
whole fruit reduces your risk of type 2

649
00:26:23,279 --> 00:26:27,899
diabetes but drinking only fruit juice

650
00:26:26,039 --> 00:26:29,460
may increase it and the gardener's

651
00:26:27,900 --> 00:26:32,820
seychelles frogs doesn't have ears

652
00:26:29,460 --> 00:26:34,559
because it hears through its mouth last

653
00:26:32,819 --> 00:26:37,470
week we asked what percentage of junk

654
00:26:34,559 --> 00:26:39,539
food ads for kids feature free toys the

655
00:26:37,470 --> 00:26:42,450
answer according to new research is

656

00:26:39,539 --> 00:26:44,460
seventy percent this week a historical

657
00:26:42,450 --> 00:26:46,319
science fact for you did you know that

658
00:26:44,460 --> 00:26:48,090
the creator of Sherlock Holmes Sir

659
00:26:46,319 --> 00:26:50,069
Arthur Conan Doyle was a doctor who

660
00:26:48,089 --> 00:26:52,259
studied neurology that's it for this

661
00:26:50,069 --> 00:26:54,480
week in science for more information on

662
00:26:52,259 --> 00:26:59,058
these and other science news stories

663
00:26:54,480 --> 00:27:01,529
to the our iOS website r-ia us okay you

664
00:26:59,058 --> 00:27:05,519
follow us on twitter using the hashtag

665
00:27:01,529 --> 00:27:09,829
week in sy and like us on Facebook I'm

666
00:27:05,519 --> 00:27:09,829
tenia mya and i'll catch you next week

667
00:27:16,419 --> 00:27:24,070
here's may not spooky action at the

668
00:27:21,589 --> 00:27:24,069
distance

669
00:27:30,450 --> 00:27:34,690
ladies and gentlemen I've got a guy on

670
00:27:32,619 --> 00:27:36,908

the phone now who's written a book how

671

00:27:34,690 --> 00:27:38,769

to sound really clever and he certainly

672

00:27:36,909 --> 00:27:41,409

succeeded because these names Hubert

673

00:27:38,769 --> 00:27:43,359

Vanderburgh if that is his real name now

674

00:27:41,409 --> 00:27:46,028

he's a bit of a language enthusiast he's

675

00:27:43,359 --> 00:27:47,979

read French and linguistics at Oxford

676

00:27:46,028 --> 00:27:50,558

University and that means he's

677

00:27:47,980 --> 00:27:52,538

intimately acquainted with these seminal

678

00:27:50,558 --> 00:27:54,940

work of Noam Chomsky I imagine Hubert

679

00:27:52,538 --> 00:27:56,169

how are you I'm very good as if that's

680

00:27:54,940 --> 00:27:57,700

not thanks for having me on the show

681

00:27:56,169 --> 00:28:00,159

look it's great to have you i used the

682

00:27:57,700 --> 00:28:01,419

word seminal there with noam chomsky is

683

00:28:00,159 --> 00:28:04,360

that the correct use of the linguistics

684

00:28:01,419 --> 00:28:06,100

professors work it certainly is actually

685
00:28:04,359 --> 00:28:08,439
it's very impressive if I might say so

686
00:28:06,099 --> 00:28:10,599
and and yes seminole one of my

687
00:28:08,440 --> 00:28:13,960
favorites it it's actually from the

688
00:28:10,599 --> 00:28:16,538
Latin seed then it's all about SI SE the

689
00:28:13,960 --> 00:28:18,850
seed for the future and Chomsky um yeah

690
00:28:16,538 --> 00:28:21,429
Illi encounter a little bit in

691
00:28:18,849 --> 00:28:23,798
linguistics over so yeah yeah always

692
00:28:21,429 --> 00:28:25,750
funded this um how I try and sound

693
00:28:23,798 --> 00:28:28,690
clever as I throw names like Noam

694
00:28:25,750 --> 00:28:30,819
Chomsky in because most of the time

695
00:28:28,690 --> 00:28:32,320
people know that he's a smart guy but

696
00:28:30,819 --> 00:28:34,418
they don't know much about linguistics

697
00:28:32,319 --> 00:28:36,638
like myself so I'll get a pass on that

698
00:28:34,419 --> 00:28:38,620
that's how I sound clever you've got 600

699
00:28:36,638 --> 00:28:40,209
words in your book here that will

700
00:28:38,619 --> 00:28:41,888
probably work if you can use them

701
00:28:40,210 --> 00:28:43,298
correctly and i gotta say you've got the

702
00:28:41,888 --> 00:28:46,058
name to start with there hubert

703
00:28:43,298 --> 00:28:47,440
vanderburgh that's great thank you very

704
00:28:46,058 --> 00:28:48,819
much what it's from the mountains in

705
00:28:47,440 --> 00:28:51,669
Belgium but thank you guys very kind

706
00:28:48,819 --> 00:28:55,028
well these words are um yeah I mean I

707
00:28:51,669 --> 00:28:57,278
used to hear them out loud and I think

708
00:28:55,028 --> 00:28:59,769
families give their children one or two

709
00:28:57,278 --> 00:29:01,538
of these words I know one friend his

710
00:28:59,769 --> 00:29:03,788
mother talks about Titov ating the

711
00:29:01,538 --> 00:29:06,119
Christmas tree every year I'm you know

712
00:29:03,788 --> 00:29:09,158
adding a little bit of spice to the tree

713

00:29:06,119 --> 00:29:10,808
and and also I seen him written in

714
00:29:09,159 --> 00:29:12,730
newspaper articles I just thought nobody

715
00:29:10,808 --> 00:29:14,619
I know I'm actually understand these

716
00:29:12,730 --> 00:29:16,750
words and no one interrupts us speaker

717
00:29:14,619 --> 00:29:18,339
halfway through a conversation and so no

718
00:29:16,750 --> 00:29:21,490
one's actually improving over cambrian a

719
00:29:18,339 --> 00:29:24,220
time so I put them all down and use some

720
00:29:21,490 --> 00:29:27,339
you some examples involving celebrities

721
00:29:24,220 --> 00:29:28,899
so I could understand them and I mean I

722
00:29:27,339 --> 00:29:30,788
think I might give you a couple of

723
00:29:28,898 --> 00:29:32,918
examples very much oh look it please do

724
00:29:30,788 --> 00:29:35,319
so with because we all want to get to do

725
00:29:32,919 --> 00:29:37,110
this but give us a few examples yeah

726
00:29:35,319 --> 00:29:38,730
okay well um well

727
00:29:37,109 --> 00:29:40,979

so I'll to start with some of the ones I

728

00:29:38,730 --> 00:29:44,339

used to get very wrong so soft like

729

00:29:40,980 --> 00:29:48,058

nonplussed and people use that quite a

730

00:29:44,339 --> 00:29:51,298

lot and and they usually mean by that

731

00:29:48,058 --> 00:29:52,889

that they weren't shocked they were less

732

00:29:51,298 --> 00:29:55,619

slightly cold by Nick States and

733

00:29:52,890 --> 00:29:58,429

nonplussed by the theater that night but

734

00:29:55,619 --> 00:30:01,139

actually it means to be very shocked

735

00:29:58,429 --> 00:30:02,580

because it comes on the French non prove

736

00:30:01,140 --> 00:30:04,830

which means nothing more you can do

737

00:30:02,579 --> 00:30:06,928

nothing more because so shocked so

738

00:30:04,829 --> 00:30:09,359

actually the word you want to use he's

739

00:30:06,929 --> 00:30:11,759

indifferent the nonplussed is it a

740

00:30:09,359 --> 00:30:15,240

misuse quite a lot that works and then

741

00:30:11,759 --> 00:30:17,579

also a word like sanguine I don't know

742
00:30:15,240 --> 00:30:19,230
how you use that but I all used to think

743
00:30:17,579 --> 00:30:21,210
it meant you're quite relaxed about a

744
00:30:19,230 --> 00:30:23,250
situation you're sanguine about a

745
00:30:21,210 --> 00:30:25,798
problem at work it actually is

746
00:30:23,250 --> 00:30:27,808
optimistic and it comes from the Latin

747
00:30:25,798 --> 00:30:29,789
sanguis blood which means you had rosy

748
00:30:27,808 --> 00:30:31,470
cheeks because you're optimistic about

749
00:30:29,789 --> 00:30:33,928
something I was totally missing that one

750
00:30:31,470 --> 00:30:35,548
as well look I was the one of the words

751
00:30:33,929 --> 00:30:37,710
you've got in your book that I was glad

752
00:30:35,548 --> 00:30:39,629
to see there because I've I've always

753
00:30:37,710 --> 00:30:41,669
assumed you could only use it in one way

754
00:30:39,630 --> 00:30:44,820
and then that is the the extreme word

755
00:30:41,669 --> 00:30:48,179
pogrom which I always thought was a

756
00:30:44,819 --> 00:30:51,149
violent riot and only directed towards

757
00:30:48,179 --> 00:30:53,880
Jews but its root means that it's a

758
00:30:51,150 --> 00:30:55,530
government-sponsored aggression and it

759
00:30:53,880 --> 00:30:58,919
could be against any ethnic group is

760
00:30:55,529 --> 00:31:02,069
that correct that's right exactly and I

761
00:30:58,919 --> 00:31:05,250
mean it's it I mean they have been for

762
00:31:02,069 --> 00:31:07,649
example them recently the u.s. press

763
00:31:05,250 --> 00:31:09,740
described a bomber as having a program

764
00:31:07,650 --> 00:31:12,929
against Christians in terms of them

765
00:31:09,740 --> 00:31:14,579
appointing non-christian door professors

766
00:31:12,929 --> 00:31:16,769
exclusively to see me a placement of

767
00:31:14,579 --> 00:31:20,369
that I mean it started off very much as

768
00:31:16,769 --> 00:31:22,319
problems against the Jews in Russia in

769
00:31:20,369 --> 00:31:24,989
the 19th century but then it's it it

770

00:31:22,319 --> 00:31:26,970
does encompass any any government

771
00:31:24,990 --> 00:31:29,789
organized Matthew has also possible some

772
00:31:26,970 --> 00:31:31,410
groups exactly now because the meanings

773
00:31:29,789 --> 00:31:33,240
for words can change I mean that that

774
00:31:31,410 --> 00:31:36,600
could be an example if you used it now

775
00:31:33,240 --> 00:31:37,829
and it wasn't against a Jewish group you

776
00:31:36,599 --> 00:31:38,939
could get people complaining because

777
00:31:37,829 --> 00:31:41,129
they would be think you're using the

778
00:31:38,940 --> 00:31:44,039
word wrong is that's it and you do you

779
00:31:41,130 --> 00:31:48,030
do get that quite a lot and another one

780
00:31:44,039 --> 00:31:50,879
is um decimate which everyone assumes

781
00:31:48,029 --> 00:31:53,430
means to totally destroy something

782
00:31:50,880 --> 00:31:55,440
you talk about a team being decimated by

783
00:31:53,430 --> 00:31:56,940
the other team and a football match but

784
00:31:55,440 --> 00:31:59,070

actually it means to just skim the

785

00:31:56,940 --> 00:32:00,480
surface because it comes from the Latin

786

00:31:59,069 --> 00:32:03,659
tradition is when you conquered it to

787

00:32:00,480 --> 00:32:05,400
you you kill one man in every ten which

788

00:32:03,660 --> 00:32:07,769
obviously is devastating but it wasn't

789

00:32:05,400 --> 00:32:09,360
it didn't you didn't destroyed 90 10 is

790

00:32:07,769 --> 00:32:10,589
only one hunnit ends with the skimming

791

00:32:09,359 --> 00:32:13,229
the surface of something you're not

792

00:32:10,589 --> 00:32:15,209
actually really destroying them again

793

00:32:13,230 --> 00:32:16,710
that's it well if you say so we were

794

00:32:15,210 --> 00:32:20,279
decimated you said what well there's

795

00:32:16,710 --> 00:32:23,130
ninety percent of your left so hey that

796

00:32:20,279 --> 00:32:26,730
that is a very interesting and also i've

797

00:32:23,130 --> 00:32:29,340
been using the word from fustian fus

798

00:32:26,730 --> 00:32:31,769
tiin and every time i say it people

799

00:32:29,339 --> 00:32:34,019

think i'm saying Faustian oh that the

800

00:32:31,769 --> 00:32:36,599

play with the devil on his back no no no

801

00:32:34,019 --> 00:32:38,490

fustian and it's a word that is not used

802

00:32:36,599 --> 00:32:41,039

at all anymore I do you hear it all in

803

00:32:38,490 --> 00:32:44,490

conversation yeah I have actually I've

804

00:32:41,039 --> 00:32:45,990

seen it in articles and seen it I've had

805

00:32:44,490 --> 00:32:48,180

I think I've heard a couple of people

806

00:32:45,990 --> 00:32:50,370

use it I mean well it's a very nice one

807

00:32:48,180 --> 00:32:53,820

because it's um it's again referred to

808

00:32:50,369 --> 00:32:56,099

that stuffing you put inside pillows and

809

00:32:53,819 --> 00:32:58,079

and if this is using the 12th century

810

00:32:56,099 --> 00:33:01,409

the padding out pillows and so it means

811

00:32:58,079 --> 00:33:03,449

pompous of speech because I'm your

812

00:33:01,410 --> 00:33:07,019

padding out your language as well so

813
00:33:03,450 --> 00:33:09,630
it's a nice one that one and yeah they

814
00:33:07,019 --> 00:33:12,269
they had are some fun stories behind

815
00:33:09,630 --> 00:33:15,420
these words like that one and then

816
00:33:12,269 --> 00:33:18,210
there's also things like dog days the

817
00:33:15,420 --> 00:33:20,039
summer days and you know I was looking

818
00:33:18,210 --> 00:33:22,079
up that the other day and it's because

819
00:33:20,039 --> 00:33:25,109
between july-september the Romans used

820
00:33:22,079 --> 00:33:27,539
to believe that the Sun rose in line

821
00:33:25,109 --> 00:33:29,279
with the dog star and that was what

822
00:33:27,539 --> 00:33:31,769
accounted for the heats in the minds of

823
00:33:29,279 --> 00:33:34,319
the Romans but actually that's not

824
00:33:31,769 --> 00:33:35,789
scientifically true and the dog saw have

825
00:33:34,319 --> 00:33:37,529
not been to the heat but anyway the name

826
00:33:35,789 --> 00:33:39,299
stuck even though the science is wrong

827

00:33:37,529 --> 00:33:41,460
and so we still use it and then the

828
00:33:39,299 --> 00:33:43,430
other word pastiche which is the kind of

829
00:33:41,460 --> 00:33:46,400
mixture of stars actually refers to

830
00:33:43,430 --> 00:33:49,019
pastry and how that's all mixed together

831
00:33:46,400 --> 00:33:50,970
through flour and fat in the world and

832
00:33:49,019 --> 00:33:52,829
delicious things to eat so that's where

833
00:33:50,970 --> 00:33:55,470
you get word pastiche from pastry so

834
00:33:52,829 --> 00:33:58,470
there's some quite fun stories behind it

835
00:33:55,470 --> 00:34:00,690
as well as you do you think if you--if

836
00:33:58,470 --> 00:34:03,120
in the bid to try and sound a little bit

837
00:34:00,690 --> 00:34:04,500
more clever you use these words and no

838
00:34:03,119 --> 00:34:06,029
one knows what you mean you have to

839
00:34:04,500 --> 00:34:09,030
explain them that that could just be a

840
00:34:06,029 --> 00:34:12,300
different kind of annoying for them yeah

841
00:34:09,030 --> 00:34:13,830

absolutely no i agree i think the you

842

00:34:12,300 --> 00:34:15,960

know if you misuse them then there's a

843

00:34:13,829 --> 00:34:18,360

danger that there aren't helpful for

844

00:34:15,960 --> 00:34:19,679

everyone I think I think what some nice

845

00:34:18,360 --> 00:34:21,570

about them is that people very quickly

846

00:34:19,679 --> 00:34:24,628

get them from the context and actually

847

00:34:21,570 --> 00:34:26,730

people like a strike say any word to be

848

00:34:24,628 --> 00:34:28,289

thrown in once in a while just for a bit

849

00:34:26,730 --> 00:34:30,389

of variety part of anything else I think

850

00:34:28,289 --> 00:34:32,730

so they do in the other ones they don't

851

00:34:30,389 --> 00:34:33,870

have any synonym so if you don't know

852

00:34:32,730 --> 00:34:35,789

them then you can't express yourself

853

00:34:33,869 --> 00:34:39,210

using any other words so there's a words

854

00:34:35,789 --> 00:34:41,070

like quixotic as well which is Kentucky

855

00:34:39,210 --> 00:34:44,340

oj and that's about all all that the

856
00:34:41,070 --> 00:34:48,860
excessive dreamy idealism a donkey okay

857
00:34:44,340 --> 00:34:54,079
so if you are someone was on a date and

858
00:34:48,860 --> 00:34:57,120
they put a coat over a puddle for their

859
00:34:54,079 --> 00:34:59,219
someone to step over the puddle of water

860
00:34:57,119 --> 00:35:01,199
and they ruin their crate that organ

861
00:34:59,219 --> 00:35:03,839
example a quixotic behavior so it's

862
00:35:01,199 --> 00:35:05,189
really just a little bit excessive and

863
00:35:03,840 --> 00:35:06,600
but there's no other word the language

864
00:35:05,190 --> 00:35:08,490
encompasses lightly seasoned I don't

865
00:35:06,599 --> 00:35:10,860
know that true and did you actually

866
00:35:08,489 --> 00:35:13,349
where you go to have a look for the

867
00:35:10,860 --> 00:35:15,090
usage of new words or old words that are

868
00:35:13,349 --> 00:35:16,829
coming back is there a website that

869
00:35:15,090 --> 00:35:18,960
looks at this kind of thing is there a

870
00:35:16,829 --> 00:35:20,699
is there a learner place of new words

871
00:35:18,960 --> 00:35:25,199
that are being born that we can look at

872
00:35:20,699 --> 00:35:27,989
no there isn't actually i mean the the i

873
00:35:25,199 --> 00:35:31,769
just got them by over over a few years i

874
00:35:27,989 --> 00:35:34,019
just take took notes from newspapers and

875
00:35:31,769 --> 00:35:37,320
from conversations and whenever I came

876
00:35:34,019 --> 00:35:39,179
to us word more than a few times then

877
00:35:37,320 --> 00:35:40,890
I'd take it down I wouldn't include

878
00:35:39,179 --> 00:35:43,440
stuff that was a one-off because it

879
00:35:40,889 --> 00:35:45,029
wouldn't be useful but there isn't doing

880
00:35:43,440 --> 00:35:47,190
that she a website that does and what

881
00:35:45,030 --> 00:35:48,690
the only thing is every year to be the

882
00:35:47,190 --> 00:35:51,329
Oxford English Dictionary certainly ever

883
00:35:48,690 --> 00:35:54,179
here does does a great survey of all the

884

00:35:51,329 --> 00:35:56,730
new words easily got omnishambles in the

885
00:35:54,179 --> 00:36:00,359
gear to describe the government I think

886
00:35:56,730 --> 00:36:02,159
you know that's great I like that and

887
00:36:00,360 --> 00:36:04,079
then there are a few others like that

888
00:36:02,159 --> 00:36:06,029
going around and no course of other than

889
00:36:04,079 --> 00:36:08,130
I linked it to new technologies the

890
00:36:06,030 --> 00:36:10,769
selfie came in this year as well and

891
00:36:08,130 --> 00:36:13,019
things like that so but they're usually

892
00:36:10,769 --> 00:36:15,059
doing there is no definitive source of a

893
00:36:13,019 --> 00:36:17,590
moment and have you to do the moment

894
00:36:15,059 --> 00:36:19,630
I've got a Twitter account at sound

895
00:36:17,590 --> 00:36:21,910
run every every day I try and do a new

896
00:36:19,630 --> 00:36:23,800
word for people that which I've seen any

897
00:36:21,909 --> 00:36:26,259
favor which I'll tweet that day and and

898
00:36:23,800 --> 00:36:27,789

I'd find out quite fun today oik now

899

00:36:26,260 --> 00:36:31,240

that that Twitter account is one word

900

00:36:27,789 --> 00:36:33,429

and just at sounds clever yeah at sound

901

00:36:31,239 --> 00:36:36,459

clever with no FML just sound clever

902

00:36:33,429 --> 00:36:38,769

yeah we can follow you on that did this

903

00:36:36,460 --> 00:36:40,659

is an amazing band bunch of words that

904

00:36:38,769 --> 00:36:43,030

you put together here and how long did

905

00:36:40,659 --> 00:36:44,859

you say it took to find these ones well

906

00:36:43,030 --> 00:36:47,170

it took about two years of actually

907

00:36:44,860 --> 00:36:48,880

stalking them and trapping them as it

908

00:36:47,170 --> 00:36:50,710

were and then another six months to

909

00:36:48,880 --> 00:36:53,950

write them all up and finds and finding

910

00:36:50,710 --> 00:36:55,090

good examples actually and but it's fine

911

00:36:53,949 --> 00:36:57,369

because you know apparently we've all

912

00:36:55,090 --> 00:36:59,440

got 20,000 was in ArchiCAD buried and

913
00:36:57,369 --> 00:37:01,569
it's only 600 that actually make the

914
00:36:59,440 --> 00:37:03,159
difference between them you know having

915
00:37:01,570 --> 00:37:05,380
be able to fully express yourself and

916
00:37:03,159 --> 00:37:08,109
not it might be and since I wrote this

917
00:37:05,380 --> 00:37:09,550
book I I found that when you have a

918
00:37:08,110 --> 00:37:11,620
thought it's much easier to remember

919
00:37:09,550 --> 00:37:14,680
that thought because if you can link the

920
00:37:11,619 --> 00:37:16,690
thought to a word then it stays with you

921
00:37:14,679 --> 00:37:19,539
a bit longer so I think it's very good

922
00:37:16,690 --> 00:37:22,900
just for the general mental cogitation

923
00:37:19,539 --> 00:37:24,880
in my view look I think it's a great

924
00:37:22,900 --> 00:37:26,470
book how to sound really clever you can

925
00:37:24,880 --> 00:37:28,510
dip into it a little bit you can dip

926
00:37:26,469 --> 00:37:29,949
into a lot and i would suggest before

927
00:37:28,510 --> 00:37:31,480
you go out there and you try a few of

928
00:37:29,949 --> 00:37:33,189
these words you get online and get an

929
00:37:31,480 --> 00:37:35,500
audio sample of this so that you can get

930
00:37:33,190 --> 00:37:38,289
a bit of an idea if your pronunciation

931
00:37:35,500 --> 00:37:40,090
is correct yes exactly and dictionary

932
00:37:38,289 --> 00:37:42,579
comms very gifted that because they have

933
00:37:40,090 --> 00:37:44,140
a little speaker button next to each

934
00:37:42,579 --> 00:37:45,639
word and you just click on it and listen

935
00:37:44,139 --> 00:37:49,059
to it well though sometimes it can be

936
00:37:45,639 --> 00:37:51,849
even American yes yes it can up 3d

937
00:37:49,059 --> 00:37:53,650
absolutely right yeah and and do and as

938
00:37:51,849 --> 00:37:55,839
I do you feel that the Americans have

939
00:37:53,650 --> 00:37:57,130
done a lot to ruin ruin the allegedly

940
00:37:55,840 --> 00:37:59,769
English language or do you think it's

941

00:37:57,130 --> 00:38:01,360
part of the evolution no I think I think

942
00:37:59,769 --> 00:38:02,829
they've actually been nice I'm very much

943
00:38:01,360 --> 00:38:04,420
like the way the Americans talk because

944
00:38:02,829 --> 00:38:06,549
they've resurrected a few words that

945
00:38:04,420 --> 00:38:08,650
tourney in England we stopped using some

946
00:38:06,550 --> 00:38:11,920
lovely ones like discombobulated which

947
00:38:08,650 --> 00:38:14,680
is just a lovely word and it means to be

948
00:38:11,920 --> 00:38:18,430
confused as if you tripped over and hurt

949
00:38:14,679 --> 00:38:20,949
your head and that is abusive ossining

950
00:38:18,429 --> 00:38:24,279
and now Americans use it in everyday

951
00:38:20,949 --> 00:38:26,679
speech I was very surprised to hear that

952
00:38:24,280 --> 00:38:29,260
when I was in New York so I think they

953
00:38:26,679 --> 00:38:31,299
have resurrected some great work and

954
00:38:29,260 --> 00:38:34,480
then they do come up with

955
00:38:31,300 --> 00:38:35,980

some some new interpretations and some

956

00:38:34,480 --> 00:38:39,460

of them can be confusing and one of them

957

00:38:35,980 --> 00:38:41,909

is this this word substantive and what

958

00:38:39,460 --> 00:38:44,409

does that mean compared to substantial

959

00:38:41,909 --> 00:38:46,059

and substantive a height of it that up

960

00:38:44,409 --> 00:38:47,349

for the book because I was kept on here

961

00:38:46,059 --> 00:38:49,269

and I didn't know really what the

962

00:38:47,349 --> 00:38:50,529

difference was and actually substantive

963

00:38:49,269 --> 00:38:52,840

it just means it's got a basis in

964

00:38:50,530 --> 00:38:55,360

reality so in other words not it's not a

965

00:38:52,840 --> 00:38:56,829

lie you can talk about a journalist

966

00:38:55,360 --> 00:38:59,440

coming up with a lot of substantive

967

00:38:56,829 --> 00:39:01,269

facts so there's not quite the same

968

00:38:59,440 --> 00:39:04,090

substantial but I think some of those

969

00:39:01,269 --> 00:39:06,130

kind of things out there I they can be

970
00:39:04,090 --> 00:39:07,180
confusing another one is enormity and I

971
00:39:06,130 --> 00:39:09,220
don't know where that came from America

972
00:39:07,179 --> 00:39:10,690
but people talk about the enormity of

973
00:39:09,219 --> 00:39:13,029
the situation I was watching the

974
00:39:10,690 --> 00:39:15,309
wimbledon final on television this

975
00:39:13,030 --> 00:39:17,140
summer and they the commentators fake ID

976
00:39:15,309 --> 00:39:19,690
be enormously of a match in front of us

977
00:39:17,139 --> 00:39:22,239
normally it actually means great evil

978
00:39:19,690 --> 00:39:24,519
you talk about the enormity of Hitler's

979
00:39:22,239 --> 00:39:26,829
crimes but you shouldn't use it outside

980
00:39:24,519 --> 00:39:29,139
of that because the word you want is

981
00:39:26,829 --> 00:39:30,369
enormous and it's there's a big

982
00:39:29,139 --> 00:39:32,859
difference between them I know it sounds

983
00:39:30,369 --> 00:39:34,779
slightly pedantic but it's um sinteres

984
00:39:32,860 --> 00:39:37,390
are never knew enormously meant a cute

985
00:39:34,780 --> 00:39:39,430
illegal yes there is a recently

986
00:39:37,389 --> 00:39:42,400
diagnosed psychiatric condition where

987
00:39:39,429 --> 00:39:44,139
you think that someone's making a movie

988
00:39:42,400 --> 00:39:47,170
of you or you continuously being

989
00:39:44,139 --> 00:39:49,929
observed called the Truman syndrome so

990
00:39:47,170 --> 00:39:52,329
I'm wondering if a word may evolve as a

991
00:39:49,929 --> 00:39:53,919
truman ism or something like that which

992
00:39:52,329 --> 00:39:55,719
which would mean something completely

993
00:39:53,920 --> 00:39:58,450
apart from the presidency of Harry

994
00:39:55,719 --> 00:40:00,000
Truman but reflecting to that is that

995
00:39:58,449 --> 00:40:03,609
the kind of thing you can see evolving

996
00:40:00,000 --> 00:40:05,019
yes only I mean I think come I look this

997
00:40:03,610 --> 00:40:07,180
up because I've been trying to get a few

998

00:40:05,019 --> 00:40:10,000
new words of my own into the language

999
00:40:07,179 --> 00:40:11,949
and I failed very singularly so far but

1000
00:40:10,000 --> 00:40:13,780
it's kind of you have to have a certain

1001
00:40:11,949 --> 00:40:15,939
number of people recognize it don't you

1002
00:40:13,780 --> 00:40:19,540
yes I think you to rule if you go to

1003
00:40:15,940 --> 00:40:22,539
speak written down in a newspaper or in

1004
00:40:19,539 --> 00:40:24,759
national publication five times and then

1005
00:40:22,539 --> 00:40:26,619
you're going to send it off to the today

1006
00:40:24,760 --> 00:40:29,830
ox english dictionary or another

1007
00:40:26,619 --> 00:40:31,239
dictionary and say here's proof but i've

1008
00:40:29,829 --> 00:40:32,319
been trying to get the following writing

1009
00:40:31,239 --> 00:40:34,569
because you know when your phone rings

1010
00:40:32,320 --> 00:40:36,220
your mobile phone in your pocket and you

1011
00:40:34,570 --> 00:40:38,460
pick it up and actually hasn't rung at

1012
00:40:36,219 --> 00:40:42,219

all you just imagined it and I want to

1013

00:40:38,460 --> 00:40:44,289

try to call that the fan turn but am I

1014

00:40:42,219 --> 00:40:44,799

am I haven't succeeded in getting that

1015

00:40:44,289 --> 00:40:51,130

incident

1016

00:40:44,800 --> 00:40:53,140

so that's ph a in T O NE exactly phantom

1017

00:40:51,130 --> 00:40:54,430

attic see I thought I was sounding

1018

00:40:53,139 --> 00:40:56,409

clever until I was chatting with you

1019

00:40:54,429 --> 00:40:59,079

Hubert Vanderburgh but I i think im just

1020

00:40:56,409 --> 00:41:01,960

where I started and then email thank you

1021

00:40:59,079 --> 00:41:03,549

very much indeed very good book it's a

1022

00:41:01,960 --> 00:41:05,530

really good fun thanks I look the book

1023

00:41:03,550 --> 00:41:07,810

is how to sound really clever Hubert

1024

00:41:05,530 --> 00:41:11,760

Vanderburgh it's by bloomsbury and give

1025

00:41:07,809 --> 00:41:11,759

it a read like I said use it carefully

1026

00:41:24,139 --> 00:41:29,489

now on Belfast FM we turn to the person

1027
00:41:26,789 --> 00:41:31,590
lads easygoing and confident skeptic

1028
00:41:29,489 --> 00:41:33,929
seeks other critical thinkers for fun

1029
00:41:31,590 --> 00:41:36,030
laughter and good times must be willing

1030
00:41:33,929 --> 00:41:37,919
to apply logic liberally and a good

1031
00:41:36,030 --> 00:41:39,990
listener expect something new and

1032
00:41:37,920 --> 00:41:41,970
interesting every month come and meet me

1033
00:41:39,989 --> 00:41:43,859
in Belfast in Northern Ireland if this

1034
00:41:41,969 --> 00:41:47,459
sounds like you check out my profile on

1035
00:41:43,860 --> 00:41:52,980
bail for skeptics calm music by kevin

1036
00:41:47,460 --> 00:41:54,750
macleod and with that we say a very good

1037
00:41:52,980 --> 00:41:57,150
evening to Richard Saunders go Richard

1038
00:41:54,750 --> 00:41:58,710
oh good evening again my hair is not too

1039
00:41:57,150 --> 00:42:00,389
bad not too bad fit and healthy yeah

1040
00:41:58,710 --> 00:42:01,920
good on you cuz I look like Jordao what

1041
00:42:00,389 --> 00:42:05,009
our last conversation I thought we could

1042
00:42:01,920 --> 00:42:06,720
maybe encapsulate a few things in in

1043
00:42:05,010 --> 00:42:08,370
future just every other couple weeks or

1044
00:42:06,719 --> 00:42:10,289
whatever and they just catch up with you

1045
00:42:08,369 --> 00:42:12,509
which I'm glad you said yes to sounds

1046
00:42:10,289 --> 00:42:14,909
like a lot of fun it does indeed one of

1047
00:42:12,510 --> 00:42:16,920
the topics tonight and I've always been

1048
00:42:14,909 --> 00:42:18,690
interested in this because I've never

1049
00:42:16,920 --> 00:42:21,720
really worked out why and we're talking

1050
00:42:18,690 --> 00:42:23,639
about spontaneous human combustion and I

1051
00:42:21,719 --> 00:42:25,139
suppose as many people think that human

1052
00:42:23,639 --> 00:42:27,269
being is just literally burst into

1053
00:42:25,139 --> 00:42:29,909
flames but do they well it's a very

1054
00:42:27,269 --> 00:42:31,829
strange story indeed spontaneous human

1055

00:42:29,909 --> 00:42:34,529
combustion and a lot of people out there

1056
00:42:31,829 --> 00:42:37,319
certainly heard of it in some maybe even

1057
00:42:34,530 --> 00:42:40,170
a fearful of it but many people think

1058
00:42:37,320 --> 00:42:43,620
that human beings can literally burn our

1059
00:42:40,170 --> 00:42:46,110
first in flames strange cases with the

1060
00:42:43,619 --> 00:42:48,359
photographs by investigating police show

1061
00:42:46,110 --> 00:42:52,320
the remains of people who have almost

1062
00:42:48,360 --> 00:42:54,630
entirely seen destroyed by fire even as

1063
00:42:52,320 --> 00:42:58,410
far as turning their bones into powder

1064
00:42:54,630 --> 00:43:00,869
which is very strange indeed if and also

1065
00:42:58,409 --> 00:43:02,849
one of the what sweetest aspects of

1066
00:43:00,869 --> 00:43:04,409
these cases was the room and the house

1067
00:43:02,849 --> 00:43:07,469
that the people were in didn't burn down

1068
00:43:04,409 --> 00:43:10,289
yet such things as TV sets and radios

1069
00:43:07,469 --> 00:43:12,899

and other things in the room were melted

1070

00:43:10,289 --> 00:43:14,940

but not that I know and I've seen some

1071

00:43:12,900 --> 00:43:17,220

of those photos to Richard and it was

1072

00:43:14,940 --> 00:43:18,929

really I think the one I saw I remember

1073

00:43:17,219 --> 00:43:21,089

with someone sitting in an armchair and

1074

00:43:18,929 --> 00:43:23,399

the whole arms here was bird and the

1075

00:43:21,090 --> 00:43:25,170

person was burned and just the surrounds

1076

00:43:23,400 --> 00:43:27,510

a little but nothing else it was really

1077

00:43:25,170 --> 00:43:30,150

weird yeah and this this really did

1078

00:43:27,510 --> 00:43:33,390

baffled investigators and police and

1079

00:43:30,150 --> 00:43:34,940

firemen for a very long time if thats

1080

00:43:33,389 --> 00:43:38,389

the case you'll refer

1081

00:43:34,940 --> 00:43:40,670

to his one by the name of mrs. mary

1082

00:43:38,389 --> 00:43:43,129

research from florida now this was back

1083

00:43:40,670 --> 00:43:46,970

in nineteen fifty-one when the police

1084
00:43:43,130 --> 00:43:49,568
came in they found the scant remains of

1085
00:43:46,969 --> 00:43:53,088
her body completely consumed by fire

1086
00:43:49,568 --> 00:43:55,009
sitting in an armchair which is very

1087
00:43:53,088 --> 00:43:57,980
strange yeah and another strange case

1088
00:43:55,010 --> 00:44:00,230
case was dr. Jon Bentley and this was

1089
00:43:57,980 --> 00:44:01,909
nineteen sixty-six and what

1090
00:44:00,230 --> 00:44:03,650
investigators found when they went to

1091
00:44:01,909 --> 00:44:05,149
his bathroom or maybe it was one of the

1092
00:44:03,650 --> 00:44:09,139
the family members who originally

1093
00:44:05,150 --> 00:44:11,599
discovered discovered was just a hole

1094
00:44:09,139 --> 00:44:14,420
burned in the floor and the lower part

1095
00:44:11,599 --> 00:44:16,970
of a leg was all that was left girl yes

1096
00:44:14,420 --> 00:44:19,490
I'd ever seen that tell us about the

1097
00:44:16,969 --> 00:44:21,679
week effect well what is a weak effect

1098
00:44:19,489 --> 00:44:24,858
okay now again this this is very

1099
00:44:21,679 --> 00:44:28,730
confusing for the police investigators

1100
00:44:24,858 --> 00:44:30,769
and scientists and the reason make it on

1101
00:44:28,730 --> 00:44:32,838
eventually and this is asked to really

1102
00:44:30,769 --> 00:44:34,489
strange farfetch reasons have been

1103
00:44:32,838 --> 00:44:36,828
thrown back and forth like ball

1104
00:44:34,489 --> 00:44:39,169
lightning or unknown energy from science

1105
00:44:36,829 --> 00:44:41,180
and one of the most popular explanations

1106
00:44:39,170 --> 00:44:43,190
through the last couple of centuries is

1107
00:44:41,179 --> 00:44:45,739
that the victim simply drink too much

1108
00:44:43,190 --> 00:44:48,588
alcohol now I think we're all in trouble

1109
00:44:45,739 --> 00:44:50,029
if absolutely yes yes I hi I might keep

1110
00:44:48,588 --> 00:44:52,969
a bucket of water beside the bed measure

1111
00:44:50,030 --> 00:44:54,589
it's right there but that these all

1112

00:44:52,969 --> 00:44:57,909
these other explanations really didn't

1113
00:44:54,588 --> 00:45:01,219
hold water scientifically but then

1114
00:44:57,909 --> 00:45:03,529
scientists came across something we take

1115
00:45:01,219 --> 00:45:07,429
all the wick effect and this was helped

1116
00:45:03,530 --> 00:45:09,920
largely by luckily or unluckily for the

1117
00:45:07,429 --> 00:45:11,719
victims sometimes murderers after

1118
00:45:09,920 --> 00:45:14,139
killing their victims would try to burn

1119
00:45:11,719 --> 00:45:17,088
the body to hide the evidence and

1120
00:45:14,139 --> 00:45:20,000
investigators notice that sometimes the

1121
00:45:17,088 --> 00:45:22,009
bodies resembled very closely the cases

1122
00:45:20,000 --> 00:45:24,679
of spontaneous or so called spontaneous

1123
00:45:22,010 --> 00:45:26,869
human combustion one murder even

1124
00:45:24,679 --> 00:45:28,669
confessed in France to using Chanel

1125
00:45:26,869 --> 00:45:31,519
number five to fuel the fire of the

1126
00:45:28,670 --> 00:45:33,710

victim which is a way to go i'm sure i

1127

00:45:31,519 --> 00:45:34,969

guess so i guess so so well made the

1128

00:45:33,710 --> 00:45:36,409

upside of this whole thing if they

1129

00:45:34,969 --> 00:45:39,639

actually got to the bottom of this and

1130

00:45:36,409 --> 00:45:42,170

and the title spontaneous combustion yes

1131

00:45:39,639 --> 00:45:44,179

they really have this the title

1132

00:45:42,170 --> 00:45:46,010

spontaneous human combustion really

1133

00:45:44,179 --> 00:45:48,019

should be stopped now it's more slow

1134

00:45:46,010 --> 00:45:49,119

burning and this is how it worse it's

1135

00:45:48,019 --> 00:45:50,980

very interesting

1136

00:45:49,119 --> 00:45:53,380

there were clues all along to support

1137

00:45:50,980 --> 00:45:56,498

the wick theory and the week theory

1138

00:45:53,380 --> 00:46:00,430

basically says that once somebody drops

1139

00:45:56,498 --> 00:46:02,949

a match or or something a cigarette even

1140

00:46:00,429 --> 00:46:05,469

onto their clothes if they can't put it

1141
00:46:02,949 --> 00:46:07,419
out and sometimes the person who sadly

1142
00:46:05,469 --> 00:46:08,739
died by a heart attack or they're in

1143
00:46:07,420 --> 00:46:10,990
their sleep and they've woken up too

1144
00:46:08,739 --> 00:46:13,179
late the fire will burn through their

1145
00:46:10,989 --> 00:46:15,219
clothes and it sounds but horrible that

1146
00:46:13,179 --> 00:46:18,518
will burn into their body and start to

1147
00:46:15,219 --> 00:46:22,808
burn the fat that drips into the clothes

1148
00:46:18,518 --> 00:46:24,848
themselves that then fuels the fire and

1149
00:46:22,809 --> 00:46:26,710
the clothes act like a wick if you can

1150
00:46:24,849 --> 00:46:29,318
imagine a candle when you light it's the

1151
00:46:26,710 --> 00:46:31,358
wax is fueling that tiny little wicks

1152
00:46:29,318 --> 00:46:33,818
here in this case the body fat the

1153
00:46:31,358 --> 00:46:36,190
melted body fat soaks into the clothes

1154
00:46:33,818 --> 00:46:39,248
soaks into the carpets and even soaks

1155
00:46:36,190 --> 00:46:42,338
into the armchair and just causes the

1156
00:46:39,248 --> 00:46:45,068
fire to burn the burn is a very slow

1157
00:46:42,338 --> 00:46:47,768
fashion with low flame caused a great

1158
00:46:45,068 --> 00:46:49,748
deal of heat that's why TVs and other

1159
00:46:47,768 --> 00:46:51,879
things in the room melts this huge

1160
00:46:49,748 --> 00:46:55,719
amount of heat but the fire the flames

1161
00:46:51,880 --> 00:46:57,608
themselves are very very small so the

1162
00:46:55,719 --> 00:46:59,798
rest of the room doesn't necessarily

1163
00:46:57,608 --> 00:47:01,838
catch on fire and it's very interesting

1164
00:46:59,798 --> 00:47:04,119
a lot of people might not accept that

1165
00:47:01,838 --> 00:47:05,380
explanation in terms of there was

1166
00:47:04,119 --> 00:47:08,108
there's some tests done with Peaks

1167
00:47:05,380 --> 00:47:11,230
you're absolutely right in fact not so

1168
00:47:08,108 --> 00:47:14,048
long ago only in 1998 was this theory

1169

00:47:11,230 --> 00:47:16,630
really put to the test where the body of

1170
00:47:14,048 --> 00:47:19,239
a dead pig as a piece and humans have

1171
00:47:16,630 --> 00:47:21,910
similar percentage of body fat was

1172
00:47:19,239 --> 00:47:24,068
wrapped in a blanket and set on fire in

1173
00:47:21,909 --> 00:47:26,348
the controlled room to simulate what

1174
00:47:24,068 --> 00:47:29,650
people thought was spontaneous human

1175
00:47:26,349 --> 00:47:32,230
combustion over the next six hours the

1176
00:47:29,650 --> 00:47:33,940
peak continues to burn and smolder and

1177
00:47:32,230 --> 00:47:37,210
the fat one into the blankets the fact

1178
00:47:33,940 --> 00:47:39,849
went in for the carpus and after only

1179
00:47:37,210 --> 00:47:42,608
five hours of this small bring burning

1180
00:47:39,849 --> 00:47:44,829
even the bones began to turn him into

1181
00:47:42,608 --> 00:47:46,659
powder and more fuel was released from

1182
00:47:44,829 --> 00:47:49,480
the bone marrow which itself is Earth

1183
00:47:46,659 --> 00:47:53,558

bad 80s insect temperatures in the peak

1184

00:47:49,480 --> 00:47:55,449

reached 812 degrees Celsius where's more

1185

00:47:53,559 --> 00:47:58,450

than enough over six or seven hours

1186

00:47:55,449 --> 00:47:59,799

period to char the body the bones it's a

1187

00:47:58,449 --> 00:48:01,899

lot

1188

00:47:59,800 --> 00:48:03,970

amazing really amazing stuff the other

1189

00:48:01,900 --> 00:48:06,039

see on the agenda tonight and I've got a

1190

00:48:03,969 --> 00:48:07,389

city before we start this chat where you

1191

00:48:06,039 --> 00:48:09,730

get the recycler talking about fire

1192

00:48:07,389 --> 00:48:11,769

walking I've actually done this you have

1193

00:48:09,730 --> 00:48:13,510

I have well I mean it seems that some

1194

00:48:11,769 --> 00:48:15,730

people can do the impossible and walk on

1195

00:48:13,510 --> 00:48:17,320

fire and it was a mental thing for me

1196

00:48:15,730 --> 00:48:19,269

and I'm trying to think I think it was

1197

00:48:17,320 --> 00:48:22,720

during the wall show we set up a fire

1198
00:48:19,269 --> 00:48:24,519
out the back and it was mind over matter

1199
00:48:22,719 --> 00:48:26,679
i think was that the way we were going

1200
00:48:24,519 --> 00:48:28,360
with it and they built this fire and

1201
00:48:26,679 --> 00:48:31,000
they got the coals all smoothed out on

1202
00:48:28,360 --> 00:48:33,070
whatever and I just I just I remember at

1203
00:48:31,000 --> 00:48:35,320
the time I just kept my brain and I just

1204
00:48:33,070 --> 00:48:38,080
thought mutual and I'm gonna walk across

1205
00:48:35,320 --> 00:48:41,230
this and it's gonna happen and and I did

1206
00:48:38,079 --> 00:48:43,840
and it there was only one very small

1207
00:48:41,230 --> 00:48:46,030
sort of seems on one on one of the heels

1208
00:48:43,840 --> 00:48:48,039
but you just walk quickly and you get

1209
00:48:46,030 --> 00:48:50,050
across to the other side that's right

1210
00:48:48,039 --> 00:48:51,730
and and for a long time people were

1211
00:48:50,050 --> 00:48:54,850
really baffled about this because

1212
00:48:51,730 --> 00:48:56,440
although we hear the term mind over

1213
00:48:54,849 --> 00:48:58,690
matter a lot when it comes to something

1214
00:48:56,440 --> 00:49:01,269
like fire and its reaction with the body

1215
00:48:58,690 --> 00:49:04,240
mine doesn't matter really can't explain

1216
00:49:01,269 --> 00:49:06,070
why the feet don't burn so scientists

1217
00:49:04,239 --> 00:49:09,279
and skeptics I just really looked into

1218
00:49:06,070 --> 00:49:11,170
this and it really does seem on the face

1219
00:49:09,280 --> 00:49:12,910
but to be quite as possible and some

1220
00:49:11,170 --> 00:49:14,559
cultures ranging from the Pacific

1221
00:49:12,909 --> 00:49:15,730
Islands to even show anchor do fire

1222
00:49:14,559 --> 00:49:17,110
walking in spite of their rich

1223
00:49:15,730 --> 00:49:19,449
traditions that you can go and visit

1224
00:49:17,110 --> 00:49:21,130
those and then they put on the show hmm

1225
00:49:19,449 --> 00:49:24,119
but yeah as you're right in thinking

1226

00:49:21,130 --> 00:49:26,260
that today firewalking is used mainly by

1227
00:49:24,119 --> 00:49:28,269
motivational speeches in youth and the

1228
00:49:26,260 --> 00:49:29,970
New Age movement in fact people can pay

1229
00:49:28,269 --> 00:49:32,409
hundreds of dollars to get enough

1230
00:49:29,969 --> 00:49:34,509
mystical energy in order to do fire

1231
00:49:32,409 --> 00:49:37,509
walking usually at the end of us a two

1232
00:49:34,510 --> 00:49:38,980
or three-day course but the truth of the

1233
00:49:37,510 --> 00:49:41,140
matter is quite interesting from a

1234
00:49:38,980 --> 00:49:43,809
scientific point of view it turns out

1235
00:49:41,139 --> 00:49:45,400
that anybody can do fire walking is all

1236
00:49:43,809 --> 00:49:47,380
you need is just a little dose of

1237
00:49:45,400 --> 00:49:49,630
courage to get going and walk across the

1238
00:49:47,380 --> 00:49:52,960
coals and that's the key for the whole

1239
00:49:49,630 --> 00:49:54,940
thing it's really hot coals walking as

1240
00:49:52,960 --> 00:49:56,829

opposed to fire walking but just by the

1241

00:49:54,940 --> 00:49:59,800

time people actually get to walk on the

1242

00:49:56,829 --> 00:50:02,409

bed of coals the fire is quite died down

1243

00:49:59,800 --> 00:50:05,230

and it turns out that coals and ash are

1244

00:50:02,409 --> 00:50:08,619

a poor conductor of heat and if your

1245

00:50:05,230 --> 00:50:10,360

seeds are only in contact with the hot

1246

00:50:08,619 --> 00:50:11,859

coals for short amount of time and

1247

00:50:10,360 --> 00:50:13,289

typically two three four or five steps

1248

00:50:11,860 --> 00:50:15,599

in your ass yes

1249

00:50:13,289 --> 00:50:18,059

are simply not enough time for all the

1250

00:50:15,599 --> 00:50:21,089

heat to be transferred into your foot in

1251

00:50:18,059 --> 00:50:23,400

fact way back in 1994 the famous mouth

1252

00:50:21,090 --> 00:50:25,740

on runner Steve mana Katie so pardon

1253

00:50:23,400 --> 00:50:28,050

Australian skeptics firewalking Ballarat

1254

00:50:25,739 --> 00:50:30,809

to demonstrate to everybody that's

1255
00:50:28,050 --> 00:50:32,250
anybody at all can do fire walking and a

1256
00:50:30,809 --> 00:50:34,079
lot of the locals joined in and they

1257
00:50:32,250 --> 00:50:36,090
don't have to pay any money setup is

1258
00:50:34,079 --> 00:50:38,159
only for the hospital anyway let's all

1259
00:50:36,090 --> 00:50:39,450
go there fabulous talking to you Richard

1260
00:50:38,159 --> 00:50:41,129
thank you for your time tonight and

1261
00:50:39,449 --> 00:50:43,469
there will catch you very shortly for

1262
00:50:41,130 --> 00:50:45,300
another look into the myths and

1263
00:50:43,469 --> 00:50:47,459
mysteries of this world thanks Mike the

1264
00:50:45,300 --> 00:50:49,410
developer to hear too good onya it's a

1265
00:50:47,460 --> 00:50:51,199
Richard Saunders there from the skeptics

1266
00:50:49,409 --> 00:51:01,980
Australian skeptics society and

1267
00:50:51,199 --> 00:51:04,619
mysterious things investigators nice and

1268
00:51:01,980 --> 00:51:09,170
short industry skeptic zone bascially

1269
00:51:04,619 --> 00:51:13,469
suit belongs escaped oi talk on da CA n

1270
00:51:09,170 --> 00:51:15,590
sceptile shukaku surely podcast GMO a

1271
00:51:13,469 --> 00:51:18,809
momentito with her own see no party

1272
00:51:15,590 --> 00:51:22,200
pocket and Helios intertwined solution

1273
00:51:18,809 --> 00:51:25,710
in malden photo session chanchad Solana

1274
00:51:22,199 --> 00:51:28,829
cncl link read ow itunes the Chihuahua

1275
00:51:25,710 --> 00:51:34,309
Jan sad sigh escaped toy party chiffon

1276
00:51:28,829 --> 00:51:34,309
will warm the luncheon skeptical the CN

1277
00:51:34,369 --> 00:51:40,039
thus kept I'd science podcast by brian

1278
00:51:37,639 --> 00:51:42,529
dunning is now available for Chinese

1279
00:51:40,039 --> 00:51:46,070
audience please tell your Chinese

1280
00:51:42,530 --> 00:51:48,920
friends to visit skipped item the CN a

1281
00:51:46,070 --> 00:51:55,180
fine skip toyed and the Chinese itunes

1282
00:51:48,920 --> 00:51:55,180
door i'm lisa from sceptile come the CN

1283

00:52:07,909 --> 00:52:12,838
thank you for listening to the skeptic

1284
00:52:10,349 --> 00:52:14,338
zone and I think I hope that in the

1285
00:52:12,838 --> 00:52:17,059
coming week I should be able to score a

1286
00:52:14,338 --> 00:52:19,139
great interview with dr. Pamela gay and

1287
00:52:17,059 --> 00:52:21,929
thanks to me not who I caught up with

1288
00:52:19,139 --> 00:52:24,989
just the other day for a coffee and a

1289
00:52:21,929 --> 00:52:27,419
chat good to see you may note don't

1290
00:52:24,989 --> 00:52:29,399
forget all you Sydney people visit www

1291
00:52:27,420 --> 00:52:31,858
skeptics calm today you to see all those

1292
00:52:29,400 --> 00:52:34,980
upcoming events like the skeptics in the

1293
00:52:31,858 --> 00:52:36,989
pub our special meeting with Pamela gay

1294
00:52:34,980 --> 00:52:40,530
on the fifteenth and the chocolate

1295
00:52:36,989 --> 00:52:42,868
dinner talk on the twenty-eighth not to

1296
00:52:40,530 --> 00:52:44,220
be missed but for this week with one

1297
00:52:42,869 --> 00:52:51,150

more roll of the dice oh you're ready

1298

00:52:44,219 --> 00:52:53,669

here we go okay these things happen 15

1299

00:52:51,150 --> 00:53:03,358

again this is Richard Saunders signing

1300

00:52:53,670 --> 00:53:05,809

off from Sydney Australia 11 you've been

1301

00:53:03,358 --> 00:53:10,608

listening to the skeptic zone

1302

00:53:05,809 --> 00:53:13,670

visit our website at www.skeptics.org on TV

1303

00:53:10,608 --> 00:53:16,298

for comments contacts and extra video

1304

00:53:13,670 --> 00:53:16,298

reports

1305

00:53:19,400 --> 00:53:21,460

you