

1
00:00:05,929 --> 00:00:27,719
welcome to the skeptic zone the podcast

2
00:00:09,119 --> 00:00:29,098
from Australia for science and reason or

3
00:00:27,719 --> 00:00:31,559
we're going to be traveling in time and

4
00:00:29,099 --> 00:00:33,600
space today Richard hello me nada did

5
00:00:31,559 --> 00:00:41,820
you like my own I think the TARDIS is

6
00:00:33,600 --> 00:00:44,070
taking off again I was back now I'm glad

7
00:00:41,820 --> 00:00:45,570
we've managed to land here in the ABC

8
00:00:44,070 --> 00:00:47,460
building in Sydney Maynard for this

9
00:00:45,570 --> 00:00:51,299
episode of the skeptic Zone episode

10
00:00:47,460 --> 00:00:52,890
number 252 we are in ultimo at the

11
00:00:51,299 --> 00:00:54,689
doctor who exhibit which is looking at

12
00:00:52,890 --> 00:00:57,808
50 years of Doctor Who we've got a

13
00:00:54,689 --> 00:00:59,789
actual life-size plywood TARDIS in front

14
00:00:57,808 --> 00:01:01,500
of us here looking fantastic it is

15
00:00:59,789 --> 00:01:03,179
really nice to see a full-sized hardest

16
00:01:01,500 --> 00:01:05,868
one that makes the right noise I'm

17
00:01:03,179 --> 00:01:08,129
almost expecting it to her d materialise

18
00:01:05,868 --> 00:01:10,140
florist and then what's coming up on the

19
00:01:08,129 --> 00:01:11,368
show today Richard well we've got where

20
00:01:10,140 --> 00:01:13,140
you and I are going to have a little

21
00:01:11,368 --> 00:01:15,118
look around this exhibition and discuss

22
00:01:13,140 --> 00:01:17,129
them Doctor Who things for our skeptic

23
00:01:15,118 --> 00:01:18,569
zone Doctor Who type fans out there I've

24
00:01:17,129 --> 00:01:20,099
got some controversial things to say

25
00:01:18,569 --> 00:01:23,250
particularly about someone known as the

26
00:01:20,099 --> 00:01:25,019
unpopular Doctor Who I looked up oh yeah

27
00:01:23,250 --> 00:01:26,129
I can't read for that bit more about

28
00:01:25,019 --> 00:01:28,140
that later but what else has been going

29

00:01:26,129 --> 00:01:30,449
on The Skeptical world well just in this

30
00:01:28,140 --> 00:01:32,280
past week in bryce from the australian

31
00:01:30,450 --> 00:01:34,799
skeptics and I who do the mystery

32
00:01:32,280 --> 00:01:36,329
investigators along with dr. ohe with

33
00:01:34,799 --> 00:01:38,220
this time was Ian Bryce and I went to

34
00:01:36,328 --> 00:01:41,158
the Australian Museum and we interviewed

35
00:01:38,219 --> 00:01:43,649
lots of science educators and people

36
00:01:41,159 --> 00:01:45,420
doing science outreach for school

37
00:01:43,649 --> 00:01:47,909
students that's coming up on the show we

38
00:01:45,420 --> 00:01:51,090
also have other week in science from the

39
00:01:47,909 --> 00:01:53,490
Royal Institution of Australia a great

40
00:01:51,090 --> 00:01:55,010
little segment that is and we have a bit

41
00:01:53,489 --> 00:01:56,989
written by

42
00:01:55,010 --> 00:02:01,130
victorian skeptic by the name of mal

43
00:01:56,989 --> 00:02:03,469

Vickers all about psychic Sally ah now

44

00:02:01,129 --> 00:02:05,929

is that the English psychic Sally yes

45

00:02:03,469 --> 00:02:07,219

there might be other psychics Ali's out

46

00:02:05,930 --> 00:02:10,210

there but this one is about the english

47

00:02:07,219 --> 00:02:12,139

one who was recently in australia oh

48

00:02:10,210 --> 00:02:13,790

there's a little kid over there

49

00:02:12,139 --> 00:02:15,799

attacking a Dalek I don't know what he's

50

00:02:13,789 --> 00:02:17,599

getting into I I don't think it's going

51

00:02:15,800 --> 00:02:20,210

to end well for the kid all the darling

52

00:02:17,599 --> 00:02:23,560

garlic that's right so yes a bit about

53

00:02:20,210 --> 00:02:27,260

his thoughts on psychic Sally coming up

54

00:02:23,560 --> 00:02:29,060

episode 252 I tell you what let's get

55

00:02:27,259 --> 00:02:30,439

stuck into the show and it will come

56

00:02:29,060 --> 00:02:34,300

back after the first segment and we'll

57

00:02:30,439 --> 00:02:34,300

we'll have a talk to this Dalek

58
00:02:53,719 --> 00:02:58,819
that noise you could hear folks it's a

59
00:02:56,659 --> 00:03:00,289
combined sound of hundreds of students

60
00:02:58,819 --> 00:03:02,689
here high school students at the

61
00:03:00,289 --> 00:03:06,229
Australian Museum here to enjoy science

62
00:03:02,689 --> 00:03:09,620
week there are volunteers here with real

63
00:03:06,229 --> 00:03:11,780
live Australian lizards like blue

64
00:03:09,620 --> 00:03:13,069
tongues and so on there's no I'm

65
00:03:11,780 --> 00:03:14,900
standing right near a stuffed koala

66
00:03:13,069 --> 00:03:17,689
there you go there's a stuffed one bet

67
00:03:14,900 --> 00:03:19,730
on the other side but just so many

68
00:03:17,689 --> 00:03:22,400
school students here to enjoy the

69
00:03:19,729 --> 00:03:25,639
exhibitions and exhibits and information

70
00:03:22,400 --> 00:03:27,830
booths for science I'm here with my good

71
00:03:25,639 --> 00:03:29,269
friend Ian Bryce to perform the mystery

72
00:03:27,830 --> 00:03:32,270
investigators a bit later on no I'm

73
00:03:29,270 --> 00:03:34,520
being surrounded by whoops sorry

74
00:03:32,270 --> 00:03:38,030
hundreds of students at the moment we're

75
00:03:34,520 --> 00:03:40,010
all going off somewhere it's a really

76
00:03:38,030 --> 00:03:41,840
it's really uplifting to see so many

77
00:03:40,009 --> 00:03:45,289
kids here so many school students here

78
00:03:41,840 --> 00:03:48,409
to find out more about science so I

79
00:03:45,289 --> 00:03:50,419
think I might wander around to one of

80
00:03:48,409 --> 00:03:53,590
the exhibition rooms where there are

81
00:03:50,419 --> 00:03:53,589
information booths set up

82
00:03:54,389 --> 00:04:01,708
well we got here we've got energy we've

83
00:03:57,389 --> 00:04:03,958
got ANSTO people are here we have people

84
00:04:01,709 --> 00:04:07,050
demonstrating all sorts of things Youth

85
00:04:03,959 --> 00:04:08,909
robotics Biological Sciences the

86

00:04:07,050 --> 00:04:11,870
Australian Museum themselves have a

87
00:04:08,909 --> 00:04:14,939
little stand here jenolan caves jams

88
00:04:11,870 --> 00:04:16,918
jams oh I like the sound that I like jam

89
00:04:14,939 --> 00:04:20,969
which doesn't really mean jam does it

90
00:04:16,918 --> 00:04:22,589
hello hello yeah thank you hello Rebecca

91
00:04:20,970 --> 00:04:24,810
you're from jams doesn't mean you meet

92
00:04:22,589 --> 00:04:28,049
jams or what's the story we have a

93
00:04:24,810 --> 00:04:30,180
series of talks once a month basically

94
00:04:28,050 --> 00:04:32,040
on the theme of microbiology so what

95
00:04:30,180 --> 00:04:34,230
we're here for today is to get people

96
00:04:32,040 --> 00:04:38,910
thinking about things at a much smaller

97
00:04:34,230 --> 00:04:41,430
scale and gem stands for joint academic

98
00:04:38,910 --> 00:04:43,770
microbiology seminars i like i like it

99
00:04:41,430 --> 00:04:45,930
jams i like that and let's look at the

100
00:04:43,769 --> 00:04:47,519

table here we've got a microscope setup

101

00:04:45,930 --> 00:04:50,519

looks great we've got a little

102

00:04:47,519 --> 00:04:52,319

landscaping with kangaroos this is where

103

00:04:50,519 --> 00:04:53,819

you want to start so this is looking at

104

00:04:52,319 --> 00:04:56,099

what people think of when they think

105

00:04:53,819 --> 00:04:59,069

what is living in their back garden you

106

00:04:56,100 --> 00:05:01,020

can see the dogs and wallabies and

107

00:04:59,069 --> 00:05:02,969

things the kid but we're getting people

108

00:05:01,019 --> 00:05:05,699

to think about things at a much smaller

109

00:05:02,970 --> 00:05:09,090

level so in the microscope here we've

110

00:05:05,699 --> 00:05:13,438

got basically some moss suspension

111

00:05:09,089 --> 00:05:16,089

something Wiggly in there and connect

112

00:05:13,439 --> 00:05:18,460

our laptop here and you can see some

113

00:05:16,089 --> 00:05:19,929

nematodes and different things moving

114

00:05:18,459 --> 00:05:21,818

around so you can see it's quite dynamic

115
00:05:19,930 --> 00:05:23,769
I just beard through the microscope

116
00:05:21,819 --> 00:05:24,939
instead of looking at the laptop which I

117
00:05:23,769 --> 00:05:26,288
should have done but as soon as I period

118
00:05:24,939 --> 00:05:29,710
through those well there's another one

119
00:05:26,288 --> 00:05:31,478
I'm seeing these tiny little transparent

120
00:05:29,709 --> 00:05:35,049
creatures slithering across the screen

121
00:05:31,478 --> 00:05:36,758
that's quite something yes so that's we

122
00:05:35,050 --> 00:05:39,759
have a couple of samples people can come

123
00:05:36,759 --> 00:05:41,020
through and look at and yeah see on the

124
00:05:39,759 --> 00:05:45,639
screen that things are moving and

125
00:05:41,019 --> 00:05:47,438
there's a lot of small microbes when

126
00:05:45,639 --> 00:05:49,778
you're looking at a bigger structure and

127
00:05:47,439 --> 00:05:51,039
that's what you're looking at over here

128
00:05:49,778 --> 00:05:53,259
as well with the mushrooms you're

129
00:05:51,038 --> 00:05:55,990
looking at this what you can see on top

130
00:05:53,259 --> 00:05:58,120
and and that there's a lot more when you

131
00:05:55,990 --> 00:05:59,800
look up oh well there's a whole little

132
00:05:58,120 --> 00:06:01,389
bit of mushrooms here but the sides

133
00:05:59,800 --> 00:06:03,848
being cut away it's like a cross section

134
00:06:01,389 --> 00:06:07,060
I can look right down into the dirt here

135
00:06:03,848 --> 00:06:09,399
into the earth and see their root root

136
00:06:07,060 --> 00:06:11,918
structure structure down here and this

137
00:06:09,399 --> 00:06:13,478
is um a comparison Ezra like an apple

138
00:06:11,918 --> 00:06:15,728
tree that this isn't that basically the

139
00:06:13,478 --> 00:06:17,500
tree with their roots on top so when you

140
00:06:15,728 --> 00:06:19,870
see mushrooms grow on top that's just a

141
00:06:17,500 --> 00:06:22,240
small bit I had no idea that's quite

142
00:06:19,870 --> 00:06:23,588
amazing we have another form of

143

00:06:22,240 --> 00:06:25,379
microscope here that you can basically

144
00:06:23,588 --> 00:06:27,968
zoom in and look at the things on our

145
00:06:25,379 --> 00:06:30,039
table here we've got a sponge we've got

146
00:06:27,968 --> 00:06:32,139
some coral and we've got some different

147
00:06:30,038 --> 00:06:34,418
funghi some of it growing on agar plates

148
00:06:32,139 --> 00:06:36,069
and some you know your button mushrooms

149
00:06:34,418 --> 00:06:37,778
like you're used to seeing well this is

150
00:06:36,069 --> 00:06:39,699
just like it you see on TV there's an

151
00:06:37,778 --> 00:06:42,098
agar plate with penicillin it says

152
00:06:39,699 --> 00:06:44,050
growing on it it's just like those gross

153
00:06:42,098 --> 00:06:45,938
you see on those crime shows or the

154
00:06:44,050 --> 00:06:47,860
Mythbusters when they smear things yes

155
00:06:45,939 --> 00:06:49,659
and sometimes you can see not on this

156
00:06:47,860 --> 00:06:51,729
one at the moment the little droplets

157
00:06:49,658 --> 00:06:55,149

that are formed on the top

158

00:06:51,728 --> 00:06:57,399

our gems oh okay what microb you this

159

00:06:55,149 --> 00:06:59,799

little booklet this is all that we're

160

00:06:57,399 --> 00:07:01,838

doing this is what microbe are you we've

161

00:06:59,800 --> 00:07:03,338

got this booklet and it's asking you

162

00:07:01,838 --> 00:07:06,788

different questions do you like to be

163

00:07:03,338 --> 00:07:09,728

outdoors you're like being in a group is

164

00:07:06,788 --> 00:07:12,430

your hair all over the place that's a

165

00:07:09,728 --> 00:07:15,308

yes to me today and then when you get to

166

00:07:12,430 --> 00:07:17,620

the end you can identify which microbe

167

00:07:15,309 --> 00:07:19,539

you are I haven't identified who I am

168

00:07:17,620 --> 00:07:22,838

yet I don't know what I don't know what

169

00:07:19,538 --> 00:07:24,728

I are it on the side um here's hello

170

00:07:22,838 --> 00:07:27,848

bacterium solarium which is one of the

171

00:07:24,728 --> 00:07:29,649

things that I look at so you could we're

172
00:07:27,848 --> 00:07:31,120
going to see what is most popular today

173
00:07:29,649 --> 00:07:34,598
and in front of you we have a little

174
00:07:31,120 --> 00:07:36,819
basket of toy microbes germs and these

175
00:07:34,598 --> 00:07:38,588
are they some of the things that you

176
00:07:36,819 --> 00:07:42,399
maybe when you've worked out what

177
00:07:38,588 --> 00:07:45,879
microbe you are I found in our basket so

178
00:07:42,399 --> 00:07:49,838
here we have some salmonella ah so cute

179
00:07:45,879 --> 00:07:51,430
re version and some yeast and different

180
00:07:49,838 --> 00:07:53,559
things like that well what an

181
00:07:51,430 --> 00:07:55,120
interesting display and I'm lucky I'm

182
00:07:53,559 --> 00:07:57,099
just sort of between the waves of school

183
00:07:55,120 --> 00:07:59,199
children they come by on it there was

184
00:07:57,098 --> 00:08:01,718
some heading now everyone's here what

185
00:07:59,199 --> 00:08:03,459
they do show you is that microbes are

186
00:08:01,718 --> 00:08:06,490
very different they're not just small

187
00:08:03,459 --> 00:08:08,319
and similar shapes but you can see the

188
00:08:06,490 --> 00:08:09,939
variety that exists in the different

189
00:08:08,319 --> 00:08:11,770
structures that they have on them I love

190
00:08:09,939 --> 00:08:13,209
looking at this monitor here with the

191
00:08:11,769 --> 00:08:15,098
microscope and we can see them actually

192
00:08:13,209 --> 00:08:18,129
moving in their little environment oh

193
00:08:15,098 --> 00:08:20,468
wow it's like a multi-faceted one there

194
00:08:18,129 --> 00:08:21,879
and a quick swimming one there what an

195
00:08:20,468 --> 00:08:23,918
interesting thing and the kids enjoying

196
00:08:21,879 --> 00:08:26,740
it I hope they are yeah it's been pretty

197
00:08:23,918 --> 00:08:29,528
busy the last two days fantastic Rebecca

198
00:08:26,740 --> 00:08:31,718
thank you for giving me a little bit of

199
00:08:29,528 --> 00:08:33,729
your time to talk about jams and the

200

00:08:31,718 --> 00:08:38,019
website folks to learn more about gems

201
00:08:33,729 --> 00:08:39,579
is jams dot org dot a you yes and we

202
00:08:38,019 --> 00:08:42,099
meet him the museum once a month so

203
00:08:39,578 --> 00:08:44,649
people can come to the seminars here

204
00:08:42,099 --> 00:08:47,769
I'm walking around the corner here with

205
00:08:44,649 --> 00:08:49,659
lots of students in the far side and I

206
00:08:47,769 --> 00:08:51,789
just noticed this very interesting

207
00:08:49,659 --> 00:08:53,649
looking thing from me a new south wales

208
00:08:51,789 --> 00:08:56,439
institute of sport there's a lovely

209
00:08:53,649 --> 00:08:58,509
young lady now with funny sort of pads

210
00:08:56,440 --> 00:09:02,110
on her feet she's standing on this long

211
00:08:58,509 --> 00:09:04,149
board and what are you doing so this is

212
00:09:02,110 --> 00:09:06,399
called a slide board and i am simulating

213
00:09:04,149 --> 00:09:12,850
ice skating working on my skating stride

214
00:09:06,399 --> 00:09:15,909

and off she goes from side to side the

215

00:09:12,850 --> 00:09:18,250

back again and your body motion is

216

00:09:15,909 --> 00:09:20,318

exactly what you see going on the ice

217

00:09:18,250 --> 00:09:22,240

I'm exactly not going forward to going

218

00:09:20,318 --> 00:09:23,919

from side to side yeah so I mean

219

00:09:22,240 --> 00:09:25,778

obviously it's a little bit limited on

220

00:09:23,919 --> 00:09:28,419

the ice your feet would be going

221

00:09:25,778 --> 00:09:30,490

backwards a little bit so on an angle

222

00:09:28,419 --> 00:09:32,588

and this one is really just working on

223

00:09:30,490 --> 00:09:34,240

the skating muscles just improving on

224

00:09:32,589 --> 00:09:36,550

the stride so you're a better skater

225

00:09:34,240 --> 00:09:38,740

when you do get on the ice alright so if

226

00:09:36,549 --> 00:09:41,229

you do that for long enough and she's

227

00:09:38,740 --> 00:09:42,669

still doing it folks she's quite kin if

228

00:09:41,230 --> 00:09:45,730

you do that for long enough when you get

229
00:09:42,669 --> 00:09:47,259
on the ice your muscles are more well

230
00:09:45,730 --> 00:09:49,120
you've worked on the work any muscles

231
00:09:47,259 --> 00:09:51,430
forms you've developed those skating

232
00:09:49,120 --> 00:09:52,688
muscles and just getting them ready for

233
00:09:51,429 --> 00:09:54,250
when you're on the ice it's obviously a

234
00:09:52,688 --> 00:09:55,448
lot different to running so you do have

235
00:09:54,250 --> 00:09:57,339
slightly different muscles that are

236
00:09:55,448 --> 00:10:00,039
being worked out quite a workout you're

237
00:09:57,339 --> 00:10:01,839
doing them oh yes and I am ice hockey

238
00:10:00,039 --> 00:10:03,938
players and even this is still hard for

239
00:10:01,839 --> 00:10:06,730
me how popular is ice hockey in

240
00:10:03,938 --> 00:10:08,740
Australia I'll promote it while I'm at

241
00:10:06,730 --> 00:10:12,069
it so go for it we've got um probably

242
00:10:08,740 --> 00:10:13,778
around 4,000 members across Australia so

243
00:10:12,068 --> 00:10:16,208
I mean it is popular there's always

244
00:10:13,778 --> 00:10:18,129
plenty of room for growth with a we have

245
00:10:16,208 --> 00:10:20,229
ice rinks in pretty much all the states

246
00:10:18,129 --> 00:10:21,818
around the country New South Wales has

247
00:10:20,230 --> 00:10:24,188
the most I think we've got about six or

248
00:10:21,818 --> 00:10:26,679
seven I'm all the way up to coffs

249
00:10:24,188 --> 00:10:28,919
harbour even there's one nearly in fact

250
00:10:26,679 --> 00:10:28,919
that

251
00:10:29,070 --> 00:10:33,220
MC you're great Canterbury yes my home

252
00:10:31,929 --> 00:10:34,989
rink I was there last night i'll be

253
00:10:33,220 --> 00:10:36,700
there tomorrow night as well Henry week

254
00:10:34,990 --> 00:10:38,409
I go there occasionally take my nieces

255
00:10:36,700 --> 00:10:39,640
and their views they love it yes so you

256
00:10:38,409 --> 00:10:41,500
need to get him as a hockey stick and

257

00:10:39,639 --> 00:10:43,870
teach him how to play hockey I can teach

258
00:10:41,500 --> 00:10:46,629
him that I coach when I was a very small

259
00:10:43,870 --> 00:10:48,639
boy i lived in canada and my first pair

260
00:10:46,629 --> 00:10:51,070
of skates were double bladed yeah and i

261
00:10:48,639 --> 00:10:52,778
used to go with like giant and pushing

262
00:10:51,070 --> 00:10:55,778
it and finish pushing a chair around as

263
00:10:52,778 --> 00:10:57,309
well and then we use it we used to live

264
00:10:55,778 --> 00:11:00,939
a little country area we used to go and

265
00:10:57,309 --> 00:11:02,649
play curling too oh no and there's a

266
00:11:00,940 --> 00:11:04,300
funny video of me running around with a

267
00:11:02,649 --> 00:11:06,850
big broom on the curling rink you know

268
00:11:04,299 --> 00:11:10,120
about four years old or sweeping the ice

269
00:11:06,850 --> 00:11:12,610
as you go so if people want to know more

270
00:11:10,120 --> 00:11:14,679
about hockey ice hockey where can they

271
00:11:12,610 --> 00:11:18,039

go what's the website I'm easiest thing

272

00:11:14,679 --> 00:11:20,139

to do is to go to IH eight or a you that

273

00:11:18,039 --> 00:11:22,689

some ice hockey Australia's website and

274

00:11:20,139 --> 00:11:24,370

if you go I'm sure it has state

275

00:11:22,690 --> 00:11:25,959

associations listed there you go to them

276

00:11:24,370 --> 00:11:28,450

it'll have all the contact details or

277

00:11:25,958 --> 00:11:30,250

just look it up on on facebook again it

278

00:11:28,450 --> 00:11:31,839

will be ice hockey australia if you are

279

00:11:30,250 --> 00:11:33,669

new south wales ice hockey new south

280

00:11:31,839 --> 00:11:36,160

wales does have their own Facebook page

281

00:11:33,669 --> 00:11:38,169

as well cool and for the New South Wales

282

00:11:36,159 --> 00:11:40,088

institute of sport where do we go for

283

00:11:38,169 --> 00:11:41,649

New South Wales institute of sport we

284

00:11:40,089 --> 00:11:43,630

have a facebook we have a twitter we

285

00:11:41,649 --> 00:11:48,070

also have a youtube account and our

286
00:11:43,629 --> 00:11:50,649
website is wwan SW is calm a you and

287
00:11:48,070 --> 00:11:53,278
your name is Sarah Sarah thank you very

288
00:11:50,649 --> 00:11:53,278
much thank you

289
00:11:54,059 --> 00:12:01,119
to give you a little bit of

290
00:11:56,879 --> 00:12:04,480
flavor what this is like this 20 30 40

291
00:12:01,120 --> 00:12:06,879
school students all young ladies as it

292
00:12:04,480 --> 00:12:07,899
happens from high school running around

293
00:12:06,879 --> 00:12:10,750
at the moment doing all sorts of

294
00:12:07,899 --> 00:12:12,909
experiments which is really great to see

295
00:12:10,750 --> 00:12:16,740
getting information about young

296
00:12:12,909 --> 00:12:20,649
scientists or physics outreach

297
00:12:16,740 --> 00:12:23,019
electricity hello again I'm just an old

298
00:12:20,649 --> 00:12:25,149
friend and I'm just here doing some

299
00:12:23,019 --> 00:12:27,669
reports for the skeptics own podcast and

300
00:12:25,149 --> 00:12:29,230
where are you from I am from the

301
00:12:27,669 --> 00:12:31,809
University of New South Wales I've just

302
00:12:29,230 --> 00:12:35,800
finished my master in magnetism research

303
00:12:31,809 --> 00:12:38,109
for data storage Oh ah I understand

304
00:12:35,799 --> 00:12:40,539
right yeah and our hard drives hard

305
00:12:38,110 --> 00:12:42,700
drives and you have some experience here

306
00:12:40,539 --> 00:12:44,319
today for the kids to enjoy we do

307
00:12:42,700 --> 00:12:46,120
certainly let's step over to the

308
00:12:44,320 --> 00:12:49,030
experiment vent well step oh it's

309
00:12:46,120 --> 00:12:50,409
another bench oh uh hello is my is my

310
00:12:49,029 --> 00:12:52,990
little recording device safe around

311
00:12:50,409 --> 00:12:55,600
these I hope so wow it's got lots of

312
00:12:52,990 --> 00:12:57,519
it's a battery there a big magnet what

313
00:12:55,600 --> 00:13:00,190
is this strange device it's a pendulum

314

00:12:57,519 --> 00:13:01,750
some if you like rollercoasters do you

315
00:13:00,190 --> 00:13:03,700
like roller coaster yes oh yes oh yes

316
00:13:01,750 --> 00:13:05,409
well on roller coasters they have a

317
00:13:03,700 --> 00:13:07,600
sneaky way to keep you safe even if you

318
00:13:05,409 --> 00:13:08,769
don't know it and it's used by magnets

319
00:13:07,600 --> 00:13:11,139
so this experiment is called

320
00:13:08,769 --> 00:13:12,879
electromagnetic braking is that the old

321
00:13:11,139 --> 00:13:15,610
breaking I thought it was the harness no

322
00:13:12,879 --> 00:13:18,309
no the braking braking so if you just

323
00:13:15,610 --> 00:13:20,080
lift up this here yeah and so we're

324
00:13:18,309 --> 00:13:21,609
lifting up a little pendulum yes it's

325
00:13:20,080 --> 00:13:23,770
lifting up we're going to swing it

326
00:13:21,610 --> 00:13:24,909
between two solenoids and we're not

327
00:13:23,769 --> 00:13:27,519
going to touch either one of the

328
00:13:24,909 --> 00:13:30,009

solenoid so if you just let go swinging

329

00:13:27,519 --> 00:13:31,149

back and forth and back and forth and if

330

00:13:30,009 --> 00:13:33,340

we come around the other side and hold

331

00:13:31,149 --> 00:13:35,069

the button down yeah I'm walking around

332

00:13:33,340 --> 00:13:38,379

here and I'm gonna press this button oh

333

00:13:35,070 --> 00:13:41,540

and now we watch the pendulum it's

334

00:13:38,379 --> 00:13:43,399

coming to a grinding halt look at that

335

00:13:41,539 --> 00:13:45,379

what happened is by pressing the button

336

00:13:43,399 --> 00:13:48,740

we simply made current go through two

337

00:13:45,379 --> 00:13:52,009

solenoids and so those solenoids produce

338

00:13:48,740 --> 00:13:53,839

a magnetic field and our piece of our

339

00:13:52,009 --> 00:13:55,909

pendulum so is simply a piece of

340

00:13:53,839 --> 00:13:58,160

aluminium and when that aluminium comes

341

00:13:55,909 --> 00:13:59,539

close to the magnetic field it sees a

342

00:13:58,159 --> 00:14:02,299

changing magnetic field because it's

343
00:13:59,539 --> 00:14:04,009
becoming closer and closer and the

344
00:14:02,299 --> 00:14:06,649
magnetic field induces a little circular

345
00:14:04,009 --> 00:14:08,899
currents in the aluminium and circular

346
00:14:06,649 --> 00:14:11,389
current induces a magnetic field and

347
00:14:08,899 --> 00:14:14,448
Lenz's law said those two opposed and

348
00:14:11,389 --> 00:14:16,370
that's why it breaks good and it did it

349
00:14:14,448 --> 00:14:18,859
didn't it didn't come to a screeching

350
00:14:16,370 --> 00:14:20,269
halt but within a few swings that we're

351
00:14:18,860 --> 00:14:22,610
stopping that's quite interesting yeah

352
00:14:20,269 --> 00:14:24,679
so if you have a larger magnet yeah an

353
00:14:22,610 --> 00:14:27,110
take a large a larger amount of voltage

354
00:14:24,679 --> 00:14:28,578
to put through our solenoids then that

355
00:14:27,110 --> 00:14:31,100
could come to a grinding halt very

356
00:14:28,578 --> 00:14:34,578
easily it certainly could now what is

357
00:14:31,100 --> 00:14:37,310
this strange tube it's quite tall it's

358
00:14:34,578 --> 00:14:40,309
got two wires sticking up through it

359
00:14:37,309 --> 00:14:42,799
it's all encased in perspex so what

360
00:14:40,309 --> 00:14:45,078
this is called a Crookes tube or

361
00:14:42,799 --> 00:14:47,689
plasma cannon plasma cannon I like that

362
00:14:45,078 --> 00:14:49,219
sounds way better I know so if we press

363
00:14:47,690 --> 00:14:52,399
the little green button here a little

364
00:14:49,220 --> 00:14:55,269
green button i'm bound the personal

365
00:14:52,399 --> 00:14:55,269
green button alright

366
00:14:56,269 --> 00:14:59,929
yeah well folks you know those old

367
00:14:58,070 --> 00:15:02,660
Frankenstein movies where you see the

368
00:14:59,929 --> 00:15:03,979
arc of light traveling up the two two

369
00:15:02,659 --> 00:15:10,219
metal rods that's what I'm looking at

370
00:15:03,980 --> 00:15:12,740
right now Wow so the what's happening is

371

00:15:10,220 --> 00:15:15,620
when you press the button 25,000 volts

372
00:15:12,740 --> 00:15:18,440
would allow electrons to jump from one

373
00:15:15,620 --> 00:15:20,330
piece of metal and smash into molecules

374
00:15:18,440 --> 00:15:22,730
in the air and then jump into the other

375
00:15:20,330 --> 00:15:24,590
piece of metal and so when we press the

376
00:15:22,730 --> 00:15:26,480
button we only ever see one piece of

377
00:15:24,590 --> 00:15:28,280
light going up at a time and so the

378
00:15:26,480 --> 00:15:30,259
light is white because it's smashing

379
00:15:28,279 --> 00:15:32,779
into these molecules and we only ever

380
00:15:30,259 --> 00:15:34,460
see one because the electrons want to

381
00:15:32,779 --> 00:15:37,549
travel in the path of least resistance

382
00:15:34,460 --> 00:15:39,200
and so instead of jumping into the air

383
00:15:37,549 --> 00:15:40,579
around the arc it wants to keep going

384
00:15:39,200 --> 00:15:42,470
through the arc because that acts as a

385
00:15:40,580 --> 00:15:45,320

channel where they can easily jump

386

00:15:42,470 --> 00:15:47,720

through its I've never seen one so close

387

00:15:45,320 --> 00:15:49,340

before but I'm looking at the reaction

388

00:15:47,720 --> 00:15:53,360

on the surface of each of the metal bars

389

00:15:49,340 --> 00:15:57,889

that's quite something Wow what fun yes

390

00:15:53,360 --> 00:15:59,600

you call this a job I love this job now

391

00:15:57,889 --> 00:16:01,189

with people want to find out more where

392

00:15:59,600 --> 00:16:09,909

can they contact you or find out more

393

00:16:01,190 --> 00:16:15,260

they can go to ww outreach phys phys

394

00:16:09,909 --> 00:16:18,620

unsw edu a you we also do public talks

395

00:16:15,259 --> 00:16:21,019

liquid nitrogen workshops and other fun

396

00:16:18,620 --> 00:16:23,000

events sounds too good to be true folks

397

00:16:21,019 --> 00:16:28,039

a career in sides it's got to be for you

398

00:16:23,000 --> 00:16:30,320

right physics physics yes hey your name

399

00:16:28,039 --> 00:16:32,899

was Nicole Reynolds Nicole thank you

400
00:16:30,320 --> 00:16:35,210
very much no worries thank you what else

401
00:16:32,899 --> 00:16:37,610
do we have here beyond zero admissions

402
00:16:35,210 --> 00:16:39,200
looks interesting solar energy and hello

403
00:16:37,610 --> 00:16:41,659
we have another standing hello so who

404
00:16:39,200 --> 00:16:45,140
you I'm qatar joshi from infinite energy

405
00:16:41,659 --> 00:16:47,269
and there's a wind turbine in the back

406
00:16:45,139 --> 00:16:50,659
of your exhibition here yes there is

407
00:16:47,269 --> 00:16:52,879
it's actually a powered wind turbine but

408
00:16:50,659 --> 00:16:55,448
this morning I attached a power meter to

409
00:16:52,879 --> 00:16:56,619
our exhibition stall

410
00:16:55,448 --> 00:16:58,808
it's all continuing about a hundred

411
00:16:56,619 --> 00:17:01,059
watts so it's not consuming a lot of

412
00:16:58,808 --> 00:17:02,318
power which is good hello this is

413
00:17:01,058 --> 00:17:04,298
interesting we've got a little solar

414

00:17:02,318 --> 00:17:07,148
cell set up here attached to a tiny

415

00:17:04,298 --> 00:17:11,138
little fan yes I popped by J car this

416

00:17:07,148 --> 00:17:13,509
morning and it's I don't suspect that is

417

00:17:11,138 --> 00:17:16,269
generating a lot probably in the milly

418

00:17:13,509 --> 00:17:19,619
wat range but it also leads up to a

419

00:17:16,269 --> 00:17:22,120
demonstration yeah and that I actually

420

00:17:19,619 --> 00:17:25,298
you can it up got a little fan on the

421

00:17:22,119 --> 00:17:28,268
solar panel the fan can power a little

422

00:17:25,298 --> 00:17:30,609
wind generator down here I'm still

423

00:17:28,269 --> 00:17:32,888
waiting on a little Mountie thing to get

424

00:17:30,609 --> 00:17:34,839
it working but it's cool to see solar

425

00:17:32,888 --> 00:17:37,329
power powering a fan which powers a wind

426

00:17:34,839 --> 00:17:39,788
turbine and makes a little guy on the

427

00:17:37,329 --> 00:17:41,859
top spin now you had an article in the

428

00:17:39,788 --> 00:17:43,298
most recent issue of the the skeptic

429
00:17:41,859 --> 00:17:45,278
magazine the journal from Australia

430
00:17:43,298 --> 00:17:50,379
skeptics what was that about that

431
00:17:45,278 --> 00:17:52,419
article was about a disease called wind

432
00:17:50,380 --> 00:17:54,880
turbine syndrome that's been obviously

433
00:17:52,419 --> 00:17:58,659
attributed to people living near wind

434
00:17:54,880 --> 00:18:02,350
turbines now the article itself was

435
00:17:58,659 --> 00:18:05,470
about how people can come up with a

436
00:18:02,349 --> 00:18:08,918
conclusion and then start investigating

437
00:18:05,470 --> 00:18:10,480
it so basically whatever they find it's

438
00:18:08,919 --> 00:18:11,950
going to support their conclusion and I

439
00:18:10,480 --> 00:18:13,990
think wind turbine syndrome is a good

440
00:18:11,950 --> 00:18:16,028
example of us yeah we see that a lot in

441
00:18:13,990 --> 00:18:17,349
the skeptical circles people start with

442
00:18:16,028 --> 00:18:19,480

the conclusion and look at all

443

00:18:17,349 --> 00:18:20,740
supporting evidence instead of looking

444

00:18:19,480 --> 00:18:23,740
at the evidence and see where that leads

445

00:18:20,740 --> 00:18:25,419
exactly right and it's pretty

446

00:18:23,740 --> 00:18:27,909
astonishing with with wind turbine

447

00:18:25,419 --> 00:18:31,149
syndrome lady who first investigating it

448

00:18:27,909 --> 00:18:34,000
investigated it Nina Pierpont's in quite

449

00:18:31,148 --> 00:18:36,699
literally states that before she began

450

00:18:34,000 --> 00:18:40,509
her research she had already decided

451

00:18:36,700 --> 00:18:43,990
that it was real and I really expected

452

00:18:40,509 --> 00:18:45,759
to kind of have to work a bit harder and

453

00:18:43,990 --> 00:18:47,349
dig into the archives a little bit but

454

00:18:45,759 --> 00:18:50,200
the first thing I found was her stating

455

00:18:47,349 --> 00:18:51,519
I had decided to this is real I began

456

00:18:50,200 --> 00:18:54,038
interviewing patients and published my

457
00:18:51,519 --> 00:18:56,349
research so it's pretty stunning through

458
00:18:54,038 --> 00:18:57,700
start you can read all about that folks

459
00:18:56,349 --> 00:18:58,750
in the latest issue of the skeptic

460
00:18:57,700 --> 00:19:01,120
magazine I think we're going to have to

461
00:18:58,750 --> 00:19:04,029
cut this short because the floodgates of

462
00:19:01,119 --> 00:19:06,579
there are hundreds of kids just pouring

463
00:19:04,029 --> 00:19:08,859
through the door I've never rip earth

464
00:19:06,579 --> 00:19:10,899
being swept away right now we really are

465
00:19:08,859 --> 00:19:23,799
so I better let you get on over thank

466
00:19:10,900 --> 00:19:25,540
you very much thanks thanks rich did you

467
00:19:23,799 --> 00:19:27,700
see that UFO sighting that made the news

468
00:19:25,539 --> 00:19:29,980
what did that latest study about

469
00:19:27,700 --> 00:19:31,600
alternative treatments really say is

470
00:19:29,980 --> 00:19:34,569
this photo making the rounds real or

471
00:19:31,599 --> 00:19:36,459
hoax duffel news is a unique website

472
00:19:34,569 --> 00:19:38,589
featuring news about pseudoscience the

473
00:19:36,460 --> 00:19:40,289
paranormal anomalies and questionable

474
00:19:38,589 --> 00:19:43,269
claims framed with the skeptical view

475
00:19:40,289 --> 00:19:45,000
come visit doubtful newscom every day

476
00:19:43,269 --> 00:19:48,759
for news about cryptozoology

477
00:19:45,000 --> 00:19:51,670
conspiracies shams scams and more follow

478
00:19:48,759 --> 00:19:53,200
us on twitter at doubtful news critical

479
00:19:51,670 --> 00:19:55,509
thinking is essential in assessing

480
00:19:53,200 --> 00:19:59,340
today's news duffel news helps you

481
00:19:55,509 --> 00:19:59,339
decide can you really believe this stuff

482
00:20:05,130 --> 00:20:10,210
we here at the ABC FOIA in ultimo where

483
00:20:08,410 --> 00:20:11,980
the 50 years of Doctor Who exhibition is

484
00:20:10,210 --> 00:20:14,829
going on and it's on every day between

485

00:20:11,980 --> 00:20:16,029
ten and four I believe it is come along

486
00:20:14,829 --> 00:20:17,889
and have a look it's absolutely free to

487
00:20:16,029 --> 00:20:19,720
have a wander through and we're here

488
00:20:17,890 --> 00:20:21,400
right in front of a Dalek it's a real

489
00:20:19,720 --> 00:20:24,009
Dalek look at that i have seen real

490
00:20:21,400 --> 00:20:26,080
Daleks from time to time QED conference

491
00:20:24,009 --> 00:20:27,940
in Manchester a real Dalek normally

492
00:20:26,079 --> 00:20:30,549
turns up but here's one in Sydney look

493
00:20:27,940 --> 00:20:32,740
the most frightening ever bad bad guy

494
00:20:30,549 --> 00:20:35,289
bad person bad thing on doctor who was

495
00:20:32,740 --> 00:20:37,480
not the Daleks not the Salah the weeping

496
00:20:35,289 --> 00:20:39,549
angels are up there but I think there

497
00:20:37,480 --> 00:20:41,920
was a jon pertwee episode where there

498
00:20:39,549 --> 00:20:43,928
was a beanbag that eight people they had

499
00:20:41,920 --> 00:20:45,640

this plastics factory unit got involved

500

00:20:43,929 --> 00:20:48,940

with the whole thing I left left fridge

501

00:20:45,640 --> 00:20:50,710

to it was in fact the Autons it could

502

00:20:48,940 --> 00:20:52,330

have been but they had this guy they

503

00:20:50,710 --> 00:20:54,250

said I'll please sit on our bean bag and

504

00:20:52,329 --> 00:20:55,990

the bean bag just ate him swallowed him

505

00:20:54,250 --> 00:20:57,549

up how dangerous is that I remember that

506

00:20:55,990 --> 00:20:59,470

if we look behind us here there's a huge

507

00:20:57,549 --> 00:21:01,869

wall of Doctor Who which sort of charts

508

00:20:59,470 --> 00:21:04,690

all the years and major points in this

509

00:21:01,869 --> 00:21:06,489

there are panels everywhere so victory

510

00:21:04,690 --> 00:21:08,650

to the Daleks over there a Christmas

511

00:21:06,490 --> 00:21:10,519

invasion dollars you have a look and it

512

00:21:08,650 --> 00:21:12,230

says the reason why the

513

00:21:10,519 --> 00:21:14,720

has regenerated at various times

514
00:21:12,230 --> 00:21:16,250
throughout the series but the Tom Baker

515
00:21:14,720 --> 00:21:19,220
one will have to be one of the lamest of

516
00:21:16,250 --> 00:21:21,799
them all it says the doctor regenerates

517
00:21:19,220 --> 00:21:23,480
after a fall what does he have a bad hip

518
00:21:21,799 --> 00:21:25,099
or something he does it was getting old

519
00:21:23,480 --> 00:21:29,000
a bit and he fell off his know if he'll

520
00:21:25,099 --> 00:21:31,369
from am is phil from a radio telescope i

521
00:21:29,000 --> 00:21:32,990
seem to remember i'm sure as a big fall

522
00:21:31,369 --> 00:21:35,509
but also there's ones here to why

523
00:21:32,990 --> 00:21:37,309
various people why various partners

524
00:21:35,509 --> 00:21:39,019
decide to leave you can find out why any

525
00:21:37,309 --> 00:21:41,389
of his companions decides to leave

526
00:21:39,019 --> 00:21:42,980
there's one of the hero mana romana

527
00:21:41,390 --> 00:21:46,220
elects to leave the TARDIS to fight

528
00:21:42,980 --> 00:21:48,920
slavery in a space now she could have

529
00:21:46,220 --> 00:21:50,779
gone on foot slavery on ebay that would

530
00:21:48,920 --> 00:21:53,150
be much more effective that's right or

531
00:21:50,779 --> 00:21:54,529
um II space you've got to wonder about a

532
00:21:53,150 --> 00:21:56,960
space don't you what do they do at

533
00:21:54,529 --> 00:21:59,960
eastbay particularly 1981 yeah oh yes

534
00:21:56,960 --> 00:22:03,440
very dodgy what is your favorite episode

535
00:21:59,960 --> 00:22:05,059
of doctor who ever have you got one no

536
00:22:03,440 --> 00:22:07,220
no of course not because when i started

537
00:22:05,059 --> 00:22:08,839
watching it was way back in the very

538
00:22:07,220 --> 00:22:11,779
early 70s in australia when we had

539
00:22:08,839 --> 00:22:14,149
patrickroughton and i remember those

540
00:22:11,779 --> 00:22:17,599
very well but I was very very fond of

541
00:22:14,150 --> 00:22:19,160
Jon Pertwee's doctor and I think some of

542

00:22:17,599 --> 00:22:21,049
those stories the green death I remember

543
00:22:19,160 --> 00:22:22,400
quite well actually takes him I took

544
00:22:21,049 --> 00:22:24,289
some notes on this because I thought

545
00:22:22,400 --> 00:22:25,700
look if I'm go I'm not really a whovian

546
00:22:24,289 --> 00:22:27,559
all that much I had to listen to the

547
00:22:25,700 --> 00:22:28,789
Doctor Who podcast which I would

548
00:22:27,559 --> 00:22:30,139
recommend it's simply called the Doctor

549
00:22:28,789 --> 00:22:31,430
Who podcast they were saying some

550
00:22:30,140 --> 00:22:34,450
interesting stuff but I think my

551
00:22:31,430 --> 00:22:37,430
favorite pisode would have to be

552
00:22:34,450 --> 00:22:39,529
carnival of monsters I had to look it up

553
00:22:37,430 --> 00:22:40,850
it was good we yes because because they

554
00:22:39,529 --> 00:22:42,559
were talking about voyage of the Damned

555
00:22:40,849 --> 00:22:43,969
and that's the one that carly was on and

556
00:22:42,559 --> 00:22:45,169

that made me think of the ship that they

557

00:22:43,970 --> 00:22:47,029

were on I thought hang on a minute

558

00:22:45,170 --> 00:22:49,009

voyage of the Damned which is a machine

559

00:22:47,029 --> 00:22:50,629

that had monsters and boats and things

560

00:22:49,009 --> 00:22:51,680

and jon pertwee gets trapped in there

561

00:22:50,630 --> 00:22:53,360

all the monsters and the boats and

562

00:22:51,680 --> 00:22:54,980

everything get mixed up and that's why

563

00:22:53,359 --> 00:22:55,879

you so remember that I but it just

564

00:22:54,980 --> 00:22:57,769

occurred to me one of my all-time

565

00:22:55,880 --> 00:23:01,400

favorites would have to be either the

566

00:22:57,769 --> 00:23:03,259

mascarpone dragger or the one where the

567

00:23:01,400 --> 00:23:04,940

doctor was more or less a Sherlock

568

00:23:03,259 --> 00:23:06,950

Holmes character was in the bait Tom

569

00:23:04,940 --> 00:23:09,900

Baker here and the name just eludes me

570

00:23:06,950 --> 00:23:12,569

for the moment the talons of wangcheng

571
00:23:09,900 --> 00:23:13,860
mr. right yes yes it was it was it was

572
00:23:12,569 --> 00:23:15,359
set in Jack the Ripper London that's

573
00:23:13,859 --> 00:23:16,409
right and he was virtually a Sherlock

574
00:23:15,359 --> 00:23:19,500
Holmes character that was a great

575
00:23:16,410 --> 00:23:20,820
episode a great adventure well and as

576
00:23:19,500 --> 00:23:22,259
you look here on the board you can see

577
00:23:20,819 --> 00:23:23,879
that of course there's that big gap

578
00:23:22,259 --> 00:23:25,619
where they just did a movie in the 90s

579
00:23:23,880 --> 00:23:28,110
yeah yeah we were all worried it

580
00:23:25,619 --> 00:23:29,969
wouldn't come back and then suddenly we

581
00:23:28,109 --> 00:23:31,740
heard rumors and before we knew it it

582
00:23:29,970 --> 00:23:32,910
came back it was great isn't it great

583
00:23:31,740 --> 00:23:35,759
that Matt Smith has been able to bring

584
00:23:32,910 --> 00:23:38,220
back the popularity of the Fez we look

585
00:23:35,759 --> 00:23:39,869
yep see that young lady down there is a

586
00:23:38,220 --> 00:23:41,970
girl wearing a fez hearing affairs and

587
00:23:39,869 --> 00:23:43,619
pretty much at any any kanya go now

588
00:23:41,970 --> 00:23:46,140
there's always someone with a red face I

589
00:23:43,619 --> 00:23:47,819
think it's marvelous I wonder what the

590
00:23:46,140 --> 00:24:00,480
new doctor will bring back ma let's have

591
00:23:47,819 --> 00:24:02,669
a bit further look down here welcome to

592
00:24:00,480 --> 00:24:04,529
a week in science from our iOS bringing

593
00:24:02,670 --> 00:24:07,590
you the science news you need to know

594
00:24:04,529 --> 00:24:10,529
this week in science saw brain activity

595
00:24:07,589 --> 00:24:13,289
after death language affecting vision

596
00:24:10,529 --> 00:24:15,529
and heart trouble there's an app for

597
00:24:13,289 --> 00:24:15,529
that

598
00:24:19,700 --> 00:24:25,950
us researchers have used rats to

599

00:24:22,888 --> 00:24:28,288
investigate near-death experiences the

600
00:24:25,950 --> 00:24:30,749
rats displayed a big surge of brain

601
00:24:28,288 --> 00:24:33,210
activity immediately after cardiac

602
00:24:30,749 --> 00:24:35,249
arrest that's after their heart stopped

603
00:24:33,210 --> 00:24:38,490
beating and blood stopped flowing to the

604
00:24:35,249 --> 00:24:41,308
brain around twenty percent of human

605
00:24:38,490 --> 00:24:43,440
cardiac arrest survivors report having a

606
00:24:41,308 --> 00:24:45,898
near-death experience such as visions

607
00:24:43,440 --> 00:24:48,360
potentially stemming from residual brain

608
00:24:45,898 --> 00:24:50,308
activity close to death the researchers

609
00:24:48,359 --> 00:24:52,189
said their study provides the first

610
00:24:50,308 --> 00:24:56,819
scientific framework for these

611
00:24:52,190 --> 00:24:59,460
near-death experiences have you ever

612
00:24:56,819 --> 00:25:02,819
wondered why females are so preoccupied

613
00:24:59,460 --> 00:25:05,429

with elaborate male displays many male

614

00:25:02,819 --> 00:25:07,499

animals have bright colors big antlers

615

00:25:05,429 --> 00:25:10,169

long plumage and other features that

616

00:25:07,499 --> 00:25:13,440

attract females but we haven't really

617

00:25:10,169 --> 00:25:15,509

understood why it turns to mom a new

618

00:25:13,440 --> 00:25:18,149

theory this week suggests that females

619

00:25:15,509 --> 00:25:20,610

use the displays as an indicator of

620

00:25:18,148 --> 00:25:22,498

genetic compatibility particularly the

621

00:25:20,609 --> 00:25:25,589

genes involved in producing healthy

622

00:25:22,499 --> 00:25:27,629

offspring so the old adage appears to be

623

00:25:25,589 --> 00:25:30,298

true it's really what's on the inside

624

00:25:27,628 --> 00:25:32,908

that counts you're listening to a week

625

00:25:30,298 --> 00:25:37,349

in science from RI oz and now for

626

00:25:32,909 --> 00:25:39,419

science headlines in 30 seconds the

627

00:25:37,349 --> 00:25:42,058

discovery of the oldest near the toll

628
00:25:39,419 --> 00:25:44,129
bone tools in Europe suggests that they

629
00:25:42,058 --> 00:25:46,319
were less influenced by modern humans

630
00:25:44,128 --> 00:25:48,509
than we thought a new window can

631
00:25:46,319 --> 00:25:51,269
selectively block heat and visible light

632
00:25:48,509 --> 00:25:54,028
by applying specific voltages to glass a

633
00:25:51,269 --> 00:25:56,099
revolutionary iphone app and special

634
00:25:54,028 --> 00:25:57,808
case can quickly and cheaply detect

635
00:25:56,099 --> 00:26:01,319
heart rhythm problems potentially

636
00:25:57,808 --> 00:26:03,720
preventing strokes and hearing a word of

637
00:26:01,319 --> 00:26:07,378
an otherwise invisible object can help

638
00:26:03,720 --> 00:26:09,360
you to see it last week we asked you how

639
00:26:07,378 --> 00:26:12,509
did dolphins recognize their buddies

640
00:26:09,359 --> 00:26:15,209
after 20 years it's by their whistles

641
00:26:12,509 --> 00:26:18,298
the link to the paper is on our website

642
00:26:15,210 --> 00:26:20,429
that's it for this week in science for

643
00:26:18,298 --> 00:26:22,918
more information on these stories and

644
00:26:20,429 --> 00:26:28,109
other science news go to the rirs

645
00:26:22,919 --> 00:26:30,240
website RI au s org a you follow us on

646
00:26:28,108 --> 00:26:32,819
Twitter using the hashtag weekend

647
00:26:30,240 --> 00:26:38,730
sigh i'm paul willis and i'll catch you

648
00:26:32,819 --> 00:26:40,558
next week hey guys this is jay from the

649
00:26:38,730 --> 00:26:43,170
skeptics guide to the universe er well

650
00:26:40,558 --> 00:26:44,579
hold on whoa everybody knows I'm the

651
00:26:43,170 --> 00:26:46,500
only reason to listen to the Freak Show

652
00:26:44,579 --> 00:26:52,349
right I mean it was up to me the show

653
00:26:46,500 --> 00:26:54,808
would start with this yeah boy well

654
00:26:52,349 --> 00:26:56,639
Rebecca would hate that probably but I

655
00:26:54,808 --> 00:26:57,960
mean I'd rock that listen to our show

656

00:26:56,640 --> 00:26:59,759
and you can learn about cool stuff like

657
00:26:57,960 --> 00:27:01,500
a technological singularity which is

658
00:26:59,759 --> 00:27:03,029
someday when technology progresses so

659
00:27:01,500 --> 00:27:04,380
fast that it would make the Industrial

660
00:27:03,029 --> 00:27:07,440
Revolution look like a kid science

661
00:27:04,380 --> 00:27:17,340
project anyway come check us out at WWDC

662
00:27:07,440 --> 00:27:18,750
epic sky org get your son and here's the

663
00:27:17,339 --> 00:27:20,129
doctor who exhibit there's some costumes

664
00:27:18,750 --> 00:27:21,660
as well know this would be this would be

665
00:27:20,130 --> 00:27:22,980
David Tennant said we're looking at

666
00:27:21,660 --> 00:27:24,990
wouldn't it would certainly is with the

667
00:27:22,980 --> 00:27:28,079
the figures and the sort of the brown

668
00:27:24,990 --> 00:27:31,440
and brown shirt with blue stripes and

669
00:27:28,079 --> 00:27:32,609
the boulder not sure suit yes and what's

670
00:27:31,440 --> 00:27:34,230

the first thing that strikes you're

671

00:27:32,609 --> 00:27:35,879

looking at David Tennant's costume if

672

00:27:34,230 --> 00:27:37,860

indeed that is actually David Tennant's

673

00:27:35,880 --> 00:27:39,120

costume not one then just knocked up

674

00:27:37,859 --> 00:27:42,899

what's the thing that strikes you most

675

00:27:39,119 --> 00:27:46,529

about it the tie know how thin is you

676

00:27:42,900 --> 00:27:48,929

how thin is he yes i like the tie but

677

00:27:46,529 --> 00:27:50,460

you're right it's a very thin suit yes

678

00:27:48,929 --> 00:27:52,860

although actually when you get along

679

00:27:50,460 --> 00:27:54,870

when you see matt smith suit he's even

680

00:27:52,859 --> 00:27:56,789

thinner than david tennant's good grief

681

00:27:54,869 --> 00:27:59,489

you're probably right and he had the

682

00:27:56,789 --> 00:28:01,170

braces too which I like hmm which I like

683

00:27:59,490 --> 00:28:03,120

of course over there we've got the

684

00:28:01,170 --> 00:28:05,480

Companions wall as well with the larger

685
00:28:03,119 --> 00:28:08,129
companion photos there now of course

686
00:28:05,480 --> 00:28:10,410
really only the most popular for me was

687
00:28:08,130 --> 00:28:12,000
Leela it does knowing I think Leela had

688
00:28:10,410 --> 00:28:14,340
a large effect on a lot of Tom Baker

689
00:28:12,000 --> 00:28:15,808
fans it in many ways in many ways yes

690
00:28:14,339 --> 00:28:17,369
although under that we've got rose tyler

691
00:28:15,808 --> 00:28:20,609
of course which other but she brought

692
00:28:17,369 --> 00:28:23,009
the whole family with her she did she go

693
00:28:20,609 --> 00:28:25,529
to was a season pass to the TARDIS and

694
00:28:23,009 --> 00:28:27,450
berto whole family along I look I've

695
00:28:25,529 --> 00:28:29,609
actually got the three reasons why I

696
00:28:27,450 --> 00:28:30,660
actually don't like Doctor Who I do but

697
00:28:29,609 --> 00:28:32,159
there's be three reasons why you

698
00:28:30,660 --> 00:28:34,800
wouldn't like Doctor Who the episode

699

00:28:32,160 --> 00:28:37,740

let's kill hitler the episode the

700

00:28:34,799 --> 00:28:39,119

episode the doctor's wife now a lot of

701

00:28:37,740 --> 00:28:41,039

people love that

702

00:28:39,119 --> 00:28:42,149

I didn't mind that I nah I didn't like

703

00:28:41,039 --> 00:28:44,519

that I said come on enough of this

704

00:28:42,150 --> 00:28:47,670

emotional gunk and two two more words

705

00:28:44,519 --> 00:28:49,980

third reason River Song I'll come on

706

00:28:47,670 --> 00:28:51,420

River Song everyone likes River Song

707

00:28:49,980 --> 00:28:55,049

don't they know I'd like a completely

708

00:28:51,420 --> 00:28:56,580

taken out of the timeline listeners may

709

00:28:55,049 --> 00:28:57,569

have their own thoughts on that of

710

00:28:56,579 --> 00:28:59,609

course they do that's why I like to be

711

00:28:57,569 --> 00:29:02,009

controversial as we talk about the

712

00:28:59,609 --> 00:29:03,839

unpopular doctor now the unpopular

713

00:29:02,009 --> 00:29:07,650
doctor now I could be wrong about this

714
00:29:03,839 --> 00:29:09,509
is a rule the unpopular doctor I believe

715
00:29:07,650 --> 00:29:11,009
now a lot of people seem to think it

716
00:29:09,509 --> 00:29:12,929
might have been peter davidson because

717
00:29:11,009 --> 00:29:14,819
it was following Tom Baker who was quite

718
00:29:12,929 --> 00:29:17,850
popular but peter davidson did a pretty

719
00:29:14,819 --> 00:29:19,379
good job I think Colin Baker is known as

720
00:29:17,849 --> 00:29:21,599
the unpopular doctor you know I I

721
00:29:19,380 --> 00:29:25,620
enjoyed his doctor in fact he's the only

722
00:29:21,599 --> 00:29:27,599
one I've met the only doctor I've met as

723
00:29:25,619 --> 00:29:29,459
is Colin Baker some years ago here in

724
00:29:27,599 --> 00:29:31,379
Sydney he was absolutely charming and

725
00:29:29,460 --> 00:29:32,610
when I was when he was the doctor was my

726
00:29:31,380 --> 00:29:34,830
last two years of high school which were

727
00:29:32,609 --> 00:29:36,209

particularly horrendous for me and I

728

00:29:34,829 --> 00:29:38,039

would escape you know come home and

729

00:29:36,210 --> 00:29:40,620

watch Doctor Who to to escape the

730

00:29:38,039 --> 00:29:42,869

horrors of my high school experience so

731

00:29:40,619 --> 00:29:44,729

I got a soft spot for Colin Baker the

732

00:29:42,869 --> 00:29:46,049

reason that i mentioned him is unpopular

733

00:29:44,730 --> 00:29:47,190

line is because i think he tried to do

734

00:29:46,049 --> 00:29:49,109

something different with the character i

735

00:29:47,190 --> 00:29:51,090

think he might've even actually have

736

00:29:49,109 --> 00:29:53,189

tried to introduce a bit of the doctor

737

00:29:51,089 --> 00:29:55,619

being a conflicted personality for the

738

00:29:53,190 --> 00:29:57,720

almost the first time anyways nice and

739

00:29:55,619 --> 00:30:00,239

not always nice and and maybe what

740

00:29:57,720 --> 00:30:01,799

partial to a touch of beef mary is were

741

00:30:00,240 --> 00:30:05,099

just seeing a video of him now on trial

742
00:30:01,799 --> 00:30:06,359
in fact he had well I mean the doctors

743
00:30:05,099 --> 00:30:08,069
always got a touch of arrogance about

744
00:30:06,359 --> 00:30:10,049
him but there you can see he said he's

745
00:30:08,069 --> 00:30:12,869
he's big arrogant guy I don't know if I

746
00:30:10,049 --> 00:30:14,940
really i thought the costume was was fun

747
00:30:12,869 --> 00:30:17,669
and interesting but i don't know if a

748
00:30:14,940 --> 00:30:19,610
date so well it's something we also need

749
00:30:17,670 --> 00:30:21,960
to remind people about Doctor Who is

750
00:30:19,609 --> 00:30:24,119
when has there been a male lead

751
00:30:21,960 --> 00:30:27,630
character of any particular run of any

752
00:30:24,119 --> 00:30:31,079
series who's been so nonviolent James

753
00:30:27,630 --> 00:30:33,390
Bond no I take that back I mean look to

754
00:30:31,079 --> 00:30:34,319
find a non-violent character as much as

755
00:30:33,390 --> 00:30:35,550
Doctor Who you'd have to go to the

756
00:30:34,319 --> 00:30:37,769
Gilmore Girls or something like that

757
00:30:35,549 --> 00:30:40,440
he's been known to have a bit of a beef

758
00:30:37,769 --> 00:30:43,259
Oh dr. Lee's you know

759
00:30:40,440 --> 00:30:44,789
Ben Venusian Jitsu or something I

760
00:30:43,259 --> 00:30:46,379
remember but it's not his first resort

761
00:30:44,789 --> 00:30:47,490
he never carries a gun he's and I got

762
00:30:46,380 --> 00:30:49,110
that sonic screwdriver which

763
00:30:47,490 --> 00:30:50,910
occasionally worked depending on whether

764
00:30:49,109 --> 00:30:53,129
he's charged and I'm like yeah that's

765
00:30:50,910 --> 00:30:55,170
right now you're right you're right now

766
00:30:53,130 --> 00:30:57,150
he tries to solve his problems in other

767
00:30:55,170 --> 00:31:00,750
ways how do you think doctor who suits

768
00:30:57,150 --> 00:31:02,480
as a skeptic because he does apply the

769
00:31:00,750 --> 00:31:06,390
scientific method but yeah in

770

00:31:02,480 --> 00:31:08,940
consistently all very very but I I like

771
00:31:06,390 --> 00:31:11,190
the fact that that he's a hero and when

772
00:31:08,940 --> 00:31:13,289
I was a kid he was a hero for people

773
00:31:11,190 --> 00:31:15,330
like me who was an intelligent man

774
00:31:13,289 --> 00:31:17,460
solving problems with science and reason

775
00:31:15,329 --> 00:31:19,859
and you know okay a bit of action and

776
00:31:17,460 --> 00:31:22,049
adventure but then of course the show

777
00:31:19,859 --> 00:31:24,329
slips into things like the paranormal

778
00:31:22,049 --> 00:31:25,859
and and all this sort of stuff but you

779
00:31:24,329 --> 00:31:27,929
know what in that universe you allow it

780
00:31:25,859 --> 00:31:30,119
it's fantasy it's fiction but yeah

781
00:31:27,930 --> 00:31:32,549
basically speaking I think for science I

782
00:31:30,119 --> 00:31:34,679
think he's a great character he is

783
00:31:32,549 --> 00:31:36,539
someone who's always unconventional he's

784
00:31:34,680 --> 00:31:39,690

always strange he's always he's always

785

00:31:36,539 --> 00:31:41,730

by definition and outsider and unusual

786

00:31:39,690 --> 00:31:43,769

but he seems to always know do the right

787

00:31:41,730 --> 00:31:46,140

thing even if he doesn't appear do the

788

00:31:43,769 --> 00:31:47,309

right thing he usually does I think

789

00:31:46,140 --> 00:31:49,980

there's something in that in that like

790

00:31:47,309 --> 00:31:52,950

people that are at that are weird do the

791

00:31:49,980 --> 00:31:54,870

right thing it usually does the right

792

00:31:52,950 --> 00:31:55,980

thing but I mean the later doctors of

793

00:31:54,869 --> 00:31:58,049

course that they are the really

794

00:31:55,980 --> 00:31:59,610

conflicted once much more than the early

795

00:31:58,049 --> 00:32:00,569

ones which is interesting and why not

796

00:31:59,609 --> 00:32:02,399

you know they will the show has to

797

00:32:00,569 --> 00:32:04,379

evolve well by the time you've got ten

798

00:32:02,400 --> 00:32:05,550

personalities preceding you there's a

799

00:32:04,380 --> 00:32:08,970

chance that there could be you could be

800

00:32:05,549 --> 00:32:10,500

carrying a bit of baggage a man is the

801

00:32:08,970 --> 00:32:13,430

sum of these memories you know a Time

802

00:32:10,500 --> 00:32:13,430

Lord even more so

803

00:32:18,779 --> 00:32:27,480

from the pages of the Victorian skeptics

804

00:32:22,480 --> 00:32:31,360

website [WWE Vick skeptics wordpress com](#)

805

00:32:27,480 --> 00:32:33,519

another big psychic show rolls into town

806

00:32:31,359 --> 00:32:36,939

by Mel Vickers with assistance from

807

00:32:33,519 --> 00:32:39,160

Martin Hadley never has any psychic ever

808

00:32:36,940 --> 00:32:41,350

passed a rigorous scientific test of

809

00:32:39,160 --> 00:32:43,570

their claimed ability while most

810

00:32:41,349 --> 00:32:45,099

skeptics are well aware of this you'd

811

00:32:43,569 --> 00:32:48,339

think the media and society in general

812

00:32:45,099 --> 00:32:50,919

knew nothing of it imagine what kind of

813
00:32:48,339 --> 00:32:53,529
world it would be if from tomorrow

814
00:32:50,920 --> 00:32:56,350
psychics really did have the abilities

815
00:32:53,529 --> 00:32:58,329
they claim to possess the prizes from

816
00:32:56,349 --> 00:33:01,259
the next lottery would go to a series of

817
00:32:58,329 --> 00:33:03,879
psychics presumably in order of merit

818
00:33:01,259 --> 00:33:06,069
fairly soon non psychics would stop

819
00:33:03,880 --> 00:33:08,230
buying tickets and the lotteries would

820
00:33:06,069 --> 00:33:10,809
fold there wouldn't be much point in

821
00:33:08,230 --> 00:33:14,380
casinos bingo or the horse races either

822
00:33:10,809 --> 00:33:16,149
the world we inhabit isn't like that we

823
00:33:14,380 --> 00:33:18,400
have lotteries and casinos that make a

824
00:33:16,150 --> 00:33:19,980
fortune despite the presence of many

825
00:33:18,400 --> 00:33:23,940
psychics who traveled the world

826
00:33:19,980 --> 00:33:26,140
flaunting their talents in July 2013

827

00:33:23,940 --> 00:33:28,720
Australia played host to a visit from a

828
00:33:26,140 --> 00:33:31,330
prominent uk-based self-proclaimed

829
00:33:28,720 --> 00:33:33,910
psychic Sally Morgan Sally did a number

830
00:33:31,329 --> 00:33:36,309
of shows across Australia her shows the

831
00:33:33,910 --> 00:33:39,130
big events like those of John Edward and

832
00:33:36,309 --> 00:33:41,139
the late Doris Stokes the athenaeum

833
00:33:39,130 --> 00:33:44,140
theatre in Melbourne which posted sally

834
00:33:41,140 --> 00:33:46,360
morgan seats about a thousand people the

835
00:33:44,140 --> 00:33:48,700
emphasis is on her supposed messages

836
00:33:46,359 --> 00:33:50,559
from the departed these big psychic

837
00:33:48,700 --> 00:33:53,559
performances and not at all like the

838
00:33:50,559 --> 00:33:55,990
stereotypical local fare gypsy with her

839
00:33:53,559 --> 00:33:58,359
tent and crystal ball whom you might pay

840
00:33:55,990 --> 00:34:00,849
a few dollars for a giggle yes I know

841
00:33:58,359 --> 00:34:02,769

skeptics should always hold out hope

842

00:34:00,849 --> 00:34:05,740

that a real psychic may turn up one day

843

00:34:02,769 --> 00:34:08,009

but for how long for many years now the

844

00:34:05,740 --> 00:34:10,179

Australian skeptics have offered

845

00:34:08,010 --> 00:34:13,120

\$100,000 to anybody who can demonstrate

846

00:34:10,179 --> 00:34:15,760

a paranormal ability including psychic

847

00:34:13,119 --> 00:34:18,909

ability even greater sums of money are

848

00:34:15,760 --> 00:34:21,159

on offer elsewhere in the world testing

849

00:34:18,909 --> 00:34:24,099

psychics can be quite straightforward if

850

00:34:21,159 --> 00:34:26,919

a simple yet robust test protocol can be

851

00:34:24,099 --> 00:34:28,069

agreed upon for example many psychics

852

00:34:26,918 --> 00:34:30,319

claim to be able to do

853

00:34:28,070 --> 00:34:32,180

readings from photographs a person might

854

00:34:30,320 --> 00:34:34,850

send a photograph of a deceased relative

855

00:34:32,179 --> 00:34:36,799

to a psychic and the breathed and the

856
00:34:34,849 --> 00:34:38,989
psychic would then hook up by a phone

857
00:34:36,800 --> 00:34:40,519
for a reading the psychic would then

858
00:34:38,989 --> 00:34:42,469
typically claim to be using the

859
00:34:40,519 --> 00:34:44,840
photograph to help connect with the

860
00:34:42,469 --> 00:34:47,179
deceased and would also typically claim

861
00:34:44,840 --> 00:34:50,030
not to be getting information from the

862
00:34:47,179 --> 00:34:52,940
bereaved relative to test if this is

863
00:34:50,030 --> 00:34:55,390
true exclude the relative from the test

864
00:34:52,940 --> 00:34:58,070
and pose this question to the psychic

865
00:34:55,389 --> 00:35:00,469
here are the photographs of some dearly

866
00:34:58,070 --> 00:35:03,080
departed would you please get in contact

867
00:35:00,469 --> 00:35:05,629
with the spirit world and ask them their

868
00:35:03,079 --> 00:35:07,610
names our phones remain steadfastly

869
00:35:05,630 --> 00:35:10,190
silent despite the large sums of money

870
00:35:07,610 --> 00:35:12,170
on offer and to those shopping mall or

871
00:35:10,190 --> 00:35:14,840
we can market twenty dollar psychics who

872
00:35:12,170 --> 00:35:17,269
don't necessarily do it for the money we

873
00:35:14,840 --> 00:35:18,710
say can you think of a charity that

874
00:35:17,269 --> 00:35:21,019
could use a hundred thousand dollars

875
00:35:18,710 --> 00:35:23,690
courtesy of the Australian skeptics in

876
00:35:21,019 --> 00:35:25,730
October 2011 sally morgan was asked

877
00:35:23,690 --> 00:35:28,700
publicly to take part in a test of her

878
00:35:25,730 --> 00:35:30,139
psychic abilities in the UK the test

879
00:35:28,699 --> 00:35:32,299
protocol was put together by chris

880
00:35:30,139 --> 00:35:35,179
french a professor of psychology in the

881
00:35:32,300 --> 00:35:37,220
UK also on the test panel was science

882
00:35:35,179 --> 00:35:39,949
writer Simon Singh and members of the

883
00:35:37,219 --> 00:35:42,889
Merseyside skeptics society on offer was

884

00:35:39,949 --> 00:35:45,109
1 million u.s. dollars this was a

885
00:35:42,889 --> 00:35:47,690
serious offer who would want to pass up

886
00:35:45,110 --> 00:35:49,880
a million dollars Sally could have kept

887
00:35:47,690 --> 00:35:53,150
the money herself or given it to charity

888
00:35:49,880 --> 00:35:56,269
Sally Morgan's lawyers reportedly stated

889
00:35:53,150 --> 00:35:58,940
you will know that we all have far more

890
00:35:56,269 --> 00:36:02,349
important things to do than to take part

891
00:35:58,940 --> 00:36:05,210
in this or any other test at this point

892
00:36:02,349 --> 00:36:07,549
she will not attend a Liverpool or at

893
00:36:05,210 --> 00:36:09,860
any other time skeptics have

894
00:36:07,550 --> 00:36:13,039
investigated how to perform like a

895
00:36:09,860 --> 00:36:15,380
psychic their abilities can be imitated

896
00:36:13,039 --> 00:36:17,779
in many ways the method that produces

897
00:36:15,380 --> 00:36:20,780
the best and most spectacular hits is

898
00:36:17,780 --> 00:36:22,730

known as hot reading the performer uses

899

00:36:20,780 --> 00:36:24,340

information actually obtained from the

900

00:36:22,730 --> 00:36:26,630

subject before the readings start

901

00:36:24,340 --> 00:36:28,640

psychic performers have been caught

902

00:36:26,630 --> 00:36:30,619

obtaining information through

903

00:36:28,639 --> 00:36:32,420

questionnaires conversations with the

904

00:36:30,619 --> 00:36:35,690

audience members before the show and

905

00:36:32,420 --> 00:36:37,940

even from the internet cold reading is

906

00:36:35,690 --> 00:36:40,429

where the performer uses a variety of

907

00:36:37,940 --> 00:36:41,490

skills after the reading has started to

908

00:36:40,429 --> 00:36:44,559

discreetly

909

00:36:41,489 --> 00:36:47,739

straight from the subject or to get

910

00:36:44,559 --> 00:36:50,559

agreement from the subject to various

911

00:36:47,739 --> 00:36:52,389

careful suggestions done cleverly the

912

00:36:50,559 --> 00:36:55,630

performer appears to be getting

913
00:36:52,389 --> 00:36:58,598
information through psychic skills cold

914
00:36:55,630 --> 00:37:00,849
reading can work well not so well but

915
00:36:58,599 --> 00:37:03,010
compared to hot reading it has always

916
00:37:00,849 --> 00:37:05,338
had the advantage that the performer

917
00:37:03,010 --> 00:37:08,530
cannot be busted techniques include

918
00:37:05,338 --> 00:37:11,799
shrewd observation of the subject what

919
00:37:08,530 --> 00:37:13,720
demographic is the subject age how they

920
00:37:11,800 --> 00:37:16,390
dressed why would they be here at a

921
00:37:13,719 --> 00:37:19,539
psychic show you could go fishing for

922
00:37:16,389 --> 00:37:22,509
clues you ask questions that don't sound

923
00:37:19,539 --> 00:37:25,088
like obvious questions does this make

924
00:37:22,510 --> 00:37:27,520
sense to you therefore the subject will

925
00:37:25,088 --> 00:37:29,710
help you they believe in psychic

926
00:37:27,519 --> 00:37:31,599
abilities they'll unknowingly provide

927
00:37:29,710 --> 00:37:34,300
you with the answers there are also

928
00:37:31,599 --> 00:37:37,210
statements that cover all bases the

929
00:37:34,300 --> 00:37:40,539
rainbow rouge for example your father

930
00:37:37,210 --> 00:37:43,720
was at times cold but you knew his warm

931
00:37:40,539 --> 00:37:46,179
side he was in fact both cold and warm

932
00:37:43,719 --> 00:37:48,399
like most people you've covered all the

933
00:37:46,179 --> 00:37:50,710
bases and everything in between the

934
00:37:48,400 --> 00:37:53,079
subject will smile and degree what's

935
00:37:50,710 --> 00:37:56,050
also important is the perception of the

936
00:37:53,079 --> 00:37:58,240
audience people will naturally remember

937
00:37:56,050 --> 00:38:01,420
the hits and forget the misses for

938
00:37:58,239 --> 00:38:03,549
example Wow wasn't it amazing how the

939
00:38:01,420 --> 00:38:06,309
psychic knew your father was such a warm

940
00:38:03,550 --> 00:38:09,250
friendly person the comment about him

941

00:38:06,309 --> 00:38:11,108
also being cold is forgotten this is

942
00:38:09,250 --> 00:38:13,900
just a very quick look at the big

943
00:38:11,108 --> 00:38:15,789
subject of cold reading there is an

944
00:38:13,900 --> 00:38:19,150
excellent book available on the methods

945
00:38:15,789 --> 00:38:21,550
of cold reading by Ian Roland the full

946
00:38:19,150 --> 00:38:25,119
facts book of cold reading such people

947
00:38:21,550 --> 00:38:27,780
as Ian and local skeptic Lynn Kelly have

948
00:38:25,119 --> 00:38:30,550
shown how intelligence empathy and

949
00:38:27,780 --> 00:38:34,150
practice can allow any person to

950
00:38:30,550 --> 00:38:36,818
demonstrate apparent psychic powers Lynn

951
00:38:34,150 --> 00:38:39,130
has amazed believers with the accuracy

952
00:38:36,818 --> 00:38:42,400
of her readings I'll need to confess to

953
00:38:39,130 --> 00:38:45,099
them later on that she was a fake you

954
00:38:42,400 --> 00:38:47,130
can guess how good she is from the fact

955
00:38:45,099 --> 00:38:50,280

that customers have told her many times

956

00:38:47,130 --> 00:38:53,260

that she really does have psychic powers

957

00:38:50,280 --> 00:38:55,759

it's just that she does not realize it

958

00:38:53,260 --> 00:38:58,278

herself some rational thinkers

959

00:38:55,759 --> 00:39:01,548

except what psychics do with a kind of

960

00:38:58,278 --> 00:39:04,009

paternalistic justification oh well

961

00:39:01,548 --> 00:39:06,679

those that believe in that kind of thing

962

00:39:04,009 --> 00:39:08,898

sometimes need closure with departed

963

00:39:06,679 --> 00:39:11,059

loved ones so why not let them have it

964

00:39:08,898 --> 00:39:13,909

I'm not a fan of this apologetic

965

00:39:11,059 --> 00:39:15,229

thinking would it perhaps be better if

966

00:39:13,909 --> 00:39:17,509

the people sought help from a

967

00:39:15,228 --> 00:39:19,668

professional grief counselor a grief

968

00:39:17,509 --> 00:39:22,369

counselor should be capable of giving

969

00:39:19,668 --> 00:39:24,348

people the same kind of help if you

970
00:39:22,369 --> 00:39:26,749
argue that only psychics can offer

971
00:39:24,349 --> 00:39:29,778
benefit to grieving people then how does

972
00:39:26,748 --> 00:39:31,818
that compare with the harm that might be

973
00:39:29,778 --> 00:39:35,148
caused there are many documented cases

974
00:39:31,818 --> 00:39:37,938
where psychics have caused harp on the

975
00:39:35,148 --> 00:39:40,398
what's the harm website there are

976
00:39:37,938 --> 00:39:43,129
accounts of a lady who lost her life

977
00:39:40,398 --> 00:39:45,949
savings to a psychic / con artist and

978
00:39:43,130 --> 00:39:48,079
the child who died because a psychic /

979
00:39:45,949 --> 00:39:50,869
healer convinced her parents to change

980
00:39:48,079 --> 00:39:52,880
her medication the parents of a missing

981
00:39:50,869 --> 00:39:55,699
child were told that their child was

982
00:39:52,880 --> 00:39:58,608
dead for years later he was found alive

983
00:39:55,699 --> 00:40:01,608
the long list of loss of wealth health

984
00:39:58,608 --> 00:40:04,398
and in some cases life is worth a read

985
00:40:01,608 --> 00:40:07,489
by anyone who may think psychics do no

986
00:40:04,398 --> 00:40:09,768
harm to be fair these problems aren't

987
00:40:07,489 --> 00:40:12,048
always caused by the big name psychic

988
00:40:09,768 --> 00:40:14,208
performers typically promoters of the

989
00:40:12,048 --> 00:40:17,298
big touring psychic shows will try to

990
00:40:14,208 --> 00:40:19,338
market them to the media TV snippets of

991
00:40:17,298 --> 00:40:21,978
the psychics performances appear to

992
00:40:19,338 --> 00:40:24,469
focus on close relatives of people who

993
00:40:21,978 --> 00:40:26,928
have died take a look at Sally Morgan's

994
00:40:24,469 --> 00:40:29,449
promotional video on YouTube audience

995
00:40:26,929 --> 00:40:31,369
members who are called to stand up for a

996
00:40:29,449 --> 00:40:33,889
public reading look and sound quite

997
00:40:31,369 --> 00:40:36,409
distressed particularly when Sally

998

00:40:33,889 --> 00:40:38,298
voices the deceased what is really

999
00:40:36,409 --> 00:40:41,539
strange is how the most prominent

1000
00:40:38,298 --> 00:40:43,309
psychics and high earning psychics have

1001
00:40:41,539 --> 00:40:46,009
a disclaimer that they are only

1002
00:40:43,309 --> 00:40:48,380
entertainers when self-proclaimed

1003
00:40:46,009 --> 00:40:51,619
psychic John Edwards television show

1004
00:40:48,380 --> 00:40:54,289
crossing over aired on Australian TV one

1005
00:40:51,619 --> 00:40:57,108
might have noticed at the very end of

1006
00:40:54,289 --> 00:41:00,889
the credits and just for three seconds a

1007
00:40:57,108 --> 00:41:02,748
text disclaimer it states in part the

1008
00:41:00,889 --> 00:41:05,119
producer has relied heavily on

1009
00:41:02,748 --> 00:41:06,828
contributions of John Edward and other

1010
00:41:05,119 --> 00:41:09,410
third parties in the creation of this

1011
00:41:06,829 --> 00:41:12,080
program which has been produced for

1012
00:41:09,409 --> 00:41:14,000

entertainment purposes only sally morgan

1013

00:41:12,079 --> 00:41:16,670
used a similar disclaimer for her

1014

00:41:14,000 --> 00:41:19,070
australian shows sally morgan is an

1015

00:41:16,670 --> 00:41:21,470
experimental / investigational there are

1016

00:41:19,070 --> 00:41:23,590
no guaranteed or certain results and the

1017

00:41:21,469 --> 00:41:26,569
show is for the purposes of

1018

00:41:23,590 --> 00:41:28,340
entertainment so it's all just for

1019

00:41:26,570 --> 00:41:30,080
entertainment I have a hard time

1020

00:41:28,340 --> 00:41:32,840
reconciling that with the claims of

1021

00:41:30,079 --> 00:41:36,170
psychic abilities in Sally Morgan's

1022

00:41:32,840 --> 00:41:39,079
promotional video she says you know when

1023

00:41:36,170 --> 00:41:42,200
you think about it these messages where

1024

00:41:39,079 --> 00:41:45,019
are they coming from the ether as they

1025

00:41:42,199 --> 00:41:47,349
say one generally expects professional

1026

00:41:45,019 --> 00:41:50,420
people to be able to do what they claim

1027
00:41:47,349 --> 00:41:52,460
motor mechanics fix cars bankers borrow

1028
00:41:50,420 --> 00:41:56,090
and lend money cabinet makers make

1029
00:41:52,460 --> 00:41:58,250
cabinets and so on however psychics have

1030
00:41:56,090 --> 00:42:00,350
never been able to show under carefully

1031
00:41:58,250 --> 00:42:03,019
controlled conditions that they are

1032
00:42:00,349 --> 00:42:04,779
indeed psychic I'm yet to find a motor

1033
00:42:03,019 --> 00:42:07,219
mechanic who fixes cars for

1034
00:42:04,780 --> 00:42:10,430
entertainment purposes only perhaps

1035
00:42:07,219 --> 00:42:12,769
there are some that do shrug my motor

1036
00:42:10,429 --> 00:42:15,349
mechanic whistles sometimes but I

1037
00:42:12,769 --> 00:42:17,809
digress have I missed something here is

1038
00:42:15,349 --> 00:42:19,880
it ethical to use the relatives of

1039
00:42:17,809 --> 00:42:23,029
people who have died to market

1040
00:42:19,880 --> 00:42:25,010
entertainment Thank You Mel Vickers with

1041
00:42:23,030 --> 00:42:27,290
assistance from Martin Hadley for

1042
00:42:25,010 --> 00:42:29,330
writing that report again you can read

1043
00:42:27,289 --> 00:42:34,119
more from Victorian skeptics at Vic

1044
00:42:29,329 --> 00:42:34,119
skeptics wordpress com

1045
00:42:41,050 --> 00:42:44,869
have you heard the one about how the

1046
00:42:42,920 --> 00:42:46,400
Illuminati in conjunction with the US

1047
00:42:44,869 --> 00:42:48,170
government are hiding the existence of

1048
00:42:46,400 --> 00:42:50,630
aliens in order to ensure the supply of

1049
00:42:48,170 --> 00:42:51,889
helium is kept low or the CIA the

1050
00:42:50,630 --> 00:42:53,660
militant wing of the Freemasons are

1051
00:42:51,889 --> 00:42:55,098
working with the elders of zion to take

1052
00:42:53,659 --> 00:42:57,588
control of the population of the world

1053
00:42:55,099 --> 00:42:59,390
through fluoridated chemtrails canberra

1054
00:42:57,588 --> 00:43:00,858
skeptics incorporated on behalf of the

1055

00:42:59,389 --> 00:43:02,568
shadow government will be massing an

1056
00:43:00,858 --> 00:43:05,119
array of dark forces for the Australian

1057
00:43:02,568 --> 00:43:06,889
skeptics national convention 2013 this

1058
00:43:05,119 --> 00:43:08,480
convention has conspired to coincide

1059
00:43:06,889 --> 00:43:10,789
with the 50th anniversary of the

1060
00:43:08,480 --> 00:43:12,469
assassination of John F Kennedy possibly

1061
00:43:10,789 --> 00:43:14,509
the most famous conspiracy theory of all

1062
00:43:12,469 --> 00:43:16,368
time if you've ever wanted to learn

1063
00:43:14,510 --> 00:43:18,290
about the truth behind the death of JFK

1064
00:43:16,369 --> 00:43:20,180
what makes for a good conspiracy theory

1065
00:43:18,289 --> 00:43:22,190
and why they are so prevalent Canberra

1066
00:43:20,179 --> 00:43:23,929
skeptics invites you to attend that is

1067
00:43:22,190 --> 00:43:26,929
of course should you choose to accept it

1068
00:43:23,929 --> 00:43:29,539
come to national skeptics convention org

1069
00:43:26,929 --> 00:43:31,690

and just remember they will be watching

1070

00:43:29,539 --> 00:43:31,690

you

1071

00:43:39,980 --> 00:43:44,130

we've come to the end of the Doctor Who

1072

00:43:42,269 --> 00:43:46,980

exhibition here at ABC ultimate we were

1073

00:43:44,130 --> 00:43:48,750

almost gone into ABC news 24 I'm I got

1074

00:43:46,980 --> 00:43:50,159

on there bit of lube you through the

1075

00:43:48,750 --> 00:43:51,480

broadcasting I think you should me not

1076

00:43:50,159 --> 00:43:52,859

yeah now we were trying to sit in the

1077

00:43:51,480 --> 00:43:54,659

background and pull faces and everything

1078

00:43:52,860 --> 00:43:56,519

but they actually change actually blue

1079

00:43:54,659 --> 00:43:57,659

screen the window out so that people

1080

00:43:56,519 --> 00:43:58,980

can't be seen in the background was a

1081

00:43:57,659 --> 00:44:01,589

bit i just wanted to go down there and

1082

00:43:58,980 --> 00:44:03,510

pull faces never never and that we

1083

00:44:01,590 --> 00:44:05,160

actually in front some of the masks of

1084
00:44:03,510 --> 00:44:07,500
some of the bad the evil people here at

1085
00:44:05,159 --> 00:44:10,319
dr who and this is a rather innocuous

1086
00:44:07,500 --> 00:44:11,880
looking piece of plastic and fiberglass

1087
00:44:10,320 --> 00:44:13,470
here but this actually scared the kapu p

1088
00:44:11,880 --> 00:44:15,539
adding it was a kid yeah when i was a

1089
00:44:13,469 --> 00:44:17,909
kid forget that the pig monster here or

1090
00:44:15,539 --> 00:44:20,579
the the the OOD I thought the Daleks

1091
00:44:17,909 --> 00:44:22,889
were scary but this one to me of all the

1092
00:44:20,579 --> 00:44:24,239
Doctor Who thing creatures whatever this

1093
00:44:22,889 --> 00:44:26,699
one gave me the creeps more than

1094
00:44:24,239 --> 00:44:30,659
anything else it's a Cyberman if anybody

1095
00:44:26,699 --> 00:44:33,829
watches the early tom baker stuff you'll

1096
00:44:30,659 --> 00:44:36,329
see cyber mats that they are like

1097
00:44:33,829 --> 00:44:37,949
mechanical rats in a way but they would

1098
00:44:36,329 --> 00:44:40,019
leap on people and kill them and that

1099
00:44:37,949 --> 00:44:41,339
was really scary thought because you

1100
00:44:40,019 --> 00:44:42,809
could be sitting there eating your

1101
00:44:41,340 --> 00:44:44,789
breakfast on this thing just rolls on

1102
00:44:42,809 --> 00:44:48,000
the carpet behind you jumps up and

1103
00:44:44,789 --> 00:44:50,460
before you know it it was scary look

1104
00:44:48,000 --> 00:44:52,559
dude are pretty scary bit like it's no

1105
00:44:50,460 --> 00:44:54,750
weeping angels I mean come on a monster

1106
00:44:52,559 --> 00:44:58,440
that comes up on you and all your just

1107
00:44:54,750 --> 00:45:00,570
look away or blink again know when you

1108
00:44:58,440 --> 00:45:02,099
were scary as the bean bag that eats you

1109
00:45:00,570 --> 00:45:03,480
you know as a child I couldn't sit down

1110
00:45:02,099 --> 00:45:06,150
sit on the bean bag for about three

1111
00:45:03,480 --> 00:45:09,210
years another really early memory I have

1112

00:45:06,150 --> 00:45:10,619
just an early memory of television is

1113
00:45:09,210 --> 00:45:13,800
the episode of doctor who is probably

1114
00:45:10,619 --> 00:45:15,719
the same one where somebody's talking on

1115
00:45:13,800 --> 00:45:16,890
the telephone and the master is at the

1116
00:45:15,719 --> 00:45:19,079
other end of the phone and he does

1117
00:45:16,889 --> 00:45:20,969
something with the device and the phone

1118
00:45:19,079 --> 00:45:22,949
cord attacks the person on the other end

1119
00:45:20,969 --> 00:45:25,980
and wraps at her and wraps around their

1120
00:45:22,949 --> 00:45:27,149
neck that was really scary would you

1121
00:45:25,980 --> 00:45:28,800
just think he went to all that trouble

1122
00:45:27,150 --> 00:45:31,800
and now he's being defeated by the

1123
00:45:28,800 --> 00:45:33,660
invention of mobile phones I'll get you

1124
00:45:31,800 --> 00:45:35,070
with that what do you know mate it's not

1125
00:45:33,659 --> 00:45:37,529
it's not working my not going to happen

1126
00:45:35,070 --> 00:45:40,080

what kind of mastery you that was scary

1127

00:45:37,530 --> 00:45:41,670

I admit I was I was scared by that no

1128

00:45:40,079 --> 00:45:43,259

scared by the Cyberman but in a

1129

00:45:41,670 --> 00:45:44,820

delightful way well it's been a

1130

00:45:43,260 --> 00:45:47,249

frightening episode here at the skeptics

1131

00:45:44,820 --> 00:45:50,170

earn it certainly has

1132

00:45:47,248 --> 00:45:51,669

what about coming up on next week next

1133

00:45:50,170 --> 00:45:54,480

week skeptic zone well you know what

1134

00:45:51,670 --> 00:45:59,920

it's like Doctor Who it's a mystery I

1135

00:45:54,480 --> 00:46:02,409

more of your interviews with malo cos

1136

00:45:59,920 --> 00:46:04,989

Eddie ah the man the man who worked for

1137

00:46:02,409 --> 00:46:06,909

NASA and what NASA used to be before was

1138

00:46:04,989 --> 00:46:08,769

NASA early days of NASA that's a really

1139

00:46:06,909 --> 00:46:10,629

fascinating series into interviews more

1140

00:46:08,768 --> 00:46:12,909

of that coming up next week apart from

1141
00:46:10,630 --> 00:46:14,230
that listeners you'll just have to wait

1142
00:46:12,909 --> 00:46:15,489
and see with a find out we're gonna have

1143
00:46:14,230 --> 00:46:17,739
a bit of a look around and if you could

1144
00:46:15,489 --> 00:46:20,380
take one bit of the exhibition home what

1145
00:46:17,739 --> 00:46:22,119
would it be for me it's Kylie Minogue's

1146
00:46:20,380 --> 00:46:23,999
outfit from voyage of the Damned but

1147
00:46:22,119 --> 00:46:26,380
that's for incredibly personal reasons

1148
00:46:23,998 --> 00:46:28,629
just walking up to that now we'll look

1149
00:46:26,380 --> 00:46:32,170
over to our right in a little glass box

1150
00:46:28,630 --> 00:46:33,970
we have Tom Baker's scarf I think that

1151
00:46:32,170 --> 00:46:36,130
would have to be it for me yeah because

1152
00:46:33,969 --> 00:46:37,899
I mean didn't all you know high school

1153
00:46:36,130 --> 00:46:39,999
kids get into long scarf suddenly when

1154
00:46:37,900 --> 00:46:42,309
Tom Tom Baker came out I had one it

1155
00:46:39,998 --> 00:46:44,078
curled a bit it wasn't quite the right

1156
00:46:42,309 --> 00:46:45,789
sort but I did have one well let's take

1157
00:46:44,079 --> 00:46:52,420
a journey in time and space and see next

1158
00:46:45,789 --> 00:46:55,809
time on there's a gap digs own you've

1159
00:46:52,420 --> 00:47:00,400
been listening to the skeptic zone visit

1160
00:46:55,809 --> 00:47:02,890
our website at [www.skeptics on TV](http://www.skepticsontv.com) for

1161
00:47:00,400 --> 00:47:05,519
comments contacts and extra video

1162
00:47:02,889 --> 00:47:05,518
reports

1163
00:47:08,590 --> 00:47:10,620
Oh