

The Skeptic Zone

Show 251 - 11 Aug 2013



Adele

1
00:00:23,870 --> 00:00:09,080
welcome to the skeptic zone the podcast

2
00:00:30,900 --> 00:00:26,580
hello and welcome to the skeptic zone

3
00:00:34,320 --> 00:00:30,910
episode number 251 for the 11th of

4
00:00:36,630 --> 00:00:34,330
august 2013 Richard Saunders here with

5
00:00:38,130 --> 00:00:36,640
you from Sydney Australia what an

6
00:00:41,280 --> 00:00:38,140
interesting show we have lined up for

7
00:00:43,170 --> 00:00:41,290
you this week my good friend my dear

8
00:00:46,350 --> 00:00:43,180
friend who I haven't seen from the wild

9
00:00:48,630 --> 00:00:46,360
dr. Phil Plait is in town and just the

10
00:00:51,950 --> 00:00:48,640
other night I went along to hear a

11
00:00:54,780 --> 00:00:51,960
public talk by Phil death from the skies

12
00:00:57,299 --> 00:00:54,790
accompanied by joanne benim ooh and

13
00:01:00,109 --> 00:00:57,309

after that we were very lucky indeed to

14

00:01:03,960 --> 00:01:00,119

visit the sydney observatory with phil

15

00:01:05,609 --> 00:01:03,970

and get some behind-the-scenes a little

16

00:01:07,530 --> 00:01:05,619

behind-the-scenes tour I guess you would

17

00:01:09,149 --> 00:01:07,540

say we went up to the top of the

18

00:01:13,050 --> 00:01:09,159

observatory and saw the city at night

19

00:01:16,410 --> 00:01:13,060

and then then we went in and observed

20

00:01:19,109 --> 00:01:16,420

some stars and planets now this is your

21

00:01:20,760 --> 00:01:19,119

chance to be a annie's dropper as it

22

00:01:23,670 --> 00:01:20,770

were a little fly on the wall in the

23

00:01:27,870 --> 00:01:23,680

observatory is Phil play tonight and Joe

24

00:01:31,319 --> 00:01:27,880

and Ben amoo here into the telescope to

25

00:01:34,139 --> 00:01:31,329

look at the wonders of the cosmos you

26
00:01:35,940 --> 00:01:34,149
might say that's coming up at the top of

27
00:01:38,039 --> 00:01:35,950
the show and I hope you enjoy that I

28
00:01:40,649 --> 00:01:38,049
hope you enjoy that following that it's

29
00:01:42,989 --> 00:01:40,659
an interview with Tim Farley from what's

30
00:01:45,510 --> 00:01:42,999
the harm net what's the harm you might

31
00:01:48,510 --> 00:01:45,520
say what's the harm find out more with

32
00:01:50,609 --> 00:01:48,520
Tim Farley from what's the harm net and

33
00:01:52,620 --> 00:01:50,619
then we'll round off the show with the

34
00:01:55,859 --> 00:01:52,630
weakened science from the Royal

35
00:01:58,529 --> 00:01:55,869
Institution of Australia yes a slightly

36
00:02:00,209 --> 00:01:58,539
shorter show this week partly because

37
00:02:02,399 --> 00:02:00,219
I'm very busy at the moment are

38
00:02:04,230 --> 00:02:02,409

preparing for the mystery investigator

39

00:02:06,389 --> 00:02:04,240

show my good friend Ian Bryce who does

40

00:02:08,430 --> 00:02:06,399

the show with me sometimes and I will be

41

00:02:10,680 --> 00:02:08,440

performing at the Australian Museum for

42

00:02:13,350 --> 00:02:10,690

lots of kids lots of high school kids

43

00:02:15,059 --> 00:02:13,360

this week coming up when are we

44

00:02:17,340 --> 00:02:15,069

performing Tuesday Wednesday and

45

00:02:18,960 --> 00:02:17,350

Thursday I think and then the following

46

00:02:22,670 --> 00:02:18,970

week we're doing some shows for some

47

00:02:25,080 --> 00:02:22,680

younger kids science week here in

48

00:02:27,900 --> 00:02:25,090

Australia and the mystery investigators

49

00:02:31,920 --> 00:02:27,910

love to get out there and do our show

50

00:02:34,410 --> 00:02:31,930

about questioning claims now somebody

51
00:02:35,910 --> 00:02:34,420
else who likes to question claims

52
00:02:39,030 --> 00:02:35,920
is none other than our very own dr.

53
00:02:42,030 --> 00:02:39,040
Ricci dr. Rachel Dunlop dr. Reggie will

54
00:02:45,510 --> 00:02:42,040
be speaking in Canberra on the

55
00:02:48,900 --> 00:02:45,520
seventeenth of August between three and

56
00:02:51,840 --> 00:02:48,910
four thirty p.m. the location is

57
00:02:53,130 --> 00:02:51,850
Questacon king edward terrace and i

58
00:02:55,910 --> 00:02:53,140
think people in canberra certainly

59
00:02:59,309 --> 00:02:55,920
nowhere Questacon is it's free admission

60
00:03:02,009 --> 00:02:59,319
Wow free admission what more could you

61
00:03:05,250 --> 00:03:02,019
ask for now dr. H is going to be giving

62
00:03:08,160 --> 00:03:05,260
a talk thinking outside the box how

63
00:03:10,710 --> 00:03:08,170

blue-green algae coconut bat soup and

64

00:03:13,759 --> 00:03:10,720

the jungles of Guam provide clues to the

65

00:03:16,350 --> 00:03:13,769

causes of motor neuron disease good

66

00:03:19,440 --> 00:03:16,360

heavens I think the message there folks

67

00:03:22,259 --> 00:03:19,450

is a mmm don't eat that bat soup for

68

00:03:27,150 --> 00:03:22,269

more information go to ww canberra

69

00:03:28,890 --> 00:03:27,160

skeptic co BAU and I'm sure dr. rachy

70

00:03:30,630 --> 00:03:28,900

when she's in Canberra we'll be hearing

71

00:03:33,030 --> 00:03:30,640

more interesting and exciting details

72

00:03:35,160 --> 00:03:33,040

about the upcoming Australian skeptics

73

00:03:37,530 --> 00:03:35,170

National Convention and we'll play the

74

00:03:40,530 --> 00:03:37,540

little little promotion of that towards

75

00:03:42,330 --> 00:03:40,540

the end of the show dr. H II not to be

76

00:03:44,430 --> 00:03:42,340

missed well that's all from me at the

77

00:03:46,759 --> 00:03:44,440

moment I'm just gonna stand up here walk

78

00:03:52,800 --> 00:03:46,769

over the other side of my office where

79

00:03:54,120 --> 00:03:52,810

hello sweetie this is Adele hello she

80

00:03:56,640 --> 00:03:54,130

keeps me company up here in my office

81

00:03:59,220 --> 00:03:56,650

sometimes and she's rolling on her back

82

00:04:03,240 --> 00:03:59,230

looking too cute for words yes hello

83

00:04:04,920 --> 00:04:03,250

sweetheart here we go well I thought I'd

84

00:04:06,539 --> 00:04:04,930

just give you a little bit of cuteness

85

00:04:11,430 --> 00:04:06,549

into your life folks what do you say

86

00:04:13,680 --> 00:04:11,440

Adele there we go well you're gonna stay

87

00:04:16,620 --> 00:04:13,690

there right you stay there Adele lie in

88

00:04:21,240 --> 00:04:16,630

the Sun on top of my main little

89

00:04:23,490 --> 00:04:21,250

wardrobe while you're doing that yes I'm

90

00:04:26,940 --> 00:04:23,500

going to run downstairs I'm going to

91

00:04:30,120 --> 00:04:26,950

find some miso soup you like the miso

92

00:04:32,070 --> 00:04:30,130

soup yes I thought so well maybe not I'm

93

00:04:35,730 --> 00:04:32,080

gonna find some miso soup which I quite

94

00:04:52,930 --> 00:04:35,740

like yes and we'll all enjoy the skeptic

95

00:04:52,940 --> 00:05:05,060

you soon dr. Phil place

96

00:05:09,380 --> 00:05:07,160

well thank you thank you Jeff and thank

97

00:05:11,480 --> 00:05:09,390

you everybody for coming it's very very

98

00:05:15,260 --> 00:05:11,490

exciting to be in Australia I love this

99

00:05:16,670 --> 00:05:15,270

country you guys are so cool every

100

00:05:19,040 --> 00:05:16,680

single one what's the best part about

101
00:05:22,760 --> 00:05:19,050
going to Australia us and you surrounded

102
00:05:24,260 --> 00:05:22,770
by Australians also standing on my head

103
00:05:25,700 --> 00:05:24,270
and seeing all of them upside down

104
00:05:28,070 --> 00:05:25,710
constellations you guys have here

105
00:05:30,410 --> 00:05:28,080
watching a riot come over the horizon

106
00:05:32,600 --> 00:05:30,420
upside down is something that will stay

107
00:05:35,420 --> 00:05:32,610
with me Chris to Atlanta's seriously

108
00:05:37,340 --> 00:05:35,430
freaky and the other night I saw alpha

109
00:05:39,650 --> 00:05:37,350
beta Centauri and summer concert you

110
00:05:43,130 --> 00:05:39,660
don't get to see as well as Sagittarius

111
00:05:45,730 --> 00:05:43,140
and Scorpius overhead which does not

112
00:05:48,170 --> 00:05:45,740
happen at nor managers that's very cool

113
00:05:51,140 --> 00:05:48,180

it's really really exciting to be here

114

00:05:56,240 --> 00:05:51,150

also you guys have I just go into a

115

00:06:01,250 --> 00:05:56,250

store my mentees a board index we've

116

00:06:02,930 --> 00:06:01,260

been eating Tim Tams all day so good so

117

00:06:04,430 --> 00:06:02,940

it's a real pleasure to hear the last

118

00:06:06,260 --> 00:06:04,440

time I was here was actually 10 years

119

00:06:08,090 --> 00:06:06,270

ago I was brought here by Richard

120

00:06:10,670 --> 00:06:08,100

Saunders was in fact in the audience

121

00:06:13,310 --> 00:06:10,680

with the Australian skeptics and

122

00:06:16,670 --> 00:06:13,320

wonderful toward I'm doing a few cities

123

00:06:18,470 --> 00:06:16,680

here again Sydney reminds me a lot of

124

00:06:20,570 --> 00:06:18,480

San Francisco where I'll engines when I

125

00:06:22,780 --> 00:06:20,580

come here and sleeping home and then

126

00:06:26,890 --> 00:06:22,790

nice and kangaroos hopping around so yes

127

00:06:30,100 --> 00:06:26,900

good reminder a long way from home so

128

00:06:33,080 --> 00:06:30,110

years ago as Jeff mentioned I studied

129

00:06:35,480 --> 00:06:33,090

supernova 1987a which is a star that

130

00:06:37,220 --> 00:06:35,490

exploded in another galaxy but

131

00:06:38,690 --> 00:06:37,230

relatively close by you could actually

132

00:06:43,580 --> 00:06:38,700

go outside and see it with your naked

133

00:06:46,430 --> 00:06:43,590

eye and I always kind of liked exploding

134

00:06:48,490 --> 00:06:46,440

stars of grub learning about neutron

135

00:06:52,670 --> 00:06:48,500

stars all black holes and libraries up

136

00:06:55,100 --> 00:06:52,680

and I've always been fascinated by that

137

00:06:57,200 --> 00:06:55,110

sort of thing this epic disasters i love

138

00:06:59,060 --> 00:06:57,210

disaster movies i mean i think most

139

00:07:00,950 --> 00:06:59,070

people didn't right now I going on

140

00:07:02,510 --> 00:07:00,960

roller coasters and being scared and I

141

00:07:05,510 --> 00:07:02,520

know that at the end I'll be able to get

142

00:07:07,640 --> 00:07:05,520

often and be happy and just remember the

143

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

thrill oriental porn movies drunken

144

00:07:12,220 --> 00:07:09,660

reason like them as well so if you

145

00:07:16,810 --> 00:07:12,230

combine these two things and you like

146

00:07:19,970 --> 00:07:16,820

gigantic catastrophic cosmic events and

147

00:07:23,030 --> 00:07:19,980

you like talking about sort of threats

148

00:07:24,590 --> 00:07:23,040

to life it's very easy to make so this

149

00:07:29,320 --> 00:07:24,600

too much choice outs that's fun to be

150

00:07:32,150 --> 00:07:29,330

talking about i'm at just an amazing

151
00:07:34,909 --> 00:07:32,160
situation my friends with an amazing man

152
00:07:38,000 --> 00:07:34,919
dr. Phil Plait hello hey skeptics owners

153
00:07:40,130 --> 00:07:38,010
hey we three back on we are on top of

154
00:07:42,020 --> 00:07:40,140
the city observatory we are on top of

155
00:07:44,360 --> 00:07:42,030
the Sydney observatories isn't a place

156
00:07:46,850 --> 00:07:44,370
you get to see very often and it's a

157
00:07:49,520 --> 00:07:46,860
brilliant night the moon is setting over

158
00:07:51,560 --> 00:07:49,530
there with Venus bright as I've ever

159
00:07:53,180 --> 00:07:51,570
seen it in the city it's pretty whole

160
00:07:54,920 --> 00:07:53,190
city is just laid before it's all lit up

161
00:07:56,990 --> 00:07:54,930
yeah we're standing in front of the

162
00:08:00,980 --> 00:07:57,000
harbor and you can see the Harbormaster

163
00:08:02,840 --> 00:08:00,990

tower the bridge and return around here

164

00:08:04,969 --> 00:08:02,850

course you can't see that in luna park

165

00:08:06,860 --> 00:08:04,979

and the Magnificent opera house is all

166

00:08:09,230 --> 00:08:06,870

their force it's hard to believe I'm

167

00:08:10,310 --> 00:08:09,240

standing here again and you just come in

168

00:08:11,870 --> 00:08:10,320

and then every time you come to

169

00:08:13,940 --> 00:08:11,880

Australia which is an awful which is now

170

00:08:15,830 --> 00:08:13,950

twice plus including this one you look

171

00:08:17,420 --> 00:08:15,840

up in heavens and you're thinking you're

172

00:08:19,280 --> 00:08:17,430

standing on your head it's just so funny

173

00:08:20,420 --> 00:08:19,290

so completely it's odd i mean we're here

174

00:08:22,219 --> 00:08:20,430

on the observatory i can look out over

175

00:08:24,020 --> 00:08:22,229

the bridge in luna park and i can see

176

00:08:26,270 --> 00:08:24,030

Vega and Altair and these are very

177

00:08:28,550 --> 00:08:26,280

familiar stars but if I turn a little

178

00:08:31,190 --> 00:08:28,560

bit to the left and I guess you know I'm

179

00:08:32,810 --> 00:08:31,200

facing west and I can see Saturn and

180

00:08:35,030 --> 00:08:32,820

Spica and Arcturus and these are all

181

00:08:36,350 --> 00:08:35,040

very familiar stars but because you in

182

00:08:38,350 --> 00:08:36,360

the northern hemisphere we get him yeah

183

00:08:40,580 --> 00:08:38,360

and then I turn you know toward

184

00:08:41,990 --> 00:08:40,590

obviously that's south

185

00:08:43,580 --> 00:08:42,000

and it's like oh they're day that would

186

00:08:46,100 --> 00:08:43,590

be the Southern Cross an alpha and beta

187

00:08:48,470 --> 00:08:46,110

Centauri the rest of some tourists and

188

00:08:51,800 --> 00:08:48,480

Scorpius is straight overhead it's just

189

00:08:54,230 --> 00:08:51,810

it's crazy it's so weird you know you're

190

00:08:55,910 --> 00:08:54,240

you stand at Warren latitude and spin

191

00:08:57,380 --> 00:08:55,920

around and the stars rise and set and

192

00:08:59,150 --> 00:08:57,390

you're used to that but when you go

193

00:09:01,910 --> 00:08:59,160

north and south you're seeing different

194

00:09:05,510 --> 00:09:01,920

stars cuz the earth is no longer in the

195

00:09:07,700 --> 00:09:05,520

way of those stars yeah its just oh the

196

00:09:10,160 --> 00:09:07,710

first night I got here it's alpha and

197

00:09:11,750 --> 00:09:10,170

beta Centauri and it's just that's god I

198

00:09:14,090 --> 00:09:11,760

love that that's the closest star system

199

00:09:16,160 --> 00:09:14,100

that we know of Emilio and there it is

200

00:09:18,260 --> 00:09:16,170

Mary there yeah that's right has kept

201
00:09:19,790 --> 00:09:18,270
them incredibly bright and you were

202
00:09:21,260 --> 00:09:19,800
saying just before that when you landed

203
00:09:23,330 --> 00:09:21,270
you were looking at the mentholated

204
00:09:25,070 --> 00:09:23,340
clouds well no it was up but it was

205
00:09:27,980 --> 00:09:25,080
getting too bright i landed about 5am

206
00:09:30,170 --> 00:09:27,990
and i was at the brisbane airport and

207
00:09:31,250 --> 00:09:30,180
walked outside and i could i was looking

208
00:09:32,690 --> 00:09:31,260
a star and i'm looking at it thinking

209
00:09:34,340 --> 00:09:32,700
it's the right color and the right

210
00:09:37,040 --> 00:09:34,350
brightness to be serious but i don't

211
00:09:39,290 --> 00:09:37,050
know if that's serious and that one's

212
00:09:41,150 --> 00:09:39,300
Cano piss but I had to pull out my iPad

213
00:09:42,740 --> 00:09:41,160

fiddling with it it's like oh okay and

214

00:09:45,110 --> 00:09:42,750

then i realized i was looking at orion

215

00:09:47,120 --> 00:09:45,120

upside down but the longer I waited the

216

00:09:49,250 --> 00:09:47,130

brighter the sky god and then it was too

217

00:09:51,020 --> 00:09:49,260

late to see anything but that was that

218

00:09:52,280 --> 00:09:51,030

was briefly later tonight maybe you

219

00:09:54,380 --> 00:09:52,290

might have a chance to see some more

220

00:09:56,930 --> 00:09:54,390

loads the hours go by yeah it's it's why

221

00:09:57,950 --> 00:09:56,940

this seven ish now yeah yeah I don't

222

00:09:59,930 --> 00:09:57,960

know if we'll be able to see the

223

00:10:02,770 --> 00:09:59,940

Magellanic Cloud but it's rising right

224

00:10:06,320 --> 00:10:02,780

now but given that i spent four years

225

00:10:08,810 --> 00:10:06,330

three years years many many years

226

00:10:11,930 --> 00:10:08,820

multiple years looking at supernova

227

00:10:13,370 --> 00:10:11,940

1987a using Hubble and had never seen

228

00:10:15,800 --> 00:10:13,380

the Magellanic Cloud then came down here

229

00:10:17,210 --> 00:10:15,810

back in 2004 with you yeah yeah and

230

00:10:19,040 --> 00:10:17,220

sought for the first time you brought me

231

00:10:20,900 --> 00:10:19,050

up strongly ironmen went up the hill and

232

00:10:22,460 --> 00:10:20,910

we I mean you guys you jumped out of the

233

00:10:23,810 --> 00:10:22,470

car and i pointed out and I well I just

234

00:10:25,130 --> 00:10:23,820

I walk out of the car and looked up and

235

00:10:27,470 --> 00:10:25,140

just saw it and I was just standing

236

00:10:28,760 --> 00:10:27,480

there like oh my god and I got a big

237

00:10:31,280 --> 00:10:28,770

lump in my throat and I was about ready

238

00:10:33,260 --> 00:10:31,290

to weep yeah it was so beautiful to see

239

00:10:35,030 --> 00:10:33,270

that for the first time I was expecting

240

00:10:36,500 --> 00:10:35,040

like an Andromeda galaxy and it's so

241

00:10:39,170 --> 00:10:36,510

much better not so much bigger and

242

00:10:43,650 --> 00:10:41,699

we're leaders in ultra notable sighs oh

243

00:10:46,410 --> 00:10:43,660

well I've studied this I've got a

244

00:10:48,150 --> 00:10:46,420

million spectra of this from stus Phil

245

00:10:51,179 --> 00:10:48,160

Plait is looking at something in the

246

00:10:53,639 --> 00:10:51,189

flesh is a we say in the in the hydrogen

247

00:10:55,579 --> 00:10:53,649

gas yeah what are you looking at so

248

00:10:58,710 --> 00:10:55,589

there's a star called a to Karen a and

249

00:11:02,100 --> 00:10:58,720

it's what it's about 4th magnitude of

250

00:11:03,480 --> 00:11:02,110

something like that and it's a

251
00:11:05,549 --> 00:11:03,490
supermassive star it's one of the most

252
00:11:07,859 --> 00:11:05,559
massive stars in galaxies it's called a

253
00:11:10,199 --> 00:11:07,869
luminous blue variable it's a very blue

254
00:11:12,299 --> 00:11:10,209
star and it's very luminous and it's

255
00:11:14,220 --> 00:11:12,309
variable so you know what do you call it

256
00:11:17,129 --> 00:11:14,230
company you have no game i investigate

257
00:11:18,840 --> 00:11:17,139
um she does variable stars oh she does

258
00:11:21,780 --> 00:11:18,850
this kind this is an extremely massive

259
00:11:23,309 --> 00:11:21,790
star 80 or more times the mass of the

260
00:11:25,949 --> 00:11:23,319
Sun it's basically the upper limit of

261
00:11:29,579 --> 00:11:25,959
how star how massive a star can be it's

262
00:11:31,079 --> 00:11:29,589
unstable it's basically so hot actually

263
00:11:33,449 --> 00:11:31,089

Adam and is tapping her foot I think she

264

00:11:35,189 --> 00:11:33,459

wants to come into we got a bunch of

265

00:11:36,629 --> 00:11:35,199

astronomers here who want to see and so

266

00:11:37,889 --> 00:11:36,639

this star the surface of the star is

267

00:11:41,369 --> 00:11:37,899

unstable it there's so much energy

268

00:11:44,220 --> 00:11:41,379

pouring up from below that it wants to

269

00:11:47,939 --> 00:11:44,230

blow the surface off and they're very

270

00:11:50,790 --> 00:11:47,949

unstable and 150 years ago or more the

271

00:11:53,999 --> 00:11:50,800

star had a massive outburst a paroxysm

272

00:11:55,499 --> 00:11:54,009

and it blew off these two lobes moving

273

00:11:57,689 --> 00:11:55,509

in opposite directions look like an

274

00:11:59,429 --> 00:11:57,699

hourglass and you can see that we've

275

00:12:00,749 --> 00:11:59,439

heard is just 16 inch telescope here at

276

00:12:03,090 --> 00:12:00,759

the Sydney Observatory you can see them

277

00:12:04,619 --> 00:12:03,100

in this event the star got tremendously

278

00:12:07,710 --> 00:12:04,629

bright it was like I think the second

279

00:12:09,869 --> 00:12:07,720

brightest star in the sky and what what

280

00:12:11,939 --> 00:12:09,879

the event was is it erupted with these

281

00:12:13,769 --> 00:12:11,949

two lobes and together those lobes

282

00:12:16,860 --> 00:12:13,779

themselves have about the mass of the

283

00:12:18,629 --> 00:12:16,870

Sun if I mean that that explosion is

284

00:12:20,970 --> 00:12:18,639

basically second only to the star

285

00:12:24,840 --> 00:12:20,980

blowing up how many let users that way

286

00:12:26,069 --> 00:12:24,850

about 7,500 light-years and a de carne

287

00:12:27,210 --> 00:12:26,079

is an interesting star because it's

288

00:12:28,590 --> 00:12:27,220

going to explode someday it's gonna

289

00:12:30,720 --> 00:12:28,600

become a supernova nobody really know

290

00:12:31,919 --> 00:12:30,730

already has yeah it's possible it's one

291

00:12:33,769 --> 00:12:31,929

of the few stars it's actually far

292

00:12:36,980 --> 00:12:33,779

enough away um

293

00:12:38,900 --> 00:12:36,990

yay did that just that just that it's a

294

00:12:41,179 --> 00:12:38,910

bit disorder I think once brighter than

295

00:12:42,650 --> 00:12:41,189

the other so they may look bigger job

296

00:12:45,559 --> 00:12:42,660

enemy was now peering through the

297

00:12:47,720 --> 00:12:45,569

telescope and I had no idea yeah look at

298

00:12:49,160 --> 00:12:47,730

me that smile or nothing well I've seen

299

00:12:51,110 --> 00:12:49,170

it Hubble pictures it's very famous

300

00:12:53,059 --> 00:12:51,120

Hubble picture of this and we've

301
00:12:54,530 --> 00:12:53,069
observed it with the space telescope

302
00:12:56,600 --> 00:12:54,540
imaging spectrograph which is the camera

303
00:12:58,040 --> 00:12:56,610
I worked on for a long time and the

304
00:12:59,840 --> 00:12:58,050
specter of this when you break up the

305
00:13:01,730 --> 00:12:59,850
light into its individual colors is a

306
00:13:03,679 --> 00:13:01,740
complete mess it's really hard to

307
00:13:06,470 --> 00:13:03,689
interpret because there's just so much

308
00:13:08,960 --> 00:13:06,480
going on but these two lobes actually I

309
00:13:10,309 --> 00:13:08,970
never really thought about how big the

310
00:13:12,769 --> 00:13:10,319
lobes were I've seen a million pictures

311
00:13:14,749 --> 00:13:12,779
of it I never considered that with a

312
00:13:16,340 --> 00:13:14,759
relatively you know I'm not gonna call

313
00:13:18,470 --> 00:13:16,350

this small but you know it's not this

314

00:13:20,030 --> 00:13:18,480

isn't a four meter telescope you can

315

00:13:22,280 --> 00:13:20,040

slap an eyepiece in and be able to see

316

00:13:23,869 --> 00:13:22,290

him that's astonishing what I got

317

00:13:27,980 --> 00:13:23,879

something for the astronomers in the

318

00:13:30,139 --> 00:13:27,990

room in the dome sorry okay so there is

319

00:13:31,790 --> 00:13:30,149

so much stuff out there to look at so

320

00:13:33,350 --> 00:13:31,800

much it's just ridiculous how do

321

00:13:37,689 --> 00:13:33,360

astronomers decide what they're gonna

322

00:13:42,980 --> 00:13:41,059

what school you know but I mean there is

323

00:13:45,350 --> 00:13:42,990

so much stuff going on out there so okay

324

00:13:46,610 --> 00:13:45,360

a particular start may or may not be

325

00:13:48,860 --> 00:13:46,620

doing something interesting at any one

326

00:13:50,869 --> 00:13:48,870

point or particular galaxy how do you

327

00:13:54,470 --> 00:13:50,879

decide of all this amazing sky to look

328

00:13:56,119 --> 00:13:54,480

at what is you know is it is it just the

329

00:13:58,160 --> 00:13:56,129

images you get and that's what you yeah

330

00:13:59,389 --> 00:13:58,170

Oh in this case in this case it makes

331

00:14:01,759 --> 00:13:59,399

that like ask you a question to you in

332

00:14:05,480 --> 00:14:01,769

my head of mates that's pretty does yeah

333

00:14:06,769 --> 00:14:05,490

no no no and we have maps up on the wall

334

00:14:08,900 --> 00:14:06,779

here that's computer display that shows

335

00:14:10,340 --> 00:14:08,910

the sky and I was just looking at it

336

00:14:13,129 --> 00:14:10,350

looking around it's like oh you know

337

00:14:14,600 --> 00:14:13,139

we've got some torres's up so let's look

338

00:14:17,269 --> 00:14:14,610

at Omega Centauri it's a globular

339

00:14:20,150 --> 00:14:17,279

cluster and Centaurus and my eye fell on

340

00:14:22,309 --> 00:14:20,160

on on Karina and I just thought oh that

341

00:14:24,590 --> 00:14:22,319

that'd be nice and I've never I've never

342

00:14:26,389 --> 00:14:24,600

seen it so why not take a look and there

343

00:14:27,679 --> 00:14:26,399

it is oh no why you are this part of the

344

00:14:28,790 --> 00:14:27,689

world would not yeah I mean I'm not

345

00:14:30,829 --> 00:14:28,800

gonna get a chance to see this again

346

00:14:34,970 --> 00:14:30,839

when i'm looking at how low this is this

347

00:14:36,639 --> 00:14:34,980

is way below my heart even bolder 30 or

348

00:14:40,610 --> 00:14:36,649

40 degrees i would guess i don't know

349

00:14:42,760 --> 00:14:40,620

that's yeah there's a Southern Cross

350

00:14:45,860 --> 00:14:42,770

this is way farther south than I can see

351
00:14:49,220 --> 00:14:45,870
that's magnificent from another

352
00:14:51,470 --> 00:14:49,230
perspective a few what to answer a

353
00:14:52,790 --> 00:14:51,480
particular science question then you

354
00:14:54,770 --> 00:14:52,800
have to figure out what things might

355
00:14:56,390 --> 00:14:54,780
potentially be the most the best way

356
00:14:58,040 --> 00:14:56,400
it's actually accessed that and then

357
00:14:59,330 --> 00:14:58,050
science question or you could go a

358
00:15:01,160 --> 00:14:59,340
different way and say well I'm trying to

359
00:15:02,570 --> 00:15:01,170
answer this science question I can do

360
00:15:04,820 --> 00:15:02,580
some different methods but maybe I

361
00:15:10,160 --> 00:15:04,830
really want to use that great telescope

362
00:15:12,440 --> 00:15:10,170
that's in Chile so I is a clever project

363
00:15:14,270 --> 00:15:12,450

that would allow me to use that or I

364

00:15:15,560 --> 00:15:14,280

started to actually study things very

365

00:15:16,730 --> 00:15:15,570

very far away in the universe but

366

00:15:18,620 --> 00:15:16,740

they're just these little specks of

367

00:15:20,750 --> 00:15:18,630

light and not terribly beautiful so I

368

00:15:22,520 --> 00:15:20,760

started to study near more clothes

369

00:15:24,260 --> 00:15:22,530

galaxies and more clothes galaxies

370

00:15:25,850 --> 00:15:24,270

because they start to get resolved and

371

00:15:27,950 --> 00:15:25,860

you can see these great spiral arms so

372

00:15:31,070 --> 00:15:27,960

in that sense I wanted to actually look

373

00:15:33,860 --> 00:15:31,080

at a lot prettier pictures in my mind

374

00:15:36,650 --> 00:15:33,870

add a life so I wanted to do nearby

375

00:15:39,860 --> 00:15:36,660

galaxies instead okay you just heard the

376
00:15:42,350 --> 00:15:39,870
voice of Amanda Bauer AKA at astro pixie

377
00:15:46,100 --> 00:15:42,360
follow her on Twitter for dirty space

378
00:15:48,950 --> 00:15:46,110
news super scientists actually nothing

379
00:15:50,690 --> 00:15:48,960
for very much longer yeah it's true

380
00:15:52,040 --> 00:15:50,700
whatever catches your interest i'm here

381
00:15:54,290 --> 00:15:52,050
it can be anything whatever is just

382
00:15:56,090 --> 00:15:54,300
visible there you go that's the

383
00:15:58,400 --> 00:15:56,100
telescope moving now get a look at

384
00:15:59,720 --> 00:15:58,410
something new it screams cuz it doesn't

385
00:16:03,960 --> 00:15:59,730
want to move away from such a gorgeous

386
00:16:10,110 --> 00:16:06,990
hold down is moving folks we're going to

387
00:16:12,720 --> 00:16:10,120
swing this around and look at Saturn

388
00:16:16,350 --> 00:16:12,730

it's quite disorientating ringing in a

389

00:16:19,199 --> 00:16:16,360

room which is moving around you and you

390

00:16:22,350 --> 00:16:19,209

tell us scopus gas bubble come up and

391

00:16:25,740 --> 00:16:22,360

just move to out in that all right Jen

392

00:16:32,970 --> 00:16:25,750

better move steps up and sees Saturday

393

00:16:34,439 --> 00:16:32,980

oh wow oh my god that is amazing I've

394

00:16:37,019 --> 00:16:34,449

only ever been able to see it through my

395

00:16:38,790 --> 00:16:37,029

dining hall skyscanner scope where all I

396

00:16:41,369 --> 00:16:38,800

could see was just these two little ears

397

00:16:48,210 --> 00:16:41,379

winking at me it's like oh I come in

398

00:16:51,689 --> 00:16:48,220

this is fast movie villains ya can oh my

399

00:16:53,550 --> 00:16:51,699

god that is just stunning you've never

400

00:16:55,379 --> 00:16:53,560

seen sad result I've seen it through

401
00:17:00,629 --> 00:16:55,389
mind a little skyscanner but all I can

402
00:17:05,429 --> 00:17:00,639
see years oh my singing through a big

403
00:17:06,779 --> 00:17:05,439
telescope wow it's so little I says it's

404
00:17:08,699 --> 00:17:06,789
always lit up when you look at it from

405
00:17:10,679 --> 00:17:08,709
Earth i guess but can you see a cap in

406
00:17:14,579 --> 00:17:10,689
the Rings yeah yes that's the

407
00:17:16,110 --> 00:17:14,589
Constitution yeah so I'm going to be an

408
00:17:18,059 --> 00:17:16,120
item of mindless I'm looking at the

409
00:17:20,569 --> 00:17:18,069
shadows outside the Rings brilliantly

410
00:17:23,279 --> 00:17:20,579
bracelets or moons don't around disease

411
00:17:24,720 --> 00:17:23,289
it's quite something I can see the

412
00:17:26,760 --> 00:17:24,730
shadow actually I can see the shadow

413
00:17:36,000 --> 00:17:26,770

just behind sentence casting on the

414

00:17:37,919 --> 00:17:36,010

Rings ah something like I've just waited

415

00:17:41,820 --> 00:17:37,929

to say probably in order to jewel-box

416

00:17:43,350 --> 00:17:41,830

now yes yeah a jewel box now Phil's

417

00:17:48,210 --> 00:17:43,360

walking over to the telescope he's

418

00:17:51,149 --> 00:17:48,220

peering through and ya know wow that's

419

00:17:52,560 --> 00:17:51,159

amazing look at the colors it's called

420

00:17:55,890 --> 00:17:52,570

the jewel box because of all the

421

00:17:58,950 --> 00:17:55,900

different colored stars god there's a

422

00:18:00,990 --> 00:17:58,960

gorgeous red star next one that's just

423

00:18:02,250 --> 00:18:01,000

sort of dulling ish is white but then

424

00:18:04,860 --> 00:18:02,260

there's a blue one on the other side

425

00:18:07,049 --> 00:18:04,870

listen is at this stage may google the

426

00:18:08,880 --> 00:18:07,059

duel book so they can see what Philly is

427

00:18:10,440 --> 00:18:08,890

talking about you want to you want to

428

00:18:12,500 --> 00:18:10,450

see pictures this is very pretty it's an

429

00:18:14,820 --> 00:18:12,510

open cluster which means it's um a

430

00:18:15,590 --> 00:18:14,830

collection of stars that probably form

431

00:18:18,260 --> 00:18:15,600

together and

432

00:18:19,700 --> 00:18:18,270

they're just a tight little not theirs I

433

00:18:21,799 --> 00:18:19,710

don't know a couple hundred stars here

434

00:18:24,250 --> 00:18:21,809

it's surprising to see this many colors

435

00:18:26,450 --> 00:18:24,260

though I wonder if that red one is a

436

00:18:27,880 --> 00:18:26,460

case got to be a red giant if it were

437

00:18:30,650 --> 00:18:27,890

dwarfed we wouldn't be able to see it so

438

00:18:32,950 --> 00:18:30,660

it's probably a luminous red giant like

439

00:18:36,380 --> 00:18:32,960

a star that's more evolved in the Sun

440

00:18:41,659 --> 00:18:36,390

very pretty go take a look looks walking

441

00:18:43,880 --> 00:18:41,669

over to the my pace now and very I'm

442

00:18:45,590 --> 00:18:43,890

quite impressed about how sharp the

443

00:18:47,710 --> 00:18:45,600

focus is and yes the colors are

444

00:18:51,740 --> 00:18:47,720

magnificent look at that I just Falls

445

00:18:57,560 --> 00:18:51,750

Thank You Phil Phil there's a this

446

00:18:59,960 --> 00:18:57,570

nearby stars Walter Ruby cruises it's

447

00:19:03,110 --> 00:18:59,970

while the rid of styles can ever say oh

448

00:19:11,750 --> 00:19:03,120

yeah yeah it's a carbon star isn't yeah

449

00:19:16,970 --> 00:19:11,760

oh cool Oh carbon stars her stuff your

450

00:19:18,289 --> 00:19:16,980

absorption lines are confusing me back

451
00:19:21,289 --> 00:19:18,299
in the day when I was when I was working

452
00:19:22,640 --> 00:19:21,299
on Hubble we got this image of these two

453
00:19:23,960 --> 00:19:22,650
stars they were right next to each other

454
00:19:26,149 --> 00:19:23,970
and they turns out they were in the

455
00:19:28,220 --> 00:19:26,159
Large Magellanic Cloud satellite galaxy

456
00:19:29,960 --> 00:19:28,230
the Milky Way mm-hmm and it was it was

457
00:19:31,549 --> 00:19:29,970
just coincidental picture with somebody

458
00:19:32,899 --> 00:19:31,559
was using another camera to look at

459
00:19:34,310 --> 00:19:32,909
something else in our camera happened to

460
00:19:36,860 --> 00:19:34,320
be point in that direction we took took

461
00:19:38,419 --> 00:19:36,870
the pictures and I've ever seen them

462
00:19:39,680 --> 00:19:38,429
than going home they're almost exactly

463
00:19:44,120 --> 00:19:39,690

the same brightness that's kind of neat

464

00:19:46,100 --> 00:19:44,130

and we had spectra which when you use a

465

00:19:47,390 --> 00:19:46,110

prism or grating and break the light up

466

00:19:48,740 --> 00:19:47,400

into its individual colors you can

467

00:19:50,029 --> 00:19:48,750

actually determine a lot of

468

00:19:51,470 --> 00:19:50,039

characteristics about the object you're

469

00:19:54,080 --> 00:19:51,480

looking at how hot it is what it's made

470

00:19:55,669 --> 00:19:54,090

of if it has carbon oxygen whatever in a

471

00:19:56,539 --> 00:19:55,679

lot of different things so I thought I

472

00:19:59,029 --> 00:19:56,549

wonder what these aren't only look at

473

00:20:01,039 --> 00:19:59,039

the spectra and the spectra were crazy

474

00:20:02,690 --> 00:20:01,049

squiggles going up and down all over the

475

00:20:04,909 --> 00:20:02,700

place couldn't make heads or tails out

476

00:20:06,470 --> 00:20:04,919

of it and a lot of times for like a gas

477

00:20:08,330 --> 00:20:06,480

cloud or different kind of different

478

00:20:10,610 --> 00:20:08,340

kinds of stars the spectra very well

479

00:20:12,890 --> 00:20:10,620

behaved you see you see a shape to it

480

00:20:14,180 --> 00:20:12,900

you see dips and and and and bumps and

481

00:20:16,460 --> 00:20:14,190

you know what they all are but these

482

00:20:17,870 --> 00:20:16,470

were just a mess and then when I looked

483

00:20:19,340 --> 00:20:17,880

at both stars and compared to two

484

00:20:20,720 --> 00:20:19,350

spectra the two Spectre work almost

485

00:20:22,789 --> 00:20:20,730

exactly

486

00:20:24,950 --> 00:20:22,799

saying which is getting to be really

487

00:20:27,020 --> 00:20:24,960

creepy so I have two stars of the same

488

00:20:28,700 --> 00:20:27,030

brightness and clearly something going

489

00:20:31,580 --> 00:20:28,710

on under the same we realize their

490

00:20:34,760 --> 00:20:31,590

carbon stars they're highly evolved

491

00:20:36,890 --> 00:20:34,770

every old stars like the Sun that expand

492

00:20:38,990 --> 00:20:36,900

up they turn into red giants and they're

493

00:20:41,560 --> 00:20:39,000

very cool stars they're red but as they

494

00:20:44,419 --> 00:20:41,570

expand they the carbon in the atmosphere

495

00:20:45,740 --> 00:20:44,429

absorbs the light coming out of the star

496

00:20:47,630 --> 00:20:45,750

so when you break that light up into a

497

00:20:49,610 --> 00:20:47,640

spectrum you see all these sort of

498

00:20:51,799 --> 00:20:49,620

missing sections of the spectrum where

499

00:20:53,900 --> 00:20:51,809

carbon absorbs the light and carbon has

500

00:20:56,270 --> 00:20:53,910

these crazy absorption lines are all

501
00:20:57,620 --> 00:20:56,280
over the place what's weird as carbon

502
00:20:59,210 --> 00:20:57,630
stars typically don't have similar

503
00:21:00,830 --> 00:20:59,220
spectra and so to have two that are the

504
00:21:04,730 --> 00:21:00,840
same brightness that close together that

505
00:21:07,310 --> 00:21:04,740
are almost exactly the same was freakin

506
00:21:08,450 --> 00:21:07,320
bizarre and I've never been able to

507
00:21:10,310 --> 00:21:08,460
explain it and they were about a light

508
00:21:11,840 --> 00:21:10,320
year apart I calculated it if they're at

509
00:21:13,480 --> 00:21:11,850
the distance of the Magellanic Cloud

510
00:21:16,610 --> 00:21:13,490
their light your parts way too far away

511
00:21:18,080 --> 00:21:16,620
from each other to be a binary star they

512
00:21:19,669 --> 00:21:18,090
may have formed at the same time I

513
00:21:22,150 --> 00:21:19,679

couldn't understand why they would be

514

00:21:24,409 --> 00:21:22,160

dying at the sass not very far all is it

515

00:21:25,490 --> 00:21:24,419

there's dogs to be well they big enough

516

00:21:26,990 --> 00:21:25,500

yeah but they're not they're not

517

00:21:28,640 --> 00:21:27,000

orbiting each other a light-year is

518

00:21:30,080 --> 00:21:28,650

tremendously far for two storms or two

519

00:21:31,220 --> 00:21:30,090

each other but but two stars allow your

520

00:21:33,770 --> 00:21:31,230

apartment the nearest start of the Sun

521

00:21:36,320 --> 00:21:33,780

is full it's for ya so stars are more

522

00:21:37,640 --> 00:21:36,330

densely packed there and I i was totally

523

00:21:39,710 --> 00:21:37,650

baffled and we talked a bunch of

524

00:21:41,060 --> 00:21:39,720

astronomers nobody could explain it so I

525

00:21:43,130 --> 00:21:41,070

thought I need to talk to a carbon star

526

00:21:45,169 --> 00:21:43,140

person I found a guy and said listen

527

00:21:48,740 --> 00:21:45,179

I've got all this free data it's from

528

00:21:50,210 --> 00:21:48,750

Hubble it's crazy sharp spectra and it's

529

00:21:51,560 --> 00:21:50,220

a complete mystery and he's like now I'm

530

00:21:53,740 --> 00:21:51,570

too busy I got too many other things to

531

00:21:56,210 --> 00:21:53,750

do I can't deal with this data and

532

00:21:58,220 --> 00:21:56,220

mysteries never been solved as far as I

533

00:22:01,940 --> 00:21:58,230

know we've never able to figure enough

534

00:22:03,409 --> 00:22:01,950

it eats at me it's been 20 years so

535

00:22:06,169 --> 00:22:03,419

we're looking at one now is it look red

536

00:22:08,210 --> 00:22:06,179

to you Joe no blue to me ah not because

537

00:22:10,430 --> 00:22:08,220

that's the if you learn to read from

538

00:22:13,880 --> 00:22:10,440

since the recursive second row started

539

00:22:17,539 --> 00:22:13,890

with something across just let ya run it

540

00:22:20,539 --> 00:22:17,549

to the ridiculously bright one yeah this

541

00:22:24,620 --> 00:22:20,549

isn't the garnet stargazing no garnet is

542

00:22:32,800 --> 00:22:26,630

I wonder over again and have another

543

00:22:35,300 --> 00:22:32,810

look through this eyepiece good heavens

544

00:22:38,720 --> 00:22:35,310

yes i see i see the red one in the blue

545

00:22:40,250 --> 00:22:38,730

wake up mr. blue one that's astonishing

546

00:22:41,630 --> 00:22:40,260

i'm looking for the finder i can

547

00:22:44,360 --> 00:22:41,640

certainly see the blue it's very blue

548

00:22:46,670 --> 00:22:44,370

yeah yeah really is and the red one is

549

00:22:48,470 --> 00:22:46,680

quite quite red and quite tiny compared

550

00:22:52,820 --> 00:22:48,480

what does beta Crucis is abby's are or

551

00:22:54,230 --> 00:22:52,830

no sir our way to look at that right if

552

00:22:55,760 --> 00:22:54,240

only we had some sort of way of

553

00:23:01,610 --> 00:22:55,770

connecting to some sort of knowledge

554

00:23:04,550 --> 00:23:01,620

base oh look at how red that is that's

555

00:23:06,530 --> 00:23:04,560

phenomenal so Jeff wide here at the city

556

00:23:08,630 --> 00:23:06,540

Observatory this is a tremendous

557

00:23:10,510 --> 00:23:08,640

opportunity we're enjoying tonight

558

00:23:12,980 --> 00:23:10,520

having a look at these wonderful stars

559

00:23:14,690 --> 00:23:12,990

but the observatory is here for

560

00:23:17,810 --> 00:23:14,700

everybody in cities now yes that's right

561

00:23:20,600 --> 00:23:17,820

so we're open 363 days and nights a year

562

00:23:22,970 --> 00:23:20,610

a bit garnish we not anymore we've cut

563

00:23:24,650 --> 00:23:22,980

back on our Sunday nights oh you so it's

564

00:23:26,540 --> 00:23:24,660

every day except Sunday and Good Friday

565

00:23:28,520 --> 00:23:26,550

and Christmas Day fair enough so that

566

00:23:30,080 --> 00:23:28,530

people can come along and have a look

567

00:23:32,000 --> 00:23:30,090

through our telescopes on a night like

568

00:23:34,640 --> 00:23:32,010

tonight it's an absolutely spectacular

569

00:23:36,050 --> 00:23:34,650

view it's great it's I mean the moon is

570

00:23:37,430 --> 00:23:36,060

setting so there's not too much

571

00:23:39,470 --> 00:23:37,440

pollution from the moon light pollution

572

00:23:41,600 --> 00:23:39,480

areas but I suppose when the moon's up

573

00:23:44,420 --> 00:23:41,610

right it's wonderful look at two yeah we

574

00:23:47,180 --> 00:23:44,430

love the earth obviously the forward

575

00:23:49,910 --> 00:23:47,190

gets the less you see the faint objects

576

00:23:51,800 --> 00:23:49,920

looking at a moment ago e to career or

577

00:23:54,590 --> 00:23:51,810

in the globular clusters but to trade

578

00:23:56,660 --> 00:23:54,600

off the neuron nearest nicest prettiest

579

00:23:58,250 --> 00:23:56,670

object to look at yeah yeah except of

580

00:24:01,370 --> 00:23:58,260

course when it's full it's the worst

581

00:24:03,590 --> 00:24:01,380

time to get it right so overwhelming

582

00:24:05,450 --> 00:24:03,600

yeah there's no shadows low contrast

583

00:24:07,340 --> 00:24:05,460

Ryan yeah it's like staring at a light

584

00:24:09,980 --> 00:24:07,350

bulb trying to read 40 watts written on

585

00:24:11,180 --> 00:24:09,990

the bottom and what's the if people want

586

00:24:13,010 --> 00:24:11,190

to find out more I want to come and

587

00:24:15,290 --> 00:24:13,020

visit what's the website dr. Sidney

588

00:24:17,870 --> 00:24:15,300

Observatory com that's pretty easy it is

589

00:24:19,610 --> 00:24:17,880

so Jeff look thank you very much for

590

00:24:22,130 --> 00:24:19,620

this opportunity with having a wonderful

591

00:24:36,320 --> 00:24:22,140

time and phil's just beside himself so

592

00:24:40,250 --> 00:24:38,450

be reasonable is a podcast of the

593

00:24:42,470 --> 00:24:40,260

Merseyside skeptics Society featuring

594

00:24:44,509 --> 00:24:42,480

hayley stevens and michael marshall each

595

00:24:46,730 --> 00:24:44,519

monthly interview explores beliefs from

596

00:24:48,259 --> 00:24:46,740

outside of the mainstream engaging with

597

00:24:50,029 --> 00:24:48,269

proponents to those beliefs to examine

598

00:24:52,820 --> 00:24:50,039

the evidence and reasoning behind each

599

00:24:55,070 --> 00:24:52,830

idea in July's episode we speak with

600

00:24:58,460 --> 00:24:55,080

andrew burton from the anti-abortion

601
00:25:00,740 --> 00:24:58,470
activist group 40 days for life listen

602
00:25:02,870 --> 00:25:00,750
to Andy's story and back issues to the

603
00:25:05,210 --> 00:25:02,880
shore by visiting merseyside skeptics

604
00:25:19,780 --> 00:25:05,220
talked at UK forward slash podcasts or

605
00:25:25,130 --> 00:25:22,790
I'm delighted to catch up with an old

606
00:25:27,020 --> 00:25:25,140
friend of mine who I think I met

607
00:25:30,110 --> 00:25:27,030
originally an Atlanta probably at a

608
00:25:32,870 --> 00:25:30,120
dragon con some years back Tim folly

609
00:25:34,700 --> 00:25:32,880
what's the harm net good to seize him

610
00:25:37,790 --> 00:25:34,710
it's good to see you Richard thank you

611
00:25:40,220 --> 00:25:37,800
it's a day blip blip blip what for if

612
00:25:42,500 --> 00:25:40,230
damn at the moment day for ya thursday

613
00:25:44,000 --> 00:25:42,510

friday saturday sunday i don't know

614

00:25:46,040 --> 00:25:44,010

about you but i had a bit of a late

615

00:25:48,830 --> 00:25:46,050

night because the poker tournament went

616

00:25:51,470 --> 00:25:48,840

on yeah i love my ring last night but

617

00:25:54,110 --> 00:25:51,480

I've had some late nights it goes we

618

00:25:56,320 --> 00:25:54,120

start early at 8am and it goes well past

619

00:25:58,640 --> 00:25:56,330

midnight so you can hear yourself out oh

620

00:26:01,940 --> 00:25:58,650

the coffee's gone but just across the

621

00:26:03,440 --> 00:26:01,950

whole before there was this what's the

622

00:26:06,740 --> 00:26:03,450

harm done it how long is that being

623

00:26:09,950 --> 00:26:06,750

going now it's been going since 2008 so

624

00:26:12,500 --> 00:26:09,960

five years same as the skeptic zone how

625

00:26:14,330 --> 00:26:12,510

about yeah yeah all right because the

626
00:26:17,060 --> 00:26:14,340
skeptical zone was launched at DragonCon

627
00:26:18,470 --> 00:26:17,070
Atlanta 2008 oh yeah randa and i remit

628
00:26:20,150 --> 00:26:18,480
yeah and i remembered that's why I met

629
00:26:22,780 --> 00:26:20,160
you because that's where the first time

630
00:26:25,940 --> 00:26:22,790
I got one of your what's the harm got

631
00:26:28,910 --> 00:26:25,950
our odds yeah and I think I even had a

632
00:26:30,800 --> 00:26:28,920
t-shirt at one stage yeah early on I had

633
00:26:32,900 --> 00:26:30,810
a few t-shirts just to promote it when

634
00:26:34,760 --> 00:26:32,910
no one knew what it was yeah I guess I'm

635
00:26:36,290 --> 00:26:34,770
that t-shirt and I suddenly remember the

636
00:26:40,700 --> 00:26:36,300
katsu souther cards were a nice simple

637
00:26:42,650 --> 00:26:40,710
design yeah yeah and so five years of

638
00:26:45,050 --> 00:26:42,660

doing the website hows it progressed

639

00:26:46,730 --> 00:26:45,060

how's it changed its well and has to

640

00:26:49,100 --> 00:26:46,740

change much it's pretty much the same

641

00:26:51,680 --> 00:26:49,110

design i've just added more cases and

642

00:26:54,620 --> 00:26:51,690

actually I haven't I'm in the middle of

643

00:26:55,760 --> 00:26:54,630

doing a revamp of it I've kind of gotten

644

00:26:57,890 --> 00:26:55,770

to the point where i've gotten too many

645

00:26:59,390 --> 00:26:57,900

projects you know how it is yeah i know

646

00:27:01,400 --> 00:26:59,400

where i have what's the harm and i have

647

00:27:03,800 --> 00:27:01,410

a blog called skep tools and then i do

648

00:27:07,220 --> 00:27:03,810

social media stuff and i do some work

649

00:27:09,980 --> 00:27:07,230

for jrf as a research fellow and it's

650

00:27:12,170 --> 00:27:09,990

tough kind of keeping track of it all so

651
00:27:13,750 --> 00:27:12,180
one of the things i would like to do is

652
00:27:16,420 --> 00:27:13,760
get what's the harm in 2a

653
00:27:17,830 --> 00:27:16,430
forum where others can help me with it

654
00:27:21,370 --> 00:27:17,840
and unfortunately the way I originally

655
00:27:23,380 --> 00:27:21,380
built it it's kind of kind of tricky to

656
00:27:25,540 --> 00:27:23,390
update the site I have to kind of do it

657
00:27:27,070 --> 00:27:25,550
myself you would thinking of that five

658
00:27:28,720 --> 00:27:27,080
years ago what you just wanted to get a

659
00:27:31,090 --> 00:27:28,730
sideout yeah I just wanted to get a site

660
00:27:32,680 --> 00:27:31,100
out there that was simple and so I wrote

661
00:27:36,790 --> 00:27:32,690
a piece of software just to help me

662
00:27:39,460 --> 00:27:36,800
manage the database but i'm thinking

663
00:27:41,440 --> 00:27:39,470

i'll move it to some more standardized

664

00:27:43,870 --> 00:27:41,450

platform like a blogging platform give

665

00:27:46,420 --> 00:27:43,880

this side anova whole revamp outlook

666

00:27:48,130 --> 00:27:46,430

yeah it will probably you know i'll try

667

00:27:49,630 --> 00:27:48,140

to make it look very similar in the way

668

00:27:51,100 --> 00:27:49,640

it looks but one of the things i

669

00:27:53,080 --> 00:27:51,110

definitely want to do is have the

670

00:27:56,230 --> 00:27:53,090

opportunity to have some longer content

671

00:27:58,990 --> 00:27:56,240

because a lot of the stories are there

672

00:28:00,520 --> 00:27:59,000

isn't much detail to talk about but

673

00:28:02,320 --> 00:28:00,530

occasionally you get a story where

674

00:28:05,500 --> 00:28:02,330

there's a lot of media coverage on and

675

00:28:07,960 --> 00:28:05,510

i'd like to be able to you know cover

676
00:28:09,910 --> 00:28:07,970
those more deeply do longer posts about

677
00:28:12,520 --> 00:28:09,920
those and the way I do the site now

678
00:28:14,740 --> 00:28:12,530
doesn't allow for that so if I moved it

679
00:28:17,970 --> 00:28:14,750
to a say a blogging platform I could do

680
00:28:19,990 --> 00:28:17,980
that and over the years how many new

681
00:28:22,240 --> 00:28:20,000
areas of interest for those people who

682
00:28:25,000 --> 00:28:22,250
mean maybe new to this sort of thing

683
00:28:27,700 --> 00:28:25,010
what's the harm net it comes from the

684
00:28:30,610 --> 00:28:27,710
expression people say oh well you don't

685
00:28:32,860 --> 00:28:30,620
believe in XYZ door this healing but

686
00:28:34,840 --> 00:28:32,870
what's the harm right really and your

687
00:28:37,120 --> 00:28:34,850
site says well here's the Harmon you

688
00:28:39,430 --> 00:28:37,130

provide cases yeah and and one of the

689

00:28:41,710 --> 00:28:39,440

things I had noticed was it always comes

690

00:28:43,540 --> 00:28:41,720

up with homeopathy and several the other

691

00:28:46,330 --> 00:28:43,550

things and I had noticed when people do

692

00:28:49,300 --> 00:28:46,340

magazine articles about these these

693

00:28:51,160 --> 00:28:49,310

things its standard sort of formula for

694

00:28:53,260 --> 00:28:51,170

magazine articles you find a personal

695

00:28:55,750 --> 00:28:53,270

story you lead with the personal story

696

00:28:58,060 --> 00:28:55,760

then you flesh out what the details of

697

00:29:00,880 --> 00:28:58,070

the science are and why whatever this is

698

00:29:02,620 --> 00:29:00,890

is bad and then you you but give it a

699

00:29:04,270 --> 00:29:02,630

button at the end with the ending of the

700

00:29:06,820 --> 00:29:04,280

story but each magazine article would

701
00:29:08,830 --> 00:29:06,830
have one story that that reporter had

702
00:29:10,450 --> 00:29:08,840
found and i had read several articles

703
00:29:12,130 --> 00:29:10,460
about some of these things it's like

704
00:29:12,669 --> 00:29:12,140
well there's this one story here and

705
00:29:13,989 --> 00:29:12,679
then this

706
00:29:15,940 --> 00:29:13,999
other article has this other story

707
00:29:17,859 --> 00:29:15,950
wouldn't it be neat if we could could

708
00:29:19,869 --> 00:29:17,869
put those all in one place so people

709
00:29:21,609 --> 00:29:19,879
could see all the stories and then link

710
00:29:23,259 --> 00:29:21,619
back to the articles and then some of

711
00:29:24,940 --> 00:29:23,269
them just had never been collected they

712
00:29:26,350 --> 00:29:24,950
were just little news items because some

713
00:29:28,989 --> 00:29:26,360

of these news items will just pass by

714

00:29:32,139 --> 00:29:28,999

and unless you're a skeptic and paying

715

00:29:34,899 --> 00:29:32,149

attention you wouldn't notice that you

716

00:29:37,600 --> 00:29:34,909

say you know the in obituaries notice

717

00:29:39,369 --> 00:29:37,610

that oh wait this was a homeopath and

718

00:29:43,450 --> 00:29:39,379

they were treating their cancer with

719

00:29:45,190 --> 00:29:43,460

homeopathy and this is a what's the harm

720

00:29:47,830 --> 00:29:45,200

case and here's to being what's to harm

721

00:29:50,109 --> 00:29:47,840

so what was some of the things when you

722

00:29:53,470 --> 00:29:50,119

first launch the site five years ago

723

00:29:55,149 --> 00:29:53,480

what were the topics and and and added

724

00:29:57,700 --> 00:29:55,159

to that what are some of the newer

725

00:29:59,590 --> 00:29:57,710

topics over the years yeah I started

726

00:30:01,749 --> 00:29:59,600

with you know some of the classic alt

727

00:30:03,399 --> 00:30:01,759

med things stuff that I could find on

728

00:30:05,169 --> 00:30:03,409

some of the existing sites where the

729

00:30:07,509 --> 00:30:05,179

cases were there but they were spread

730

00:30:10,359 --> 00:30:07,519

across different pages on the site like

731

00:30:12,190 --> 00:30:10,369

quack watch and you know australian

732

00:30:14,649 --> 00:30:12,200

skeptic site and anybody who had written

733

00:30:16,600 --> 00:30:14,659

about some of these issues and just kind

734

00:30:18,430 --> 00:30:16,610

of going around and collecting the story

735

00:30:20,980 --> 00:30:18,440

so i had you know homeopathy and

736

00:30:23,560 --> 00:30:20,990

naturopathy and some of the religious

737

00:30:27,609 --> 00:30:23,570

topics and then i tried to start to look

738

00:30:33,460 --> 00:30:27,619

for some more kind of off the beaten

739

00:30:35,019 --> 00:30:33,470

path things so i added Fung Shui at one

740

00:30:36,700 --> 00:30:35,029

point I found a very interesting story

741

00:30:40,509 --> 00:30:36,710

where someone ended up getting stabbed

742

00:30:43,419 --> 00:30:40,519

in a fight and the fight was over Fung

743

00:30:46,810 --> 00:30:43,429

Shui stuff it was just amazingly weird

744

00:30:48,549 --> 00:30:46,820

story and numerology there were some

745

00:30:51,909 --> 00:30:48,559

people who got arrested because they

746

00:30:54,639 --> 00:30:51,919

were manipulating a currency in Hong

747

00:30:56,379 --> 00:30:54,649

Kong simply to get bills that had the

748

00:30:58,239 --> 00:30:56,389

right numbers in their serial number

749

00:31:00,190 --> 00:30:58,249

they weren't actually stealing anything

750

00:31:01,869 --> 00:31:00,200

they were just moving dot you know they

751
00:31:03,669 --> 00:31:01,879
worked in a bank and they were basically

752
00:31:05,919 --> 00:31:03,679
going through the money that was there

753
00:31:07,600 --> 00:31:05,929
looking for the bills that had the you

754
00:31:09,639 --> 00:31:07,610
know that you know all eighths or

755
00:31:11,200 --> 00:31:09,649
whatever the lucky number was and taking

756
00:31:12,940 --> 00:31:11,210
those bills for themselves and then

757
00:31:15,220 --> 00:31:12,950
replacing them with other bills so they

758
00:31:17,650 --> 00:31:15,230
weren't stealing but it was considered

759
00:31:21,190 --> 00:31:17,660
impropriety to be messing around in

760
00:31:22,930 --> 00:31:21,200
and ended up getting fired so I tried to

761
00:31:27,370 --> 00:31:22,940
expand that out and I even added a

762
00:31:29,440 --> 00:31:27,380
category for GPS partially so that so

763
00:31:32,140 --> 00:31:29,450

many of my categories have really sad

764

00:31:33,460 --> 00:31:32,150

stories and the GPS page is something

765

00:31:35,590 --> 00:31:33,470

that you can just kind of laugh at

766

00:31:37,390 --> 00:31:35,600

because the worst thing that happens on

767

00:31:40,150 --> 00:31:37,400

that page is someone ruins their car

768

00:31:42,130 --> 00:31:40,160

yeah no one no one ever got killed but

769

00:31:43,450 --> 00:31:42,140

they might wreck a car or something run

770

00:31:47,200 --> 00:31:43,460

it into a lake or something like that

771

00:31:48,730 --> 00:31:47,210

have you had criticism over the years

772

00:31:50,680 --> 00:31:48,740

people writing in to you saying right

773

00:31:53,560 --> 00:31:50,690

why is this on what's the harm but well

774

00:31:55,210 --> 00:31:53,570

I'm every so often I get somebody pops

775

00:31:56,860 --> 00:31:55,220

up and says oh well why don't you

776
00:31:59,620 --> 00:31:56,870
include Big Pharma and all the people

777
00:32:02,920 --> 00:31:59,630
that are healed right now I have a guy

778
00:32:06,130 --> 00:32:02,930
who is an hiv/aids denier to you know

779
00:32:08,110 --> 00:32:06,140
they deny that the HIV virus causes the

780
00:32:09,580 --> 00:32:08,120
AIDS disease and that the AIDS disease

781
00:32:11,740 --> 00:32:09,590
is actually caused by something else

782
00:32:14,050 --> 00:32:11,750
entirely which is amazing that they

783
00:32:16,120 --> 00:32:14,060
persist in that because we're

784
00:32:18,400 --> 00:32:16,130
successfully treating aids patients with

785
00:32:21,100 --> 00:32:18,410
with the you know and there's plenty of

786
00:32:23,350 --> 00:32:21,110
evidence for it but they persist and he

787
00:32:25,930 --> 00:32:23,360
so he's emailing me not I don't get a

788
00:32:28,420 --> 00:32:25,940

ton you know one of the reasons is is

789

00:32:30,160 --> 00:32:28,430

that I didn't I don't call attention to

790

00:32:32,110 --> 00:32:30,170

the fact that the site is mine if you

791

00:32:34,530 --> 00:32:32,120

look around on the site you can find an

792

00:32:37,600 --> 00:32:34,540

email address and email me and

793

00:32:41,290 --> 00:32:37,610

occasionally I get these funny emails

794

00:32:45,100 --> 00:32:41,300

where people say you know you're

795

00:32:47,320 --> 00:32:45,110

obviously trying to hide because you

796

00:32:49,270 --> 00:32:47,330

know it took me 15 minutes to find this

797

00:32:52,570 --> 00:32:49,280

email to send it to you and it's like

798

00:32:57,400 --> 00:32:52,580

well but you you found it so I'm really

799

00:32:59,170 --> 00:32:57,410

not hiding that well mi so yeah early on

800

00:33:00,850 --> 00:32:59,180

I didn't even have my name on the site

801
00:33:03,130 --> 00:33:00,860
and then people were very suspicious of

802
00:33:07,060 --> 00:33:03,140
that so i added a thing in this in the

803
00:33:08,950 --> 00:33:07,070
faq page that we're identify myself but

804
00:33:12,490 --> 00:33:08,960
yeah people always accuse you of being

805
00:33:14,370 --> 00:33:12,500
in the pocket of however their nemesis

806
00:33:18,510 --> 00:33:14,380
is yes Big Pharma or

807
00:33:23,040 --> 00:33:18,520
big whoever so and I usually just try to

808
00:33:24,990 --> 00:33:23,050
send a polite reply I the recent guy was

809
00:33:27,870 --> 00:33:25,000
complaining that i didn't have comments

810
00:33:30,000 --> 00:33:27,880
on the site and you know so obviously

811
00:33:31,710 --> 00:33:30,010
you're not interested in free speech and

812
00:33:33,750 --> 00:33:31,720
i pointed out to him i said you know

813
00:33:36,600 --> 00:33:33,760

you're completely free to post whatever

814

00:33:39,150 --> 00:33:36,610

you want on another website that's right

815

00:33:41,430 --> 00:33:39,160

there's only about a billion other

816

00:33:44,040 --> 00:33:41,440

websites as you can use to post whatever

817

00:33:46,340 --> 00:33:44,050

you want on the energy how people think

818

00:33:49,170 --> 00:33:46,350

they have a right to dictate how you

819

00:33:51,480 --> 00:33:49,180

what you do on your own web page yet but

820

00:33:53,340 --> 00:33:51,490

I knew all along I didn't really want to

821

00:33:55,950 --> 00:33:53,350

have comments on the site because I just

822

00:33:59,190 --> 00:33:55,960

knew it would get out of hand it wit it

823

00:34:01,620 --> 00:33:59,200

would ya even on facebook if i if i post

824

00:34:03,140 --> 00:34:01,630

a skeptical story sometimes this can you

825

00:34:05,910 --> 00:34:03,150

turn into hundreds and hundreds of

826

00:34:08,430 --> 00:34:05,920

arguments and fights and says well i'm

827

00:34:11,879 --> 00:34:08,440

surprised sometimes people do that

828

00:34:14,190 --> 00:34:11,889

because I'm skeptical and I'm posting a

829

00:34:16,050 --> 00:34:14,200

skeptical story on my own Facebook page

830

00:34:20,220 --> 00:34:16,060

what do people expect the enterprise

831

00:34:21,570 --> 00:34:20,230

right yeah but that happens and what are

832

00:34:24,330 --> 00:34:21,580

the other projects are involved with

833

00:34:27,510 --> 00:34:24,340

well I've got the skeptics blog and I do

834

00:34:29,550 --> 00:34:27,520

a segment on skeptic ality kind of

835

00:34:31,260 --> 00:34:29,560

irregularly now where I do skeptic

836

00:34:33,629 --> 00:34:31,270

history and then some of the stuff from

837

00:34:35,669 --> 00:34:33,639

skip tools so i call it skepticism past

838

00:34:37,500 --> 00:34:35,679

and future and the history thing has

839

00:34:40,889 --> 00:34:37,510

been an interesting sort of side thing

840

00:34:42,540 --> 00:34:40,899

it started out as a basically kind of a

841

00:34:44,970 --> 00:34:42,550

gimmick so that i would have something

842

00:34:47,550 --> 00:34:44,980

to post that was skeptical every day on

843

00:34:49,080 --> 00:34:47,560

my twitter feed even if i was busy and

844

00:34:53,310 --> 00:34:49,090

didn't have anything else to post that

845

00:34:56,280 --> 00:34:53,320

day so every morning evening for your

846

00:34:59,610 --> 00:34:56,290

australian listeners but morning here in

847

00:35:02,130 --> 00:34:59,620

the US I I post oh you know today in

848

00:35:03,720 --> 00:35:02,140

1942 and it'll be something interesting

849

00:35:05,610 --> 00:35:03,730

to skeptics you know some some

850

00:35:09,120 --> 00:35:05,620

historical event for someone's birthday

851
00:35:10,800 --> 00:35:09,130
and so researching that has led me to

852
00:35:12,570 --> 00:35:10,810
find a lot of interesting things that

853
00:35:14,760 --> 00:35:12,580
I've written articles about and stuff

854
00:35:16,170 --> 00:35:14,770
like that and and here at tam we

855
00:35:17,640 --> 00:35:16,180
actually had a whole workshop about

856
00:35:19,970 --> 00:35:17,650
skeptical history which was interesting

857
00:35:23,310 --> 00:35:19,980
and I presented some research that I did

858
00:35:24,940 --> 00:35:23,320
just trying to gather into one place a

859
00:35:27,760 --> 00:35:24,950
list of all

860
00:35:31,180 --> 00:35:27,770
skeptical workshops and conventions and

861
00:35:33,280 --> 00:35:31,190
skeptical camps and symposiums yes it had

862
00:35:35,650 --> 00:35:33,290
been held over the years and just to

863
00:35:38,410 --> 00:35:35,660

kind of find out you know how many

864

00:35:40,420 --> 00:35:38,420

countries have had them you know how

865

00:35:42,790 --> 00:35:40,430

many there been are there more now than

866

00:35:45,700 --> 00:35:42,800

there were before that sort of thing and

867

00:35:48,280 --> 00:35:45,710

it was interesting it seems to match

868

00:35:50,650 --> 00:35:48,290

some research that I showed last year

869

00:35:53,200 --> 00:35:50,660

about the growth in skeptic podcasts

870

00:35:56,500 --> 00:35:53,210

that skeptics since 2009 skeptic

871

00:35:58,510 --> 00:35:56,510

podcasts of just ballooned yeah and

872

00:36:00,250 --> 00:35:58,520

there's over a hundred of them now and

873

00:36:02,770 --> 00:36:00,260

the same thing has happened with

874

00:36:04,930 --> 00:36:02,780

conferences just since 2009 there's been

875

00:36:07,300 --> 00:36:04,940

a huge jump in a number of conferences

876

00:36:08,770 --> 00:36:07,310

that you can go to there's a lot of in

877

00:36:10,990 --> 00:36:08,780

the United States there's regional

878

00:36:12,670 --> 00:36:11,000

conferences just about every other

879

00:36:14,829 --> 00:36:12,680

weekend somewhere in the United States

880

00:36:18,370 --> 00:36:14,839

are some sort of turning into stock I

881

00:36:19,599 --> 00:36:18,380

can't wait yeah yeah I think every

882

00:36:21,609 --> 00:36:19,609

weekend you could probably get to a

883

00:36:24,460 --> 00:36:21,619

tricky gun for example if you look hard

884

00:36:26,800 --> 00:36:24,470

enough it was like that's right while

885

00:36:30,040 --> 00:36:26,810

Tim folly the address everybody what's

886

00:36:33,670 --> 00:36:30,050

the harm dotnet check it out next time

887

00:36:36,240 --> 00:36:33,680

somebody says oh what's the harm in in

888

00:36:38,349 --> 00:36:36,250

in the chiropractic what's the harm

889

00:36:40,089 --> 00:36:38,359

acupuncture's pushing your neck around

890

00:36:42,010 --> 00:36:40,099

that's right you can go to what's the

891

00:36:43,810 --> 00:36:42,020

harm in timbale thank you very much

892

00:36:55,780 --> 00:36:43,820

thank you Richard

893

00:36:55,790 --> 00:37:01,550

Oh

894

00:37:06,720 --> 00:37:05,100

hi I'm audit oh yeah Kristen or evil

895

00:37:08,430 --> 00:37:06,730

tips advice on logic lifted all the

896

00:37:10,140 --> 00:37:08,440

skeptics ohm ohm skip the comedian or

897

00:37:11,880 --> 00:37:10,150

again the finish can prob get upper

898

00:37:12,750 --> 00:37:11,890

bleph a podcast or Flanagan escapes it

899

00:37:14,970 --> 00:37:12,760

would even make you look if I'm

900

00:37:17,160 --> 00:37:14,980

attractive it's not since Rob I skipped

901
00:37:18,900 --> 00:37:17,170
system alone or had professors the deep

902
00:37:20,520 --> 00:37:18,910
plan architecture and calendar or

903
00:37:21,810 --> 00:37:20,530
escaped escaped irritated or like you

904
00:37:23,609 --> 00:37:21,820
till on will escape this killer sausage

905
00:37:25,020 --> 00:37:23,619
escapes his blog in a plethora d Emily

906
00:37:27,780 --> 00:37:25,030
Oh discrete areas have tape escapes is

907
00:37:31,260 --> 00:37:27,790
for domestic hina edita also skip say

908
00:37:33,120 --> 00:37:31,270
stop mo hello I'm moderate and I'm

909
00:37:35,040 --> 00:37:33,130
Kristin and we want to let you know that

910
00:37:37,140 --> 00:37:35,050
there are lots of Norwegian skeptics for

911
00:37:38,730 --> 00:37:37,150
you to get to know their blogs and pub

912
00:37:40,500 --> 00:37:38,740
mates and a podcast and the Norwegian

913
00:37:42,420 --> 00:37:40,510

skeptics also do paranormal tests and

914

00:37:45,060 --> 00:37:42,430

consumer activism to find out more

915

00:37:54,300 --> 00:37:45,070

Google Norwegian skeptics or visit skep

916

00:37:59,260 --> 00:37:57,070

this week in science we saw a lad

917

00:38:01,540 --> 00:37:59,270

culture hamburger and more effects of

918

00:38:03,250 --> 00:38:01,550

climate change this time on marine life

919

00:38:13,720 --> 00:38:03,260

and did you hear the one about the

920

00:38:15,790 --> 00:38:13,730

cactus and the oil spill this week a

921

00:38:18,690 --> 00:38:15,800

beef burger was created by growing

922

00:38:21,130 --> 00:38:18,700

muscle cells harvested from a living cow

923

00:38:23,230 --> 00:38:21,140

theoretically this is a way to produce

924

00:38:25,450 --> 00:38:23,240

meat without the methane and carbon

925

00:38:27,790 --> 00:38:25,460

dioxide production associated with

926

00:38:30,280 --> 00:38:27,800

cattle farming and using around one

927

00:38:33,870 --> 00:38:30,290

percent of the land by this new method

928

00:38:36,640 --> 00:38:33,880

one cow would make 175 million burgers

929

00:38:38,800 --> 00:38:36,650

whereas traditional farming would use

930

00:38:41,380 --> 00:38:38,810

four hundred and forty thousand cows

931

00:38:43,570 --> 00:38:41,390

this three hundred and seventy thousand

932

00:38:46,540 --> 00:38:43,580

dollar burger claims to be one hundred

933

00:38:50,890 --> 00:38:46,550

percent natural beef with no unnatural

934

00:38:52,990 --> 00:38:50,900

chemicals so would you eat it more

935

00:38:54,550 --> 00:38:53,000

evidence this week that warming oceans

936

00:38:57,610 --> 00:38:54,560

are messing about with our marine life

937

00:39:00,490 --> 00:38:57,620

an international team identified more

938

00:39:03,160 --> 00:39:00,500

than 1700 changes in breeding patterns

939

00:39:05,950 --> 00:39:03,170

and habitats including many in Australia

940

00:39:08,080 --> 00:39:05,960

marine species are shifting to cool the

941

00:39:10,720 --> 00:39:08,090

region's much faster than land-based

942

00:39:13,600 --> 00:39:10,730

species with some moving towards the

943

00:39:16,360 --> 00:39:13,610

poles at around 72 kilometers per decade

944

00:39:18,430 --> 00:39:16,370

the report also found that the timing of

945

00:39:21,400 --> 00:39:18,440

breeding and migration cycles is

946

00:39:26,230 --> 00:39:21,410

changing by four point four days each

947

00:39:28,780 --> 00:39:26,240

decade the spikes at cacti have inspired

948

00:39:31,330 --> 00:39:28,790

a novel way to remove oil from water

949

00:39:33,310 --> 00:39:31,340

plastic surgery doesn't necessarily

950

00:39:34,900 --> 00:39:33,320

increase your attractiveness but will

951
00:39:37,480 --> 00:39:34,910
make you appear around three years

952
00:39:39,880 --> 00:39:37,490
younger jumping spiders use a drag line

953
00:39:42,220 --> 00:39:39,890
of silk like a bungee cord hoping to

954
00:39:45,490 --> 00:39:42,230
stabilise their landing to hunt prey and

955
00:39:47,500 --> 00:39:45,500
finally dogs also suffer from contagious

956
00:39:51,250 --> 00:39:47,510
yawning and are more likely to catch

957
00:39:54,110 --> 00:39:51,260
their owners yawn than a stranger's

958
00:39:56,450 --> 00:39:54,120
last week we asked what food was more

959
00:39:58,940 --> 00:39:56,460
likely to win you a Nobel Prize it's

960
00:40:01,280 --> 00:39:58,950
chocolate of course the paper is on our

961
00:40:03,620 --> 00:40:01,290
website and congrats to twitterers at

962
00:40:05,600 --> 00:40:03,630
dock clock and at blue numeral who

963
00:40:07,310 --> 00:40:05,610

tweeted us the answer this week we're

964

00:40:10,130 --> 00:40:07,320

asking how dolphins recognize their

965

00:40:13,970 --> 00:40:10,140

buddies after 20 years is it by their

966

00:40:16,940 --> 00:40:13,980

face whistle flipper shape or smell

967

00:40:20,930 --> 00:40:16,950

tweet me your answer at our i underscore

968

00:40:22,880 --> 00:40:20,940

a us hashtag week in sigh that's it for

969

00:40:35,360 --> 00:40:22,890

this week in science we'll see you right

970

00:40:37,190 --> 00:40:35,370

here next week have you heard the one

971

00:40:38,810 --> 00:40:37,200

about how the illuminati in conjunction

972

00:40:40,640 --> 00:40:38,820

with the US government are hiding the

973

00:40:42,020 --> 00:40:40,650

existence of aliens in order to ensure

974

00:40:44,090 --> 00:40:42,030

the supply of helium is kept low

975

00:40:45,470 --> 00:40:44,100

although the CIA the militant wing of

976

00:40:47,270 --> 00:40:45,480

the Freemasons are working with the

977

00:40:48,410 --> 00:40:47,280

elders of zion to take control of the

978

00:40:50,900 --> 00:40:48,420

population of the world through

979

00:40:52,520 --> 00:40:50,910

fluoridated chemtrails canberra skeptics

980

00:40:54,080 --> 00:40:52,530

incorporated on behalf of the shadow

981

00:40:55,910 --> 00:40:54,090

government will be massing an array of

982

00:40:58,520 --> 00:40:55,920

dark forces for the australian skeptics

983

00:41:00,650 --> 00:40:58,530

national convention 2013 this convention

984

00:41:02,720 --> 00:41:00,660

has conspired to coincide with the 50th

985

00:41:04,220 --> 00:41:02,730

anniversary of the assassination of John

986

00:41:06,740 --> 00:41:04,230

F Kennedy possibly the most famous

987

00:41:08,090 --> 00:41:06,750

conspiracy theory of all time if you've

988

00:41:10,250 --> 00:41:08,100

ever wanted to learn about the truth

989

00:41:11,870 --> 00:41:10,260

behind the death of JFK what makes for a

990

00:41:13,880 --> 00:41:11,880

good conspiracy theory and why they are

991

00:41:16,040 --> 00:41:13,890

so prevalent Canberra skeptics invites

992

00:41:18,350 --> 00:41:16,050

you to attend that is of course should

993

00:41:20,690 --> 00:41:18,360

you choose to accept it come to national

994

00:41:29,339 --> 00:41:20,700

skeptics convention org and just

995

00:41:29,349 --> 00:41:35,300

Oh

996

00:41:40,200 --> 00:41:37,920

thank you for listening to the skeptic

997

00:41:44,430 --> 00:41:40,210

zone and are you still here Adele hello

998

00:41:46,400 --> 00:41:44,440

what do you have to say no more

999

00:41:49,680 --> 00:41:46,410

interviews a no more interviews today I

1000

00:41:51,660 --> 00:41:49,690

wish you could see this folks is lying

1001

00:41:54,600 --> 00:41:51,670

on her back in the Sun tossing and

1002

00:41:58,380 --> 00:41:54,610

turning looking up to me and say what

1003

00:42:00,150 --> 00:41:58,390

are you doing on next week's show I

1004

00:42:01,590 --> 00:42:00,160

think we'll probably have some more dr.

1005

00:42:04,020 --> 00:42:01,600

Phil Plait I'm going to be seeing him

1006

00:42:06,420 --> 00:42:04,030

again before he leaves such a pleasure

1007

00:42:10,350 --> 00:42:06,430

to see old friends like like Phil Plait

1008

00:42:12,810 --> 00:42:10,360

in Sydney I love looking at the stars

1009

00:42:16,320 --> 00:42:12,820

with Phil Plait it it's just incredible

1010

00:42:18,900 --> 00:42:16,330

we'll have some more Maynard's spooky

1011

00:42:21,420 --> 00:42:18,910

action coming up soon and other bits and

1012

00:42:24,630 --> 00:42:21,430

pieces but until then this is Richard

1013

00:42:26,910 --> 00:42:24,640

Saunders and I'm very quiet little

1014

00:42:32,820 --> 00:42:26,920

pussycat signing off from Sydney

1015

00:42:34,589 --> 00:42:32,830

Australia you've been listening to the

1016

00:42:39,120 --> 00:42:34,599

skeptic zone

1017

00:42:42,420 --> 00:42:39,130

visit our website at www.skepticzoomtv