

The Skeptic Zone

Show 257 - 22 Sept 2013



Besh Saab

1
00:00:22,580 --> 00:00:09,110
welcome to the skeptic zone the podcast

2
00:00:29,519 --> 00:00:25,439
hello and welcome to the skeptic zone

3
00:00:32,519 --> 00:00:29,529
episode number 257 for the 22nd of sep

4
00:00:35,729 --> 00:00:32,529
tember 2013 Richard Saunders here with

5
00:00:38,910 --> 00:00:35,739
you from Sydney Australia on this week's

6
00:00:44,189 --> 00:00:38,920
show I speak to a scientist who wants to

7
00:00:46,979 --> 00:00:44,199
die on Mars well he wants to go to Mars

8
00:00:50,310 --> 00:00:46,989
and part of the deal is if you go to

9
00:00:53,160 --> 00:00:50,320
Mars you don't come back hmm I'm going

10
00:00:56,400 --> 00:00:53,170
to be speaking to a friend of mine besh

11
00:00:59,790 --> 00:00:56,410
sub is currently in working in

12
00:01:04,829 --> 00:00:59,800
Switzerland about his our hope and goal

13
00:01:06,779 --> 00:01:04,839

to travel to Mars on a one-way trip what

14

00:01:08,749 --> 00:01:06,789

an interesting interesting thing to do

15

00:01:11,100 --> 00:01:08,759

that's coming up at the top of the show

16

00:01:12,180 --> 00:01:11,110

following that it's a week inside so

17

00:01:17,219 --> 00:01:12,190

that good friends from the Royal

18

00:01:21,810 --> 00:01:17,229

Institution of Australia w WR I a u.s.

19

00:01:24,510 --> 00:01:21,820

or GA you and this week's week in

20

00:01:26,400 --> 00:01:24,520

science is read by dr. Paul Willis and

21

00:01:28,350 --> 00:01:26,410

I'm delighted to say I've just learned

22

00:01:31,199 --> 00:01:28,360

that dr. Paul bullets will be attending

23

00:01:35,460 --> 00:01:31,209

and speaking at the National skeptics

24

00:01:37,740 --> 00:01:35,470

convention in November in Canberra and

25

00:01:41,219 --> 00:01:37,750

you've only got about a week left before

26

00:01:42,600 --> 00:01:41,229

the early bird tickets are disappear if

27

00:01:44,790 --> 00:01:42,610

you want to come to the National

28

00:01:47,219 --> 00:01:44,800

skeptics convention in Canberra in

29

00:01:49,680 --> 00:01:47,229

November here dr. Paul Willis and many

30

00:01:53,070 --> 00:01:49,690

other fine people run to national

31

00:01:55,830 --> 00:01:53,080

skeptics convention org now is the time

32

00:01:58,109 --> 00:01:55,840

to book those tickets following a week

33

00:02:00,389 --> 00:01:58,119

in science it's Maynard spooky action

34

00:02:02,040 --> 00:02:00,399

Maynard will also be at the National

35

00:02:05,160 --> 00:02:02,050

skeptics convention he's trying to find

36

00:02:09,990 --> 00:02:05,170

out some interesting and fun things to

37

00:02:12,330 --> 00:02:10,000

do sort of extra special extracurricular

38

00:02:14,699 --> 00:02:12,340

you might say activities anyway more

39

00:02:16,860 --> 00:02:14,709

about that soon but Maynard's back with

40

00:02:19,199 --> 00:02:16,870

spooky action with a follow-up interview

41

00:02:22,350 --> 00:02:19,209

with dr. Pamela gay who was only in

42

00:02:24,150 --> 00:02:22,360

Sydney last weekend now this was

43

00:02:26,910 --> 00:02:24,160

recorded at a special skeptics in the

44

00:02:28,680 --> 00:02:26,920

pub and after may not speaks to Pamela

45

00:02:31,110 --> 00:02:28,690

he's going to be speaking to some people

46

00:02:33,750 --> 00:02:31,120

at the pub and the round off the show

47

00:02:34,750 --> 00:02:33,760

it's the horoscope your horoscope for

48

00:02:39,069 --> 00:02:34,760

September

49

00:02:41,860 --> 00:02:39,079

with our astrologer dr. do Fe keV yeah

50

00:02:43,240 --> 00:02:41,870

can't wait for that before we start the

51
00:02:45,819 --> 00:02:43,250
show I must see how much I've been

52
00:02:49,270 --> 00:02:45,829
enjoying watching the Curiosity show

53
00:02:52,210 --> 00:02:49,280
dvds if you go to curiosity show calm

54
00:02:54,580 --> 00:02:52,220
day you and click the youtube link well

55
00:02:57,610 --> 00:02:54,590
such wonderful memories from the the

56
00:03:01,289 --> 00:02:57,620
1980s how to do things how to make

57
00:03:04,509 --> 00:03:01,299
things and my nephews and nieces are now

58
00:03:06,759 --> 00:03:04,519
absolutely enjoying learning so much

59
00:03:10,690 --> 00:03:06,769
from the curiosity show it's fantastic

60
00:03:12,699 --> 00:03:10,700
if you've got young children you could

61
00:03:14,949 --> 00:03:12,709
do a lot worse than visiting curiosity

62
00:03:17,979 --> 00:03:14,959
show calm today you learn how to make

63
00:03:20,170 --> 00:03:17,989

things how things work really good stuff

64

00:03:23,559 --> 00:03:20,180

but for now I'm going to run downstairs

65

00:03:26,220 --> 00:03:23,569

open up the pantry grab a couple of mums

66

00:03:29,800 --> 00:03:26,230

famous peanut butter cookies oh yeah

67

00:03:49,270 --> 00:03:29,810

well I'm doing that I hope you enjoy the

68

00:03:53,990 --> 00:03:52,520

now you may have once thought to

69

00:03:56,230 --> 00:03:54,000

yourself wouldn't it be nice to visit

70

00:03:58,850 --> 00:03:56,240

another planet just like in the movies

71

00:04:01,400 --> 00:03:58,860

didn't jump into a spaceship and visit

72

00:04:02,900 --> 00:04:01,410

another planet come home well i'm going

73

00:04:06,140 --> 00:04:02,910

to talking to a man in the moment who

74

00:04:09,590 --> 00:04:06,150

has the same sort of dream except forget

75

00:04:11,810 --> 00:04:09,600

about that the coming home part see i'm

76
00:04:14,540 --> 00:04:11,820
talking to a man now who wants to go to

77
00:04:17,420 --> 00:04:14,550
Mars which may be a possibility on the

78
00:04:19,760 --> 00:04:17,430
line all the way from Switzerland is a

79
00:04:22,370 --> 00:04:19,770
friend of mine who I met in the Czech

80
00:04:26,390 --> 00:04:22,380
Republic earlier in the year bish sharp

81
00:04:27,860 --> 00:04:26,400
hello Besh Irish area I'm not doing too

82
00:04:31,490 --> 00:04:27,870
badly at the moment I mean I'm

83
00:04:34,580 --> 00:04:31,500
earthbound I'll put it that way before

84
00:04:37,160 --> 00:04:34,590
we get on to your extraordinary desire

85
00:04:38,540 --> 00:04:37,170
to go to another planet I was very happy

86
00:04:39,950 --> 00:04:38,550
to meet you earlier in the year in the

87
00:04:44,060 --> 00:04:39,960
Czech Republic's we were both together

88
00:04:47,090 --> 00:04:44,070

the remotes film festival where we were

89

00:04:49,790 --> 00:04:47,100

on the international jury what what do

90

00:04:54,140 --> 00:04:49,800

you do in real life we might say I'm a

91

00:04:55,730 --> 00:04:54,150

neuroscientist I primarily work on

92

00:04:57,800 --> 00:04:55,740

investigating molecules and brain

93

00:05:00,740 --> 00:04:57,810

regions that underlie memory formation

94

00:05:03,410 --> 00:05:00,750

as well as the drive to explore and

95

00:05:05,870 --> 00:05:03,420

learn and I also started to get into

96

00:05:09,110 --> 00:05:05,880

research which examines how brains

97

00:05:12,320 --> 00:05:09,120

respond differentially distress so what

98

00:05:14,270 --> 00:05:12,330

is it about some people for example that

99

00:05:17,000 --> 00:05:14,280

would respond to stress in a very

100

00:05:18,650 --> 00:05:17,010

negative way and be impacted it impacted

101
00:05:21,410 --> 00:05:18,660
by stress such that they have problems

102
00:05:23,360 --> 00:05:21,420
in their life afterwards whereas other

103
00:05:25,220 --> 00:05:23,370
people will respond to stress in very

104
00:05:27,980 --> 00:05:25,230
positive ways and grow from it and in

105
00:05:29,930 --> 00:05:27,990
fact thrive during stressful experiences

106
00:05:33,050 --> 00:05:29,940
more so than when they are not being

107
00:05:38,150 --> 00:05:33,060
challenged when an interesting field of

108
00:05:40,460 --> 00:05:38,160
research and I guess it really does know

109
00:05:43,100 --> 00:05:40,470
I think about it it might tie in very

110
00:05:46,730 --> 00:05:43,110
well with what you're hoping to achieve

111
00:05:48,230 --> 00:05:46,740
and this is to be one of the I guess

112
00:05:48,890 --> 00:05:48,240
you'd say one of the volunteers to

113
00:05:51,350 --> 00:05:48,900

travel

114

00:05:54,710 --> 00:05:51,360

Mazz how on earth did you get interested

115

00:05:57,680 --> 00:05:54,720

in this it actually stems from an

116

00:05:59,510 --> 00:05:57,690

evening or a friend and I were lying on

117

00:06:02,870 --> 00:05:59,520

the beach in the summer time this was in

118

00:06:05,510 --> 00:06:02,880

Toronto or nearby Toronto and we were

119

00:06:07,790 --> 00:06:05,520

lying down on the sand and falling

120

00:06:09,170 --> 00:06:07,800

asleep under the stars he suggested to

121

00:06:10,909 --> 00:06:09,180

me at one point x we're staring up at

122

00:06:13,279 --> 00:06:10,919

the stars and watching and all things go

123

00:06:15,110 --> 00:06:13,289

by and so forth and he's like so you

124

00:06:17,480 --> 00:06:15,120

might be a good candidate to join the

125

00:06:20,090 --> 00:06:17,490

space program become an astronaut and I

126
00:06:21,770 --> 00:06:20,100
had never really given much thought to

127
00:06:25,490 --> 00:06:21,780
being an astronaut as a career option

128
00:06:26,900 --> 00:06:25,500
and clearly virtually every child dreams

129
00:06:30,260 --> 00:06:26,910
about the possibility of going up into

130
00:06:33,110 --> 00:06:30,270
space now that we know that this is not

131
00:06:36,080 --> 00:06:33,120
routine but it is certainly doable by

132
00:06:37,070 --> 00:06:36,090
many different nations but but I haven't

133
00:06:38,990 --> 00:06:37,080
really considered it as a career

134
00:06:40,610 --> 00:06:39,000
opportunity until I was doing my PhD in

135
00:06:42,170 --> 00:06:40,620
neuroscience and I had I was doing

136
00:06:43,790 --> 00:06:42,180
triathlons at the time and I was quite

137
00:06:45,439 --> 00:06:43,800
fit and and I had done a lot of

138
00:06:47,420 --> 00:06:45,449

experiences and rock climbing and all

139

00:06:48,589 --> 00:06:47,430

this stuff and I thought about it I was

140

00:06:51,020 --> 00:06:48,599

like yeah maybe they might be a

141

00:06:52,279 --> 00:06:51,030

reasonable candidate but that kind of

142

00:06:53,990 --> 00:06:52,289

got me thinking about the idea of going

143

00:06:58,730 --> 00:06:54,000

into space and when I started to put a

144

00:07:00,290 --> 00:06:58,740

personal feel towards it and think of it

145

00:07:03,290 --> 00:07:00,300

as a career option I was like why would

146

00:07:05,689 --> 00:07:03,300

I do that and and I thought to myself

147

00:07:07,339 --> 00:07:05,699

you know my research I think is actually

148

00:07:10,159 --> 00:07:07,349

more important for the planet than me

149

00:07:12,050 --> 00:07:10,169

going up and floating around in a little

150

00:07:14,170 --> 00:07:12,060

too looking around the earth I didn't

151
00:07:16,730 --> 00:07:14,180
really see what was what was so

152
00:07:20,300 --> 00:07:16,740
important about it until I thought about

153
00:07:22,730 --> 00:07:20,310
how fragile our planet really is in

154
00:07:25,120 --> 00:07:22,740
terms of the cosmos in the universe now

155
00:07:29,140 --> 00:07:25,130
I thought okay well if I were to go to

156
00:07:32,120 --> 00:07:29,150
space I would only do so in order to

157
00:07:35,029 --> 00:07:32,130
increase the chance of life survival as

158
00:07:36,170 --> 00:07:35,039
in inhabit another planet but at that

159
00:07:38,210 --> 00:07:36,180
time I didn't really know that was

160
00:07:39,860 --> 00:07:38,220
really Oscar getting interested in the

161
00:07:41,629 --> 00:07:39,870
idea and then a friend of mine gave me

162
00:07:43,879 --> 00:07:41,639
this book called the case for Mars which

163
00:07:46,339 --> 00:07:43,889

is written by Robert Zubrin and it's a

164

00:07:51,200 --> 00:07:46,349

really fantastic book that came out a

165

00:07:53,149 --> 00:07:51,210

decade ago or so and it describes not

166

00:07:55,520 --> 00:07:53,159

only why we would want to go to Mars and

167

00:07:57,320 --> 00:07:55,530

become a multiplanetary species and have

168

00:07:59,390 --> 00:07:57,330

life distributed over to plan is to

169

00:08:02,370 --> 00:07:59,400

increase our chances of survival but it

170

00:08:05,280 --> 00:08:02,380

also describes how to do it in very

171

00:08:07,760 --> 00:08:05,290

very practical terms using technology

172

00:08:12,480 --> 00:08:07,770

which has existed since the Apollo era

173

00:08:15,810 --> 00:08:12,490

so so so dr. Zuber does a really good

174

00:08:17,250 --> 00:08:15,820

job of making it seem doable and he

175

00:08:19,530 --> 00:08:17,260

breaks down everything in terms of the

176
00:08:21,450 --> 00:08:19,540
cost of going there and coming back and

177
00:08:23,370 --> 00:08:21,460
setting up a base and exactly Dodger I

178
00:08:26,040 --> 00:08:23,380
read his book with great great interest

179
00:08:28,860 --> 00:08:26,050
and then I was convinced I like this can

180
00:08:31,770 --> 00:08:28,870
be done and this is more important than

181
00:08:34,290 --> 00:08:31,780
my research and so I should shift

182
00:08:35,520 --> 00:08:34,300
efforts while not entirely theaters but

183
00:08:39,060 --> 00:08:35,530
I should I should really keep this in

184
00:08:42,330 --> 00:08:39,070
mind as something for me to do as a

185
00:08:45,810 --> 00:08:42,340
career option now at that time there was

186
00:08:48,570 --> 00:08:45,820
no projects that had any sort of

187
00:08:50,340 --> 00:08:48,580
timeline that made them realistic in

188
00:08:53,700 --> 00:08:50,350

terms of a project that would actually

189

00:08:56,310 --> 00:08:53,710

take people to Mars and then last year

190

00:08:58,440 --> 00:08:56,320

one such project was announced and so I

191

00:09:00,120 --> 00:08:58,450

became quite interested in that have

192

00:09:03,420 --> 00:09:00,130

applied like like two hundred thousand

193

00:09:05,970 --> 00:09:03,430

other people now I've seen your

194

00:09:08,370 --> 00:09:05,980

application and what I might do now is

195

00:09:11,040 --> 00:09:08,380

for our audience I'd is I'll played the

196

00:09:13,950 --> 00:09:11,050

audio from your video application why

197

00:09:16,110 --> 00:09:13,960

you'd like to go to Mars if we believe

198

00:09:18,390 --> 00:09:16,120

that life is good and let the universe

199

00:09:20,820 --> 00:09:18,400

and the soul of humanity are beautiful

200

00:09:23,220 --> 00:09:20,830

then we have a responsibility to blast

201
00:09:25,830 --> 00:09:23,230
off and settle Mars in order to foster

202
00:09:28,590 --> 00:09:25,840
these things playful would best describe

203
00:09:30,540 --> 00:09:28,600
my sense of humor and I tend to laugh a

204
00:09:31,860 --> 00:09:30,550
lot and this contributes to me being

205
00:09:34,020 --> 00:09:31,870
perfectly suited for the Mars one

206
00:09:37,350 --> 00:09:34,030
mission because it facilitates my

207
00:09:39,180 --> 00:09:37,360
abilities to adapt and indoor living on

208
00:09:40,860 --> 00:09:39,190
Mars is something that I have dreamed of

209
00:09:43,680 --> 00:09:40,870
and had been preparing to do for a

210
00:09:45,660 --> 00:09:43,690
decade after traversing various terrains

211
00:09:47,580 --> 00:09:45,670
and immersing myself and distinct

212
00:09:50,130 --> 00:09:47,590
earthly cultures I have emerged the

213
00:09:52,220 --> 00:09:50,140

skilled scientist a effective

214

00:09:55,230 --> 00:09:52,230

communicator a

215

00:09:58,380 --> 00:09:55,240

trusting team player physically and

216

00:10:00,600 --> 00:09:58,390

mentally fit and ready to take on the

217

00:10:04,440 --> 00:10:00,610

challenging adventure of making a new

218

00:10:06,780 --> 00:10:04,450

home on Mars whenever it comes from me

219

00:10:09,360 --> 00:10:06,790

the opportunity to live on Mars I found

220

00:10:12,930 --> 00:10:09,370

out about this program called Mars one

221

00:10:16,230 --> 00:10:12,940

day to 167 and so on I've been making

222

00:10:18,450 --> 00:10:16,240

videos every day 4 430 two days since I

223

00:10:21,269 --> 00:10:18,460

found out about Mars one to document my

224

00:10:24,390 --> 00:10:21,279

dedication because I will go in a

225

00:10:26,790 --> 00:10:24,400

heartbeat so that was your application

226
00:10:28,350 --> 00:10:26,800
bish but you say there's a lot about the

227
00:10:30,600 --> 00:10:28,360
people and I've noticed on the website

228
00:10:32,970 --> 00:10:30,610
to a lot of other people out there who

229
00:10:39,620 --> 00:10:32,980
want to go to Mars do you think you've

230
00:10:42,690 --> 00:10:39,630
got the edge on the others I don't know

231
00:10:46,079 --> 00:10:42,700
certainly I think I'm a min up so

232
00:10:47,970 --> 00:10:46,089
certainly I think I'm able to make the

233
00:10:51,060 --> 00:10:47,980
mission succeed I think I'm the right

234
00:10:53,370 --> 00:10:51,070
type of person that gave the right skill

235
00:10:57,600 --> 00:10:53,380
set I gave the right biological build

236
00:11:00,420 --> 00:10:57,610
and mental build and to actually pull

237
00:11:02,970 --> 00:11:00,430
this off and I have been preparing for

238
00:11:06,240 --> 00:11:02,980

it thinking about it for a decade or so

239

00:11:07,350 --> 00:11:06,250

that and that means that I really

240

00:11:09,120 --> 00:11:07,360

thought about all the things that I'll

241

00:11:11,100 --> 00:11:09,130

leave behind and sacrifices i will make

242

00:11:12,660 --> 00:11:11,110

and so forth and I've been very real

243

00:11:14,460 --> 00:11:12,670

about it with my family and so forth

244

00:11:16,110 --> 00:11:14,470

it's not just something that I thought

245

00:11:19,769 --> 00:11:16,120

of recently and I'm like man that would

246

00:11:22,050 --> 00:11:19,779

be cool but on top of that i really am

247

00:11:23,760 --> 00:11:22,060

the kind of person that likes to be

248

00:11:25,680 --> 00:11:23,770

outside of my comfort zone so you can

249

00:11:27,690 --> 00:11:25,690

see by my comfort zone is somewhat

250

00:11:30,000 --> 00:11:27,700

limited this in that in that regard and

251

00:11:33,030 --> 00:11:30,010

i do perform better when what I've

252

00:11:35,519 --> 00:11:33,040

challenged it's just just kind of who I

253

00:11:36,900 --> 00:11:35,529

am and I think that if I examine all the

254

00:11:38,340 --> 00:11:36,910

different career options that I have you

255

00:11:41,280 --> 00:11:38,350

know to be an athlete to be a scientist

256

00:11:44,550 --> 00:11:41,290

be settler on Mars I think that it's

257

00:11:47,880 --> 00:11:44,560

actually most suited for my for for who

258

00:11:52,230 --> 00:11:47,890

I am and for that reason it makes sense

259

00:11:54,360 --> 00:11:52,240

that I apply am I the only person who

260

00:11:57,329 --> 00:11:54,370

could be described like this I don't

261

00:11:58,860 --> 00:11:57,339

think so I I had never met anybody that

262

00:12:00,690 --> 00:11:58,870

I thought would be a good candidate to

263

00:12:02,819 --> 00:12:00,700

go to Mars that wanted to go to Mars and

264

00:12:04,790 --> 00:12:02,829

I still haven't met any but I've seen

265

00:12:06,530 --> 00:12:04,800

some of the other

266

00:12:09,410 --> 00:12:06,540

Kent's and their profiles and so forth

267

00:12:11,360 --> 00:12:09,420

and I certainly believe that out of the

268

00:12:15,470 --> 00:12:11,370

200,000 people that are applying there

269

00:12:19,070 --> 00:12:15,480

must be at least another 100 or 1,000 or

270

00:12:21,590 --> 00:12:19,080

more like me and and so I'm quite

271

00:12:24,290 --> 00:12:21,600

confident they can find suitable people

272

00:12:27,470 --> 00:12:24,300

to go to Mars and whether or not I'm

273

00:12:29,180 --> 00:12:27,480

part of that is is a secondary point

274

00:12:31,519 --> 00:12:29,190

really the really important thing is

275

00:12:33,350 --> 00:12:31,529

that we do go I think I would be able to

276

00:12:35,630 --> 00:12:33,360

pull it off but if I don't go at least

277

00:12:38,780 --> 00:12:35,640

we went and then we start of this that's

278

00:12:40,100 --> 00:12:38,790

that's far more important and because I

279

00:12:42,710 --> 00:12:40,110

can do things here on earth and I can

280

00:12:47,680 --> 00:12:42,720

live a Wonderful Life I mean I'm quite

281

00:12:50,960 --> 00:12:47,690

fond of her affection I would like to

282

00:12:53,810 --> 00:12:50,970

encourage people to go to the Mars one

283

00:12:56,060 --> 00:12:53,820

website and take a look at type of

284

00:12:57,500 --> 00:12:56,070

people who've applied some of them might

285

00:12:59,240 --> 00:12:57,510

appear to be a little bit Coco but

286

00:13:01,970 --> 00:12:59,250

others are extremely serious and

287

00:13:03,920 --> 00:13:01,980

prepared to undertake this clinician to

288

00:13:06,290 --> 00:13:03,930

look at the timeline that they put in

289

00:13:08,120 --> 00:13:06,300

and potentially even become a supporter

290

00:13:11,269 --> 00:13:08,130

in terms of donations or purchase some

291

00:13:13,100 --> 00:13:11,279

merchandise or get in contact with them

292

00:13:14,780 --> 00:13:13,110

to see this way you can collaborate they

293

00:13:17,090 --> 00:13:14,790

really like collaborating with different

294

00:13:19,460 --> 00:13:17,100

educational institutions I mean in

295

00:13:22,910 --> 00:13:19,470

general just just think about what this

296

00:13:26,449 --> 00:13:22,920

means for not just the human race but

297

00:13:29,180 --> 00:13:26,459

all of life on Earth and how this puts

298

00:13:30,800 --> 00:13:29,190

us into context of the entire galaxy and

299

00:13:32,840 --> 00:13:30,810

the universe it's really truly something

300

00:13:34,250 --> 00:13:32,850

which is quite extraordinary I think

301

00:13:38,750 --> 00:13:34,260

that's a wonderful idea and what's the

302

00:13:44,110 --> 00:13:38,760

website people should visit ma RS dash 0

303

00:13:47,810 --> 00:13:44,120

n e.com so that's Mars Dashiell hyphen

304

00:13:49,819 --> 00:13:47,820

1.com um I'm an interesting thing

305

00:13:53,800 --> 00:13:49,829

happened here in Sydney Australia a few

306

00:13:56,269 --> 00:13:53,810

years ago we had a huge red dust storm

307

00:14:00,380 --> 00:13:56,279

dust in the outback because we had a

308

00:14:03,850 --> 00:14:00,390

very dry spell blue blue over Sydney and

309

00:14:07,850 --> 00:14:03,860

coated Sydney with this absolutely

310

00:14:10,759 --> 00:14:07,860

strange eerie red dust the sky was red

311

00:14:12,800 --> 00:14:10,769

the atmosphere was read the Sun was

312

00:14:14,900 --> 00:14:12,810

looking read through the haze and I

313

00:14:16,639 --> 00:14:14,910

looked out on this strange world no you

314

00:14:18,380 --> 00:14:16,649

crossed my mind I wonder if I could

315

00:14:20,660 --> 00:14:18,390

tolerate this day after day

316

00:14:22,580 --> 00:14:20,670

today which is what you'd be facing of

317

00:14:27,740 --> 00:14:22,590

course on Mars because your outlook

318

00:14:29,510 --> 00:14:27,750

would be rather rum red yeah Mars

319

00:14:32,870 --> 00:14:29,520

definitely is red that's their oxide of

320

00:14:36,710 --> 00:14:32,880

course but because the atmosphere is so

321

00:14:38,090 --> 00:14:36,720

thin you need a hugely strong wind I

322

00:14:40,550 --> 00:14:38,100

mean I'm liking hundreds of kilometers

323

00:14:42,770 --> 00:14:40,560

an hour in order to lift that dust in

324

00:14:45,860 --> 00:14:42,780

any meaningful way and send spread it

325

00:14:47,930 --> 00:14:45,870

around so even though eventually storms

326

00:14:49,340 --> 00:14:47,940

do formless while they that they form on

327

00:14:52,910 --> 00:14:49,350

Mars such that the whole place is

328

00:14:57,680 --> 00:14:52,920

encompassed in a cloud it only really

329

00:14:59,540 --> 00:14:57,690

looks fake and foggy from orbit or from

330

00:15:03,070 --> 00:14:59,550

an astronomer who's pointing a telescope

331

00:15:06,500 --> 00:15:03,080

to earth on the surface of Mars

332

00:15:07,940 --> 00:15:06,510

inhabitants there wouldn't be nearly as

333

00:15:09,590 --> 00:15:07,950

affected the visibility wouldn't be all

334

00:15:11,180 --> 00:15:09,600

that much all that affected because

335

00:15:14,630 --> 00:15:11,190

atmosphere so thin it's difficult to

336

00:15:17,900 --> 00:15:14,640

pick up the dust but it would be in many

337

00:15:21,440 --> 00:15:17,910

ways leak compared to earth right I mean

338

00:15:23,420 --> 00:15:21,450

Mars has wonderful craters and valleys

339

00:15:26,360 --> 00:15:23,430

and mountains and deserts and all these

340

00:15:29,750 --> 00:15:26,370

different formations similar to earth

341

00:15:32,210 --> 00:15:29,760

but it does not have life doesn't have

342

00:15:34,160 --> 00:15:32,220

waterfalls it doesn't have it doesn't

343

00:15:38,300 --> 00:15:34,170

have the same variety of cloud

344

00:15:41,360 --> 00:15:38,310

formations even so in some ways that it

345

00:15:44,630 --> 00:15:41,370

will be a little bit bleak but I don't

346

00:15:45,920 --> 00:15:44,640

think it will be all that red and dusty

347

00:15:48,800 --> 00:15:45,930

all the time I don't think that would be

348

00:15:50,360 --> 00:15:48,810

too much of a problem well though we do

349

00:15:52,640 --> 00:15:50,370

hear about it's interesting you should

350

00:15:55,760 --> 00:15:52,650

say that the winds on Mars would have to

351
00:15:58,880 --> 00:15:55,770
be quite strong we do see evidence from

352
00:16:00,710 --> 00:15:58,890
the rover's of the small tornadoes that

353
00:16:04,520 --> 00:16:00,720
go across the surface of Mars are

354
00:16:05,930 --> 00:16:04,530
periodically indeed I mean yeah Mars in

355
00:16:10,670 --> 00:16:05,940
many ways you know it's a smaller planet

356
00:16:12,050 --> 00:16:10,680
has much much more extreme geological

357
00:16:14,480 --> 00:16:12,060
features as well as weather weather

358
00:16:16,760 --> 00:16:14,490
patterns and whether characteristics so

359
00:16:18,470 --> 00:16:16,770
I mean on earth 100 kilometer or wind

360
00:16:21,650 --> 00:16:18,480
it's like that's that's serious right

361
00:16:24,530 --> 00:16:21,660
you know done on Mars it's not that it's

362
00:16:26,270 --> 00:16:24,540
actually not that serious but if they go

363
00:16:28,340 --> 00:16:26,280

much higher you can get a 500 club

364

00:16:30,200 --> 00:16:28,350

Maryland probably at the surface of Mars

365

00:16:32,249 --> 00:16:30,210

at some point in time although it would

366

00:16:34,650 --> 00:16:32,259

only feel like a 52 on Maryland

367

00:16:36,900 --> 00:16:34,660

it's not like that it boggles the mind

368

00:16:38,639 --> 00:16:36,910

just to think about it I mean there are

369

00:16:42,059 --> 00:16:38,649

so many things to take into

370

00:16:44,639 --> 00:16:42,069

consideration assuming one gets through

371

00:16:47,429 --> 00:16:44,649

the selection process then you're facing

372

00:16:50,729 --> 00:16:47,439

quite a long space voyage even before

373

00:16:53,939 --> 00:16:50,739

you get anywhere near Mars yeah it seems

374

00:16:58,590 --> 00:16:53,949

like Mars one has chosen a transit of

375

00:16:59,999 --> 00:16:58,600

210 days now the lowest energy transfer

376

00:17:01,619 --> 00:17:00,009

that you can do so this is using the

377

00:17:06,090 --> 00:17:01,629

least amount of fuel which means the

378

00:17:08,370 --> 00:17:06,100

least expensive is what's called a hog

379

00:17:12,439 --> 00:17:08,380

man transfer I think it's also called a

380

00:17:16,199 --> 00:17:12,449

low energy transfer but that takes about

381

00:17:18,899 --> 00:17:16,209

260 days I think 258 or something like

382

00:17:21,149 --> 00:17:18,909

that if you were to go with a lot of

383

00:17:23,669 --> 00:17:21,159

fuel you could also do this a similar

384

00:17:25,620 --> 00:17:23,679

type of transfer in about 150 days and

385

00:17:27,090 --> 00:17:25,630

anywhere between hundred and fifty and

386

00:17:31,649 --> 00:17:27,100

two hundred sixty depends on how much

387

00:17:34,379 --> 00:17:31,659

fuel you use 210 day one I think is a

388

00:17:36,600 --> 00:17:34,389

happy medium and that's a long time

389

00:17:39,960 --> 00:17:36,610

period in space you could not go down to

390

00:17:41,460 --> 00:17:39,970

180 and I imagine that if they get a

391

00:17:46,440 --> 00:17:41,470

significant amount of funding they will

392

00:17:48,029 --> 00:17:46,450

reduce it from 210 to to 180 but

393

00:17:49,409 --> 00:17:48,039

probably not much below that because at

394

00:17:51,419 --> 00:17:49,419

some point in time you actually have the

395

00:17:54,240 --> 00:17:51,429

opportunity to return to earth without

396

00:17:55,860 --> 00:17:54,250

any fuel at all so that looks like a

397

00:17:57,570 --> 00:17:55,870

free return mission which is what the

398

00:17:59,190 --> 00:17:57,580

Polo 13 did when they tried to go to the

399

00:18:00,419 --> 00:17:59,200

moon they want up swinging around the

400

00:18:02,220 --> 00:18:00,429

motive that coming back you can do the

401
00:18:06,029 --> 00:18:02,230
same thing on the way to Mars but only

402
00:18:08,850 --> 00:18:06,039
with certain only with certain transfer

403
00:18:11,430 --> 00:18:08,860
orbits so I'm not sure if the 210 one

404
00:18:13,230 --> 00:18:11,440
that they have planned for 20-22 is

405
00:18:15,330 --> 00:18:13,240
actually going to allow a free return

406
00:18:18,360 --> 00:18:15,340
but I think if they get enough funding

407
00:18:20,789 --> 00:18:18,370
then they will build that into the well

408
00:18:23,340 --> 00:18:20,799
build that into vidya apply well that

409
00:18:25,889 --> 00:18:23,350
sounds to me like an attractive option I

410
00:18:28,769 --> 00:18:25,899
think I'd sittin up a space capsule for

411
00:18:30,810 --> 00:18:28,779
that amount of time to swing around Mars

412
00:18:33,000 --> 00:18:30,820
and have a good look and then head back

413
00:18:35,340 --> 00:18:33,010

to earth and I emphasize their head back

414

00:18:38,639 --> 00:18:35,350

to earth but of course from what I

415

00:18:41,669 --> 00:18:38,649

understand is this is really a one-way

416

00:18:43,019 --> 00:18:41,679

trip is that right yeah it's it's one my

417

00:18:45,600 --> 00:18:43,029

trip I mean it's it's a practical

418

00:18:47,789 --> 00:18:45,610

approach and I agree with the

419

00:18:51,840 --> 00:18:47,799

the design it's quite something I

420

00:18:53,430 --> 00:18:51,850

suppose once the the rocket launches off

421

00:18:55,410 --> 00:18:53,440

and you're heading out that it's a bit

422

00:18:59,010 --> 00:18:55,420

late to change your mind then and what

423

00:19:02,340 --> 00:18:59,020

sort of environment what sort of living

424

00:19:05,549 --> 00:19:02,350

conditions would there be an eyesore on

425

00:19:07,080 --> 00:19:05,559

route well both I guess I think on the

426

00:19:10,380 --> 00:19:07,090

way there it'll be similar to the

427

00:19:13,230 --> 00:19:10,390

International Space Station I think

428

00:19:15,480 --> 00:19:13,240

there will be next to zero gravity so

429

00:19:18,180 --> 00:19:15,490

there are options of introducing

430

00:19:20,220 --> 00:19:18,190

artificial gravity by tethering heart of

431

00:19:22,140 --> 00:19:20,230

the rocket that launched the craft by a

432

00:19:23,909 --> 00:19:22,150

cable to the actual craft on what you

433

00:19:26,640 --> 00:19:23,919

travel create a centrifugal force which

434

00:19:27,600 --> 00:19:26,650

then produces artificial gravity but I

435

00:19:29,310 --> 00:19:27,610

don't think they're going to build that

436

00:19:30,780 --> 00:19:29,320

ends it because it's not necessary

437

00:19:33,510 --> 00:19:30,790

anything that's not necessary is thrown

438

00:19:36,240 --> 00:19:33,520

out of the plans apriori so not having

439

00:19:39,180 --> 00:19:36,250

gravity for 210 days is going to have

440

00:19:41,070 --> 00:19:39,190

effects our bodies right that's going to

441

00:19:43,010 --> 00:19:41,080

be crappy but it's more or less the

442

00:19:45,900 --> 00:19:43,020

living quarters will be like being in a

443

00:19:49,970 --> 00:19:45,910

relatively small apartment with three of

444

00:19:55,020 --> 00:19:49,980

their very interesting people having

445

00:19:57,000 --> 00:19:55,030

relatively leak food to eat um no

446

00:19:59,520 --> 00:19:57,010

showers I'm gonna be very very simple

447

00:20:02,700 --> 00:19:59,530

life and but but that's that's sort of a

448

00:20:04,580 --> 00:20:02,710

necessity once you get to Mars well now

449

00:20:06,750 --> 00:20:04,590

you have the option of actually leaving

450

00:20:09,539 --> 00:20:06,760

your habitats there'll be a bunch of

451
00:20:11,100 --> 00:20:09,549
habitats waiting for us on the surface

452
00:20:12,930 --> 00:20:11,110
and then when we get there eventually

453
00:20:15,240 --> 00:20:12,940
we'll get towed to that to that region

454
00:20:17,130 --> 00:20:15,250
by some robotic rover he sets the plan

455
00:20:19,380 --> 00:20:17,140
in a worst-case scenario I suppose we

456
00:20:21,330 --> 00:20:19,390
would walk then we have the option of

457
00:20:25,470 --> 00:20:21,340
going in and out and in addition to the

458
00:20:29,310 --> 00:20:25,480
to the hard have modules the proposed to

459
00:20:31,320 --> 00:20:29,320
in advance inflate some structures which

460
00:20:32,700 --> 00:20:31,330
they can then cover with soil to protect

461
00:20:34,560 --> 00:20:32,710
from the radiation so forth and these

462
00:20:37,020 --> 00:20:34,570
inflated structures could be rather

463
00:20:42,960 --> 00:20:37,030

large and we could use them to grow

464

00:20:46,169 --> 00:20:42,970

plants and to play ping-pong too I mean

465

00:20:48,510 --> 00:20:46,179

to just to just to live really in shorts

466

00:20:50,549 --> 00:20:48,520

and a t-shirt right it's that'll only be

467

00:20:52,799 --> 00:20:50,559

possible indoors on Mars at least for

468

00:20:54,210 --> 00:20:52,809

the next five to ten thousand years well

469

00:20:56,669 --> 00:20:54,220

let's let's take a very minor

470

00:20:59,000 --> 00:20:56,679

consideration into account here what

471

00:21:01,950 --> 00:20:59,010

about oxygen oxygen

472

00:21:03,630 --> 00:21:01,960

can be produced on Mars like breathable

473

00:21:05,610 --> 00:21:03,640

are chillin can be produced on Mars from

474

00:21:08,700 --> 00:21:05,620

the from carbon dioxide that's in the

475

00:21:11,100 --> 00:21:08,710

atmosphere that will be done in advance

476

00:21:16,110 --> 00:21:11,110

of us going there I think they plan to

477

00:21:17,790 --> 00:21:16,120

have I don't know how many lung capacity

478

00:21:19,620 --> 00:21:17,800

is worth but but is significant I'm out

479

00:21:21,630 --> 00:21:19,630

there so that we could live for a long

480

00:21:22,950 --> 00:21:21,640

time with that that oxygen but you can

481

00:21:25,530 --> 00:21:22,960

continually make it if you have a power

482

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

source so solar panels would be enough

483

00:21:29,460 --> 00:21:27,550

even from the from the carbon dioxide

484

00:21:31,620 --> 00:21:29,470

that's in the Martian atmosphere already

485

00:21:34,800 --> 00:21:31,630

good heavens it's all been really really

486

00:21:36,240 --> 00:21:34,810

well thought out well planned wish I

487

00:21:37,770 --> 00:21:36,250

don't know whether to wish you luck or

488

00:21:40,740 --> 00:21:37,780

not because I quite enjoy your company

489

00:21:43,170 --> 00:21:40,750

with which we were together in the Czech

490

00:21:45,810 --> 00:21:43,180

Republic we had a very good time indeed

491

00:21:47,880 --> 00:21:45,820

and what a wonderful festival that was

492

00:21:50,340 --> 00:21:47,890

but i guess i will wish you luck because

493

00:21:53,040 --> 00:21:50,350

what a what an incredible thing it would

494

00:21:57,840 --> 00:21:53,050

be to be one of the first humans to

495

00:21:59,550 --> 00:21:57,850

reach another planet it I guess it's an

496

00:22:02,790 --> 00:21:59,560

opportunity many people as you say

497

00:22:05,310 --> 00:22:02,800

thousands of people are jumping at yeah

498

00:22:07,440 --> 00:22:05,320

i think it's it's it's it's really cool

499

00:22:10,220 --> 00:22:07,450

but I mean again I emphasize I don't I

500

00:22:12,420 --> 00:22:10,230

don't I really don't do this because

501
00:22:13,650 --> 00:22:12,430
because I could be the first or whatever

502
00:22:15,720 --> 00:22:13,660
and I want to be the first to see this

503
00:22:17,700 --> 00:22:15,730
and all those things are amazing and

504
00:22:19,020 --> 00:22:17,710
when I do my research I get that feeling

505
00:22:20,510 --> 00:22:19,030
once in a while where I see a piece of

506
00:22:23,730 --> 00:22:20,520
data and I'm like I'm my first person

507
00:22:26,340 --> 00:22:23,740
you know probably in history of the

508
00:22:27,950 --> 00:22:26,350
world to realize this truth about

509
00:22:30,690 --> 00:22:27,960
biology and that's that's very exciting

510
00:22:32,490 --> 00:22:30,700
but but really it's more just I just

511
00:22:34,890 --> 00:22:32,500
think it's right it's a proper fit for

512
00:22:36,690 --> 00:22:34,900
me and it's it's it's my responsibility

513
00:22:40,830 --> 00:22:36,700

to do what I can and this is what I

514

00:22:42,090 --> 00:22:40,840

think I'm Matt to do so well then bish I

515

00:22:46,560 --> 00:22:42,100

really hope you're one of the first

516

00:22:50,070 --> 00:22:46,570

Martians thank you very much well Besh

517

00:22:55,620 --> 00:22:50,080

sob all the best and send back some mush

518

00:22:58,530 --> 00:22:55,630

and rock for me ok send back some ice

519

00:23:01,050 --> 00:22:58,540

and rock yeah that's that's a

520

00:23:06,480 --> 00:23:01,060

billion-dollar and ever how are you do

521

00:23:12,200 --> 00:23:06,490

it for me won't you of course it low

522

00:23:20,399 --> 00:23:15,570

mars-1 will establish human settlement

523

00:23:24,440 --> 00:23:20,409

on Mars in 2023 in that year the first

524

00:23:27,779 --> 00:23:24,450

group of four humans will land on Mars

525

00:23:30,060 --> 00:23:27,789

every two years after that another group

526

00:23:31,590 --> 00:23:30,070

will join the settlement my first

527

00:23:35,419 --> 00:23:31,600

impression was that this is an

528

00:23:39,899 --> 00:23:35,429

extraordinary project by people with

529

00:23:42,210 --> 00:23:39,909

vision imagination but my first reaction

530

00:23:44,519 --> 00:23:42,220

was I think like anyone who will be

531

00:23:49,070 --> 00:23:44,529

confronted in such an idea this will

532

00:23:51,899 --> 00:23:49,080

never work now look listen more closely

533

00:23:54,779 --> 00:23:51,909

this is really something that can be

534

00:23:57,169 --> 00:23:54,789

achieved I think this might become a

535

00:24:01,830 --> 00:23:57,179

most spectacular media event ever

536

00:24:04,019 --> 00:24:01,840

watched by everyone on the globe 1972

537

00:24:09,749 --> 00:24:04,029

was the last time that humans worked on

538

00:24:14,879 --> 00:24:09,759

the moon no human has ever gone as far

539

00:24:16,830 --> 00:24:14,889

as Mars Mars one has designed a mission

540

00:24:19,680 --> 00:24:16,840

that is much simpler than previous

541

00:24:22,139 --> 00:24:19,690

designs for Mars missions the most

542

00:24:24,990 --> 00:24:22,149

significant simplification is that the

543

00:24:27,029 --> 00:24:25,000

crew is actually going to stay and live

544

00:24:30,180 --> 00:24:27,039

on Mars with the intention to remain

545

00:24:31,980 --> 00:24:30,190

there for the rest of their lives we

546

00:24:34,110 --> 00:24:31,990

will finance this mission by creating

547

00:24:35,940 --> 00:24:34,120

the biggest media event ever around it

548

00:24:37,499 --> 00:24:35,950

everybody in the world can see

549

00:24:41,279 --> 00:24:37,509

everything that will happen in the

550

00:24:45,539 --> 00:24:41,289

preparations endl Mars this is going to

551
00:24:47,909 --> 00:24:45,549
be media spectacle Big Brother will pale

552
00:24:51,320 --> 00:24:47,919
in comparison the whole world will be

553
00:24:54,090 --> 00:24:51,330
watching and experience this journey

554
00:24:57,060 --> 00:24:54,100
mars-1 paid visits to major aerospace

555
00:24:59,460 --> 00:24:57,070
companies around the world in these

556
00:25:02,250 --> 00:24:59,470
meetings they confirm to us that they

557
00:25:04,440 --> 00:25:02,260
can supply the required equipment for

558
00:25:07,440 --> 00:25:04,450
every component we have at least one

559
00:25:09,540 --> 00:25:07,450
potential supplier all these suppliers

560
00:25:13,290 --> 00:25:09,550
have written letters of interest for

561
00:25:16,440 --> 00:25:13,300
Mars one as for financing this is going

562
00:25:18,930 --> 00:25:16,450
to be a private enterprise only private

563
00:25:22,980 --> 00:25:18,940

firms are going to continue it no

564

00:25:25,740 --> 00:25:22,990

political mumbo-jumbo no taxpayers money

565

00:25:27,000 --> 00:25:25,750

will be involved only people like myself

566

00:25:31,770 --> 00:25:27,010

and many others who are enthusiastic

567

00:25:34,860 --> 00:25:31,780

about the program will contribute this

568

00:25:36,810 --> 00:25:34,870

is the plan in 2016 a communication

569

00:25:41,970 --> 00:25:36,820

satellite and a supply mission will be

570

00:25:44,490 --> 00:25:41,980

sent to Mars in 2018 a large planetary

571

00:25:46,440 --> 00:25:44,500

rover will be sent to Mars it will drive

572

00:25:50,940 --> 00:25:46,450

around on Mars to find the best location

573

00:25:54,240 --> 00:25:50,950

for the settlement in 2020 living units

574

00:25:57,090 --> 00:25:54,250

life support units a rover and more

575

00:25:59,100 --> 00:25:57,100

supplies will be sent to Mars the

576

00:26:01,890 --> 00:25:59,110

rover's will prepare the settlement for

577

00:26:04,250 --> 00:26:01,900

human arrival they will extract the

578

00:26:07,230 --> 00:26:04,260

inflatable section from the living unit

579

00:26:07,650 --> 00:26:07,240

the life support unit will prepare the

580

00:26:13,050 --> 00:26:07,660

out

581

00:26:16,650 --> 00:26:13,060

post for arrival of the humans the crew

582

00:26:18,450 --> 00:26:16,660

will depart in September 2022 when the

583

00:26:22,050 --> 00:26:18,460

settlement is fully operational and

584

00:26:24,810 --> 00:26:22,060

habitable they will be flying to Mars in

585

00:26:30,240 --> 00:26:24,820

a transit habitat with a lander attached

586

00:26:33,030 --> 00:26:30,250

to it seven months later in April 2023

587

00:26:36,030 --> 00:26:33,040

the humans will land on Mars the next

588

00:26:38,460 --> 00:26:36,040

giant leap for mankind this project

589

00:26:40,860 --> 00:26:38,470

seems to be the only way to fulfill

590

00:26:43,740 --> 00:26:40,870

humanity's dream to explore outer space

591

00:26:47,910 --> 00:26:43,750

it is going to be an exciting experiment

592

00:26:51,290 --> 00:26:47,920

let's get started Mars one invites you

593

00:27:26,020 --> 00:26:51,300

to join us in this great adventure for

594

00:27:31,190 --> 00:27:29,570

hi I'm audit oh yeah Kristen or evil

595

00:27:32,900 --> 00:27:31,200

tips advice on logic lifted off the

596

00:27:34,610 --> 00:27:32,910

skeptic zone um skip the comedian or

597

00:27:36,050 --> 00:27:34,620

again that it's not a blog get upper

598

00:27:37,370 --> 00:27:36,060

bleph or podcast often and against

599

00:27:39,590 --> 00:27:37,380

capsis driven me you look if I'm ever

600

00:27:41,630 --> 00:27:39,600

doctor is mack center of escape system

601
00:27:43,640 --> 00:27:41,640
and loop or hardcover says the deep

602
00:27:45,350 --> 00:27:43,650
plane or textured and calendar or escape

603
00:27:47,030 --> 00:27:45,360
this car together or linked you to only

604
00:27:48,740 --> 00:27:47,040
escape this killer sausage escape this

605
00:27:50,420 --> 00:27:48,750
blog in okla 30m late Oh discrete areas

606
00:27:54,050 --> 00:27:50,430
have step escapes is for domestic inna

607
00:27:56,960 --> 00:27:54,060
de estado yourself skips a stop mo hello

608
00:27:58,400 --> 00:27:56,970
I'm moderate and I'm Kristin and we want

609
00:28:00,050 --> 00:27:58,410
to let you know that there are lots of

610
00:28:01,970 --> 00:28:00,060
Norwegian skeptics for you to get to

611
00:28:03,920 --> 00:28:01,980
know there are blogs and pub mates and a

612
00:28:05,360 --> 00:28:03,930
podcast and the Norwegian skeptics also

613
00:28:07,340 --> 00:28:05,370

do paranormal tests and consumer

614

00:28:09,530 --> 00:28:07,350

activism to find out more Google

615

00:28:17,560 --> 00:28:09,540

Norwegian skeptics or visit skept

616

00:28:23,230 --> 00:28:20,800

welcome to a week in science from RI oz

617

00:28:26,350 --> 00:28:23,240

bringing you that science news you need

618

00:28:29,770 --> 00:28:26,360

to know this week in science can comets

619

00:28:32,440 --> 00:28:29,780

create life small creatures see in slow

620

00:28:40,600 --> 00:28:32,450

mode and can a positive lifestyle make

621

00:28:42,610 --> 00:28:40,610

you live longer maybe just maybe the

622

00:28:45,910 --> 00:28:42,620

building blocks of life were created

623

00:28:48,760 --> 00:28:45,920

when comets and planets collided a team

624

00:28:51,490 --> 00:28:48,770

in England fired steel balls into ice

625

00:28:54,400 --> 00:28:51,500

that has the same composition as comets

626
00:28:56,380 --> 00:28:54,410
these violent impacts produced amino

627
00:28:58,660 --> 00:28:56,390
acids which are the building blocks of

628
00:29:00,700 --> 00:28:58,670
proteins similar collisions between

629
00:29:03,580 --> 00:29:00,710
comets and planets could have eventually

630
00:29:08,350 --> 00:29:03,590
led to the first sparks of life on Earth

631
00:29:12,150 --> 00:29:08,360
a new study has shown that smaller

632
00:29:14,680 --> 00:29:12,160
animals may see the world in slow motion

633
00:29:16,420 --> 00:29:14,690
researchers in Ireland studied a range

634
00:29:19,120 --> 00:29:16,430
of animals and measured how quickly

635
00:29:21,520 --> 00:29:19,130
their eyes processed light they found

636
00:29:24,220 --> 00:29:21,530
that insects birds and mice see more

637
00:29:26,800 --> 00:29:24,230
information in one second than larger

638
00:29:29,950 --> 00:29:26,810

animals meaning they perceive time more

639

00:29:32,230 --> 00:29:29,960

slowly the researchers even think this

640

00:29:34,570 --> 00:29:32,240

can be used by small animals to send

641

00:29:37,030 --> 00:29:34,580

signals to each other without larger

642

00:29:39,460 --> 00:29:37,040

predators seeing you're listening to a

643

00:29:43,530 --> 00:29:39,470

week in science from our iOS are now

644

00:29:46,300 --> 00:29:43,540

four sides headlines in 30 seconds

645

00:29:48,640 --> 00:29:46,310

earwax from whales can be used to

646

00:29:50,830 --> 00:29:48,650

determine their lifetime exposure to

647

00:29:53,110 --> 00:29:50,840

ocean pollutants making positive

648

00:29:55,210 --> 00:29:53,120

lifestyle changes may increase the

649

00:29:57,850 --> 00:29:55,220

length of telomeres that's the end of

650

00:30:00,580 --> 00:29:57,860

chromosomes that control aging and may

651
00:30:02,560 --> 00:30:00,590
delay cell death spanish researchers

652
00:30:04,930 --> 00:30:02,570
have developed the first self-healing

653
00:30:07,570 --> 00:30:04,940
plastic that spontaneously repairs

654
00:30:11,050 --> 00:30:07,580
itself and just like the five taste

655
00:30:13,780 --> 00:30:11,060
categories bittersweet etc we have ten

656
00:30:17,770 --> 00:30:13,790
basic categories of smell one of which

657
00:30:19,780 --> 00:30:17,780
is popcorn the skynet celebrated its

658
00:30:21,790 --> 00:30:19,790
second birthday this week and we're not

659
00:30:24,880 --> 00:30:21,800
talking about the system from terminator

660
00:30:26,830 --> 00:30:24,890
the Skynet is a program that uses your

661
00:30:29,740 --> 00:30:26,840
computer during its quiet times to

662
00:30:31,030 --> 00:30:29,750
analyze astronomical data if you want to

663
00:30:33,000 --> 00:30:31,040

help astronomers around the

664

00:30:38,020 --> 00:30:33,010

world unlock the secrets of the universe

665

00:30:40,210 --> 00:30:38,030

check out the sky net org that's it for

666

00:30:41,980 --> 00:30:40,220

this a week in science for more

667

00:30:44,680 --> 00:30:41,990

information on these and other science

668

00:30:48,730 --> 00:30:44,690

news stories go to the IRS website are I

669

00:30:51,700 --> 00:30:48,740

a u.s. orga you follow us on Twitter

670

00:30:54,250 --> 00:30:51,710

using the hashtag week in sy and like us

671

00:31:05,440 --> 00:30:54,260

on facebook i'm paul willis and i'll

672

00:31:07,570 --> 00:31:05,450

catch you here next week the skeptic

673

00:31:10,540 --> 00:31:07,580

magazine the journal from australian

674

00:31:13,960 --> 00:31:10,550

skeptics subscribe online to the world's

675

00:31:17,610 --> 00:31:13,970

second oldest skeptical magazine visit w

676

00:31:20,740 --> 00:31:17,620

WC optics com au and click the

677

00:31:25,120 --> 00:31:20,750

publications league you can also find

678

00:31:28,210 --> 00:31:25,130

their over 30 years of back issues free

679

00:31:41,220 --> 00:31:28,220

to download the skeptic magazine from

680

00:31:47,120 --> 00:31:41,230

Australian skeptics here's main art

681

00:31:51,090 --> 00:31:49,500

dr. Pamela gay what are you a doctor of

682

00:31:54,030 --> 00:31:51,100

again how many letters after your name

683

00:31:56,610 --> 00:31:54,040

are there I have a PhD in astronomy from

684

00:31:58,500 --> 00:31:56,620

the University of Texas and with more

685

00:32:00,810 --> 00:31:58,510

letters I have a Bachelor of Science and

686

00:32:02,850 --> 00:32:00,820

astrophysics and if I don't like someone

687

00:32:04,500 --> 00:32:02,860

i say astrophysics but i like you so

688

00:32:06,510 --> 00:32:04,510

i'll say astronomy you've got to be for

689

00:32:08,430 --> 00:32:06,520

the few other scientific doctrines for

690

00:32:09,810 --> 00:32:08,440

example philosophy i guess that's not

691

00:32:11,040 --> 00:32:09,820

really a scientific doctrine but you

692

00:32:13,320 --> 00:32:11,050

don't like philosophers because they

693

00:32:15,000 --> 00:32:13,330

reckon if the Andromeda galaxy falls in

694

00:32:17,400 --> 00:32:15,010

a forest and no one sees it's not really

695

00:32:20,940 --> 00:32:17,410

there there's times that philosophers

696

00:32:23,160 --> 00:32:20,950

are quite fun like 4am at a pub but when

697

00:32:24,660 --> 00:32:23,170

you're trying to teach science and you

698

00:32:28,470 --> 00:32:24,670

have someone from the back of the room

699

00:32:30,690 --> 00:32:28,480

as as has happened asking so if we were

700

00:32:32,700 --> 00:32:30,700

in India what physical laws would we be

701
00:32:34,550 --> 00:32:32,710
learning well physics is the same

702
00:32:37,050 --> 00:32:34,560
everywhere in the world and

703
00:32:39,360 --> 00:32:37,060
multiculturalism is very important for

704
00:32:41,130 --> 00:32:39,370
understanding that people from different

705
00:32:44,460 --> 00:32:41,140
cultures all have the same potential to

706
00:32:46,230 --> 00:32:44,470
learn and discover but that doesn't mean

707
00:32:47,970 --> 00:32:46,240
their science is any better or worse

708
00:32:49,800 --> 00:32:47,980
because science is science and it should

709
00:32:51,570 --> 00:32:49,810
be the same for everyone no matter what

710
00:32:53,130 --> 00:32:51,580
their philosophical leanings on a

711
00:32:55,380 --> 00:32:53,140
personal level for someone who can

712
00:32:58,140 --> 00:32:55,390
understand the concept of Planck time as

713
00:32:59,460 --> 00:32:58,150

you can which I find fascinating why

714

00:33:02,610 --> 00:32:59,470

can't you get your head around an Excel

715

00:33:04,650 --> 00:33:02,620

spreadsheet and accounting I can get my

716

00:33:07,500 --> 00:33:04,660

head around an Excel spreadsheet and

717

00:33:10,260 --> 00:33:07,510

accounting I just don't like to the

718

00:33:14,010 --> 00:33:10,270

problem is I want to dedicate all my

719

00:33:17,190 --> 00:33:14,020

time to science to learning about our

720

00:33:19,530 --> 00:33:17,200

universe to helping other people be able

721

00:33:21,660 --> 00:33:19,540

to learn and discover and when I'm doing

722

00:33:23,970 --> 00:33:21,670

accounting I have to face the realities

723

00:33:28,320 --> 00:33:23,980

that I've pay a nine hundred

724

00:33:30,600 --> 00:33:28,330

dollar-a-month server bill and I have to

725

00:33:33,120 --> 00:33:30,610

pay taxes that don't even cover the

726

00:33:36,450 --> 00:33:33,130

health insurance of my staff doing

727

00:33:39,090 --> 00:33:36,460

accounting it's time that brings me away

728

00:33:41,940 --> 00:33:39,100

from science and brings me into the

729

00:33:43,410 --> 00:33:41,950

realities that if I want to do science I

730

00:33:45,780 --> 00:33:43,420

have to figure out how to pay that nine

731

00:33:47,820 --> 00:33:45,790

hundred dollar-a-month server bill in an

732

00:33:49,800 --> 00:33:47,830

economy that's really suffering right

733

00:33:51,570 --> 00:33:49,810

now you said that in an economy that's

734

00:33:53,370 --> 00:33:51,580

suffering that still has two wars going

735

00:33:54,130 --> 00:33:53,380

on with a possible third one on the side

736

00:33:56,560 --> 00:33:54,140

there

737

00:33:58,120 --> 00:33:56,570

funding going to zero for most of the

738

00:33:59,830 --> 00:33:58,130

science fun during I imagined it was

739

00:34:01,450 --> 00:33:59,840

being reduced but I had no idea a lot of

740

00:34:03,160 --> 00:34:01,460

it was going to 0 could you explain that

741

00:34:05,110 --> 00:34:03,170

because non-american listeners might not

742

00:34:07,870 --> 00:34:05,120

know this it's science education in

743

00:34:10,840 --> 00:34:07,880

particular that's going to 0 under the

744

00:34:13,149 --> 00:34:10,850

present president's proposed budget the

745

00:34:16,030 --> 00:34:13,159

science education funding at NASA and

746

00:34:18,430 --> 00:34:16,040

many other organizations is being zeroed

747

00:34:20,230 --> 00:34:18,440

and the money is being redistributed to

748

00:34:23,290 --> 00:34:20,240

the Department of Education which

749

00:34:25,480 --> 00:34:23,300

specializes in formal education to the

750

00:34:27,880 --> 00:34:25,490

National Science Foundation but only to

751
00:34:31,210 --> 00:34:27,890
do research to the Smithsonian museums

752
00:34:34,600 --> 00:34:31,220
to do outreach these institutions don't

753
00:34:37,450 --> 00:34:34,610
have programs in place to ask people to

754
00:34:39,820 --> 00:34:37,460
apply for grants and so programs like

755
00:34:42,460 --> 00:34:39,830
mine and so many others that are paid

756
00:34:44,080 --> 00:34:42,470
for out of NASA out of the Department of

757
00:34:46,540 --> 00:34:44,090
Agriculture other the Department of

758
00:34:50,680 --> 00:34:46,550
Energy all of our programs are going

759
00:34:52,419 --> 00:34:50,690
away and a lot of very good educators

760
00:34:55,419 --> 00:34:52,429
and scientists are going to lose their

761
00:34:57,550 --> 00:34:55,429
jobs because science and education are

762
00:34:59,950 --> 00:34:57,560
getting completely split and programs

763
00:35:02,230 --> 00:34:59,960

that combine the two no one knows how to

764

00:35:04,330 --> 00:35:02,240

fund EE annoying because it will also

765

00:35:05,770 --> 00:35:04,340

pit people against each other for what

766

00:35:07,270 --> 00:35:05,780

little funding there is as well and that

767

00:35:09,820 --> 00:35:07,280

could cause a division within the group

768

00:35:12,730 --> 00:35:09,830

that's already happening it used to be

769

00:35:14,290 --> 00:35:12,740

that the grants i apply for might have

770

00:35:18,130 --> 00:35:14,300

one or two hundred people applying for

771

00:35:20,410 --> 00:35:18,140

maybe 20 or 30 grants now there's fewer

772

00:35:22,120 --> 00:35:20,420

dollars being spent fewer grants being

773

00:35:23,700 --> 00:35:22,130

funded and there might be six to eight

774

00:35:26,830 --> 00:35:23,710

hundred different groups applying

775

00:35:31,150 --> 00:35:26,840

layoffs are already starting the money's

776

00:35:32,380 --> 00:35:31,160

going away and it's hard I I personally

777

00:35:34,180 --> 00:35:32,390

am very worried I'm going to have to

778

00:35:36,520 --> 00:35:34,190

start laying off staff in the new year

779

00:35:38,620 --> 00:35:36,530

and I'm trying everything I can to

780

00:35:41,290 --> 00:35:38,630

prevent that future would something like

781

00:35:43,180 --> 00:35:41,300

the Chinese putting a man on the moon in

782

00:35:45,070 --> 00:35:43,190

2020 spark things up a bit another

783

00:35:47,980 --> 00:35:45,080

Sputnik moment is that what's needed I

784

00:35:51,640 --> 00:35:47,990

don't know what what has me concerned is

785

00:35:54,760 --> 00:35:51,650

there's a mentality right now of men

786

00:35:56,290 --> 00:35:54,770

we don't care it's all about infighting

787

00:35:59,200 --> 00:35:56,300

between the different political parties

788

00:36:00,790 --> 00:35:59,210

it's it's people saying we don't need to

789

00:36:03,430 --> 00:36:00,800

do this because of that and we don't

790

00:36:06,070 --> 00:36:03,440

need to do that because of this and thus

791

00:36:08,890 --> 00:36:06,080

nothing getting done and perceived

792

00:36:10,900 --> 00:36:08,900

there's no votes in science I don't

793

00:36:13,960 --> 00:36:10,910

think that it's no votes in science I

794

00:36:15,910 --> 00:36:13,970

actually took time to go up on the hill

795

00:36:18,070 --> 00:36:15,920

in washington and talk to my congressman

796

00:36:20,950 --> 00:36:18,080

in the state of illinois and they were

797

00:36:22,750 --> 00:36:20,960

all deeply passionate the problem is

798

00:36:25,570 --> 00:36:22,760

that there's now in fighting over who

799

00:36:27,760 --> 00:36:25,580

gets what money and at a certain point

800

00:36:30,180 --> 00:36:27,770

it starts to become a dominance fight we

801
00:36:33,640 --> 00:36:30,190
are pack animals at our heart and

802
00:36:35,740 --> 00:36:33,650
everyone wants to win and the reality is

803
00:36:38,380 --> 00:36:35,750
the science educators are losing is a

804
00:36:40,150 --> 00:36:38,390
quick solution if we had queen pamela

805
00:36:42,310 --> 00:36:40,160
guy in charge of the country what would

806
00:36:44,380 --> 00:36:42,320
be the quick solution the quick solution

807
00:36:47,740 --> 00:36:44,390
to save today is a continuing resolution

808
00:36:50,290 --> 00:36:47,750
that says the US will continue with last

809
00:36:53,710 --> 00:36:50,300
year's budget into the future beyond

810
00:36:56,560 --> 00:36:53,720
that the long-term solution is we need

811
00:36:58,180 --> 00:36:56,570
people to understand that science and

812
00:37:00,820 --> 00:36:58,190
science education need to happen

813
00:37:03,160 --> 00:37:00,830

hand-in-hand that the department of

814

00:37:06,670 --> 00:37:03,170

education is very good for making sure

815

00:37:08,740 --> 00:37:06,680

that we have consistent education across

816

00:37:10,600 --> 00:37:08,750

the united states but if you want

817

00:37:12,610 --> 00:37:10,610

today's cutting-edge science to be in

818

00:37:14,410 --> 00:37:12,620

tomorrow's classroom you need the

819

00:37:16,990 --> 00:37:14,420

science educators working with the

820

00:37:18,730 --> 00:37:17,000

scientists have you had time to notice

821

00:37:20,380 --> 00:37:18,740

the state of science education here in

822

00:37:22,180 --> 00:37:20,390

australia or people spoken to you about

823

00:37:23,920 --> 00:37:22,190

it at all i know from working with

824

00:37:26,920 --> 00:37:23,930

people at Swinburne University of

825

00:37:29,220 --> 00:37:26,930

Technology especially their astrophysics

826

00:37:32,140 --> 00:37:29,230

and super computing facility that

827

00:37:33,910 --> 00:37:32,150

astronomy here is still reasonably well

828

00:37:35,590 --> 00:37:33,920

funded this is one of the few places

829

00:37:37,900 --> 00:37:35,600

that in many ways is giving the

830

00:37:40,900 --> 00:37:37,910

opportunity to grow we have a big sky

831

00:37:44,500 --> 00:37:40,910

you have a big dark sky it's dark both

832

00:37:47,950 --> 00:37:44,510

light and in radio waves and you also

833

00:37:51,100 --> 00:37:47,960

have an education system that like ours

834

00:37:53,860 --> 00:37:51,110

is troubled in many ways but by and

835

00:37:56,680 --> 00:37:53,870

large people are still trying to learn

836

00:37:57,850 --> 00:37:56,690

what science really is you stated it

837

00:37:59,950 --> 00:37:57,860

there when you're talking earlier

838

00:38:01,970 --> 00:37:59,960

Voyager has left the building it's

839

00:38:03,470 --> 00:38:01,980

actually left the solar system and its

840

00:38:05,240 --> 00:38:03,480

ten thousand miles an hour to travelling

841

00:38:08,000 --> 00:38:05,250

at is that right it's outside of the

842

00:38:10,370 --> 00:38:08,010

solar system it's carrying a record on

843

00:38:13,130 --> 00:38:10,380

it that contains the sound of a human

844

00:38:14,840 --> 00:38:13,140

heartbeat and rubbery and chuck berry

845

00:38:16,460 --> 00:38:14,850

but what I love is that human heartbeat

846

00:38:20,030 --> 00:38:16,470

is well someone's thinking of the

847

00:38:21,950 --> 00:38:20,040

concept of love and so someone's beating

848

00:38:24,080 --> 00:38:21,960

heart filled with love has left our

849

00:38:27,680 --> 00:38:24,090

solar system is it near the Oak cloud

850

00:38:29,599 --> 00:38:27,690

it's outside of the solar system so so

851

00:38:31,970 --> 00:38:29,609

it's the New Horizons mission that it's

852

00:38:34,220 --> 00:38:31,980

on its way to the Kuiper belt so it's

853

00:38:37,430 --> 00:38:34,230

even so it's actually passed the Oort

854

00:38:39,500 --> 00:38:37,440

cloud so I be confused the Oort cloud is

855

00:38:41,930 --> 00:38:39,510

ill-defined and no one can exactly say

856

00:38:43,849 --> 00:38:41,940

where it is except that the aliens from

857

00:38:45,349 --> 00:38:43,859

Independence Day that was when we first

858

00:38:50,630 --> 00:38:45,359

saw them when they came out of the Oort

859

00:38:53,240 --> 00:38:50,640

cloud yes but as a scientist we've only

860

00:38:55,940 --> 00:38:53,250

detected one possible Oort cloud object

861

00:38:57,530 --> 00:38:55,950

and that's the objects Edna all the rest

862

00:39:00,530 --> 00:38:57,540

of our understandings of the Oort cloud

863

00:39:02,090 --> 00:39:00,540

come from mathematical modeling so we

864

00:39:05,359 --> 00:39:02,100

have good reason to believe it's there

865

00:39:07,070 --> 00:39:05,369

it explains comets very well but I don't

866

00:39:09,140 --> 00:39:07,080

feel comfortable saying that we've

867

00:39:11,030 --> 00:39:09,150

definitely gone all the way past all the

868

00:39:13,520 --> 00:39:11,040

rogue pieces of ice that might be

869

00:39:15,590 --> 00:39:13,530

orbiting our solar system but in terms

870

00:39:18,650 --> 00:39:15,600

of how we measure our solar system based

871

00:39:21,890 --> 00:39:18,660

on the Sun pushing out on the material

872

00:39:23,870 --> 00:39:21,900

around our solar system Voyager has left

873

00:39:26,300 --> 00:39:23,880

the building before at launch left the

874

00:39:28,580 --> 00:39:26,310

atmosphere left the planets left the

875

00:39:30,380 --> 00:39:28,590

solar system I want to ask you about an

876

00:39:32,000 --> 00:39:30,390

object that I am fascinated by and

877

00:39:33,770 --> 00:39:32,010

that's the North Pole of Neptune the

878

00:39:35,750 --> 00:39:33,780

square object that keeps turning up

879

00:39:38,540 --> 00:39:35,760

there and not turning up there can it

880

00:39:39,920 --> 00:39:38,550

possibly be an alien artifact now well

881

00:39:42,050 --> 00:39:39,930

that was an easy question thank you very

882

00:39:44,120 --> 00:39:42,060

much dr. Pamela gay thank you so much

883

00:39:45,650 --> 00:39:44,130

for having me on

884

00:39:46,940 --> 00:39:45,660

but we are having a night about

885

00:39:48,140 --> 00:39:46,950

astronomy tonight is there anything

886

00:39:49,970 --> 00:39:48,150

you're particularly looking interested

887

00:39:53,060 --> 00:39:49,980

to hearing about tonight about astronomy

888

00:39:54,590 --> 00:39:53,070

I just like to know that's everything

889

00:39:57,590 --> 00:39:54,600

Pamela learned the university was wrong

890

00:39:59,510 --> 00:39:57,600

oh yeah because she says her stuff now

891

00:40:01,190 --> 00:39:59,520

and well is that because it was a while

892

00:40:02,870 --> 00:40:01,200

ago and everything's changed I thought

893

00:40:05,690 --> 00:40:02,880

it'd you settled I think it's like 20

894

00:40:07,940 --> 00:40:05,700

years ago wow so you a fan of the

895

00:40:10,790 --> 00:40:07,950

podcast I am and what are you here for

896

00:40:13,100 --> 00:40:10,800

tonight astronomy wise um I just come to

897

00:40:15,470 --> 00:40:13,110

hopefully meet Pamela and he what she's

898

00:40:17,990 --> 00:40:15,480

good to say and you're a fan of her

899

00:40:20,000 --> 00:40:18,000

blogging and her podcast um oh

900

00:40:22,340 --> 00:40:20,010

definitely a podcast are only found

901
00:40:25,850 --> 00:40:22,350
skeptics skepticism through where I'm

902
00:40:27,800 --> 00:40:25,860
astronomy car so yeah so did they say

903
00:40:29,630 --> 00:40:27,810
something or do they lead you the path

904
00:40:31,100 --> 00:40:29,640
of thinking critical thinking how did

905
00:40:32,510 --> 00:40:31,110
you get into it through the podcast I

906
00:40:34,010 --> 00:40:32,520
think they might have had Steve on the

907
00:40:35,120 --> 00:40:34,020
show or maybe just talked about it I

908
00:40:37,370 --> 00:40:35,130
can't quite remember but I remember

909
00:40:39,920 --> 00:40:37,380
definitely then going and finding

910
00:40:41,810 --> 00:40:39,930
skeptics guide and yeah finding

911
00:40:43,400 --> 00:40:41,820
everything else from there and actually

912
00:40:45,530 --> 00:40:43,410
what are your favorite skeptical

913
00:40:47,000 --> 00:40:45,540

podcasts or is it everyone has a

914

00:40:48,980 --> 00:40:47,010

slightly different list I've only just

915

00:40:51,740 --> 00:40:48,990

recently discovered a skeptic to the k

916

00:40:54,380 --> 00:40:51,750

out of Liverpool funny guys yep yep um

917

00:40:56,930 --> 00:40:54,390

incredulity very funny as well same guys

918

00:40:59,240 --> 00:40:56,940

yeah um and the questions on that are so

919

00:41:01,130 --> 00:40:59,250

tough sometimes aren't they yes well I

920

00:41:03,590 --> 00:41:01,140

think they might get a little bit of a

921

00:41:04,880 --> 00:41:03,600

heads up on that because we've got a ran

922

00:41:06,620 --> 00:41:04,890

down there on the floor with the big

923

00:41:08,330 --> 00:41:06,630

skeptics t-shirt giveaway have you been

924

00:41:10,670 --> 00:41:08,340

getting a teacher for yourself I have a

925

00:41:13,130 --> 00:41:10,680

few now what colors have you gone with

926

00:41:13,910 --> 00:41:13,140

light blue black and I'm hoping to get

927

00:41:16,160 --> 00:41:13,920

one of the blue ones over there

928

00:41:18,080 --> 00:41:16,170

Christmas gifts the family is it all for

929

00:41:19,400 --> 00:41:18,090

me oh you're not dressed unless you're

930

00:41:22,160 --> 00:41:19,410

wearing a skeptical t-shirt I've always

931

00:41:24,620 --> 00:41:22,170

said that Sheriff true Reggie and she

932

00:41:26,000 --> 00:41:24,630

got just got to X for once most of this

933

00:41:28,520 --> 00:41:26,010

stuff has come from your attic what have

934

00:41:30,500 --> 00:41:28,530

you got in your attic I'd rather not

935

00:41:32,090 --> 00:41:30,510

talk about it police my police might do

936

00:41:34,340 --> 00:41:32,100

something about anything if I say too

937

00:41:35,540 --> 00:41:34,350

much you're the cat weasel of skeptical

938

00:41:38,420 --> 00:41:35,550

clothing

939

00:41:41,360 --> 00:41:38,430

actually I think it's uh what much what

940

00:41:42,980 --> 00:41:41,370

a cat weasel is but I've got I'm sorry

941

00:41:45,380 --> 00:41:42,990

we're gonna be a very dodgy wrestler

942

00:41:46,790 --> 00:41:45,390

that's correct right yes because I was

943

00:41:48,110 --> 00:41:46,800

thinking a cat weasel would actually be

944

00:41:51,080 --> 00:41:48,120

good thing because i actually have rats

945

00:41:53,180 --> 00:41:51,090

they're roaming around between the two

946

00:41:56,480 --> 00:41:53,190

monsters only these t-shirts retinoid

947

00:41:58,160 --> 00:41:56,490

nope Oh rat looped and nope they've

948

00:41:59,720 --> 00:41:58,170

major they've been well isolated from

949

00:42:02,360 --> 00:41:59,730

the right okay we've been talking to a

950

00:42:03,920 --> 00:42:02,370

rounder ectomy basement now sir lineup

951
00:42:06,500 --> 00:42:03,930
you want some t-shirts do thank you may

952
00:42:08,900 --> 00:42:06,510
nod I'm going to go for my second round

953
00:42:11,300 --> 00:42:08,910
of Tam t-shirt what are you using them

954
00:42:13,340 --> 00:42:11,310
as tea towels or something no no no I'm

955
00:42:15,110 --> 00:42:13,350
just a sham the fact that I wasn't a tab

956
00:42:16,600 --> 00:42:15,120
well that's right did you can wear it

957
00:42:29,349 --> 00:42:16,610
and go y'all was there it was fantastic

958
00:42:34,339 --> 00:42:32,329
hey fellow skeptics I'm Trent's the

959
00:42:36,680 --> 00:42:34,349
co-host of a podcast called seeds of

960
00:42:45,660 --> 00:42:36,690
doubt and creative a new project called

961
00:42:51,040 --> 00:42:48,309
Dropbox is dedicated to providing new

962
00:42:52,930 --> 00:42:51,050
music for your radio show or podcast and

963
00:42:55,359 --> 00:42:52,940

to help support your cause through the

964

00:42:57,760 --> 00:42:55,369

sound waves the song you're listening to

965

00:43:00,730 --> 00:42:57,770

is called keep looking up and can be

966

00:43:09,100 --> 00:43:00,740

heard on the podcast oddments by college

967

00:43:16,390 --> 00:43:11,870

they need some new music check me out

968

00:43:31,239 --> 00:43:16,400

facebook.com slash Dropbox that's gr 0 p

969

00:43:39,670 --> 00:43:35,359

you will stars 4 sep tember 2013 with

970

00:43:42,890 --> 00:43:39,680

our stralla jure doctor do earth ekav

971

00:43:45,410 --> 00:43:42,900

areas flying around the world backwards

972

00:43:47,660 --> 00:43:45,420

through the International Date Line does

973

00:43:49,039 --> 00:43:47,670

wonders for your astrology if you play

974

00:43:52,370 --> 00:43:49,049

your cards right you can have two

975

00:43:55,249 --> 00:43:52,380

birthdays or none at all if this applies

976

00:43:59,150 --> 00:43:55,259

to you read this twice or ignore it

977

00:44:01,759 --> 00:43:59,160

altogether Gemini my dentist always

978

00:44:04,489 --> 00:44:01,769

works by the stars in fact he works

979

00:44:07,339 --> 00:44:04,499

outside at night this can make for some

980

00:44:10,700 --> 00:44:07,349

interesting and unexpected fillings and

981

00:44:15,349 --> 00:44:10,710

extractions you're lucky teeth are the

982

00:44:18,279 --> 00:44:15,359

ones still in your head cancer are you a

983

00:44:21,380 --> 00:44:18,289

one-trick pony maybe you're just an ass

984

00:44:24,019 --> 00:44:21,390

in any case your stars tell me you just

985

00:44:30,049 --> 00:44:24,029

watch everything up for a more positive

986

00:44:32,120 --> 00:44:30,059

reading send 4999 to my p.o box Leo be

987

00:44:34,519 --> 00:44:32,130

careful walking outside today as it'll

988

00:44:38,390 --> 00:44:34,529

be raining cats and dogs if you step in

989

00:44:41,870 --> 00:44:38,400

a poodle oh hang on sorry I was reading

990

00:44:46,579 --> 00:44:41,880

my joke book from 1965 still makes about

991

00:44:49,099 --> 00:44:46,589

as much sense as astrology Virgo never

992

00:44:51,440 --> 00:44:49,109

air your dirty laundry in public unless

993

00:44:54,049 --> 00:44:51,450

you want people to giggle at your undies

994

00:44:56,209 --> 00:44:54,059

cover your bases in your backside and

995

00:45:00,079 --> 00:44:56,219

for that you'll need your undies which

996

00:45:03,170 --> 00:45:00,089

should be clean by now libera drinking

997

00:45:06,579 --> 00:45:03,180

to forget never works I remember the

998

00:45:10,569 --> 00:45:06,589

time I drank to forget about the the

999

00:45:13,949 --> 00:45:10,579

well whatever it was it didn't work also

1000

00:45:17,559 --> 00:45:13,959

drinking to forget never works

1001

00:45:19,420 --> 00:45:17,569

Scorpio if other people can hear the

1002

00:45:21,579 --> 00:45:19,430

ringing in your head you're in more

1003

00:45:24,489 --> 00:45:21,589

trouble than you thought keep your

1004

00:45:28,749 --> 00:45:24,499

friends close and your enemies very very

1005

00:45:30,609 --> 00:45:28,759

far away Arthur UKISS this week you'll

1006

00:45:33,969 --> 00:45:30,619

see eye-to-eye with people of your own

1007

00:45:38,559 --> 00:45:33,979

height i wonderful here ear to ear at

1008

00:45:41,640 --> 00:45:38,569

the same time Sagittarius Mars is in

1009

00:45:45,269 --> 00:45:41,650

your seventh house you have seven houses

1010

00:45:48,400 --> 00:45:45,279

you have a house big enough for a planet

1011

00:45:50,859 --> 00:45:48,410

Capricorn take a deep breath but make

1012

00:45:52,630 --> 00:45:50,869

sure it's your own people born in your

1013

00:45:55,289 --> 00:45:52,640

star sign are known for their heavy

1014

00:45:58,420 --> 00:45:55,299

breathing especially after running

1015

00:46:00,219 --> 00:45:58,430

Aquarius the stars are unclear for you

1016

00:46:03,069 --> 00:46:00,229

this month going to the interference

1017

00:46:05,410 --> 00:46:03,079

from Reiki energy please use your aura

1018

00:46:10,630 --> 00:46:05,420

or something else to contact your

1019

00:46:13,870 --> 00:46:10,640

spirits gin is a nice spirit Pisces if a

1020

00:46:16,479 --> 00:46:13,880

tabby cat crosses your path bend over

1021

00:46:17,949 --> 00:46:16,489

and give it a little bit it might not be

1022

00:46:21,609 --> 00:46:17,959

your lucky day but the cat will

1023

00:46:23,829 --> 00:46:21,619

appreciate it those stars come to you

1024

00:46:25,559 --> 00:46:23,839

courtesy of the skeptic magazine the

1025

00:46:31,109 --> 00:46:25,569

journal from Australian skeptics

1026

00:46:33,779 --> 00:46:31,119

subscribe online at wwc optics com au

1027

00:46:43,760 --> 00:46:33,789

physical and digital subscriptions

1028

00:46:43,770 --> 00:46:51,450

in a world where the truth is a matter

1029

00:46:51,460 --> 00:46:59,800

your messages are a scene for beyond

1030

00:47:05,940 --> 00:47:03,160

and reason is sidelined for magical

1031

00:47:05,950 --> 00:47:11,510

only three men stand between the truth

1032

00:47:16,980 --> 00:47:15,270

what date is it 78 several thing this is

1033

00:47:18,599 --> 00:47:16,990

impressive it's these are system present

1034

00:47:21,329 --> 00:47:18,609

they're not their photographs of Chinese

1035

00:47:23,370 --> 00:47:21,339

anthem it's not we are not well received

1036

00:47:24,990 --> 00:47:23,380

is a good guard we're fully don't

1037

00:47:26,880 --> 00:47:25,000

discuss cryptozoology on the show very

1038

00:47:29,339 --> 00:47:26,890

often because we don't know anything

1039

00:47:30,960 --> 00:47:29,349

about how the truth the price gets lower

1040

00:47:32,609 --> 00:47:30,970

and lower and lower and then he hits the

1041

00:47:36,930 --> 00:47:32,619

ceiling it's just even for the room

1042

00:47:38,730 --> 00:47:36,940

below for skeptic to the K for the Most

1043

00:47:51,559 --> 00:47:38,740

High skeptics society find us on iTunes

1044

00:47:56,160 --> 00:47:54,210

thank you for listening to the skeptic

1045

00:47:58,799 --> 00:47:56,170

zone and thank you to all those people

1046

00:48:01,380 --> 00:47:58,809

who chip in less than a dollar a week or

1047

00:48:04,499 --> 00:48:01,390

a bit more if you want at skeptic zone

1048

00:48:06,569 --> 00:48:04,509

TV it certainly helps keep the show

1049

00:48:10,259 --> 00:48:06,579

going in fact without those donations

1050

00:48:12,660 --> 00:48:10,269

the show just wouldn't go on at all very

1051

00:48:14,880 --> 00:48:12,670

much appreciated don't forget to book

1052

00:48:17,490 --> 00:48:14,890

your tickets for the National skeptics

1053

00:48:20,519 --> 00:48:17,500

convention national skeptics convention

1054

00:48:23,460 --> 00:48:20,529

org and I'll see you there in November

1055

00:48:27,509 --> 00:48:23,470

and you can keep up with the skeptic

1056

00:48:32,190 --> 00:48:27,519

zone in my tweets Twitter's whatever at

1057

00:48:34,589 --> 00:48:32,200

at skeptic zone but for this week this

1058

00:48:40,920 --> 00:48:34,599

is Richard Saunders signing off from

1059

00:48:45,109 --> 00:48:40,930

Sydney Australia you've been listening

1060

00:48:49,799 --> 00:48:45,119

to the skeptic zone visit our website at