

**SKEPTIC
ZONE**



THINKING CAPS
MUST BE WORN
IN THIS AREA

The
Podcast
from
Australia
for
Science
and
Reason

www.skepticzone.tv

1
00:00:26,830 --> 00:00:23,330
hello and welcome to the skeptic zone

2
00:00:29,590 --> 00:00:26,840
show number 42 for the 7th of August

3
00:00:32,510 --> 00:00:29,600
2009 Richard Saunders here with you

4
00:00:35,960 --> 00:00:32,520
getting over the dreaded skeptic flu

5
00:00:38,120 --> 00:00:35,970
once again on today's show first up is

6
00:00:40,729 --> 00:00:38,130
an interview with mythbuster and skeptic

7
00:00:43,760 --> 00:00:40,739
Adam Savage then we have an interview

8
00:00:46,160 --> 00:00:43,770
with Professor Leone Rennie from Western

9
00:00:49,640 --> 00:00:46,170
Australia and we hear her take on

10
00:00:51,670 --> 00:00:49,650
science communication and education but

11
00:00:54,829 --> 00:00:51,680
before we start a special announcement

12
00:00:57,470 --> 00:00:54,839
the Australian skeptics via our patron

13
00:01:00,380 --> 00:00:57,480

dick smith yesterday released an open

14

00:01:02,090 --> 00:01:00,390

letter in the Australian newspaper you

15

00:01:06,590 --> 00:01:02,100

can see this letter by clicking the link

16

00:01:09,200 --> 00:01:06,600

at WW SKEPTIC ZONE TV this letter aimed

17

00:01:11,450 --> 00:01:09,210

at Parents of Australia outlines our

18

00:01:14,480 --> 00:01:11,460

concerns with the antics of the

19

00:01:16,160 --> 00:01:14,490

Australian Vaccination Network a group

20

00:01:18,680 --> 00:01:16,170

well known to listeners of the skeptic

21

00:01:22,010 --> 00:01:18,690

zone we'll keep you updated as this

22

00:01:24,800 --> 00:01:22,020

story develops but for now sit back have

23

00:01:27,590 --> 00:01:24,810

a nice glass of champagne and enjoy this

24

00:01:42,539 --> 00:01:27,600

interview as Iran's Sir Gieve talks with

25

00:01:46,960 --> 00:01:44,620

Adam Savage she's a modular

26

00:01:49,660 --> 00:01:46,970

special-effects expert and co-host of

27

00:01:51,279 --> 00:01:49,670

the Mythbusters television show Adam

28

00:01:53,260 --> 00:01:51,289

attended the amazing meeting seven in

29

00:01:54,910 --> 00:01:53,270

Las Vegas where I caught up with him to

30

00:02:01,660 --> 00:01:54,920

talk about his career being a skeptic

31

00:02:04,120 --> 00:02:01,670

and a lot more Adam welcome to the

32

00:02:05,649 --> 00:02:04,130

skeptic sound thank you can you tell us

33

00:02:07,600 --> 00:02:05,659

a little bit about what you have

34

00:02:13,030 --> 00:02:07,610

presented here at that time I'm giving a

35

00:02:15,300 --> 00:02:13,040

talk on failure basically in short you

36

00:02:17,259 --> 00:02:15,310

hear a lot of people who enjoy

37

00:02:20,410 --> 00:02:17,269

reasonable amount of success in a life

38

00:02:22,900 --> 00:02:20,420

talk about how important factor failing

39

00:02:27,070 --> 00:02:22,910

was in that success that they stumbled

40

00:02:29,020 --> 00:02:27,080

and along their way but most interviews

41

00:02:31,690 --> 00:02:29,030

with people who are successful look like

42

00:02:33,729 --> 00:02:31,700

their lives are a linear path just

43

00:02:36,430 --> 00:02:33,739

straight up towards the success that

44

00:02:37,780 --> 00:02:36,440

currently enjoy and I wanted to I was

45

00:02:39,940 --> 00:02:37,790

thinking about it i thought i've never

46

00:02:41,770 --> 00:02:39,950

heard someone tell really unvarnished

47

00:02:44,289 --> 00:02:41,780

stories about screwing something up from

48

00:02:46,840 --> 00:02:44,299

start to finish and so I came up with a

49

00:02:49,479 --> 00:02:46,850

couple of tales from my past of episodes

50

00:02:52,599 --> 00:02:49,489

where I completely screwed something up

51
00:02:59,860 --> 00:02:52,609
and I mean hurt people that I loved lost

52
00:03:01,270 --> 00:02:59,870
friends lost money and I also upon

53
00:03:02,650 --> 00:03:01,280
thinking about it realized that that is

54
00:03:05,080 --> 00:03:02,660
actually what makes a good skeptic

55
00:03:07,660 --> 00:03:05,090
somebody who has stumbled and recover

56
00:03:09,490 --> 00:03:07,670
who has had their mind changed or who

57
00:03:11,650 --> 00:03:09,500
realizes that they're fallible I mean

58
00:03:13,120 --> 00:03:11,660
dogmatism is nothing if not someone who

59
00:03:15,490 --> 00:03:13,130
believes that their opinion can't be

60
00:03:18,099 --> 00:03:15,500
shifted and skeptic is someone who

61
00:03:19,629 --> 00:03:18,109
realizes that it can when you gave that

62
00:03:22,270 --> 00:03:19,639
talk you to find yourself as a skeptic

63
00:03:26,910 --> 00:03:22,280

and I'm just wondering whether that

64

00:03:29,020 --> 00:03:26,920

really is your definition of yourself or

65

00:03:30,460 --> 00:03:29,030

do you even have a definition of

66

00:03:32,199 --> 00:03:30,470

yourself what do you find yourself in

67

00:03:36,250 --> 00:03:32,209

many different ways that's a good

68

00:03:37,660 --> 00:03:36,260

question i started doing Mythbusters

69

00:03:39,220 --> 00:03:37,670

because somebody offered me a job in

70

00:03:41,979 --> 00:03:39,230

television and it turned out to be a

71

00:03:44,410 --> 00:03:41,989

great job it turned out to be a job that

72

00:03:45,880 --> 00:03:44,420

i was uniquely suited for one that I

73

00:03:47,350 --> 00:03:45,890

loved and one that I have a sense of

74

00:03:48,670 --> 00:03:47,360

ownership over that I would have never

75

00:03:51,640 --> 00:03:48,680

foreseen when I started

76

00:03:53,800 --> 00:03:51,650

doing it and in the course of doing

77

00:03:55,270 --> 00:03:53,810

Mythbusters I we didn't set out to make

78

00:03:58,929 --> 00:03:55,280

a show that was about critical thinking

79

00:04:01,270 --> 00:03:58,939

or skepticism it just happened that way

80

00:04:05,220 --> 00:04:01,280

so no you're right that I don't define

81

00:04:09,309 --> 00:04:05,230

myself as a skeptic but I I do recognize

82

00:04:11,110 --> 00:04:09,319

all of the aspects of a true skeptic in

83

00:04:12,550 --> 00:04:11,120

my in my personality and in the work

84

00:04:15,999 --> 00:04:12,560

that I do and I think the movement

85

00:04:18,640 --> 00:04:16,009

itself is needs as much help as it can

86

00:04:20,680 --> 00:04:18,650

get absolutely people should be should

87

00:04:22,870 --> 00:04:20,690

be aware about critical thinking and

88

00:04:24,700 --> 00:04:22,880

being skeptical towards fantastic claims

89

00:04:27,999 --> 00:04:24,710

and you know I take that mission

90

00:04:30,010 --> 00:04:28,009

seriously and obviously that we you've

91

00:04:31,360 --> 00:04:30,020

been told many times in the past and

92

00:04:32,950 --> 00:04:31,370

you're obviously aware of it that the

93

00:04:35,320 --> 00:04:32,960

show is highly skeptical it shows how

94

00:04:37,260 --> 00:04:35,330

science works and critical thinking but

95

00:04:41,290 --> 00:04:37,270

as far as I'm aware there's never been

96

00:04:44,170 --> 00:04:41,300

any real discussion of that on the show

97

00:04:45,700 --> 00:04:44,180

it's it just happens is that correct oh

98

00:04:47,379 --> 00:04:45,710

yeah well I think that's actually quite

99

00:04:50,080 --> 00:04:47,389

scientific I mean we're not telling you

100

00:04:51,700 --> 00:04:50,090

that see I don't think you when you

101
00:04:53,680 --> 00:04:51,710
start to look at if you want to figure

102
00:04:54,969 --> 00:04:53,690
something out the method by figuring it

103
00:04:57,279 --> 00:04:54,979
out turns out to be the scientific

104
00:04:59,200 --> 00:04:57,289
method is the scientific method is just

105
00:05:02,830 --> 00:04:59,210
a name for a natural way that humans

106
00:05:04,839 --> 00:05:02,840
learn which is to build each of your

107
00:05:06,850 --> 00:05:04,849
conclusions upon data you've gathered in

108
00:05:08,850 --> 00:05:06,860
previous tests and and move forward

109
00:05:13,510 --> 00:05:08,860
towards illuminating what you don't know

110
00:05:14,860 --> 00:05:13,520
and you know Michael Shermer gave a talk

111
00:05:16,920 --> 00:05:14,870
this morning about the fact that you

112
00:05:19,659 --> 00:05:16,930
know every one of a particular political

113
00:05:21,129 --> 00:05:19,669

bent believes that their politics are

114

00:05:25,420 --> 00:05:21,139

the truth and that everyone else is

115

00:05:28,960 --> 00:05:25,430

politicized yes but I do believe that

116

00:05:31,120 --> 00:05:28,970

when it comes to science it's not a

117

00:05:33,969 --> 00:05:31,130

political stance to be scientific about

118

00:05:36,640 --> 00:05:33,979

something it's not a political stance to

119

00:05:38,290 --> 00:05:36,650

be skeptical so no I don't think it

120

00:05:40,149 --> 00:05:38,300

requires talking about any more than it

121

00:05:42,490 --> 00:05:40,159

requires us to talk about being atheists

122

00:05:44,640 --> 00:05:42,500

on that show I was talking I think I was

123

00:05:46,689 --> 00:05:44,650

thinking more about formalizing the

124

00:05:49,210 --> 00:05:46,699

notion of critical thinking and

125

00:05:51,490 --> 00:05:49,220

explaining about controls and maybe I'll

126

00:05:54,100 --> 00:05:51,500

ask her a more specific question have

127

00:05:57,380 --> 00:05:54,110

you thought about doing perhaps a show

128

00:05:59,450 --> 00:05:57,390

or videos accompanying videos that

129

00:06:01,190 --> 00:05:59,460

would actually discuss the scientific

130

00:06:02,780 --> 00:06:01,200

method be more educational perhaps even

131

00:06:05,690 --> 00:06:02,790

be suited to specific curricula

132

00:06:07,310 --> 00:06:05,700

interesting actually I often say that if

133

00:06:08,960 --> 00:06:07,320

we had set out to make a show that was

134

00:06:13,520 --> 00:06:08,970

really educational we would have failed

135

00:06:15,440 --> 00:06:13,530

miserably the fact is we understand that

136

00:06:18,080 --> 00:06:15,450

we tell a story we understand that story

137

00:06:20,210 --> 00:06:18,090

has elements to it about illuminating

138

00:06:22,610 --> 00:06:20,220

concepts to people but the show is

139

00:06:25,820 --> 00:06:22,620

really driven by the Jamie's and my

140

00:06:27,200 --> 00:06:25,830

curiosity and we take that measured

141

00:06:32,330 --> 00:06:27,210

really seriously all the other stuff

142

00:06:34,610 --> 00:06:32,340

tends to be I do believe there's a great

143

00:06:36,170 --> 00:06:34,620

curriculum in Mythbusters it's not

144

00:06:39,170 --> 00:06:36,180

something we have the time or the

145

00:06:41,930 --> 00:06:39,180

ability to do while we're filming 20

146

00:06:44,590 --> 00:06:41,940

some-odd shows per year 45 weeks a year

147

00:06:47,660 --> 00:06:44,600

10 hours a day five days a week and

148

00:06:51,080 --> 00:06:47,670

there are there are some there are some

149

00:06:52,370 --> 00:06:51,090

good books out there there's thousands

150

00:06:54,590 --> 00:06:52,380

of science teachers all over the world

151
00:06:56,390 --> 00:06:54,600
talking every Thursday morning after our

152
00:06:59,870 --> 00:06:56,400
show airs with their students about the

153
00:07:01,040 --> 00:06:59,880
stuff that we're doing but we have we

154
00:07:02,360 --> 00:07:01,050
just don't have the ability to build

155
00:07:04,010 --> 00:07:02,370
that curriculum right now now you

156
00:07:08,000 --> 00:07:04,020
mentioned the number of shows and how

157
00:07:10,610 --> 00:07:08,010
much hard work it is by last count I

158
00:07:13,910 --> 00:07:10,620
think you've done 125 shows so actually

159
00:07:15,800 --> 00:07:13,920
yeah we're currently filming I think 131

160
00:07:19,400 --> 00:07:15,810
but and that doesn't take into account

161
00:07:20,540 --> 00:07:19,410
the 25 30 some odd hours of specials

162
00:07:24,160 --> 00:07:20,550
that we've done so we've done i think

163
00:07:27,710 --> 00:07:24,170

close to 100 and close to a solid week

164

00:07:30,110 --> 00:07:27,720

168 hours a solid week 24 hours a day

165

00:07:31,760 --> 00:07:30,120

seven days of Mythbusters that's

166

00:07:33,890 --> 00:07:31,770

absolutely amazing and how do you keep

167

00:07:35,570 --> 00:07:33,900

fresh after I mean it's been seven years

168

00:07:38,150 --> 00:07:35,580

or seven eight years and and all that

169

00:07:39,560 --> 00:07:38,160

many shows how do you keep fresh how do

170

00:07:41,000 --> 00:07:39,570

you keep excited about it because he

171

00:07:42,890 --> 00:07:41,010

already it's quite obvious see the shows

172

00:07:44,450 --> 00:07:42,900

that you are excited yeah well like I

173

00:07:47,000 --> 00:07:44,460

said the sense of ownership is just

174

00:07:49,190 --> 00:07:47,010

increases every year Jamie and I started

175

00:07:50,600 --> 00:07:49,200

out as hired talent on a show that we

176

00:07:53,990 --> 00:07:50,610

all sort of figure out how to make at

177

00:07:56,300 --> 00:07:54,000

the same time and we are now you know

178

00:07:59,750 --> 00:07:56,310

effectively exactly the producers of

179

00:08:01,730 --> 00:07:59,760

this show we have a huge hand in content

180

00:08:06,020 --> 00:08:01,740

in the content direction and it's

181

00:08:09,290 --> 00:08:06,030

explication and the the core team of

182

00:08:11,029 --> 00:08:09,300

Jamie I Jamie me

183

00:08:12,469 --> 00:08:11,039

our director producer Alice tallow and

184

00:08:17,270 --> 00:08:12,479

our executive booster no Australia Dan

185

00:08:19,309 --> 00:08:17,280

tapster the four of us cares so deeply

186

00:08:22,159 --> 00:08:19,319

about this material and have so much fun

187

00:08:24,499 --> 00:08:22,169

with it i mean we argue constantly the

188

00:08:25,999 --> 00:08:24,509

right idea always wins out because it's

189

00:08:29,089 --> 00:08:26,009

really apparent to everyone once it

190

00:08:31,249 --> 00:08:29,099

shows up in the room and there's still

191

00:08:33,050 --> 00:08:31,259

plenty of material I mean we're we've

192

00:08:35,389 --> 00:08:33,060

got you know on our master list

193

00:08:37,940 --> 00:08:35,399

something like 250 stories that we can

194

00:08:39,769 --> 00:08:37,950

still do eternity's that major stories

195

00:08:43,190 --> 00:08:39,779

because you know that would be probably

196

00:08:45,519 --> 00:08:43,200

another 125 hours of Mythbusters okay my

197

00:08:49,910 --> 00:08:45,529

kids are very happy right now here is

198

00:08:52,310 --> 00:08:49,920

now you know you know those hundred and

199

00:08:53,540 --> 00:08:52,320

sixty eight hours of shows that what

200

00:08:57,199 --> 00:08:53,550

would you say was the most memorable

201

00:09:00,380 --> 00:08:57,209

adventure that you've had it's it's it's

202

00:09:02,630 --> 00:09:00,390

nearly impossible to say I mean because

203

00:09:06,350 --> 00:09:02,640

we've done so many I mean eight hundred

204

00:09:07,579 --> 00:09:06,360

some-odd different experiments and we're

205

00:09:11,000 --> 00:09:07,589

doing something different literally

206

00:09:12,980 --> 00:09:11,010

every five or six days the most recent

207

00:09:15,590 --> 00:09:12,990

really amazing thing was I got to fly in

208

00:09:17,360 --> 00:09:15,600

an f-18 Hornet with the Blue Angels I

209

00:09:19,610 --> 00:09:17,370

got to break the sound barrier seven or

210

00:09:23,150 --> 00:09:19,620

eight times I got to pull seven and a

211

00:09:25,160 --> 00:09:23,160

half G's which made me pass out and

212

00:09:30,620 --> 00:09:25,170

throw up and it was totally intense and

213

00:09:33,769 --> 00:09:30,630

completely amazing there are aspects of

214

00:09:35,660 --> 00:09:33,779

doing the show that vary depending on

215

00:09:37,519 --> 00:09:35,670

the episode there are episodes which I

216

00:09:39,319 --> 00:09:37,529

consider the science is the is is

217

00:09:40,610 --> 00:09:39,329

totally the best that we've ever been

218

00:09:41,900 --> 00:09:40,620

able to achieve things like bullets

219

00:09:44,389 --> 00:09:41,910

fired up or the penny from the Empire

220

00:09:46,730 --> 00:09:44,399

State Building or swimming in syrup

221

00:09:49,280 --> 00:09:46,740

there are episodes where I feel like the

222

00:09:51,170 --> 00:09:49,290

the the narrative itself is really

223

00:09:54,230 --> 00:09:51,180

thrilling and those are episodes like

224

00:09:56,090 --> 00:09:54,240

the Confederate rocket or Alcatraz

225

00:09:57,050 --> 00:09:56,100

escape and then their episodes which

226

00:09:58,880 --> 00:09:57,060

I've just considered the best

227

00:10:00,800 --> 00:09:58,890

description of how much fun the process

228

00:10:02,600 --> 00:10:00,810

is and that's led balloon that's my

229

00:10:04,880 --> 00:10:02,610

all-time favorite episode there's

230

00:10:09,319 --> 00:10:04,890

building a floating 14 foot diameter

231

00:10:12,860 --> 00:10:09,329

balloon out of 14 kilos and bled totally

232

00:10:15,019 --> 00:10:12,870

strong it was an amazing sale not you

233

00:10:19,369 --> 00:10:15,029

personally subject yourself to all kinds

234

00:10:23,779 --> 00:10:19,379

of experiments you almost drown and you

235

00:10:25,849 --> 00:10:23,789

I sit in a chair and and have drops of

236

00:10:27,829 --> 00:10:25,859

water dripping on your forehead I was

237

00:10:30,589 --> 00:10:27,839

just wondering whether you know of those

238

00:10:32,719 --> 00:10:30,599

experiments and experiences wherever you

239

00:10:36,079 --> 00:10:32,729

you've ever been really really scared I

240

00:10:37,819 --> 00:10:36,089

have been I have been I actually didn't

241

00:10:39,859 --> 00:10:37,829

nearly drown in the underwater car

242

00:10:41,179 --> 00:10:39,869

episode I was quite confident under the

243

00:10:45,619 --> 00:10:41,189

water I can hold my breath for almost

244

00:10:48,019 --> 00:10:45,629

two minutes the standing on the deck of

245

00:10:49,549 --> 00:10:48,029

the mythtanic which was a 28 ton steel

246

00:10:51,259 --> 00:10:49,559

boat waiting for it to sink and not

247

00:10:53,210 --> 00:10:51,269

knowing if it would suck me down when it

248

00:10:56,089 --> 00:10:53,220

went down was probably one of the

249

00:10:57,710 --> 00:10:56,099

scariest moments on the show that was

250

00:10:59,419 --> 00:10:57,720

one where we really didn't know what was

251
00:11:01,159 --> 00:10:59,429
going to happen we had safety divers we

252
00:11:03,309 --> 00:11:01,169
had paramedics and everything but we

253
00:11:06,309 --> 00:11:03,319
really didn't know and that was spooky

254
00:11:08,329 --> 00:11:06,319
for the most part at this point I

255
00:11:11,089 --> 00:11:08,339
volunteered for everything that I do I

256
00:11:13,519 --> 00:11:11,099
want to do it I've wanted to try it I

257
00:11:14,869 --> 00:11:13,529
wanted to sit in a car while it sank in

258
00:11:17,899 --> 00:11:14,879
the water wanted to know what that was

259
00:11:19,639 --> 00:11:17,909
like it was awesome I want it you know I

260
00:11:22,069 --> 00:11:19,649
I want to be my own action hero and the

261
00:11:24,889 --> 00:11:22,079
show lets me try that out on that I have

262
00:11:28,909 --> 00:11:24,899
to ask did grant actually volunteered to

263
00:11:30,619 --> 00:11:28,919

smell your shoes were your feet yeah was

264

00:11:32,539 --> 00:11:30,629

he forced to do you know I can't speak

265

00:11:36,919 --> 00:11:32,549

for the other guy I he might have been

266

00:11:38,479 --> 00:11:36,929

first okay now you've obviously have to

267

00:11:40,009 --> 00:11:38,489

be very inventive in the way you you

268

00:11:44,090 --> 00:11:40,019

perform those experiments you have to

269

00:11:46,249 --> 00:11:44,100

build all kinds of rigs and invent a lot

270

00:11:47,629 --> 00:11:46,259

of stuff but interested to know whether

271

00:11:50,119 --> 00:11:47,639

you've ever invented something that is

272

00:11:53,509 --> 00:11:50,129

actually a real invention as in

273

00:11:56,359 --> 00:11:53,519

patentable well I'm sure it's possible I

274

00:11:59,210 --> 00:11:56,369

know that we've done things in ways that

275

00:12:02,419 --> 00:11:59,220

I have never seen before when I built

276

00:12:03,679 --> 00:12:02,429

the the differential wind tunnel for the

277

00:12:06,079 --> 00:12:03,689

penny from the Empire State Building

278

00:12:07,699 --> 00:12:06,089

will kill you myth I had never seen a

279

00:12:09,169 --> 00:12:07,709

demonstration of a wind tone that had

280

00:12:11,149 --> 00:12:09,179

one speed at the bottom in a different

281

00:12:13,039 --> 00:12:11,159

speed at the top on the theory that the

282

00:12:15,019 --> 00:12:13,049

penny would have which has two different

283

00:12:17,419 --> 00:12:15,029

terminal velocities would tumble up and

284

00:12:20,509 --> 00:12:17,429

down with in that tube and it did and

285

00:12:22,069 --> 00:12:20,519

that was really thrilling to see that

286

00:12:23,809 --> 00:12:22,079

demonstration that was actually an early

287

00:12:27,229 --> 00:12:23,819

turning point for me in learning what my

288

00:12:29,119 --> 00:12:27,239

job was on the show was building a

289

00:12:31,420 --> 00:12:29,129

demonstration I thought was that elegant

290

00:12:33,639 --> 00:12:31,430

and lovely and without any

291

00:12:35,760 --> 00:12:33,649

without any guidebook or marker to work

292

00:12:39,910 --> 00:12:35,770

off of it gave me a lot of confidence

293

00:12:42,670 --> 00:12:39,920

okay your moon landing hoax episode is

294

00:12:45,760 --> 00:12:42,680

one of my personal favorites they're for

295

00:12:48,910 --> 00:12:45,770

obvious reasons do you plan to tackle

296

00:12:50,199 --> 00:12:48,920

any other conspiracy theories absolutely

297

00:12:52,170 --> 00:12:50,209

there on our list is that we have a

298

00:12:55,240 --> 00:12:52,180

whole nother hour of moon landing

299

00:12:57,040 --> 00:12:55,250

conspiracy theories the Kennedy

300

00:12:59,769 --> 00:12:57,050

assassination is one that shows up from

301
00:13:02,740 --> 00:12:59,779
time to time although the material is so

302
00:13:05,920 --> 00:13:02,750
grim the discovery which is a family

303
00:13:07,660 --> 00:13:05,930
network you know has a problem if we are

304
00:13:10,300 --> 00:13:07,670
going to start showing the Zapruder film

305
00:13:14,829 --> 00:13:10,310
on prime time on advertising supported

306
00:13:17,019 --> 00:13:14,839
cable absolutely for the most part you

307
00:13:18,940 --> 00:13:17,029
know people ask about testing the World

308
00:13:23,230 --> 00:13:18,950
Trade Center as a conspiracy theory and

309
00:13:26,019 --> 00:13:23,240
the problem we have with that is we know

310
00:13:28,030 --> 00:13:26,029
that we're not going to change anybody's

311
00:13:31,510 --> 00:13:28,040
mind unless we went full size and that's

312
00:13:34,269 --> 00:13:31,520
just not feasible yes so we stay away

313
00:13:38,050 --> 00:13:34,279

from things where we recognize the test

314

00:13:39,699 --> 00:13:38,060

test is going to not demonstrate it's

315

00:13:41,470 --> 00:13:39,709

very hard to scale building materials

316

00:13:43,600 --> 00:13:41,480

it's very hard to scale materials and

317

00:13:45,370 --> 00:13:43,610

their behavioral characteristics and

318

00:13:47,260 --> 00:13:45,380

that would make trying to come up with a

319

00:13:49,600 --> 00:13:47,270

definitive answer on that test a losing

320

00:13:53,050 --> 00:13:49,610

proposition very likely and being

321

00:13:58,390 --> 00:13:53,060

explosion the prone to explosions you'd

322

00:14:00,490 --> 00:13:58,400

be blamed for exactly faking it is now

323

00:14:02,920 --> 00:14:00,500

in the past I remember had you an

324

00:14:05,230 --> 00:14:02,930

interview somewhere mentioning that you

325

00:14:08,050 --> 00:14:05,240

would like to bust the myth that

326

00:14:09,430 --> 00:14:08,060

evolution is not true right I'm I was

327

00:14:10,810 --> 00:14:09,440

just really glad you phrased it that way

328

00:14:13,210 --> 00:14:10,820

yeah I know because you phrased it in

329

00:14:14,860 --> 00:14:13,220

here actually then I do remember that

330

00:14:16,660 --> 00:14:14,870

actually but maybe it was on the

331

00:14:18,160 --> 00:14:16,670

skeptics guide to the universe yeah it's

332

00:14:21,430 --> 00:14:18,170

a nice guy it's been corrected on my

333

00:14:23,500 --> 00:14:21,440

Wikipedia page goodness um but i'm just

334

00:14:26,350 --> 00:14:23,510

wondering whether you've made any steps

335

00:14:28,530 --> 00:14:26,360

in that direction and do you have any

336

00:14:30,940 --> 00:14:28,540

thoughts about how it might be done no I

337

00:14:33,420 --> 00:14:30,950

unfortunately I think there's we're in

338

00:14:36,610 --> 00:14:33,430

this we're in this zone where we're

339

00:14:40,800 --> 00:14:36,620

demonstrating evolution demonstrating

340

00:14:43,470 --> 00:14:40,810

natural selection is just very likely to

341

00:14:48,930 --> 00:14:43,480

exhaustively boring for the farm

342

00:14:52,110 --> 00:14:48,940

out of our particular show and to be

343

00:14:53,759 --> 00:14:52,120

quite honest it's not going no

344

00:14:56,040 --> 00:14:53,769

demonstration we did of that is actually

345

00:14:57,900 --> 00:14:56,050

going to satisfy young earth herbs who

346

00:14:59,699 --> 00:14:57,910

was actually who I was talking about

347

00:15:01,410 --> 00:14:59,709

when i was first saying that i was

348

00:15:02,639 --> 00:15:01,420

thinking oh you proved natural selection

349

00:15:04,350 --> 00:15:02,649

and get rid of the younger thurs but no

350

00:15:05,910 --> 00:15:04,360

actually younger thurs who believe the

351

00:15:07,470 --> 00:15:05,920

world is 6,000 years old actually do you

352

00:15:10,860 --> 00:15:07,480

believe in a form of super high-speed

353

00:15:12,900 --> 00:15:10,870

evolution that Noah somehow had one dog

354

00:15:15,060 --> 00:15:12,910

that grew in the last six thousand years

355

00:15:18,269 --> 00:15:15,070

to you know 27,000 different breeds or

356

00:15:19,530 --> 00:15:18,279

something like that so I think we're

357

00:15:21,389 --> 00:15:19,540

gonna have to leave that one for a

358

00:15:23,250 --> 00:15:21,399

different format of the show yeah I

359

00:15:25,800 --> 00:15:23,260

think Richard Lensky of your head of

360

00:15:27,930 --> 00:15:25,810

vilensky experiment with a école I know

361

00:15:29,460 --> 00:15:27,940

he's actually no no I haven't but it's

362

00:15:31,230 --> 00:15:29,470

taken 20 years i'm not sure you have

363

00:15:33,660 --> 00:15:31,240

that long what's that it's taken about

364

00:15:35,790 --> 00:15:33,670

20 years i was meticulously collecting

365

00:15:37,650 --> 00:15:35,800

material and sampling and freezing and

366

00:15:39,720 --> 00:15:37,660

his date is beautiful it's absolutely

367

00:15:41,519 --> 00:15:39,730

amazing because actually evolution in a

368

00:15:43,500 --> 00:15:41,529

lab reproducible because you can go back

369

00:15:45,780 --> 00:15:43,510

to any generation he wants yes and it

370

00:15:47,879 --> 00:15:45,790

it's astonishing yeah the work is

371

00:15:51,540 --> 00:15:47,889

incredible I Valley we're not sure we

372

00:15:53,610 --> 00:15:51,550

would make very good television there if

373

00:15:56,670 --> 00:15:53,620

you ever done is Mythbusters show or

374

00:15:58,920 --> 00:15:56,680

something like it on stage um no people

375

00:16:00,870 --> 00:15:58,930

ask us to do that the problem is we are

376

00:16:03,660 --> 00:16:00,880

not a demonstration show we're an

377

00:16:05,280 --> 00:16:03,670

experimental Shelton is so the stuff

378

00:16:07,650 --> 00:16:05,290

that people would do on stage is a

379

00:16:09,750 --> 00:16:07,660

demonstration of a scientific concept

380

00:16:13,280 --> 00:16:09,760

and that totally doesn't interest us at

381

00:16:15,300 --> 00:16:13,290

all we don't we understand that we may

382

00:16:17,519 --> 00:16:15,310

like we did been slipping on a banana

383

00:16:18,750 --> 00:16:17,529

peel recently and if you're going to

384

00:16:20,100 --> 00:16:18,760

investigate slipping on a banana peel

385

00:16:21,569 --> 00:16:20,110

you have to look at the difference

386

00:16:24,210 --> 00:16:21,579

between static and dynamic friction

387

00:16:25,740 --> 00:16:24,220

there are two different forces and both

388

00:16:28,949 --> 00:16:25,750

come into play on slipping on a banana

389

00:16:33,059 --> 00:16:28,959

peel so when I looked at when I started

390

00:16:34,860 --> 00:16:33,069

talking to a structure an engineer about

391

00:16:36,240 --> 00:16:34,870

that I was like that's great okay so we

392

00:16:37,920 --> 00:16:36,250

should do some tests that demonstrate

393

00:16:40,019 --> 00:16:37,930

the difference between static and

394

00:16:43,829 --> 00:16:40,029

dynamic friction and coefficients of

395

00:16:45,600 --> 00:16:43,839

friction and overcoming them etc but

396

00:16:47,160 --> 00:16:45,610

again that's only to illustrate this to

397

00:16:49,110 --> 00:16:47,170

get to the end of this story and figure

398

00:16:50,699 --> 00:16:49,120

out about banana peels I don't really

399

00:16:51,780 --> 00:16:50,709

care about doing a demonstration on

400

00:16:53,160 --> 00:16:51,790

stage about the difference between

401
00:16:54,210 --> 00:16:53,170
static and dynamic friction I don't

402
00:16:55,319 --> 00:16:54,220
think anyone else would want to watch it

403
00:16:56,910 --> 00:16:55,329
either

404
00:16:58,439 --> 00:16:56,920
really I think when people say they love

405
00:16:59,879 --> 00:16:58,449
us to do something on stage they mean

406
00:17:02,429 --> 00:16:59,889
they want us to blow something up and

407
00:17:04,289 --> 00:17:02,439
that's never going to happen so for the

408
00:17:05,669 --> 00:17:04,299
most part people are kind of out of

409
00:17:08,309 --> 00:17:05,679
luck when it comes to us doing

410
00:17:09,600 --> 00:17:08,319
myth-busting on stage I did have an idea

411
00:17:11,309 --> 00:17:09,610
of recently we got asked to do an

412
00:17:13,110 --> 00:17:11,319
appearance for 25,000 people and I did

413
00:17:15,419 --> 00:17:13,120

want to I still might want to try this

414

00:17:17,309 --> 00:17:15,429

in some kind of venue just to get

415

00:17:19,409 --> 00:17:17,319

everyone in the stadium to jump up at

416

00:17:22,470 --> 00:17:19,419

the same moment and see how far away we

417

00:17:25,710 --> 00:17:22,480

can read the resulting bump on Richter

418

00:17:27,149 --> 00:17:25,720

scales very interesting well from we are

419

00:17:29,279 --> 00:17:27,159

from Australian skeptics and we have a

420

00:17:31,259 --> 00:17:29,289

big convention at the end of 2010 and

421

00:17:33,120 --> 00:17:31,269

your production companies obviously

422

00:17:34,710 --> 00:17:33,130

Australian in fact I go past their

423

00:17:38,310 --> 00:17:34,720

officers every morning on my way to work

424

00:17:39,899 --> 00:17:38,320

yeah so we were thinking of that would

425

00:17:41,940 --> 00:17:39,909

be great if you could come to Australia

426

00:17:43,529 --> 00:17:41,950

and do something on stage I would look

427

00:17:45,180 --> 00:17:43,539

well ok I can guarantee you we're not

428

00:17:46,740 --> 00:17:45,190

going to do something on stage but we've

429

00:17:48,870 --> 00:17:46,750

always wanted to get down under we've

430

00:17:51,539 --> 00:17:48,880

never even visited the home offices of

431

00:17:52,620 --> 00:17:51,549

our own production company and we know

432

00:17:54,930 --> 00:17:52,630

that there's at least a good two hours

433

00:17:56,490 --> 00:17:54,940

in Australian myths will definitely be

434

00:17:58,860 --> 00:17:56,500

in touch and hopefully we'll be able to

435

00:18:00,899 --> 00:17:58,870

do something about bringing us really

436

00:18:02,279 --> 00:18:00,909

yeah even not even just as guests yes

437

00:18:03,720 --> 00:18:02,289

you know you know whatever the video is

438

00:18:05,669 --> 00:18:03,730

I want to actually demonstrate how

439

00:18:07,620 --> 00:18:05,679

difficult it is to view the Coriolis

440

00:18:09,090 --> 00:18:07,630

force difference between above the

441

00:18:11,070 --> 00:18:09,100

equator and below the equator that

442

00:18:13,259 --> 00:18:11,080

Australia is perfectly situated at a

443

00:18:16,740 --> 00:18:13,269

about this roughly the same latitude of

444

00:18:20,970 --> 00:18:16,750

San Francisco yeah Sydney is I think 33

445

00:18:22,680 --> 00:18:20,980

so what that 33 sounds right buzz and we

446

00:18:25,620 --> 00:18:22,690

could absolutely demonstrate it to

447

00:18:27,389 --> 00:18:25,630

chorus choral Coriolis force is real and

448

00:18:28,350 --> 00:18:27,399

that it does make things spin in

449

00:18:30,389 --> 00:18:28,360

opposite directions from my

450

00:18:33,000 --> 00:18:30,399

understanding of the science however it

451
00:18:34,350 --> 00:18:33,010
takes three or four days after pouring

452
00:18:36,450 --> 00:18:34,360
the water into a vessel to let the

453
00:18:39,389 --> 00:18:36,460
vessel settle get rid of everything but

454
00:18:41,669 --> 00:18:39,399
the Brownian motion and then to cleanly

455
00:18:43,200 --> 00:18:41,679
pull a plug it's very complicated i'm

456
00:18:45,149 --> 00:18:43,210
really looking forward to doing it yeah

457
00:18:47,610 --> 00:18:45,159
i've actually done a demonstration video

458
00:18:49,830 --> 00:18:47,620
with a with a rubber ducky 10 for a

459
00:18:52,139 --> 00:18:49,840
science show in Israel for so that's

460
00:18:53,610 --> 00:18:52,149
great it was very easy to make it go

461
00:18:55,710 --> 00:18:53,620
whichever way I want to do yeah yeah

462
00:18:59,159 --> 00:18:55,720
yeah what story to do stir the water a

463
00:19:01,379 --> 00:18:59,169

little bit message yes now a personal

464

00:19:04,659 --> 00:19:01,389

question perhaps you've you've been

465

00:19:06,519 --> 00:19:04,669

known to use Twitter to avoid paying

466

00:19:09,430 --> 00:19:06,529

I didn't anything to avoid paying their

467

00:19:12,669 --> 00:19:09,440

\$15,000 phone bill I use it to achieve

468

00:19:14,950 --> 00:19:12,679

what is right now the phone companies

469

00:19:16,720 --> 00:19:14,960

are still getting away with charging one

470

00:19:18,580 --> 00:19:16,730

two three cents per kilobyte just

471

00:19:19,690 --> 00:19:18,590

because no one's looking and people

472

00:19:22,570 --> 00:19:19,700

don't understand the difference between

473

00:19:24,759 --> 00:19:22,580

a kilobyte and kill a bit and an email

474

00:19:27,340 --> 00:19:24,769

and how much data is actually there and

475

00:19:33,070 --> 00:19:27,350

while no one quite understands that the

476
00:19:35,349 --> 00:19:33,080
phone company is robbing people so I

477
00:19:37,029 --> 00:19:35,359
absolutely I pay attention to the social

478
00:19:39,909 --> 00:19:37,039
networking sites i read gizmodo bling

479
00:19:41,710 --> 00:19:39,919
bling fart reddit all those sites every

480
00:19:42,999 --> 00:19:41,720
day I know the stories that have come up

481
00:19:44,560 --> 00:19:43,009
in people getting ins orbited phone

482
00:19:45,970 --> 00:19:44,570
bills for crossing a national border

483
00:19:47,259 --> 00:19:45,980
while they were downloading a movie on

484
00:19:50,440 --> 00:19:47,269
their phone or something like that I

485
00:19:52,869 --> 00:19:50,450
knew it would be a good story and I

486
00:19:54,009 --> 00:19:52,879
tweeted with full knowledge that I would

487
00:19:57,399 --> 00:19:54,019
hopefully guilt to the phone company

488
00:19:59,440 --> 00:19:57,409

into granting a reprieve from the cost

489

00:20:00,999 --> 00:19:59,450

and they did almost immediately that's

490

00:20:03,279 --> 00:20:01,009

very nice of them would fame alone not

491

00:20:05,830 --> 00:20:03,289

have achieved that um you know what they

492

00:20:07,749 --> 00:20:05,840

claim not and i dunno i've gotten plenty

493

00:20:08,769 --> 00:20:07,759

of emails from people saying you know

494

00:20:10,090 --> 00:20:08,779

they're not famous they don't have a

495

00:20:11,710 --> 00:20:10,100

crapload of Twitter followers and they

496

00:20:13,720 --> 00:20:11,720

got the phone company to wipe the cost

497

00:20:15,220 --> 00:20:13,730

and honestly I've had big international

498

00:20:16,539 --> 00:20:15,230

bills before that I've called up the

499

00:20:18,789 --> 00:20:16,549

phone company and said can you back date

500

00:20:20,109 --> 00:20:18,799

me to an international plan and charged

501
00:20:22,269 --> 00:20:20,119
me what I would have been paying and

502
00:20:24,159 --> 00:20:22,279
they've always agreed to do that phone

503
00:20:27,340 --> 00:20:24,169
companies don't want to screw you but in

504
00:20:29,619 --> 00:20:27,350
this I mean their first offer was well

505
00:20:30,970 --> 00:20:29,629
we can reduce it from 15,000 to 4,000

506
00:20:34,119 --> 00:20:30,980
and I'm like you're insane i surf the

507
00:20:37,060 --> 00:20:34,129
web for two and a half hours there is no

508
00:20:39,519 --> 00:20:37,070
the Space Shuttle pays 100 of that to

509
00:20:40,810 --> 00:20:39,529
receive data from NASA you're on crack

510
00:20:43,299 --> 00:20:40,820
if you think I'm going to pay it and

511
00:20:45,460 --> 00:20:43,309
I'll use every bit of my fame to make

512
00:20:47,409 --> 00:20:45,470
sure that you guys are guilted into

513
00:20:49,090 --> 00:20:47,419

releasing me from this obligation to

514

00:20:50,680 --> 00:20:49,100

their credit they were incredibly nice

515

00:20:52,269 --> 00:20:50,690

they called me almost immediately and

516

00:20:53,409 --> 00:20:52,279

they've been super gracious the whole

517

00:20:55,599 --> 00:20:53,419

time I've been dealing with them that's

518

00:20:56,979 --> 00:20:55,609

what it does show something about the

519

00:20:59,139 --> 00:20:56,989

power of the social networks and we're

520

00:21:00,669 --> 00:20:59,149

also seeing inception movie absolutely

521

00:21:03,039 --> 00:21:00,679

that's how the message gets out and

522

00:21:04,690 --> 00:21:03,049

bringing in younger people into the pole

523

00:21:06,249 --> 00:21:04,700

because it's so easy to not to make the

524

00:21:10,749 --> 00:21:06,259

contact and to be become part of

525

00:21:12,700 --> 00:21:10,759

something so that's we are right now my

526

00:21:13,749 --> 00:21:12,710

children asked asked me to ask a couple

527

00:21:15,729 --> 00:21:13,759

of questions they're actually good

528

00:21:17,860 --> 00:21:15,739

question so I'm happy to to quote them

529

00:21:21,320 --> 00:21:17,870

what's the weirdest job you've ever had

530

00:21:22,790 --> 00:21:21,330

mmm I've had a lot of weird jobs I've

531

00:21:25,460 --> 00:21:22,800

seemed to have ended up spending in an

532

00:21:28,000 --> 00:21:25,470

ordinate of time in my early 20s working

533

00:21:31,430 --> 00:21:28,010

or working with and around drag queens

534

00:21:32,810 --> 00:21:31,440

no I was worked for a year as a

535

00:21:34,310 --> 00:21:32,820

projectionist at the eighth street

536

00:21:38,360 --> 00:21:34,320

playhouse in New York where the rocky

537

00:21:40,670 --> 00:21:38,370

horror picture show fad began I spent

538

00:21:42,230 --> 00:21:40,680

six months running lights for a drag

539

00:21:44,110 --> 00:21:42,240

queen version of whatever happened to

540

00:21:46,940 --> 00:21:44,120

Baby Jane in San Francisco which was a

541

00:21:49,130 --> 00:21:46,950

legendary production that was just sick

542

00:21:50,660 --> 00:21:49,140

and wrong and beautiful and amazing and

543

00:21:54,880 --> 00:21:50,670

I spent two and a half years working for

544

00:21:57,440 --> 00:21:54,890

a really renowned drag to that all drag

545

00:21:59,810 --> 00:21:57,450

turn camp comedy revue in San Francisco

546

00:22:01,280 --> 00:21:59,820

called beach blanket babylon and those

547

00:22:03,620 --> 00:22:01,290

three absolutely take the cake yeah

548

00:22:06,110 --> 00:22:03,630

sounds like they do and the last

549

00:22:09,560 --> 00:22:06,120

question is do you ever feel sorry for

550

00:22:11,120 --> 00:22:09,570

buster no actually Buster a terrific

551
00:22:12,980 --> 00:22:11,130
release for any aggression that I might

552
00:22:14,360 --> 00:22:12,990
have on any given day and throwing him

553
00:22:16,100 --> 00:22:14,370
face-first out of the back of the truck

554
00:22:18,530 --> 00:22:16,110
is just as satisfying as you imagine

555
00:22:19,820 --> 00:22:18,540
that it is okay thank you very much I

556
00:22:22,130 --> 00:22:19,830
don't think I'll being on the Skip exam

557
00:22:26,980 --> 00:22:22,140
thank you

558
00:22:35,170 --> 00:22:29,660
and now a message from the inside of

559
00:22:40,550 --> 00:22:37,880
thank you to everybody who came up to

560
00:22:42,170 --> 00:22:40,560
see me at the amazing meeting and thank

561
00:22:44,710 --> 00:22:42,180
you for those who bought my origami

562
00:22:51,290 --> 00:22:44,720
earrings I've set up a little store at

563
00:22:55,420 --> 00:22:51,300

skeptic zone ETS y dot com it all goes

564

00:23:08,450 --> 00:22:58,460

you're listening to the skeptic zone I'm

565

00:23:10,640 --> 00:23:08,460

Brian Dunning from SCAP thaicom I'm

566

00:23:12,620 --> 00:23:10,650

Carly Sturgis and I'm certain that we

567

00:23:14,510 --> 00:23:12,630

all wonder if science education is

568

00:23:16,940 --> 00:23:14,520

really something that only happens in

569

00:23:19,760 --> 00:23:16,950

schools our do children best learn

570

00:23:21,500 --> 00:23:19,770

science what is learning anyway and what

571

00:23:24,560 --> 00:23:21,510

will happen to Australia when we get a

572

00:23:26,990 --> 00:23:24,570

national curriculum today's interview is

573

00:23:28,310 --> 00:23:27,000

with Professor Leone Rennie she is

574

00:23:30,530 --> 00:23:28,320

professor of Science and Technology

575

00:23:32,750 --> 00:23:30,540

studies is the former dean of graduate

576

00:23:34,580 --> 00:23:32,760

studies and currently a research

577

00:23:36,830 --> 00:23:34,590

professor at the Department of research

578

00:23:40,100 --> 00:23:36,840

and development at the Curtin University

579

00:23:41,390 --> 00:23:40,110

of Technology in Western Australia she

580

00:23:42,950 --> 00:23:41,400

has written extensively on the

581

00:23:44,960 --> 00:23:42,960

community's contribution to science

582

00:23:47,630 --> 00:23:44,970

learning and the impact of the public

583

00:23:50,300 --> 00:23:47,640

understanding of science professor any

584

00:23:52,010 --> 00:23:50,310

also contributed as a co-author to the

585

00:23:55,820 --> 00:23:52,020

Australian school science education

586

00:23:57,710 --> 00:23:55,830

national action plan for 2008 to 2012

587

00:24:00,080 --> 00:23:57,720

with the aim of achieving agreement

588

00:24:01,730 --> 00:24:00,090

about priority actions to be pursued

589

00:24:04,190 --> 00:24:01,740

through national collaborative efforts

590

00:24:05,630 --> 00:24:04,200

professor Annie's work on the learning

591

00:24:08,390 --> 00:24:05,640

of science in formal and informal

592

00:24:10,460 --> 00:24:08,400

contexts has greatly informed science

593

00:24:12,860 --> 00:24:10,470

communication which is why are we

594

00:24:22,960 --> 00:24:12,870

starting my interview by asking what is

595

00:24:27,530 --> 00:24:25,670

I'm here at Curtin University with

596

00:24:31,430 --> 00:24:27,540

Professor Leone ready and it's lovely to

597

00:24:33,440 --> 00:24:31,440

meet you Leone hello Carly ok what is

598

00:24:36,080 --> 00:24:33,450

science communication I am talking to

599

00:24:37,670 --> 00:24:36,090

someone who is a major force for science

600

00:24:40,430 --> 00:24:37,680

communication in Australia what on earth

601
00:24:43,610 --> 00:24:40,440
does that mean I'm in science

602
00:24:47,000 --> 00:24:43,620
communication I science communication is

603
00:24:48,200 --> 00:24:47,010
generally held to be the communication

604
00:24:51,440 --> 00:24:48,210
of science to people who aren't

605
00:24:52,790 --> 00:24:51,450
scientists and usually adults because if

606
00:24:55,910 --> 00:24:52,800
they're in school then it's called

607
00:24:59,390 --> 00:24:55,920
science education probably so science

608
00:25:01,430 --> 00:24:59,400
communication is a I think we could

609
00:25:07,220 --> 00:25:01,440
probably say it's almost its own

610
00:25:09,220 --> 00:25:07,230
discipline now and it relates to the it

611
00:25:12,080 --> 00:25:09,230
really has to be a way of changing

612
00:25:15,110 --> 00:25:12,090
science as the scientists see it into a

613
00:25:19,130 --> 00:25:15,120

form that is understandable to the

614

00:25:22,340 --> 00:25:19,140

general public and in the past the

615

00:25:24,640 --> 00:25:22,350

unfortunate acronym of paths which stood

616

00:25:27,350 --> 00:25:24,650

for public understanding of science

617

00:25:32,270 --> 00:25:27,360

which came to the fore in probably the

618

00:25:35,270 --> 00:25:32,280

1980s was it has been slated as being a

619

00:25:36,830 --> 00:25:35,280

somewhat deficit approach in the idea

620

00:25:38,330 --> 00:25:36,840

that the public are pretty dumb they

621

00:25:40,580 --> 00:25:38,340

don't know much so if we give them lots

622

00:25:42,710 --> 00:25:40,590

of science stuff then they'll become and

623

00:25:44,600 --> 00:25:42,720

scientifically literate or whatever and

624

00:25:46,970 --> 00:25:44,610

we're communicating our science so this

625

00:25:51,080 --> 00:25:46,980

kind of top-down approach is pretty well

626

00:25:53,480 --> 00:25:51,090

at the window now I think I think it's

627

00:25:59,320 --> 00:25:53,490

fair to say that a significant change

628

00:26:02,270 --> 00:25:59,330

was facilitated by the BSC the bovine

629

00:26:04,790 --> 00:26:02,280

and civilized year that's the ones under

630

00:26:07,370 --> 00:26:04,800

whatever lungi from where the brain gets

631

00:26:11,480 --> 00:26:07,380

a dreadful disease exactly the mad cow

632

00:26:13,040 --> 00:26:11,490

disease was so badly handled in England

633

00:26:15,590 --> 00:26:13,050

in terms of communicating information

634

00:26:16,409 --> 00:26:15,600

out to the public that there is movement

635

00:26:18,239 --> 00:26:16,419

amongst

636

00:26:21,060 --> 00:26:18,249

Parliament and so on a lot of surveys

637

00:26:24,659 --> 00:26:21,070

and so on parliamentary statements in

638

00:26:27,419 --> 00:26:24,669

England and it does now recognition that

639

00:26:29,310 --> 00:26:27,429

it's not so much telling the public but

640

00:26:32,099 --> 00:26:29,320

it's actually engaging the public in

641

00:26:35,539 --> 00:26:32,109

more of a two-way dialogue between the

642

00:26:37,470 --> 00:26:35,549

scientists in between the public

643

00:26:39,269 --> 00:26:37,480

recognizing that the public is not a

644

00:26:41,129 --> 00:26:39,279

homogeneous body but he peaked very

645

00:26:43,019 --> 00:26:41,139

heterogeneous body with people with

646

00:26:46,200 --> 00:26:43,029

varying interests and understandings

647

00:26:48,930 --> 00:26:46,210

about science so that's rather long

648

00:26:50,489 --> 00:26:48,940

explanation I think and it's become a

649

00:26:52,590 --> 00:26:50,499

discipline as something that people

650

00:26:54,930 --> 00:26:52,600

study at university in fact there are

651
00:26:56,909 --> 00:26:54,940
very large number of science

652
00:26:59,279 --> 00:26:56,919
communication courses quite a few in

653
00:27:03,330 --> 00:26:59,289
Australia there's a new one to starting

654
00:27:05,399 --> 00:27:03,340
up at UWA I think there's probably than

655
00:27:09,299 --> 00:27:05,409
one the most prestigious one is the one

656
00:27:11,070 --> 00:27:09,309
at the anu and australian national

657
00:27:13,649 --> 00:27:11,080
university which comes out of the scent

658
00:27:15,960 --> 00:27:13,659
of public awareness of science and the

659
00:27:18,210 --> 00:27:15,970
director of that center so stock or maya

660
00:27:20,820 --> 00:27:18,220
would in my view be one of the leading

661
00:27:22,889 --> 00:27:20,830
science communicators in australia so

662
00:27:25,590 --> 00:27:22,899
does one have to have a degree in

663
00:27:27,629 --> 00:27:25,600

science communication to become a

664

00:27:30,930 --> 00:27:27,639

science communicator is it that sort of

665

00:27:33,419 --> 00:27:30,940

strict in terms of defining it no i

666

00:27:35,369 --> 00:27:33,429

would not think so i think that people

667

00:27:36,899 --> 00:27:35,379

who can communicate science don't

668

00:27:38,580 --> 00:27:36,909

necessarily call themself science

669

00:27:40,289 --> 00:27:38,590

communicators they just passionate about

670

00:27:42,960 --> 00:27:40,299

their subject and they can communicate

671

00:27:45,450 --> 00:27:42,970

it there are a lot of scientists who are

672

00:27:47,310 --> 00:27:45,460

not good science communicators because

673

00:27:49,049 --> 00:27:47,320

they somehow aren't able to make what it

674

00:27:51,690 --> 00:27:49,059

is they're saying intelligible and

675

00:27:54,690 --> 00:27:51,700

understanding to the to the public to

676

00:27:56,549 --> 00:27:54,700

whom they're speaking and Sue stockmeyer

677

00:27:58,649 --> 00:27:56,559

and her colleagues might go in

678

00:28:00,810 --> 00:27:58,659

particular who you may recall was the

679

00:28:02,399 --> 00:28:00,820

founder of Questacon Australia's

680

00:28:05,190 --> 00:28:02,409

national science and technology center

681

00:28:07,700 --> 00:28:05,200

do a lot of work both in Australia and

682

00:28:13,020 --> 00:28:10,770

promulgating ways for scientists to

683

00:28:15,510 --> 00:28:13,030

learn to communicate better and they see

684

00:28:17,670 --> 00:28:15,520

that they being assigned to see that is

685

00:28:18,990 --> 00:28:17,680

beneficial because if people I can't

686

00:28:20,460 --> 00:28:19,000

understand what they're doing they feel

687

00:28:23,130 --> 00:28:20,470

as if they're more likely to get public

688

00:28:24,720 --> 00:28:23,140

support for what it is they're doing so

689

00:28:26,730 --> 00:28:24,730

what are the keys to communicating

690

00:28:29,400 --> 00:28:26,740

science well what are some of the big

691

00:28:33,150 --> 00:28:29,410

lessons that these people learn I think

692

00:28:36,270 --> 00:28:33,160

it's recognition of where the audience

693

00:28:40,800 --> 00:28:36,280

to whom you wish to communicate where

694

00:28:42,840 --> 00:28:40,810

they're at and then preparing or

695

00:28:46,440 --> 00:28:42,850

changing what it is you've prepared in

696

00:28:48,690 --> 00:28:46,450

fact so that it's understandable by that

697

00:28:50,520 --> 00:28:48,700

particular audience and I thoroughness

698

00:28:52,410 --> 00:28:50,530

essence of any sort of communication

699

00:28:53,760 --> 00:28:52,420

science communication is just something

700

00:28:58,050 --> 00:28:53,770

to do with the content that you're

701
00:28:59,760 --> 00:28:58,060
trying to communicate so learning is one

702
00:29:01,460 --> 00:28:59,770
of the big factors within it how do we

703
00:29:05,370 --> 00:29:01,470
learn what sort of things do we know

704
00:29:06,930 --> 00:29:05,380
influence us learning well and among I

705
00:29:10,740 --> 00:29:06,940
imagine science communicators must want

706
00:29:13,080 --> 00:29:10,750
to tap into that yes learnings not easy

707
00:29:15,600 --> 00:29:13,090
to define no I've noticed that as an

708
00:29:17,250 --> 00:29:15,610
educator myself or ten years I get a

709
00:29:18,990 --> 00:29:17,260
different PD all the time about all this

710
00:29:21,180 --> 00:29:19,000
is going to be the way to do it and is

711
00:29:23,790 --> 00:29:21,190
like next week Abby oh come up with

712
00:29:26,520 --> 00:29:23,800
something new so what do we know well i

713
00:29:28,860 --> 00:29:26,530

think that the bottom line is that

714

00:29:30,780 --> 00:29:28,870

people learn differently yeah and i like

715

00:29:33,120 --> 00:29:30,790

looking at graphs some tables and

716

00:29:35,220 --> 00:29:33,130

mathematical representations of what it

717

00:29:39,120 --> 00:29:35,230

is on learning other people like two

718

00:29:43,050 --> 00:29:39,130

pictures of people like to just read

719

00:29:44,880 --> 00:29:43,060

words so that's and some people like to

720

00:29:46,950 --> 00:29:44,890

hear things some people like to see

721

00:29:49,370 --> 00:29:46,960

things so there's a whole way of taking

722

00:29:53,820 --> 00:29:49,380

in the information that one has to learn

723

00:29:56,070 --> 00:29:53,830

I think the three important things about

724

00:29:58,770 --> 00:29:56,080

learning personally is that it's a it's

725

00:30:02,070 --> 00:29:58,780

a unique personal process

726
00:30:03,690 --> 00:30:02,080
that is cumulative so what anything that

727
00:30:05,400 --> 00:30:03,700
you anything you learned that two new

728
00:30:07,890 --> 00:30:05,410
will usually build from what you already

729
00:30:10,080 --> 00:30:07,900
know and it could change it or just add

730
00:30:13,620 --> 00:30:10,090
to it and the third thing is that

731
00:30:18,420 --> 00:30:13,630
learning takes time and so one of the

732
00:30:20,400 --> 00:30:18,430
criticisms of people saying that science

733
00:30:22,350 --> 00:30:20,410
centers for example in museums or places

734
00:30:24,060 --> 00:30:22,360
of learning is that well you know how

735
00:30:26,790 --> 00:30:24,070
can I learn anything only there for an

736
00:30:29,520 --> 00:30:26,800
hour or two hours and the thing is that

737
00:30:33,900 --> 00:30:29,530
in that hour or two hour they could have

738
00:30:36,420 --> 00:30:33,910

a an enlightened moment where they see

739

00:30:38,910 --> 00:30:36,430

something that fits into other stuff

740

00:30:41,100 --> 00:30:38,920

that they knew before or somewhere down

741

00:30:43,500 --> 00:30:41,110

the track they can have an experience

742

00:30:45,540 --> 00:30:43,510

that harks back to what they did this

743

00:30:48,990 --> 00:30:45,550

and experience in a science center or a

744

00:30:51,780 --> 00:30:49,000

museum and say oh yeah now I get it sort

745

00:30:54,030 --> 00:30:51,790

of their their personal epiphany if you

746

00:30:56,070 --> 00:30:54,040

like that whatever it is that they've

747

00:30:58,140 --> 00:30:56,080

just learned this is in fact something

748

00:30:59,940 --> 00:30:58,150

that you've done research on and written

749

00:31:03,620 --> 00:30:59,950

about the importance of science museums

750

00:31:09,450 --> 00:31:03,630

and I have yes I've done a fair bit in

751
00:31:11,700 --> 00:31:09,460
that area and I think that science

752
00:31:15,150 --> 00:31:11,710
museums and and museums and a whole

753
00:31:17,220 --> 00:31:15,160
range of out of school experiences have

754
00:31:19,260 --> 00:31:17,230
got the potential to teach people a lot

755
00:31:21,510 --> 00:31:19,270
about science and in fact when you think

756
00:31:22,980 --> 00:31:21,520
that even for a schoolchild the

757
00:31:27,330 --> 00:31:22,990
percentage of time that they actually

758
00:31:29,970 --> 00:31:27,340
spend in school is much less than half

759
00:31:33,810 --> 00:31:29,980
of that lifetime even if you take out

760
00:31:35,160 --> 00:31:33,820
the sleeping hours and of all that time

761
00:31:36,600 --> 00:31:35,170
they spend in school only a small

762
00:31:38,760 --> 00:31:36,610
portion of its going to be devoted to

763
00:31:40,350 --> 00:31:38,770

science so a lot of science learning is

764

00:31:42,510 --> 00:31:40,360

going to be happening outside of school

765

00:31:44,910 --> 00:31:42,520

anyway even for school children and

766

00:31:46,200 --> 00:31:44,920

teachers need to be aware of what kids

767

00:31:48,420 --> 00:31:46,210

are coming in with what knowledge

768

00:31:51,780 --> 00:31:48,430

they've got which can be wrong and can

769

00:31:55,710 --> 00:31:51,790

be right can be your formed can be very

770

00:31:57,030 --> 00:31:55,720

resistant to change teachers have to

771

00:32:00,680 --> 00:31:57,040

work with that

772

00:32:03,090 --> 00:32:00,690

and help students to move into a more

773

00:32:05,460 --> 00:32:03,100

scientifically acceptable I am thinking

774

00:32:06,690 --> 00:32:05,470

I think if they want to progress in and

775

00:32:09,540 --> 00:32:06,700

learn the sort of science that

776

00:32:12,030 --> 00:32:09,550

scientists deal with there's a variety

777

00:32:14,100 --> 00:32:12,040

of other programs to we mums and science

778

00:32:17,010 --> 00:32:14,110

and scientists and schools as well i

779

00:32:19,620 --> 00:32:17,020

believe is because their science to the

780

00:32:21,360 --> 00:32:19,630

classroom yes scientists in schools an

781

00:32:23,760 --> 00:32:21,370

interesting program but you mentioned

782

00:32:25,770 --> 00:32:23,770

mums in science first I think the anu

783

00:32:27,150 --> 00:32:25,780

through see past the center public

784

00:32:28,980 --> 00:32:27,160

awareness of science had a very

785

00:32:31,440 --> 00:32:28,990

successful program last year which i

786

00:32:33,870 --> 00:32:31,450

think the main benefit was learning mums

787

00:32:35,220 --> 00:32:33,880

come and actually do stuff and giving

788

00:32:37,590 --> 00:32:35,230

them the confidence that they could

789

00:32:38,820 --> 00:32:37,600

actually know and understand and do this

790

00:32:40,770 --> 00:32:38,830

and so they could talk to their kids

791

00:32:43,620 --> 00:32:40,780

about the science they did at school so

792

00:32:45,990 --> 00:32:43,630

i think that the empower empowering

793

00:32:48,480 --> 00:32:46,000

aspect of the mums in science was just

794

00:32:49,770 --> 00:32:48,490

giving them the confidence and there's

795

00:32:52,440 --> 00:32:49,780

no reason why it can be danced in

796

00:32:55,140 --> 00:32:52,450

science too it's just that the hours the

797

00:32:56,790 --> 00:32:55,150

hours sort of suited the month it could

798

00:32:58,290 --> 00:32:56,800

come with their little really little

799

00:33:00,600 --> 00:32:58,300

kids and so on and then talk to them

800

00:33:03,090 --> 00:33:00,610

their children from school scientists in

801
00:33:04,710 --> 00:33:03,100
schools you know there's a lot of

802
00:33:06,540 --> 00:33:04,720
scientists in schools program around the

803
00:33:08,760 --> 00:33:06,550
world they're not all called that but

804
00:33:11,400 --> 00:33:08,770
the one in australia has been funded by

805
00:33:14,810 --> 00:33:11,410
the Department of Education Employment

806
00:33:18,780 --> 00:33:14,820
or workplace relations and is run by the

807
00:33:22,020 --> 00:33:18,790
CSIRO the education branch and at the

808
00:33:24,600 --> 00:33:22,030
moment they've got something like 1300

809
00:33:27,180 --> 00:33:24,610
partnerships working in schools across

810
00:33:30,690 --> 00:33:27,190
Australia involving something in the

811
00:33:32,370 --> 00:33:30,700
order of 850 schools some of them are

812
00:33:34,740 --> 00:33:32,380
primary some of them are secondary and

813
00:33:37,200 --> 00:33:34,750

the way that partnerships between

814

00:33:41,550 --> 00:33:37,210

scientists and teachers work varies

815

00:33:43,650 --> 00:33:41,560

enormously and really enormously some of

816

00:33:45,510 --> 00:33:43,660

the really successful ones have been

817

00:33:48,090 --> 00:33:45,520

where scientists have come in schools

818

00:33:51,840 --> 00:33:48,100

worked with the teacher to prepare a

819

00:33:53,340 --> 00:33:51,850

program and scientists could lead the

820

00:33:56,340 --> 00:33:53,350

program or the teacher can lead the

821

00:34:02,130 --> 00:33:56,350

program with a scientist backing up as

822

00:34:04,590 --> 00:34:02,140

it were and it's in those programs some

823

00:34:07,680 --> 00:34:04,600

of the outcomes are just very exciting

824

00:34:08,760 --> 00:34:07,690

the caskets so enthusiastic I was

825

00:34:11,250 --> 00:34:08,770

visiting a school

826

00:34:13,020 --> 00:34:11,260

in Perth last year in fact and the

827

00:34:15,930 --> 00:34:13,030

scientists had come into a year one

828

00:34:18,330 --> 00:34:15,940

class well he was a soil scientist and

829

00:34:20,580 --> 00:34:18,340

he'd taken the kids over into the senior

830

00:34:23,040 --> 00:34:20,590

school to the science labs and they were

831

00:34:24,750 --> 00:34:23,050

using microscopes and so the kids are a

832

00:34:26,700 --> 00:34:24,760

few parents helping all these little one

833

00:34:28,380 --> 00:34:26,710

kids were looking at onion skin under

834

00:34:31,909 --> 00:34:28,390

the microscope and then they got some

835

00:34:36,389 --> 00:34:31,919

euglena UK nurse little tiny single-cell

836

00:34:38,370 --> 00:34:36,399

green animals in ponds and I was just

837

00:34:40,770 --> 00:34:38,380

sitting there taking my field notes and

838

00:34:42,870 --> 00:34:40,780

all of a sudden a little boy jumped up

839

00:34:46,110 --> 00:34:42,880

and he ran around the room shouting I

840

00:34:48,149 --> 00:34:46,120

saw one swimming I said I'm sorry it was

841

00:34:49,889 --> 00:34:48,159

just so amazing that because these

842

00:34:52,590 --> 00:34:49,899

little you Glenn you can see them moving

843

00:34:54,800 --> 00:34:52,600

around under the microscope so I think

844

00:34:58,290 --> 00:34:54,810

you know whether this long-term learning

845

00:35:00,360 --> 00:34:58,300

is one thing but and I think the main

846

00:35:02,130 --> 00:35:00,370

thing is that the enthusiasm there are

847

00:35:04,170 --> 00:35:02,140

two things the enthusiasm the kids get

848

00:35:05,970 --> 00:35:04,180

out of it but also the enthusiasm the

849

00:35:07,710 --> 00:35:05,980

scientists to get out of it a lot of

850

00:35:11,580 --> 00:35:07,720

them have said well that's kind of

851
00:35:14,520 --> 00:35:11,590
renewed my passion you know and we've

852
00:35:17,390 --> 00:35:14,530
demonstrated my colleague Christine haut

853
00:35:20,520 --> 00:35:17,400
and I have been evaluating their program

854
00:35:22,530 --> 00:35:20,530
have demonstrated quite conclusively

855
00:35:24,450 --> 00:35:22,540
that there's are not an enormous boost

856
00:35:28,530 --> 00:35:24,460
in confidence in teaching science for

857
00:35:30,180 --> 00:35:28,540
primary teachers who are typically have

858
00:35:32,250 --> 00:35:30,190
not had much science in their own

859
00:35:35,730 --> 00:35:32,260
education and feel quite unconfident

860
00:35:38,190 --> 00:35:35,740
about teaching science at school so I

861
00:35:39,600 --> 00:35:38,200
think part of it is not just learning

862
00:35:42,720 --> 00:35:39,610
whatever it is that the scientists

863
00:35:45,660 --> 00:35:42,730

happens to be an expert in but having

864

00:35:47,880 --> 00:35:45,670

the confidence to realize that you don't

865

00:35:50,670 --> 00:35:47,890

have to know anything but if you can get

866

00:35:53,400 --> 00:35:50,680

the kids to ask their own questions and

867

00:35:55,740 --> 00:35:53,410

investigate them that the teachers can

868

00:35:57,930 --> 00:35:55,750

be learning along with the kids and the

869

00:36:00,360 --> 00:35:57,940

scientists there to provide that expert

870

00:36:02,400 --> 00:36:00,370

advice you'll be that kind of support if

871

00:36:04,470 --> 00:36:02,410

you like with the teachers so it's been

872

00:36:05,730 --> 00:36:04,480

a very successful program is still

873

00:36:08,400 --> 00:36:05,740

continuing on right

874

00:36:10,080 --> 00:36:08,410

still going on you're involved with the

875

00:36:12,150 --> 00:36:10,090

National Action Plan for Australian

876

00:36:13,590 --> 00:36:12,160

schools science education what's going

877

00:36:16,710 --> 00:36:13,600

to be happening to Australia in the

878

00:36:18,870 --> 00:36:16,720

future good point my colleague Dennis

879

00:36:21,530 --> 00:36:18,880

goodrem who was in at the University of

880

00:36:26,340 --> 00:36:21,540

Canberra and I prepared that report in

881

00:36:28,050 --> 00:36:26,350

2007 government what we were trying to

882

00:36:30,930 --> 00:36:28,060

look at future direction to science

883

00:36:33,180 --> 00:36:30,940

education in Australia Australia like

884

00:36:36,570 --> 00:36:33,190

most Western countries is suffering from

885

00:36:39,320 --> 00:36:36,580

an insufficient workforce in science

886

00:36:41,790 --> 00:36:39,330

engineering technology related careers

887

00:36:44,400 --> 00:36:41,800

there's particularly at the lower

888

00:36:46,920 --> 00:36:44,410

secondary level are high level of

889

00:36:49,830 --> 00:36:46,930

disengagement among students in science

890

00:36:53,609 --> 00:36:49,840

at school and why is that what's turning

891

00:36:55,770 --> 00:36:53,619

kids off well I don't think it would be

892

00:36:57,359 --> 00:36:55,780

much of a stretch to say that much of

893

00:36:59,160 --> 00:36:57,369

the science that they learn at that

894

00:37:01,890 --> 00:36:59,170

level is actually quite boring and

895

00:37:03,330 --> 00:37:01,900

irrelevant in their eyes and it doesn't

896

00:37:06,120 --> 00:37:03,340

seem to relate much to what they do

897

00:37:07,410 --> 00:37:06,130

outside of school now I have to

898

00:37:09,900 --> 00:37:07,420

categorize this and say this is not

899

00:37:12,390 --> 00:37:09,910

every classroom no but generally

900

00:37:15,270 --> 00:37:12,400

accepted across and it'll be a lot of

901
00:37:17,700 --> 00:37:15,280
reports in Europe the US about this is

902
00:37:20,490 --> 00:37:17,710
that it's in the science of the

903
00:37:22,980 --> 00:37:20,500
beginning school is seem to be based on

904
00:37:24,990 --> 00:37:22,990
the science disciplines the concepts

905
00:37:27,390 --> 00:37:25,000
which actually very difficult to apply

906
00:37:28,950 --> 00:37:27,400
and out of school situations and there

907
00:37:31,440 --> 00:37:28,960
are a number of reasons for that not the

908
00:37:32,810 --> 00:37:31,450
least of which that science outside of

909
00:37:34,609 --> 00:37:32,820
school is actually quite

910
00:37:37,320 --> 00:37:34,619
interdisciplinary or multidisciplinary

911
00:37:40,230 --> 00:37:37,330
there isn't just one explanation for

912
00:37:42,420 --> 00:37:40,240
things like global warming or salinity

913
00:37:44,190 --> 00:37:42,430

or whatever whereas the sites they learn

914

00:37:47,340 --> 00:37:44,200

at school tends to be physics or

915

00:37:49,859 --> 00:37:47,350

chemistry or biology and it's very hard

916

00:37:52,830 --> 00:37:49,869

to remove you just take Newton's second

917

00:37:54,390 --> 00:37:52,840

law ref echoes na it's very helpful for

918

00:37:56,130 --> 00:37:54,400

solving problems in your physics

919

00:37:58,890 --> 00:37:56,140

textbook but it's actually not terribly

920

00:38:01,650 --> 00:37:58,900

useful to figuring out what happens

921

00:38:04,440 --> 00:38:01,660

outside when you're driving a car and I

922

00:38:06,990 --> 00:38:04,450

always think of a year eight student I

923

00:38:09,120 --> 00:38:07,000

met many years ago when ice collecting

924

00:38:12,150 --> 00:38:09,130

some data at a school and

925

00:38:13,829 --> 00:38:12,160

he asked you know why don't we do more

926

00:38:15,089 --> 00:38:13,839

interesting science at school I said

927

00:38:16,559 --> 00:38:15,099

what do you want to do when you grow up

928

00:38:19,380 --> 00:38:16,569

and he said he wanted to be a racing car

929

00:38:21,150 --> 00:38:19,390

driver I said what's the science topic

930

00:38:23,579 --> 00:38:21,160

you doing at the moment you said forces

931

00:38:26,700 --> 00:38:23,589

an energy I think would sing i lecture

932

00:38:28,680 --> 00:38:26,710

can no connection between the two so

933

00:38:31,470 --> 00:38:28,690

there's got to be a way of linking what

934

00:38:33,240 --> 00:38:31,480

science out there in the real world with

935

00:38:35,609 --> 00:38:33,250

science that happens in school and so

936

00:38:37,349 --> 00:38:35,619

I'm a big advocate of more community

937

00:38:39,059 --> 00:38:37,359

involvement in science which is why I'm

938

00:38:41,880 --> 00:38:39,069

a supporter of the scientist in Schools

939

00:38:44,700 --> 00:38:41,890

program because it seems to be having

940

00:38:46,740 --> 00:38:44,710

those kinds of positive effects what do

941

00:38:49,259 --> 00:38:46,750

you think might happen to Australia's

942

00:38:51,900 --> 00:38:49,269

science education program we have the

943

00:38:59,160 --> 00:38:51,910

national curriculum yes doorstep for

944

00:39:02,670 --> 00:38:59,170

exam yesterday in which you mentioned

945

00:39:04,559 --> 00:39:02,680

earlier one off when we looked at things

946

00:39:06,299 --> 00:39:04,569

concerning students and the science

947

00:39:08,160 --> 00:39:06,309

curriculum things concerning teachers

948

00:39:10,620 --> 00:39:08,170

teacher education suppliant amount of

949

00:39:13,339 --> 00:39:10,630

teaching of teachers and we also looked

950

00:39:16,319 --> 00:39:13,349

at the systems of you know the

951
00:39:18,990 --> 00:39:16,329
jurisdictions the state systems the you

952
00:39:22,049 --> 00:39:19,000
know government religious independent

953
00:39:24,740 --> 00:39:22,059
school systems and the community as a

954
00:39:30,630 --> 00:39:24,750
whole and how they could better interact

955
00:39:33,359 --> 00:39:30,640
one of the things that we felt was not

956
00:39:35,150 --> 00:39:33,369
especially useful was the fact that

957
00:39:38,910 --> 00:39:35,160
every state and territory has its own

958
00:39:41,249 --> 00:39:38,920
education system and they have their own

959
00:39:43,109 --> 00:39:41,259
curriculum although there's a great deal

960
00:39:46,440 --> 00:39:43,119
of commonality if you look between them

961
00:39:48,749 --> 00:39:46,450
and it just didn't seem that everyone

962
00:39:51,680 --> 00:39:48,759
should be reinventing inventing their

963
00:39:53,789 --> 00:39:51,690

own we land and so on and so we had

964

00:39:55,890 --> 00:39:53,799

suggested that a more national approach

965

00:39:58,170 --> 00:39:55,900

to curriculum was appropriate and with

966

00:39:59,910 --> 00:39:58,180

Dennis and another colleague mark

967

00:40:01,920 --> 00:39:59,920

heckling and I had in an earlier report

968

00:40:03,299 --> 00:40:01,930

called the status of quality of teaching

969

00:40:05,759 --> 00:40:03,309

and learning science in Australian

970

00:40:06,910 --> 00:40:05,769

schools which was published in 2001 had

971

00:40:10,089 --> 00:40:06,920

said virtually

972

00:40:11,799 --> 00:40:10,099

thing and so now that we are having a

973

00:40:13,720 --> 00:40:11,809

national curriculum in a number of

974

00:40:19,089 --> 00:40:13,730

subjects and Sciences one of the first

975

00:40:20,410 --> 00:40:19,099

ones off the rank as it were the there

976
00:40:23,950 --> 00:40:20,420
was an extensive period of consultation

977
00:40:28,170 --> 00:40:23,960
and then writing began earlier this year

978
00:40:31,210 --> 00:40:28,180
and there will be my understanding is a

979
00:40:33,970 --> 00:40:31,220
round of communication with stakeholders

980
00:40:36,010 --> 00:40:33,980
during August of some preliminary

981
00:40:40,150 --> 00:40:36,020
documentation sort of scope and sequence

982
00:40:43,510 --> 00:40:40,160
kind of information whether or not it's

983
00:40:46,500 --> 00:40:43,520
accepted across all of the states will

984
00:40:48,730 --> 00:40:46,510
be a political decision not a decision

985
00:40:51,910 --> 00:40:48,740
related specifically to science

986
00:40:54,579 --> 00:40:51,920
education I think so the writing team

987
00:40:56,500 --> 00:40:54,589
and the Advisory Committee for not just

988
00:40:58,120 --> 00:40:56,510

sighs but for all of the subjects that

989

00:40:59,950 --> 00:40:58,130

are currently being prepared have

990

00:41:02,799 --> 00:40:59,960

representatives from each state and

991

00:41:04,510 --> 00:41:02,809

territory that way I guess there's a bit

992

00:41:06,069 --> 00:41:04,520

of ownership because people come from

993

00:41:07,539 --> 00:41:06,079

their own systems knowing what their own

994

00:41:09,430 --> 00:41:07,549

curriculum is like so it'll be

995

00:41:11,829 --> 00:41:09,440

interesting to see what the uptake is

996

00:41:14,859 --> 00:41:11,839

there will certainly be lots of public

997

00:41:16,180 --> 00:41:14,869

consultation the the August my

998

00:41:18,250 --> 00:41:16,190

understanding is that the August

999

00:41:21,130 --> 00:41:18,260

consultations will be generally with

1000

00:41:23,410 --> 00:41:21,140

steak or key stakeholders i'm looking at

1001
00:41:25,450 --> 00:41:23,420
preliminary documentation before there's

1002
00:41:31,859 --> 00:41:25,460
a further iteration and then it goes out

1003
00:41:36,880 --> 00:41:33,910
implementation would not be expected to

1004
00:41:39,259 --> 00:41:36,890
begin before 2011 interesting times that

1005
00:41:40,939 --> 00:41:39,269
we've got ahead of us indeed candid

1006
00:41:42,829 --> 00:41:40,949
so looking forward to more science

1007
00:41:45,199 --> 00:41:42,839
communication in the meantime keep on

1008
00:41:47,479 --> 00:41:45,209
pushing the message yes yeah I think so

1009
00:42:07,429 --> 00:41:47,489
I think so thank you very much professor

1010
00:42:09,139 --> 00:42:07,439
Liang no problem thanks Carly hi this is

1011
00:42:12,199 --> 00:42:09,149
grizzly from the Grizzlies growls

1012
00:42:15,199 --> 00:42:12,209
podcasts at Grizzlies growls calm and

1013
00:42:19,189 --> 00:42:15,209

you're listening to the skeptic so and

1014

00:42:26,269 --> 00:42:19,199

so my but hey don't take my word for it

1015

00:42:44,130 --> 00:42:26,279

oh come on that was funny skeptic don't

1016

00:42:48,840 --> 00:42:46,320

thank you for downloading this episode

1017

00:42:50,670 --> 00:42:48,850

of the skeptic zone and thanks to

1018

00:42:52,890 --> 00:42:50,680

everybody who wrote in offering their

1019

00:42:55,500 --> 00:42:52,900

help in transcribing some of our

1020

00:42:59,250 --> 00:42:55,510

interviews we have enough people for now

1021

00:43:00,930 --> 00:42:59,260

and the project is well underway on next

1022

00:43:04,170 --> 00:43:00,940

week's show will talk to musician and

1023

00:43:07,500 --> 00:43:04,180

podcaster George shrub report on our

1024

00:43:09,720 --> 00:43:07,510

trip to Perth and dr. rachy will be back

1025

00:43:12,420 --> 00:43:09,730

with dr. Rachel reports and of course

1026

00:43:15,000 --> 00:43:12,430

the think tank until then this is

1027

00:43:20,340 --> 00:43:15,010

Richard Saunders signing off from Sydney

1028

00:43:24,630 --> 00:43:20,350

Australia you've been listening to the

1029

00:43:27,900 --> 00:43:24,640

skeptic zone visit our website at wwc a

1030

00:43:31,300 --> 00:43:27,910

petting zoo TV for comments contacts and

1031

00:43:34,630 --> 00:43:31,310

extra video reports