

# The Skeptic Zone

Show 235 - 20 April 2013



AFO 2013

1  
00:00:05,210 --> 00:00:02,300  
now I'm walking down the stairs in the

2  
00:00:10,150 --> 00:00:05,220  
main building hearing all emotes used

3  
00:00:13,759 --> 00:00:10,160  
for fo 48 which they call the convict

4  
00:00:17,120 --> 00:00:13,769  
which is their word for convent it's an

5  
00:00:20,150 --> 00:00:17,130  
old convent huge building and I'm

6  
00:00:21,920 --> 00:00:20,160  
walking down one of the expansive

7  
00:00:24,529 --> 00:00:21,930  
corridors at the moment you can hear by

8  
00:00:28,460 --> 00:00:24,539  
the echo and they tell me that if you go

9  
00:00:31,580 --> 00:00:28,470  
to one end of this huge corridor you and

10  
00:00:33,049 --> 00:00:31,590  
at nighttime you can hear clearly people

11  
00:00:34,900 --> 00:00:33,059  
write down the other end well that's

12  
00:00:37,729 --> 00:00:34,910  
very interesting so what I think I'll do

13  
00:00:42,200 --> 00:00:37,739

is I'll just put my microphone down here

14

00:00:43,850 --> 00:00:42,210

on the floor and walk the speed nearly a

15

00:01:28,210 --> 00:00:43,860

hundred meters down to the other end of

16

00:01:47,870 --> 00:01:31,400

welcome to the skeptic zone the podcast

17

00:01:53,999 --> 00:01:50,580

hello and welcome to the skeptic zone

18

00:01:57,330 --> 00:01:54,009

episode number 235 on the twentieth of

19

00:02:01,499 --> 00:01:57,340

april 2013 Richard Saunders here with

20

00:02:05,459 --> 00:02:01,509

you all by myself in a beautiful park

21

00:02:10,280 --> 00:02:05,469

outside the city walls of all emotes in

22

00:02:14,039 --> 00:02:10,290

the Czech Republic a babbling brook

23

00:02:16,920 --> 00:02:14,049

birds singing beautifully laid out

24

00:02:20,160 --> 00:02:16,930

gardens in a grand city wall it's quite

25

00:02:22,940 --> 00:02:20,170

something I'll post a picture on my

26

00:02:25,440 --> 00:02:22,950

twitter stream shortly after doing this

27

00:02:29,580 --> 00:02:25,450

introduction so twitter followers at

28

00:02:33,690 --> 00:02:29,590

skeptic zone can can see where i am well

29

00:02:36,390 --> 00:02:33,700

I've had a wonderful time here at the

30

00:02:39,270 --> 00:02:36,400

academic film festival I was part of the

31

00:02:41,789 --> 00:02:39,280

international jury I did origami lessons

32

00:02:43,949 --> 00:02:41,799

and lectures and talks and I was

33

00:02:46,229 --> 00:02:43,959

introducing works by Brian Dunning and

34

00:02:48,390 --> 00:02:46,239

Richard Dawkins and doing a talk on

35

00:02:51,809 --> 00:02:48,400

water divining so it kept me very busy

36

00:02:55,589 --> 00:02:51,819

very busy or coming up on this week's

37

00:02:58,349 --> 00:02:55,599

show more about this this fantastic film

38

00:03:00,379 --> 00:02:58,359

festival here we have little clips from

39

00:03:03,870 --> 00:03:00,389

my introduction of the enemies of reason

40

00:03:06,569 --> 00:03:03,880

the announcement of the winner of the

41

00:03:10,110 --> 00:03:06,579

international science documentary

42

00:03:12,000 --> 00:03:10,120

competition chosen by myself and some

43

00:03:15,059 --> 00:03:12,010

other people on the international jury

44

00:03:17,580 --> 00:03:15,069

and we'll chat to some of the organizers

45

00:03:22,589 --> 00:03:17,590

to find out more about the festival

46

00:03:25,830 --> 00:03:22,599

known as fo a fo or fo also on this

47

00:03:27,780 --> 00:03:25,840

week's show a roundup report from QED

48

00:03:31,050 --> 00:03:27,790

which was last week in Manchester

49

00:03:35,430 --> 00:03:31,060

question explore discover and that was a

50

00:03:39,390 --> 00:03:35,440

wonderful time too I ended up at the

51  
00:03:41,309 --> 00:03:39,400  
last minute stepping in for my distant

52  
00:03:44,999 --> 00:03:41,319  
cousin Ben Goldacre who couldn't make it

53  
00:03:47,090 --> 00:03:45,009  
so I was very lucky to be given a spot

54  
00:03:49,910 --> 00:03:47,100  
on the main stage that was good

55  
00:03:52,040 --> 00:03:49,920  
fun not forgetting this week a week in

56  
00:03:57,860 --> 00:03:52,050  
science with poor Willis from the Royal

57  
00:04:02,270 --> 00:03:57,870  
Institution of Australia w WR I a u.s.

58  
00:04:04,010 --> 00:04:02,280  
org but a you and Maynard's rookie

59  
00:04:07,040 --> 00:04:04,020  
action may not interviews james owen

60  
00:04:10,400 --> 00:04:07,050  
whether all who's written a book the

61  
00:04:12,050 --> 00:04:10,410  
physics of wall street but for now i'm

62  
00:04:17,900 --> 00:04:12,060  
going to have a wander around these

63  
00:04:20,150 --> 00:04:17,910

beautiful gardens talk to a few birds up

64

00:04:22,820 --> 00:04:20,160

things like that lots of birds around

65

00:04:51,329 --> 00:04:22,830

here as you can hear and while I'm doing

66

00:04:57,040 --> 00:04:53,889

well we're outside the convent which is

67

00:04:59,980 --> 00:04:57,050

the the old convent here they use for fo

68

00:05:01,779 --> 00:04:59,990

48 for the the base and I've got one of

69

00:05:06,670 --> 00:05:01,789

the organizers with me hello who you

70

00:05:10,360 --> 00:05:06,680

hello on Jacob I'm programmer that's

71

00:05:13,360 --> 00:05:10,370

called dramatic in check so I'm one of

72

00:05:15,909 --> 00:05:13,370

the people who basically chooses movies

73

00:05:21,299 --> 00:05:15,919

and have to watch all the competition

74

00:05:24,269 --> 00:05:21,309

movies and then one of the team of 40

75

00:05:27,399 --> 00:05:24,279

won't fall for people who are preparing

76  
00:05:29,469 --> 00:05:27,409  
program blocks we call it blocks because

77  
00:05:34,269 --> 00:05:29,479  
there are always like four or five

78  
00:05:36,909 --> 00:05:34,279  
topics and these blocks are basically

79  
00:05:39,519 --> 00:05:36,919  
the main main building stone of the

80  
00:05:41,489 --> 00:05:39,529  
whole festival and all around that there

81  
00:05:46,329 --> 00:05:41,499  
is a there is a graphics and and

82  
00:05:48,839 --> 00:05:46,339  
propagation are built on these topics of

83  
00:05:51,759 --> 00:05:48,849  
prog rock so this year of course we had

84  
00:05:54,429 --> 00:05:51,769  
mathematics as one of the topics and

85  
00:05:56,230 --> 00:05:54,439  
pseudoscience and vaccination was at a

86  
00:06:01,149 --> 00:05:56,240  
block right that was it does was like

87  
00:06:05,290 --> 00:06:01,159  
mine the main box was mathematics and so

88  
00:06:08,739 --> 00:06:05,300

that's why we have those wallpapers and

89  
00:06:11,739 --> 00:06:08,749  
posters everywhere with Sigma and Omega

90  
00:06:14,529 --> 00:06:11,749  
and then all these math signs so yeah

91  
00:06:17,079 --> 00:06:14,539  
and there was a vaccination that was

92  
00:06:18,549 --> 00:06:17,089  
actually supposed to be the first time

93  
00:06:21,610 --> 00:06:18,559  
that was supposed to be a part of

94  
00:06:24,999 --> 00:06:21,620  
pseudoscience block then we say come on

95  
00:06:27,759 --> 00:06:25,009  
let's not let's not be so harsh and on

96  
00:06:30,249 --> 00:06:27,769  
the way I can't directs and people give

97  
00:06:32,589 --> 00:06:30,259  
him a chance that's it is serious

98  
00:06:34,899 --> 00:06:32,599  
science everyone knows that right now

99  
00:06:38,259 --> 00:06:34,909  
the festival itself that's been going

100  
00:06:40,719 --> 00:06:38,269  
here in the Czech Republic for 48 years

101  
00:06:43,629 --> 00:06:40,729  
is that right right that's right it's 48

102  
00:06:45,589 --> 00:06:43,639  
years I I think you told me yesterday

103  
00:06:47,939 --> 00:06:45,599  
that the same as you same

104  
00:06:51,689 --> 00:06:47,949  
we've both been going the same amount of

105  
00:06:54,360 --> 00:06:51,699  
years here and that's the same same time

106  
00:06:57,659 --> 00:06:54,370  
as horizon of BBC is going by the way

107  
00:07:00,719 --> 00:06:57,669  
that's right lover horizon yes that's

108  
00:07:04,170 --> 00:07:00,729  
really really funny coincidence but yeah

109  
00:07:06,779 --> 00:07:04,180  
it's 48 years but in this scale in this

110  
00:07:10,409 --> 00:07:06,789  
really big scale in it with a lot of

111  
00:07:15,629 --> 00:07:10,419  
international guests and and real let's

112  
00:07:18,570 --> 00:07:15,639  
say precise organization ization it goes

113  
00:07:20,159 --> 00:07:18,580

for seven years right so it's really

114

00:07:22,559 --> 00:07:20,169

picked up it's really changed and grown

115

00:07:26,129 --> 00:07:22,569

in the last seven years precisely we

116

00:07:29,580 --> 00:07:26,139

basically revamped all festival there

117

00:07:32,100 --> 00:07:29,590

are six seven years ago and it changed

118

00:07:35,580 --> 00:07:32,110

its face its contents just everything

119

00:07:38,550 --> 00:07:35,590

before it was let's be honest there was

120

00:07:41,700 --> 00:07:38,560

40 years of communist era and of course

121

00:07:44,339 --> 00:07:41,710

a festival of scientific a documentary

122

00:07:48,089 --> 00:07:44,349

during communist era had the political

123

00:07:50,939 --> 00:07:48,099

connection you can bet on that so well

124

00:07:53,820 --> 00:07:50,949

yeah but but it was it was even in that

125

00:07:57,870 --> 00:07:53,830

even in those bad times there was a

126

00:07:59,730 --> 00:07:57,880

certain quality so well it's I've had a

127

00:08:02,850 --> 00:07:59,740

wonderful time of course I've had the

128

00:08:04,290 --> 00:08:02,860

view all 19 of the movies in the world

129

00:08:07,140 --> 00:08:04,300

competition which was which was

130

00:08:09,570 --> 00:08:07,150

enormously interesting for me so many

131

00:08:11,790 --> 00:08:09,580

great science documentaries but I

132

00:08:13,589 --> 00:08:11,800

couldn't even see all the movies that

133

00:08:16,219 --> 00:08:13,599

were being shown here so many movies in

134

00:08:19,230 --> 00:08:16,229

so many check movies too mmm well and

135

00:08:22,469 --> 00:08:19,240

you would have to see how difficult was

136

00:08:25,709 --> 00:08:22,479

to choose those 19 movies we had a 200

137

00:08:31,350 --> 00:08:25,719

movies 100 right in World competition so

138

00:08:34,440 --> 00:08:31,360

that was a lot of work I it's just lucky

139

00:08:36,690 --> 00:08:34,450

thing that we are 66 programmers who are

140

00:08:39,420 --> 00:08:36,700

basically watching all the vault World

141

00:08:42,060 --> 00:08:39,430

Cup competition movies and and choosing

142

00:08:45,630 --> 00:08:42,070

the best it's not not that are in the

143

00:08:50,000 --> 00:08:45,640

end to you to agree on on 15 then you

144

00:08:54,150 --> 00:08:50,010

have do those painful painful selections

145

00:08:56,310 --> 00:08:54,160

which movies go sin and which not and

146

00:08:58,920 --> 00:08:56,320

it's really this year what was was was

147

00:09:01,170 --> 00:08:58,930

honestly absolutely the hardest ever

148

00:09:02,670 --> 00:09:01,180

well I mean for me and the other members

149

00:09:05,160 --> 00:09:02,680

of the world jury that was an

150

00:09:08,340 --> 00:09:05,170

interesting decision we were we all

151

00:09:11,090 --> 00:09:08,350

agreed really at the end but to watch

152

00:09:13,590 --> 00:09:11,100

all those movies was certainly a great

153

00:09:16,110 --> 00:09:13,600

experience for me and I want to take the

154

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

opportunity to thank fo very much for

155

00:09:20,100 --> 00:09:18,130

inviting me here I've had one of the

156

00:09:21,990 --> 00:09:20,110

best weeks of my life i think it's it's

157

00:09:24,240 --> 00:09:22,000

so much to see so much to do and so

158

00:09:27,480 --> 00:09:24,250

interesting well there's not much to

159

00:09:31,110 --> 00:09:27,490

think we thank you because it's a living

160

00:09:33,240 --> 00:09:31,120

we can do yeah that was the agreement in

161

00:09:36,540 --> 00:09:33,250

your / jury that that's that's that was

162

00:09:38,460 --> 00:09:36,550

also quite unique that's not usual at

163

00:09:41,670 --> 00:09:38,470

all they're usually spending whole

164

00:09:44,190 --> 00:09:41,680

nights over beer and and debating and

165

00:09:46,199 --> 00:09:44,200

arguing and having quarrels and you just

166

00:09:48,810 --> 00:09:46,209

basically change the grammar happiness

167

00:09:51,269 --> 00:09:48,820

and and by the way the student jury made

168

00:09:53,340 --> 00:09:51,279

me the same decision that's absolutely

169

00:09:56,490 --> 00:09:53,350

unique and have never happened actually

170

00:09:59,280 --> 00:09:56,500

before so yeah but well what can I say

171

00:10:02,250 --> 00:09:59,290

thank you again Richard because you were

172

00:10:04,380 --> 00:10:02,260

just one of the essential parts of the

173

00:10:09,090 --> 00:10:04,390

whole festival it's just you just we try

174

00:10:11,310 --> 00:10:09,100

to keep you busy and I really did keep

175

00:10:14,940 --> 00:10:11,320

me busy I must tell you folks at the

176

00:10:17,220 --> 00:10:14,950

yesterday in the cafe we had a big open

177

00:10:19,680 --> 00:10:17,230

origami workshop and at one stage people

178

00:10:21,240 --> 00:10:19,690

were reporting when I made a flying pig

179

00:10:23,220 --> 00:10:21,250

so and that was very gratifying either

180

00:10:25,710 --> 00:10:23,230

have to see i was i was in the guest

181

00:10:28,079 --> 00:10:25,720

service in the third for talking with

182

00:10:31,050 --> 00:10:28,089

some other guests and and and suddenly i

183

00:10:32,790 --> 00:10:31,060

heard this booming noise people are

184

00:10:34,560 --> 00:10:32,800

lovely I was like yeah that must be that

185

00:10:38,220 --> 00:10:34,570

much Richard origami walk sure

186

00:10:42,750 --> 00:10:38,230

definitely it's a true sorry I'm not

187

00:10:44,310 --> 00:10:42,760

joking well what can I say folks I if

188

00:10:46,860 --> 00:10:44,320

I'm very lucky I might even be back here

189

00:10:50,040 --> 00:10:46,870

next year and it'll be at the same time

190

00:10:52,890 --> 00:10:50,050

next year yeah run the same time it's

191

00:10:55,970 --> 00:10:52,900

it's not precisely the same but usually

192

00:10:58,620 --> 00:10:55,980

it's the third or fourth week off of

193

00:11:02,970 --> 00:10:58,630

April well listen thank you once again

194

00:11:20,280 --> 00:11:02,980

and all the best for fo in the future

195

00:11:26,949 --> 00:11:24,420

good evening this is my new best friend

196

00:11:35,470 --> 00:11:26,959

look at your chair yes I my only love

197

00:11:41,439 --> 00:11:35,480

you t go it's a great pleasure to be

198

00:11:43,720 --> 00:11:41,449

here I come from the other side FML

199

00:11:47,110 --> 00:11:43,730

costs Egyptian vomit as well start again

200

00:11:53,139 --> 00:11:47,120

simcha shell is through his of

201  
00:11:56,379 --> 00:11:53,149  
the world sit down tonight it's my great

202  
00:11:58,449 --> 00:11:56,389  
pleasure to introduce the first part of

203  
00:12:01,569 --> 00:11:58,459  
the documentary enemies of reason by

204  
00:12:03,069 --> 00:12:01,579  
richard dawkins i've written a short

205  
00:12:06,100 --> 00:12:03,079  
piece to say about it and with the aid

206  
00:12:09,460 --> 00:12:06,110  
of my friend i'm sure we shall get

207  
00:12:12,100 --> 00:12:09,470  
through it your vocal cords TV muzu

208  
00:12:15,579 --> 00:12:12,110  
untested enemies of reasons that I

209  
00:12:17,620 --> 00:12:15,589  
because you're rich tokens our place for

210  
00:12:22,710 --> 00:12:17,630  
tea we met with how much new culture ya

211  
00:12:26,639 --> 00:12:22,720  
bum someone's it's possible I hope so

212  
00:12:29,980 --> 00:12:26,649  
very good crowd I like this crap again

213  
00:12:32,559 --> 00:12:29,990

the enemies of reason slaves to

214

00:12:35,350 --> 00:12:32,569

superstition by richard dawkins of all

215

00:12:38,259 --> 00:12:35,360

the works of richard dawkins none speak

216

00:12:41,759 --> 00:12:38,269

to me more than the enemies of reason it

217

00:12:45,069 --> 00:12:41,769

is the documentary i wish i had produced

218

00:12:47,559 --> 00:12:45,079

dr. dawkins takes a close look at many

219

00:12:50,829 --> 00:12:47,569

of the topics that are of vital interest

220

00:12:52,870 --> 00:12:50,839

to skeptics like me but also should we

221

00:12:56,259 --> 00:12:52,880

have great interest to anybody involved

222

00:12:59,170 --> 00:12:56,269

in science it's not so much a look at

223

00:13:01,629 --> 00:12:59,180

the paranormal claims but a look into

224

00:13:06,129 --> 00:13:01,639

the thinking processes of those who

225

00:13:08,470 --> 00:13:06,139

believe all those who reject science why

226

00:13:11,079 --> 00:13:08,480

are so many people convinced that the

227

00:13:14,499 --> 00:13:11,089

claims of things like astrology tarot

228

00:13:17,290 --> 00:13:14,509

cards the so-called human aura are not

229

00:13:20,470 --> 00:13:17,300

only real but they can be used to heal

230

00:13:21,740 --> 00:13:20,480

or fix your problems these are topics I

231

00:13:27,100 --> 00:13:21,750

deal with on

232

00:13:34,490 --> 00:13:31,790

wonder what you said all right one of

233

00:13:38,360 --> 00:13:34,500

the best questions we can ask anybody

234

00:13:40,880 --> 00:13:38,370

making apparel normal claim is how does

235

00:13:42,320 --> 00:13:40,890

it work this is exactly what you'll see

236

00:13:45,020 --> 00:13:42,330

Richard Dawkins doing in this

237

00:13:47,900 --> 00:13:45,030

documentary and this is the question

238

00:13:50,630 --> 00:13:47,910

that many proponents of the new age have

239

00:13:54,440 --> 00:13:50,640

not been asked as they're believers will

240

00:13:58,280 --> 00:13:54,450

not ask it instead believers assume it

241

00:14:02,900 --> 00:13:58,290

works and to question it is to be a

242

00:14:04,880 --> 00:14:02,910

heretic or even worse a skeptic please

243

00:14:07,790 --> 00:14:04,890

watch out for the response Richard

244

00:14:10,700 --> 00:14:07,800

Dalton gets when he suggests to an

245

00:14:13,660 --> 00:14:10,710

astrologer that the claims of astrology

246

00:14:16,640 --> 00:14:13,670

can be scientifically tested this

247

00:14:18,980 --> 00:14:16,650

response is one I have seen many times

248

00:14:22,490 --> 00:14:18,990

from all sorts of people making

249

00:14:24,920 --> 00:14:22,500

paranormal claims especially from those

250

00:14:28,070 --> 00:14:24,930

who claim they can talk with the dead

251

00:14:30,020 --> 00:14:28,080

and talking with the dead or the claim

252

00:14:33,140 --> 00:14:30,030

is something we'll see in this

253

00:14:35,720 --> 00:14:33,150

documentary when the claim of water

254

00:14:38,600 --> 00:14:35,730

dowsing is put to the test something I

255

00:14:41,090 --> 00:14:38,610

have done many times the reactions from

256

00:14:43,400 --> 00:14:41,100

the dowsers are absolutely typical of

257

00:14:45,980 --> 00:14:43,410

the reactions we have seen and

258

00:14:49,730 --> 00:14:45,990

documented for over 30 years in

259

00:14:52,340 --> 00:14:49,740

Australia take careful note of the fact

260

00:14:55,490 --> 00:14:52,350

that Richard Dawkins visits a new age

261

00:14:58,550 --> 00:14:55,500

festival this has been my practice every

262

00:15:01,880 --> 00:14:58,560

six months for the past 13 years and I

263

00:15:04,430 --> 00:15:01,890

have discovered much by doing this as we

264

00:15:07,190 --> 00:15:04,440

will see when Richard Dawkins visits the

265

00:15:10,940 --> 00:15:07,200

festival he does not argue he does not

266

00:15:13,520 --> 00:15:10,950

get angry but he does ask questions

267

00:15:15,920 --> 00:15:13,530

especially when having his tarot cards

268

00:15:18,560 --> 00:15:15,930

read as I mentioned before this

269

00:15:21,560 --> 00:15:18,570

documentary for me is the journey into

270

00:15:24,110 --> 00:15:21,570

the mind of the believer I think Richard

271

00:15:26,390 --> 00:15:24,120

Dawkins is an excellent tour guide you

272

00:15:29,140 --> 00:15:26,400

may get an understanding as to why some

273

00:15:32,180 --> 00:15:29,150

people reject the method of science

274

00:15:35,600 --> 00:15:32,190

finally I have a message from Richard

275

00:15:38,210 --> 00:15:35,610

Dawkins himself just three gay days ago

276

00:15:41,389 --> 00:15:38,220

met at the QED convention in Manchester

277

00:15:43,579 --> 00:15:41,399

he is delighted to know that the enemies

278

00:15:46,579 --> 00:15:43,589

of reason is being shown as part of a

279

00:15:49,130 --> 00:15:46,589

foe and wishes to me to pass on his

280

00:15:52,550 --> 00:15:49,140

warmest regards and best wishes for the

281

00:15:54,530 --> 00:15:52,560

festival an occurrence among to just

282

00:15:57,139 --> 00:15:54,540

wanted a discuss or somewhat meh three

283

00:15:59,569 --> 00:15:57,149

star tokens and very awesome objection

284

00:16:02,569 --> 00:15:59,579

evening baat karna QED conferencing

285

00:16:05,180 --> 00:16:02,579

Manchester motto positio senate resume

286

00:16:07,819 --> 00:16:05,190

owner of a primita after a blow me dijo

287

00:16:27,410 --> 00:16:07,829

que vas mods dubby observers demolish

288

00:16:30,050 --> 00:16:27,420

the ski a 4 48 folks I'm having such a

289

00:16:31,880 --> 00:16:30,060

wonderful time it's winding down but one

290

00:16:34,490 --> 00:16:31,890

of the other guests here I was very

291

00:16:36,139 --> 00:16:34,500

delighted to see was rebecca watson from

292

00:16:39,740 --> 00:16:36,149

the skeptics guide the universe and skip

293

00:16:42,410 --> 00:16:39,750

chick hello Rebecca Richard so good to

294

00:16:44,480 --> 00:16:42,420

see you it's good to see you I've had a

295

00:16:46,189 --> 00:16:44,490

wonderful time busy yeah the wonderful

296

00:16:48,439 --> 00:16:46,199

time and I think you've had a great time

297

00:16:50,930 --> 00:16:48,449

too i have i've had a brilliant time the

298

00:16:54,079 --> 00:16:50,940

city is is gorgeous the people are

299

00:16:57,650 --> 00:16:54,089

friendly the wine is cheap the book the

300

00:17:01,250 --> 00:16:57,660

beer is cheaper yeah no I'm having a

301  
00:17:04,819 --> 00:17:01,260  
blast and the lots to see and you get a

302  
00:17:07,880 --> 00:17:04,829  
panel our discussion today I think I did

303  
00:17:11,329 --> 00:17:07,890  
a talk today on women in science and

304  
00:17:15,289 --> 00:17:11,339  
skepticism and two days ago I did a dual

305  
00:17:17,990 --> 00:17:15,299  
discussion with Elise Andrew she just

306  
00:17:20,179 --> 00:17:18,000  
left us some yeah she's the

307  
00:17:22,120 --> 00:17:20,189  
woman who runs I in love science on

308  
00:17:25,060 --> 00:17:22,130  
facebook and we talked about

309  
00:17:27,250 --> 00:17:25,070  
communicating science on new media

310  
00:17:30,370 --> 00:17:27,260  
I excellent and well okay there are

311  
00:17:33,250 --> 00:17:30,380  
hordes of young of checks walking passes

312  
00:17:35,680 --> 00:17:33,260  
at the moment and a garden type area or

313  
00:17:38,500 --> 00:17:35,690

courtyard near had a big wrap party this

314

00:17:40,900 --> 00:17:38,510

is really almost is really a university

315

00:17:43,570 --> 00:17:40,910

town and I think it's fantastic it is a

316

00:17:46,720 --> 00:17:43,580

very young town very and yeah the

317

00:17:48,610 --> 00:17:46,730

university is makes it really easy to be

318

00:17:51,190 --> 00:17:48,620

here as an English speaker because

319

00:17:53,770 --> 00:17:51,200

everyone here speaks in everyone's young

320

00:17:55,870 --> 00:17:53,780

and everyone is pretty much fluent in

321

00:17:58,120 --> 00:17:55,880

English which surprised me it's it's

322

00:17:59,530 --> 00:17:58,130

been great to be very easy yeah I went

323

00:18:03,640 --> 00:17:59,540

down to mcdonalds just for the hell of

324

00:18:07,360 --> 00:18:03,650

it what I did now I gotta try it I did I

325

00:18:09,400 --> 00:18:07,370

did anyway but and in other stores i've

326

00:18:10,810 --> 00:18:09,410

been to to know not a prob yeah no I

327

00:18:14,410 --> 00:18:10,820

mean I guess I can't complain i went to

328

00:18:17,440 --> 00:18:14,420

H&M to buy Underpants so i won't I'm not

329

00:18:20,410 --> 00:18:17,450

going to comment much about that it was

330

00:18:24,340 --> 00:18:20,420

because the airline lost my luggage the

331

00:18:26,860 --> 00:18:24,350

only option you know but no seriously

332

00:18:30,000 --> 00:18:26,870

folks at where the the film festival

333

00:18:32,680 --> 00:18:30,010

here in all emotes is I just had a blast

334

00:18:34,150 --> 00:18:32,690

it was great to see you I could tell you

335

00:18:35,770 --> 00:18:34,160

but you were busy with having a good

336

00:18:37,510 --> 00:18:35,780

time too I've had a great time it's been

337

00:18:46,260 --> 00:18:37,520

great to see you too Richard Thank You

338

00:18:46,270 --> 00:18:50,150

that's good night

339

00:19:00,890 --> 00:18:58,730

you could deliver chair let's go there

340

00:19:03,350 --> 00:19:00,900

were 19 films from which we were charged

341

00:19:08,180 --> 00:19:03,360

the responsibility to select a single

342

00:19:11,230 --> 00:19:08,190

winner and while 19 have strong elements

343

00:19:14,920 --> 00:19:11,240

be the narrative or sinha graphic and

344

00:19:17,420 --> 00:19:14,930

many choose current compelling topics

345

00:19:20,720 --> 00:19:17,430

the international jury came to a

346

00:19:23,530 --> 00:19:20,730

unanimous decision that one film stood

347

00:19:27,410 --> 00:19:23,540

out for its accomplishments across all

348

00:19:31,370 --> 00:19:27,420

considered criteria the film describes a

349

00:19:34,730 --> 00:19:31,380

people and their intriguing culture and

350

00:19:37,160 --> 00:19:34,740

language it tells an epic story of an

351  
00:19:38,990 --> 00:19:37,170  
individual struggle and if you have seen

352  
00:19:41,620 --> 00:19:39,000  
the film you will likely agree that this

353  
00:19:45,850 --> 00:19:41,630  
personal struggle is both compelling and

354  
00:19:49,010 --> 00:19:45,860  
emotional the film elegantly conveyed

355  
00:19:52,160 --> 00:19:49,020  
scientific theories concepts methods and

356  
00:19:55,780 --> 00:19:52,170  
limitations with a level of clarity that

357  
00:19:58,820 --> 00:19:55,790  
testifies to a respectful and intimate

358  
00:20:02,780 --> 00:19:58,830  
relationship between the filmmaker and

359  
00:20:05,890 --> 00:20:02,790  
the scientists that are portrayed it is

360  
00:20:09,170 --> 00:20:05,900  
superb also for its creative and often

361  
00:20:13,040 --> 00:20:09,180  
breathtaking cinematography enhancing

362  
00:20:17,450 --> 00:20:13,050  
use of audio effects clear flowing

363  
00:20:20,450 --> 00:20:17,460

dialogue and a healthy well-timed dose

364

00:20:22,400 --> 00:20:20,460

of comic relief the film develops a

365

00:20:24,830 --> 00:20:22,410

message that resonates with me as a

366

00:20:28,610 --> 00:20:24,840

scientist and is critical for all to

367

00:20:31,460 --> 00:20:28,620

understand what defines science more

368

00:20:35,090 --> 00:20:31,470

than anything else is its reliance on

369

00:20:37,490 --> 00:20:35,100

experimental data and it is specifically

370

00:20:40,250 --> 00:20:37,500

for this aspect that science has been

371

00:20:44,480 --> 00:20:40,260

able to achieve the previously

372

00:20:46,910 --> 00:20:44,490

unimaginable so for telling the story of

373

00:20:49,070 --> 00:20:46,920

a missionary turn linguistic professor

374

00:20:52,670 --> 00:20:49,080

who shared with the world a remarkable

375

00:20:55,520 --> 00:20:52,680

discovery of pjs language that lacks

376

00:20:59,300 --> 00:20:55,530

numeracy and has no equivalent words for

377

00:21:03,650 --> 00:20:59,310

and or or the international jury selects

378

00:21:07,270 --> 00:21:03,660

for a fos 48th annual world's best

379

00:21:26,180 --> 00:21:07,280

documentary the grammar of happiness

380

00:21:27,680 --> 00:21:26,190

produced by Michael O'Neill hi person

381

00:21:29,180 --> 00:21:27,690

I'd just like to say what a great honor

382

00:21:31,310 --> 00:21:29,190

it is to win this award we're really

383

00:21:33,860 --> 00:21:31,320

excited I'm really excited and I'd like

384

00:21:36,140 --> 00:21:33,870

to thank the audience's the judges and

385

00:21:37,460 --> 00:21:36,150

everyone to attend the festival and then

386

00:21:40,010 --> 00:21:37,470

obviously the festival itself for this

387

00:21:42,290 --> 00:21:40,020

great honor obviously I can't be there

388

00:21:44,300 --> 00:21:42,300

tonight I'm currently appearing in

389

00:21:46,340 --> 00:21:44,310

production of language Arab in Sydney

390

00:21:47,750 --> 00:21:46,350

hence the the strange question but I

391

00:21:49,670 --> 00:21:47,760

would have absolutely loved to have been

392

00:21:50,540 --> 00:21:49,680

there tonight and and if there was any

393

00:21:54,050 --> 00:21:50,550

way that I could have loved your

394

00:21:55,700 --> 00:21:54,060

thinking this film 25 years was five

395

00:21:58,520 --> 00:21:55,710

years in the making it's a very very

396

00:22:00,170 --> 00:21:58,530

very difficult journey I'd like to thank

397

00:22:01,730 --> 00:22:00,180

our executive producer chris hilton for

398

00:22:03,740 --> 00:22:01,740

persevering with the film like those

399

00:22:06,200 --> 00:22:03,750

five years like to thank my co-director

400

00:22:07,970 --> 00:22:06,210

Raymond would he shot the shot the film

401  
00:22:09,410 --> 00:22:07,980  
any signatures were beautiful so like to

402  
00:22:11,360 --> 00:22:09,420  
thank him for that and the Bible lots of

403  
00:22:13,730 --> 00:22:11,370  
I think Daniel Everett who trusted us

404  
00:22:16,580 --> 00:22:13,740  
with his incredible story haven't seen

405  
00:22:18,170 --> 00:22:16,590  
the film go and see this guy as a has

406  
00:22:19,520 --> 00:22:18,180  
had a remarkable life that he trusted us

407  
00:22:20,080 --> 00:22:19,530  
with that life so I like to think into

408  
00:22:21,580 --> 00:22:20,090  
that

409  
00:22:24,250 --> 00:22:21,590  
have a great night thank you again

410  
00:22:27,880 --> 00:22:24,260  
that's an incredible honor and honest

411  
00:22:30,549 --> 00:22:27,890  
man I've got party thank you I'll put it

412  
00:22:33,039 --> 00:22:30,559  
on the server cluster because no firm

413  
00:22:35,620 --> 00:22:33,049

your skin is owing and the word for

414

00:22:37,990 --> 00:22:35,630

foreigners away and the word for hand is

415

00:22:40,840 --> 00:22:38,000

holy and the work for Brazil nut shells

416

00:22:43,570 --> 00:22:40,850

oh well and that's only distinguished by

417

00:22:52,529 --> 00:22:43,580

the throne as all of those I am the I

418

00:22:56,980 --> 00:22:52,539

did wow oh my itin that should equal

419

00:22:59,200 --> 00:22:56,990

good job bank job it on your queen

420

00:23:01,360 --> 00:22:59,210

yeah Messenger Muhammad out last year

421

00:23:11,289 --> 00:23:01,370

music appreciation ah buns

422

00:23:14,159 --> 00:23:11,299

Australia you today I don't yes I move

423

00:23:16,659 --> 00:23:14,169

on it's about respect and trust me so

424

00:23:20,409 --> 00:23:16,669

yes there is more room in my suitcase

425

00:23:24,159 --> 00:23:20,419

yes Australia's Australia's had a good

426

00:23:26,470 --> 00:23:24,169

night uh I'm thrilled again to be here

427

00:23:29,710 --> 00:23:26,480

and I promise you I shall personally

428

00:23:31,299 --> 00:23:29,720

deliver this to my colonial and behalf

429

00:23:36,310 --> 00:23:31,309

of Michael once again thank you very

430

00:23:38,019 --> 00:23:36,320

much mr. mom asked a boy ramjets ello

431

00:23:41,860 --> 00:23:38,029

micro on the other two da mall so DNT

432

00:23:44,019 --> 00:23:41,870

queen okay I think you have a problem

433

00:23:58,720 --> 00:23:44,029

with overweight to hear your baggage

434

00:24:03,200 --> 00:24:01,820

I'm Eugenie Scott executive director of

435

00:24:06,230 --> 00:24:03,210

the National Center for Science

436

00:24:08,000 --> 00:24:06,240

Education in Oakland California we

437

00:24:09,830 --> 00:24:08,010

defend and support the teaching of

438

00:24:11,690 --> 00:24:09,840

evolution and climate change when it

439

00:24:13,850 --> 00:24:11,700

comes under attack for religious and

440

00:24:16,250 --> 00:24:13,860

political reasons we help teachers

441

00:24:18,889 --> 00:24:16,260

parents school boards and other citizens

442

00:24:22,220 --> 00:24:18,899

defend good science in the schools come

443

00:24:25,039 --> 00:24:22,230

visit us at NCS ecomme and on YouTube

444

00:24:26,840 --> 00:24:25,049

and Facebook and let us know if science

445

00:24:41,380 --> 00:24:26,850

comes under attack in your community

446

00:24:45,320 --> 00:24:43,640

it's the organizers the people

447

00:24:47,720 --> 00:24:45,330

responsible for Cutie or some of them

448

00:24:49,040 --> 00:24:47,730

anyway how do you think it we're really

449

00:24:50,180 --> 00:24:49,050

good i think everyone seems very happy

450

00:24:51,470 --> 00:24:50,190

the speakers are seemingly happy more

451  
00:24:53,750 --> 00:24:51,480  
importantly the attendees all seem

452  
00:24:56,300 --> 00:24:53,760  
really happy there's a few very

453  
00:24:58,490 --> 00:24:56,310  
exhausted faces in the audience some

454  
00:24:59,630 --> 00:24:58,500  
mine included ah yeah yeah well you've

455  
00:25:01,460 --> 00:24:59,640  
been an absolute trooper for us you've

456  
00:25:03,380 --> 00:25:01,470  
been absolutely superb stepping in and

457  
00:25:06,170 --> 00:25:03,390  
saving us a last minute so yeah huge

458  
00:25:08,420 --> 00:25:06,180  
huge thanks as always to you but yeah I

459  
00:25:09,590 --> 00:25:08,430  
mean I think everyone seems really like

460  
00:25:11,180 --> 00:25:09,600  
it everyone keeps telling us it's

461  
00:25:13,310 --> 00:25:11,190  
getting better soldier well he's a

462  
00:25:15,380 --> 00:25:13,320  
little too this is my second QED and it

463  
00:25:16,820 --> 00:25:15,390

was at least as every bit as good as the

464

00:25:17,990 --> 00:25:16,830

first and different of course because

465

00:25:20,240 --> 00:25:18,000

there are different speakers and things

466

00:25:22,580 --> 00:25:20,250

like that yeah lots of happy faces yeah

467

00:25:25,700 --> 00:25:22,590

I'm gonna be a bit blunt oh I think our

468

00:25:27,710 --> 00:25:25,710

speakers knocked it out the park really

469

00:25:30,740 --> 00:25:27,720

dude yeah it's good good mix as well

470

00:25:32,000 --> 00:25:30,750

he's a good mix yeah and I was tuning

471

00:25:34,910 --> 00:25:32,010

into the last one which was very

472

00:25:37,010 --> 00:25:34,920

interesting lylas girlz yeah yeah and a

473

00:25:39,320 --> 00:25:37,020

lot of people you know love those I saw

474

00:25:40,640 --> 00:25:39,330

him on the panel the god panel early in

475

00:25:44,360 --> 00:25:40,650

the day with their with Richard and with

476

00:25:45,920 --> 00:25:44,370

Michael darling we knew is doing packed

477

00:25:47,300 --> 00:25:45,930

out but we need you need to kinda like

478

00:25:48,500 --> 00:25:47,310

that you know in a panel room it can't

479

00:25:51,100 --> 00:25:48,510

be a min tasting it works so much better

480

00:25:53,420 --> 00:25:51,110

went into and small I was at was

481

00:25:54,770 --> 00:25:53,430

standing room only but it was just

482

00:25:59,360 --> 00:25:54,780

brilliant and which members nephew

483

00:26:01,460 --> 00:25:59,370

revelation as well yes they're getting

484

00:26:04,340 --> 00:26:01,470

good comments hahaha a random people

485

00:26:05,780 --> 00:26:04,350

walking by neca why this year is a

486

00:26:08,450 --> 00:26:05,790

different time of year last year was in

487

00:26:10,190 --> 00:26:08,460

February and I think it was februari ya

488

00:26:12,080 --> 00:26:10,200

know last year was March I think not the

489

00:26:13,790 --> 00:26:12,090

stairs february I'm not really sure I

490

00:26:14,930 --> 00:26:13,800

think we just we're moving it to a place

491

00:26:16,880 --> 00:26:14,940

that's a bit further away from Christmas

492

00:26:17,960 --> 00:26:16,890

really so we don't come straight out the

493

00:26:19,580 --> 00:26:17,970

Christmas and have a million things to

494

00:26:21,050 --> 00:26:19,590

do I think yeah I guess we probably

495

00:26:22,490 --> 00:26:21,060

stick around the same kind of time I

496

00:26:23,510 --> 00:26:22,500

don't they're gonna slowly slip through

497

00:26:26,060 --> 00:26:23,520

the otherwise we're gonna have to have

498

00:26:27,500 --> 00:26:26,070

it on Christmas Day not ideal and there

499

00:26:28,730 --> 00:26:27,510

was a show at hands at the end from the

500

00:26:30,500 --> 00:26:28,740

audience who wants another while

501  
00:26:32,570 --> 00:26:30,510  
everyone does that's true there was a

502  
00:26:33,770 --> 00:26:32,580  
nice sort of a complete silence we asked

503  
00:26:35,180 --> 00:26:33,780  
is there anyone who doesn't want another

504  
00:26:37,010 --> 00:26:35,190  
one so that's good you gonna say like a

505  
00:26:38,900 --> 00:26:37,020  
pin drop on I expected a cricket

506  
00:26:40,300 --> 00:26:38,910  
chirping the background and tumbleweeds

507  
00:26:41,770 --> 00:26:40,310  
rolling across a new one

508  
00:26:45,130 --> 00:26:41,780  
about right now we'd have had a heart

509  
00:26:47,230 --> 00:26:45,140  
attack if ever gone yeah yeah you have

510  
00:26:48,850 --> 00:26:47,240  
another one yeah that's not too much to

511  
00:26:51,130 --> 00:26:48,860  
be honest I don't care because the

512  
00:26:52,750 --> 00:26:51,140  
downside of that is means we are going

513  
00:26:55,600 --> 00:26:52,760

to have to do some more work yes I don't

514

00:27:00,010 --> 00:26:55,610

get how on earth I was in a topless yes

515

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

I don't I just well there are speakers

516

00:27:03,910 --> 00:27:02,030

out there you know and different topics

517

00:27:05,920 --> 00:27:03,920

you can cover and you'll get the crowd

518

00:27:06,850 --> 00:27:05,930

well hopefully so you know there are

519

00:27:09,730 --> 00:27:06,860

people saying they want to buy a ticket

520

00:27:12,580 --> 00:27:09,740

now they're annoyed that it isn't

521

00:27:13,660 --> 00:27:12,590

already on sale which is a bit amazing

522

00:27:15,160 --> 00:27:13,670

and i have to say well give us till

523

00:27:17,320 --> 00:27:15,170

august this thing that people also

524

00:27:18,340 --> 00:27:17,330

suggesting the speakers you're just at

525

00:27:19,630 --> 00:27:18,350

the end of it which is lovely because

526

00:27:20,620 --> 00:27:19,640

people worrying part this event people

527

00:27:21,910 --> 00:27:20,630

honest or power on and we always try to

528

00:27:23,080 --> 00:27:21,920

make it so it's all about the attendees

529

00:27:24,730 --> 00:27:23,090

and every department things like that

530

00:27:26,200 --> 00:27:24,740

but I've been sort of saying people

531

00:27:27,490 --> 00:27:26,210

could you remind me in about fallens

532

00:27:29,320 --> 00:27:27,500

time right I don't want to think about

533

00:27:32,410 --> 00:27:29,330

QED for at least for a bunch of right

534

00:27:34,750 --> 00:27:32,420

did you give at all i know is in a panel

535

00:27:36,640 --> 00:27:34,760

room at a comic time but i would never

536

00:27:38,230 --> 00:27:36,650

let me on the main stage that's never

537

00:27:39,730 --> 00:27:38,240

going to happen Richard come on i'm

538

00:27:43,420 --> 00:27:39,740

waiting on the main stage last year with

539

00:27:45,370 --> 00:27:43,430

richard appearance on images that's

540

00:27:46,870 --> 00:27:45,380

really i was tempted to get you up again

541

00:27:49,030 --> 00:27:46,880

so you do another double act with that

542

00:27:52,210 --> 00:27:49,040

was ok well it's an I've had a wonderful

543

00:27:54,010 --> 00:27:52,220

time I didn't expect anything less of

544

00:27:54,910 --> 00:27:54,020

course well thank you so much for

545

00:27:56,350 --> 00:27:54,920

everything as well Richie's been

546

00:27:57,970 --> 00:27:56,360

actually ok right it's lovely to see you

547

00:27:59,560 --> 00:27:57,980

again and on oh yes it was good worked

548

00:28:02,260 --> 00:27:59,570

out very well and folks that's the would

549

00:28:03,940 --> 00:28:02,270

annoy them annoy the Merseyside skeptics

550

00:28:06,760 --> 00:28:03,950

very soon and the great manchester spell

551  
00:28:11,260 --> 00:28:06,770  
disaster not forgetting as soon as you

552  
00:28:12,910 --> 00:28:11,270  
can in a few months are QED 2014 2014

553  
00:28:15,580 --> 00:28:12,920  
good god it sounds along wherever you

554  
00:28:21,570 --> 00:28:15,590  
settle only four months of rest and

555  
00:28:26,110 --> 00:28:23,590  
originally from australia now living in

556  
00:28:27,730 --> 00:28:26,120  
scotland what did you think of QED I've

557  
00:28:29,770 --> 00:28:27,740  
never been before but was excellent I

558  
00:28:31,390 --> 00:28:29,780  
thoroughly enjoyed myself and I got to

559  
00:28:34,180 --> 00:28:31,400  
introduce the audience to the concept of

560  
00:28:35,980 --> 00:28:34,190  
Scottish Fanta how did that go because i

561  
00:28:39,549 --> 00:28:35,990  
was speaking when your panel was on side

562  
00:28:42,190 --> 00:28:39,559  
mr. Pandey well it was very very briefly

563  
00:28:43,990 --> 00:28:42,200

so over the law 101 from the perspective

564

00:28:45,580 --> 00:28:44,000

in English law and Scots law because

565

00:28:51,250 --> 00:28:45,590

there are two different legal systems

566

00:28:52,930 --> 00:28:51,260

when it comes to social media and Scots

567

00:28:55,390 --> 00:28:52,940

law lets got get away with Scottish

568

00:28:57,580 --> 00:28:55,400

banter but the problem is Scottish band

569

00:29:01,539 --> 00:28:57,590

is kind of global now so how would you

570

00:29:05,350 --> 00:29:01,549

define quickly Scottish band you're

571

00:29:07,899 --> 00:29:05,360

allowed on the Scots law to say

572

00:29:14,989 --> 00:29:07,909

something that's a bit nasty that you

573

00:29:19,560 --> 00:29:17,190

sort of accuse me of going to the other

574

00:29:20,759 --> 00:29:19,570

place in terms of university is how I

575

00:29:22,739 --> 00:29:20,769

went to Cambridge and I really went to

576

00:29:24,209 --> 00:29:22,749

Oxford and yeah someone running looking

577

00:29:25,769 --> 00:29:24,219

it quite annoyed about that whereas in

578

00:29:29,549 --> 00:29:25,779

Scotland you just have to take it on the

579

00:29:31,199 --> 00:29:29,559

chin okay so but is that there's a lot

580

00:29:32,609 --> 00:29:31,209

worse you should get on a Facebook group

581

00:29:36,389 --> 00:29:32,619

called Scottish mentor and you'll

582

00:29:40,499 --> 00:29:36,399

discover the conduct I might just do

583

00:29:42,329 --> 00:29:40,509

that Thank You Helen Cheers yes

584

00:29:45,209 --> 00:29:42,339

apparently justin bieber's just been to

585

00:29:47,789 --> 00:29:45,219

the Anne Frank House in Amsterdam and

586

00:29:49,049 --> 00:29:47,799

has left a comment it was actually not

587

00:29:51,719 --> 00:29:49,059

just treating it but left it as a

588

00:29:53,190 --> 00:29:51,729

comment in the guest book and seems like

589

00:29:56,159 --> 00:29:53,200

a great girl I'm sure she would have

590

00:29:59,190 --> 00:29:56,169

been a belieber this isn't actually a

591

00:30:03,180 --> 00:29:59,200

joke if you'd see my face Lady internet

592

00:30:05,669 --> 00:30:03,190

uh believe belieber I believe a Justin

593

00:30:07,109 --> 00:30:05,679

Bieber fan yeah yeah so so course this

594

00:30:09,889 --> 00:30:07,119

has caused lots of people to ask you

595

00:30:13,589 --> 00:30:09,899

know whether Ken Sarah we were preferred

596

00:30:15,599 --> 00:30:13,599

Papa blur yeah I mean this really really

597

00:30:17,399 --> 00:30:15,609

important cultural question sort of

598

00:30:19,139 --> 00:30:17,409

conversations folks that happens after a

599

00:30:20,669 --> 00:30:19,149

big conference like QED what did you

600

00:30:22,440 --> 00:30:20,679

think of the conference generally oh

601  
00:30:26,009 --> 00:30:22,450  
absolutely loved it it's my first time

602  
00:30:27,989 --> 00:30:26,019  
at QED a few people here that I've met

603  
00:30:30,359 --> 00:30:27,999  
before loads that I haven't and it's

604  
00:30:32,489 --> 00:30:30,369  
just always great talking to skeptics

605  
00:30:34,199 --> 00:30:32,499  
really and it's great giving a talk to

606  
00:30:38,329 --> 00:30:34,209  
skeptics audience because it's such an

607  
00:30:40,560 --> 00:30:38,339  
engaged audience you know people really

608  
00:30:42,089 --> 00:30:40,570  
getting down to the nitty-gritty of the

609  
00:30:44,069 --> 00:30:42,099  
talk and really getting into the details

610  
00:30:46,049 --> 00:30:44,079  
and asking good questions which is

611  
00:30:47,519 --> 00:30:46,059  
probably the most valuable bit is the

612  
00:30:49,369 --> 00:30:47,529  
conversation it's the back and forth

613  
00:30:52,319 --> 00:30:49,379

yeah and that happens of course

614

00:30:54,239 --> 00:30:52,329

afterwards and in the bar even like the

615

00:30:57,899 --> 00:30:54,249

people behind us to do now and what did

616

00:31:01,409 --> 00:30:57,909

you think then I love QED because you

617

00:31:03,479 --> 00:31:01,419

get a year's worth of of fabulous

618

00:31:05,519 --> 00:31:03,489

fabulous skeptics in the power of

619

00:31:08,909 --> 00:31:05,529

skeptics in the auditorium be getting

620

00:31:11,399 --> 00:31:08,919

years worth of this in in two days the

621

00:31:14,430 --> 00:31:11,409

big problem is is overload so many

622

00:31:17,720 --> 00:31:14,440

amazing people so many amazing talks so

623

00:31:22,820 --> 00:31:19,070

now we've come to the heart of the night

624

00:31:25,520 --> 00:31:22,830

okay so now I love you easy i really

625

00:31:27,740 --> 00:31:25,530

really love meeting spending time with

626

00:31:31,190 --> 00:31:27,750

people that i'm interacting with many on

627

00:31:34,190 --> 00:31:31,200

facebook and it's that is the great joy

628

00:31:36,230 --> 00:31:34,200

for me of QED is meeting the people here

629

00:31:40,070 --> 00:31:36,240

from edinburgh what did you think of QED

630

00:31:42,530 --> 00:31:40,080

was you it was fantastic I will describe

631

00:31:47,510 --> 00:31:42,540

it works using hyperbole is feeling but

632

00:31:49,370 --> 00:31:47,520

it was fantastic no it was it was

633

00:31:52,010 --> 00:31:49,380

fantastic again it's Cooper here last

634

00:31:53,510 --> 00:31:52,020

year I can yes yes last year it's a it's

635

00:31:54,770 --> 00:31:53,520

actually very but I came in on the

636

00:31:56,780 --> 00:31:54,780

frayed night for the mixer and seeing so

637

00:31:59,120 --> 00:31:56,790

many people again in the same context

638

00:32:00,950 --> 00:31:59,130

but no it didn't feel like 13 months at

639

00:32:02,810 --> 00:32:00,960

actually passed it kind of felt like

640

00:32:05,870 --> 00:32:02,820

just got up again in the mercure hotel

641

00:32:07,490 --> 00:32:05,880

came down and that last 13 months I just

642

00:32:10,250 --> 00:32:07,500

hadn't happened that everyone fell here

643

00:32:11,840 --> 00:32:10,260

to listen to more skeptical talks and

644

00:32:13,160 --> 00:32:11,850

more science stuff is that it does make

645

00:32:15,740 --> 00:32:13,170

the year go quickly when you think about

646

00:32:16,760 --> 00:32:15,750

it yeah oh yeah it definitely does the

647

00:32:18,560 --> 00:32:16,770

only way I could really tell it's

648

00:32:21,500 --> 00:32:18,570

changes the Piccadilly square appears to

649

00:32:24,410 --> 00:32:21,510

a bit greener then it was like I've got

650

00:32:26,720 --> 00:32:24,420

this this giant tower thing with a swing

651  
00:32:28,700 --> 00:32:26,730  
like a carnival ride out there so a

652  
00:32:30,800 --> 00:32:28,710  
charity thing I think actually the star

653  
00:32:33,200 --> 00:32:30,810  
star burst of the star twirler or

654  
00:32:34,670 --> 00:32:33,210  
something along those lines so one of

655  
00:32:36,920 --> 00:32:34,680  
the hotel staff was trying to persuade

656  
00:32:38,510 --> 00:32:36,930  
us to go on it but I'm skeptical of my

657  
00:32:40,940 --> 00:32:38,520  
ability to cope with vertical would say

658  
00:32:42,500 --> 00:32:40,950  
such heights so I'm skeptical of my

659  
00:32:46,430 --> 00:32:42,510  
ability to cope with it today at least

660  
00:32:48,110 --> 00:32:46,440  
anyway thanks Q noise so more random

661  
00:32:50,330 --> 00:32:48,120  
people just standing around not doing

662  
00:32:52,610 --> 00:32:50,340  
anything what did you think of QED I one

663  
00:32:54,980 --> 00:32:52,620

was contested really said that I missed

664

00:32:57,440 --> 00:32:54,990

some things but I got some other

665

00:32:58,970 --> 00:32:57,450

fantastic talks in the meanwhile yeah

666

00:33:01,070 --> 00:32:58,980

well you can't I can't see everything in

667

00:33:02,840 --> 00:33:01,080

the QED which is unfortunate but it just

668

00:33:04,910 --> 00:33:02,850

means there's so many good talks but

669

00:33:05,769 --> 00:33:04,920

they have to jam them in any way they

670

00:33:09,430 --> 00:33:05,779

can

671

00:33:13,419 --> 00:33:09,440

yes and being in a really small over

672

00:33:16,749 --> 00:33:13,429

crowded room upstairs I know that

673

00:33:18,719 --> 00:33:16,759

resisted Douglas Adams room yeah what

674

00:33:22,330 --> 00:33:18,729

did you think of that as a volunteer

675

00:33:24,639 --> 00:33:22,340

with your volunteer shirt there's a wife

676

00:33:27,879 --> 00:33:24,649

in the organizer what's your honest

677

00:33:29,830 --> 00:33:27,889

opinion could have been better yeah I

678

00:33:33,159 --> 00:33:29,840

knew I knew I knew I'd get one I knew

679

00:33:34,959 --> 00:33:33,169

I'd get one did you enjoy yourself yes I

680

00:33:38,589 --> 00:33:34,969

did I enjoyed all the speaker's everyone

681

00:33:40,719 --> 00:33:38,599

who's fantastic and lovely as usual and

682

00:33:42,399 --> 00:33:40,729

all the m it's always nice meeting other

683

00:33:44,139 --> 00:33:42,409

people from all you all you foreign

684

00:33:46,570 --> 00:33:44,149

countries and think oh you really want a

685

00:33:49,119 --> 00:33:46,580

new forums it you're rejecting your

686

00:33:50,619 --> 00:33:49,129

you're from Texas yes that's a foreign

687

00:33:52,509 --> 00:33:50,629

country there are few Americans I was

688

00:33:54,339 --> 00:33:52,519

excited we're kind of course Brian

689

00:33:55,959 --> 00:33:54,349

Thompson and Carrie poppy and everybody

690

00:33:58,029 --> 00:33:55,969

says right and Lawrence Krauss support

691

00:33:59,950 --> 00:33:58,039

yes no see I know sprinkling him some

692

00:34:03,119 --> 00:33:59,960

more I would imagine yeah yeah and

693

00:34:05,739 --> 00:34:03,129

you've been in the UK now for over years

694

00:34:09,250 --> 00:34:05,749

longer maybe year and a half now yeah I

695

00:34:11,230 --> 00:34:09,260

can tell it's not as there's not a tech

696

00:34:13,269 --> 00:34:11,240

to max and many more folks it didn't

697

00:34:15,159 --> 00:34:13,279

start off as a very texan accent what

698

00:34:18,389 --> 00:34:15,169

does it start often i don't know i

699

00:34:23,980 --> 00:34:18,399

should like you saying this texas accent

700

00:34:25,930 --> 00:34:23,990

whatever it is now it's changed forgot

701  
00:34:27,970 --> 00:34:25,940  
some kind of hybridity higher yeah i

702  
00:34:30,399 --> 00:34:27,980  
think I you enjoying the UK dude are you

703  
00:34:34,539 --> 00:34:30,409  
getting into the groove of it it is I've

704  
00:34:36,159 --> 00:34:34,549  
gotten used to the rain finally I went

705  
00:34:41,030 --> 00:34:36,169  
from like oh it's raining again 20

706  
00:34:44,180 --> 00:34:41,040  
training again but the snows nice

707  
00:34:46,570 --> 00:34:44,190  
I like smoke I do prefix no well maybe

708  
00:34:50,409 --> 00:34:46,580  
we can all get back together again

709  
00:34:53,210 --> 00:34:50,419  
lunchtime yes probably totally I hope so

710  
00:35:14,540 --> 00:34:53,220  
i'm sure i will be here if it's here in

711  
00:35:16,250 --> 00:35:14,550  
12 months time sir astronomy cast it

712  
00:35:18,380 --> 00:35:16,260  
takes a fact space journey through the

713  
00:35:20,390 --> 00:35:18,390

cosmos as it offers listeners weekly

714

00:35:23,720 --> 00:35:20,400

discussions on astronomical topics

715

00:35:25,850 --> 00:35:23,730

ranging from planets to cosmology hosted

716

00:35:28,040 --> 00:35:25,860

by Fraser Cain of Universe Today and

717

00:35:30,560 --> 00:35:28,050

myself dr. Pamela gave southern illinois

718

00:35:32,630 --> 00:35:30,570

university edwardsville this show brings

719

00:35:35,060 --> 00:35:32,640

the questions of an avid astronomy lover

720

00:35:37,160 --> 00:35:35,070

directly to an astronomer together

721

00:35:38,690 --> 00:35:37,170

Fraser and I explore what is known and

722

00:35:41,450 --> 00:35:38,700

being discovered about the universe

723

00:35:43,550 --> 00:35:41,460

around us join us each week as we take a

724

00:35:53,450 --> 00:35:43,560

fax space journey through the cosmos at

725

00:35:56,540 --> 00:35:53,460

astronomy cast calm welcome to a week in

726

00:36:00,770 --> 00:35:56,550

science from our iOS this week Hobbit

727

00:36:07,950 --> 00:36:00,780

brains baby brains and rat kidneys sound

728

00:36:13,150 --> 00:36:10,510

modern technology has revealed that

729

00:36:16,210 --> 00:36:13,160

ancient hobbits had larger brains than

730

00:36:18,280 --> 00:36:16,220

previously thought Homo floresiensis is

731

00:36:20,770 --> 00:36:18,290

an extinct human-like species from

732

00:36:23,050 --> 00:36:20,780

Flores an island in Indonesia and

733

00:36:25,740 --> 00:36:23,060

scientists have long puzzled over how

734

00:36:28,630 --> 00:36:25,750

their tiny brains evolved but a recent

735

00:36:30,490 --> 00:36:28,640

high-resolution CT scan has shown that

736

00:36:32,640 --> 00:36:30,500

their brains were actually about six

737

00:36:35,800 --> 00:36:32,650

percent larger than previous estimates

738

00:36:38,830 --> 00:36:35,810

suggested this fits with the hypothesis

739

00:36:41,380 --> 00:36:38,840

that large bodied Homo erectus migrated

740

00:36:44,380 --> 00:36:41,390

to the solitary island and shrunken body

741

00:36:48,580 --> 00:36:44,390

and brain size over time evolving into

742

00:36:51,010 --> 00:36:48,590

the Hobbit species in an exciting step

743

00:36:54,550 --> 00:36:51,020

forward we can now tell when infants

744

00:36:56,860 --> 00:36:54,560

begin to recognize what they see a team

745

00:37:00,040 --> 00:36:56,870

of European researchers studied babies

746

00:37:02,230 --> 00:37:00,050

aged 5 to 15 months matching their brain

747

00:37:05,260 --> 00:37:02,240

activity patterns to those found when

748

00:37:07,870 --> 00:37:05,270

adults recognize faces while these

749

00:37:09,850 --> 00:37:07,880

patterns were seen in young infants the

750

00:37:12,730 --> 00:37:09,860

signals became stronger and more

751  
00:37:14,980 --> 00:37:12,740  
sustained as they got older this could

752  
00:37:17,140 --> 00:37:14,990  
help doctors to better understand infant

753  
00:37:20,920 --> 00:37:17,150  
consciousness in relation to anesthetics

754  
00:37:23,410 --> 00:37:20,930  
and pain and now full-size headlines in

755  
00:37:25,240 --> 00:37:23,420  
30 seconds concert lovers will be

756  
00:37:27,520 --> 00:37:25,250  
relieved that their short term hearing

757  
00:37:29,530 --> 00:37:27,530  
loss does not reflect damage but is

758  
00:37:31,720 --> 00:37:29,540  
actually a protective response of the

759  
00:37:33,790 --> 00:37:31,730  
inner ear fainting could run in the

760  
00:37:35,950 --> 00:37:33,800  
family with research suggesting an

761  
00:37:38,200 --> 00:37:35,960  
inherited gene may be responsible a

762  
00:37:40,180 --> 00:37:38,210  
parasitic worm has inspired the

763  
00:37:42,370 --> 00:37:40,190

development of an adhesive bandage that

764

00:37:45,670 --> 00:37:42,380

mechanically anchors to living tissue

765

00:37:47,830 --> 00:37:45,680

and the mere flavor of beer and not just

766

00:37:50,500 --> 00:37:47,840

the alcohol causes the brains pleasure

767

00:37:54,190 --> 00:37:50,510

Center to release dopamine encouraging

768

00:37:57,130 --> 00:37:54,200

you to drink more and finally this week

769

00:38:00,400 --> 00:37:57,140

bio engineers have built functioning rat

770

00:38:02,830 --> 00:38:00,410

kidneys US scientists worked with dead

771

00:38:05,470 --> 00:38:02,840

rats pigs and humans to produce a kind

772

00:38:07,660 --> 00:38:05,480

of scaffold or frame that can hold the

773

00:38:10,390 --> 00:38:07,670

parts of a kidney in place they then

774

00:38:13,450 --> 00:38:10,400

added kidney and blood vessel cells from

775

00:38:16,030 --> 00:38:13,460

a live rat into the scaffold effectively

776

00:38:18,250 --> 00:38:16,040

building a new organ when transplant

777

00:38:20,500 --> 00:38:18,260

rats the kidneys produced urine

778

00:38:24,780 --> 00:38:20,510

continuing research could provide hope

779

00:38:27,070 --> 00:38:24,790

for future human organ transplantations

780

00:38:30,010 --> 00:38:27,080

experts are predicting a particularly

781

00:38:32,560 --> 00:38:30,020

bad flu season so if you're in Adelaide

782

00:38:36,250 --> 00:38:32,570

come along to our inaugural vaccination

783

00:38:39,070 --> 00:38:36,260

cafe on Monday the 29th of April between

784

00:38:41,680 --> 00:38:39,080

11am and 2pm you can get your flu

785

00:38:43,840 --> 00:38:41,690

vaccination for just ten dollars grab a

786

00:38:47,080 --> 00:38:43,850

free tea or coffee and chat with

787

00:38:49,390 --> 00:38:47,090

immunology researchers more details on

788

00:38:51,790 --> 00:38:49,400

our website that's been the highlights

789

00:38:53,950 --> 00:38:51,800

of another big week in science for more

790

00:38:58,630 --> 00:38:53,960

information and other science news check

791

00:39:01,120 --> 00:38:58,640

out the rirs website rira us dot org a

792

00:39:04,030 --> 00:39:01,130

you where you can also sign up for

793

00:39:05,950 --> 00:39:04,040

notifications of future episodes you can

794

00:39:09,580 --> 00:39:05,960

follow a week in science on twitter

795

00:39:12,070 --> 00:39:09,590

using the hashtag week inside i'm paul

796

00:39:18,609 --> 00:39:12,080

willis and on behalf of the Arias team

797

00:39:22,880 --> 00:39:20,989

yeah aight guys i was talking to Richard

798

00:39:24,979 --> 00:39:22,890

sonsie today all right he said if we

799

00:39:27,109 --> 00:39:24,989

record a trailer for our podcast

800

00:39:28,729 --> 00:39:27,119

skeptics with a que he'd play it on

801

00:39:30,079 --> 00:39:28,739

their on their show that's nice of him

802

00:39:31,309 --> 00:39:30,089

that's very generous it's pretty good

803

00:39:33,439 --> 00:39:31,319

i'm not sure what we could do though I

804

00:39:35,749 --> 00:39:33,449

mean well suppose you tell people shows

805

00:39:38,059 --> 00:39:35,759

about but it's basic is this yeah like

806

00:39:39,709 --> 00:39:38,069

yeah but you know we talk about science

807

00:39:40,910 --> 00:39:39,719

and skepticism and things that's that's

808

00:39:42,859 --> 00:39:40,920

true i suppose en you mention the

809

00:39:44,359 --> 00:39:42,869

website address not merseyside skeptics

810

00:39:46,400 --> 00:39:44,369

talk don't you care yeah yeah just

811

00:39:48,799 --> 00:39:46,410

exertion iTunes oh and then we could end

812

00:39:52,160 --> 00:39:48,809

with like a big song like the skeptics

813

00:40:00,890 --> 00:39:52,170

with okay god no no no no don't don't do

814

00:40:03,300 --> 00:40:00,900

that here's may not spooky action at the

815

00:40:05,400 --> 00:40:03,310

distance

816

00:40:06,990 --> 00:40:05,410

well boys and girls are you sitting

817

00:40:09,870 --> 00:40:07,000

comfortably because on the line i have

818

00:40:11,970 --> 00:40:09,880

james owen weatherall James how are you

819

00:40:13,860 --> 00:40:11,980

I'm doing great back let me tell you

820

00:40:15,960 --> 00:40:13,870

he's a physicist philosopher and

821

00:40:17,790 --> 00:40:15,970

mathematician he holds graduate degrees

822

00:40:19,680 --> 00:40:17,800

from Harvard University and the

823

00:40:22,050 --> 00:40:19,690

University of California Irvine and

824

00:40:23,810 --> 00:40:22,060

philosopher of science and a member of

825

00:40:26,490 --> 00:40:23,820

the institute for mathematical

826

00:40:28,290 --> 00:40:26,500

behavioral science he lives in Irvine

827

00:40:30,240 --> 00:40:28,300

California with his wife and twin

828

00:40:33,150 --> 00:40:30,250

daughters down do they show a massive

829

00:40:34,890 --> 00:40:33,160

interest in physics as well there about

830

00:40:36,660 --> 00:40:34,900

four and a half months old putting any

831

00:40:38,070 --> 00:40:36,670

sort of complicated graphs in front of

832

00:40:39,990 --> 00:40:38,080

them and showing them the bell curve yet

833

00:40:42,270 --> 00:40:40,000

we're mostly working on what happened to

834

00:40:44,190 --> 00:40:42,280

say drop stuff what got you excited

835

00:40:47,010 --> 00:40:44,200

about physics and that to be your chosen

836

00:40:49,320 --> 00:40:47,020

path why physics James I always had an

837

00:40:50,790 --> 00:40:49,330

attraction to the science I like you

838

00:40:52,020 --> 00:40:50,800

know building stuff experimenting on

839

00:40:53,850 --> 00:40:52,030

things but I also really love

840

00:40:55,620 --> 00:40:53,860

mathematics I think that physics is

841

00:40:57,900 --> 00:40:55,630

totally fair to say that physics is the

842

00:40:59,250 --> 00:40:57,910

natural science that uses mathematics in

843

00:41:01,170 --> 00:40:59,260

the most creative ways you didn't have

844

00:41:02,820 --> 00:41:01,180

any apple on the head Isaac Newton

845

00:41:04,950 --> 00:41:02,830

moment did you there was a moment where

846

00:41:08,820 --> 00:41:04,960

I read an article in Scientific American

847

00:41:10,470 --> 00:41:08,830

just blew my mind figured I wanted to be

848

00:41:12,810 --> 00:41:10,480

working on that sort of thing do you get

849

00:41:14,910 --> 00:41:12,820

infuriated sometimes by the way science

850

00:41:16,890 --> 00:41:14,920

is represented in popular culture and on

851  
00:41:18,480 --> 00:41:16,900  
news programs that don't have much time

852  
00:41:21,090 --> 00:41:18,490  
to go into it so you get a rather

853  
00:41:23,280 --> 00:41:21,100  
sketchy explanation of the physics

854  
00:41:26,160 --> 00:41:23,290  
particularly that sometimes be wrong as

855  
00:41:27,690 --> 00:41:26,170  
someone who has done a fair amount of

856  
00:41:29,220 --> 00:41:27,700  
science popularization I try to be

857  
00:41:32,480 --> 00:41:29,230  
tolerant because it really is very

858  
00:41:34,680 --> 00:41:32,490  
difficult to make some of these ideas

859  
00:41:36,120 --> 00:41:34,690  
accessible although of course it is

860  
00:41:38,280 --> 00:41:36,130  
frustrating when it's done misleading

861  
00:41:41,280 --> 00:41:38,290  
ways particularly when the whole idea of

862  
00:41:43,170 --> 00:41:41,290  
quantum is co-opted by people without

863  
00:41:45,300 --> 00:41:43,180

science training to explain something

864

00:41:48,420 --> 00:41:45,310

that's definitely not scientific that is

865

00:41:49,890 --> 00:41:48,430

true that is one of my pet peeves dick

866

00:41:53,130 --> 00:41:49,900

does your wife telling you to stop

867

00:41:55,620 --> 00:41:53,140

yelling at the television sometimes I

868

00:41:57,300 --> 00:41:55,630

think we just avoid that kind of yeah

869

00:41:58,830 --> 00:41:57,310

yeah that's probably the best time here

870

00:42:01,980 --> 00:41:58,840

watching fox news isn't gonna help

871

00:42:03,660 --> 00:42:01,990

anyone the physics of Wall Street a

872

00:42:05,820 --> 00:42:03,670

brief history of predicting the

873

00:42:07,290 --> 00:42:05,830

unpredictable is your book at first I

874

00:42:08,700 --> 00:42:07,300

was a bit scared of reading because i

875

00:42:11,040 --> 00:42:08,710

thought i might delve into things that i

876

00:42:13,350 --> 00:42:11,050

couldn't understand but very quickly i

877

00:42:15,600 --> 00:42:13,360

was into some of the history of chaos

878

00:42:16,660 --> 00:42:15,610

theory and graphing of what can happen

879

00:42:19,299 --> 00:42:16,670

in it any give

880

00:42:21,549 --> 00:42:19,309

environment the whole idea that there

881

00:42:23,500 --> 00:42:21,559

could be a physics of Wall Street and

882

00:42:25,270 --> 00:42:23,510

there could be various models that are

883

00:42:26,740 --> 00:42:25,280

made to perhaps graph what happens in

884

00:42:28,299 --> 00:42:26,750

the stock market and I would have

885

00:42:30,099 --> 00:42:28,309

thought that this would always be

886

00:42:31,480 --> 00:42:30,109

impossible because it's beyond chaos

887

00:42:34,480 --> 00:42:31,490

theory because it involves chaos and

888

00:42:37,510 --> 00:42:34,490

greed maybe the thing that I find more

889

00:42:40,900 --> 00:42:37,520

frustrating than misuse of quantum is

890

00:42:42,880 --> 00:42:40,910

just how we think about how science

891

00:42:44,530 --> 00:42:42,890

works and there is one thing that is

892

00:42:46,150 --> 00:42:44,540

pretty crazy sounding and I think

893

00:42:47,950 --> 00:42:46,160

probably will never happen I wouldn't

894

00:42:50,620 --> 00:42:47,960

bet on it anyway and that's having some

895

00:42:51,910 --> 00:42:50,630

sort of final theory of Finance we spend

896

00:42:53,140 --> 00:42:51,920

a lot of time talking about final

897

00:42:56,230 --> 00:42:53,150

theories of physics as though we're

898

00:42:58,690 --> 00:42:56,240

going to understand the true fundamental

899

00:43:00,370 --> 00:42:58,700

constituents of the universe and the

900

00:43:02,530 --> 00:43:00,380

whole history of the universe where we

901  
00:43:04,329 --> 00:43:02,540  
came from and all the big questions but

902  
00:43:05,829 --> 00:43:04,339  
most of science isn't like that most of

903  
00:43:07,210 --> 00:43:05,839  
Sciences you know you're trying to solve

904  
00:43:09,250 --> 00:43:07,220  
little problems you're trying to use

905  
00:43:11,049 --> 00:43:09,260  
math in order to make predictions and

906  
00:43:12,430 --> 00:43:11,059  
pretty limited domain and that's the

907  
00:43:14,589 --> 00:43:12,440  
sort of thing that I think we can do in

908  
00:43:16,420 --> 00:43:14,599  
finance pretty effectively we look at

909  
00:43:18,099 --> 00:43:16,430  
the unified field theory that is

910  
00:43:20,230 --> 00:43:18,109  
apparently is very simple compared to

911  
00:43:22,000 --> 00:43:20,240  
the stock market that's true but a

912  
00:43:24,339 --> 00:43:22,010  
unified field theory is also very simple

913  
00:43:26,230 --> 00:43:24,349

in some ways anyway compared to for

914

00:43:27,700 --> 00:43:26,240

instance a combustion engine or

915

00:43:29,140 --> 00:43:27,710

something like that there are lots of

916

00:43:31,000 --> 00:43:29,150

really complicated systems that we

917

00:43:32,289 --> 00:43:31,010

encounter in the world financial markets

918

00:43:34,359 --> 00:43:32,299

are just one of them and think about how

919

00:43:36,789 --> 00:43:34,369

complicated the human brain is for

920

00:43:38,140 --> 00:43:36,799

instance we don't understand it but we

921

00:43:39,849 --> 00:43:38,150

have some idea that we're making

922

00:43:42,039 --> 00:43:39,859

progress be people in Wall Street that

923

00:43:43,660 --> 00:43:42,049

given models that they want to go by

924

00:43:45,460 --> 00:43:43,670

because they think our high is the magic

925

00:43:47,049 --> 00:43:45,470

bullet to being rich that is very

926

00:43:50,589 --> 00:43:47,059

tempting when you're presented with some

927

00:43:52,150 --> 00:43:50,599

piece of mathematics to imagine that it

928

00:43:54,280 --> 00:43:52,160

solves all of your problems but that

929

00:43:56,380 --> 00:43:54,290

precisely what I argue in the book these

930

00:43:58,030 --> 00:43:56,390

models shouldn't be thought of doing I

931

00:43:59,829 --> 00:43:58,040

think that they provide a certain kind

932

00:44:00,970 --> 00:43:59,839

of information they provide insights

933

00:44:03,160 --> 00:44:00,980

that you simply couldn't get otherwise

934

00:44:05,260 --> 00:44:03,170

but they're there one tool along many

935

00:44:07,329 --> 00:44:05,270

what kind of people have been over

936

00:44:09,039 --> 00:44:07,339

selling these models to be used on Wall

937

00:44:10,450 --> 00:44:09,049

Street and perhaps overstating their

938

00:44:12,190 --> 00:44:10,460

effectiveness there are a lot of people

939

00:44:15,549 --> 00:44:12,200

on Wall Street and Finance quite

940

00:44:19,599 --> 00:44:15,559

generally who use models for instance

941

00:44:21,460 --> 00:44:19,609

for sales purposes or who are trying to

942

00:44:23,440 --> 00:44:21,470

make a certain kind of sales pitch and a

943

00:44:25,150 --> 00:44:23,450

pretty compelling idea that you know

944

00:44:27,490 --> 00:44:25,160

you've got some some genius in the back

945

00:44:29,289 --> 00:44:27,500

room who's got everything figured out I

946

00:44:30,609 --> 00:44:29,299

think that caution is the word of the

947

00:44:33,099 --> 00:44:30,619

day I think that these things can be

948

00:44:35,559 --> 00:44:33,109

effectively but well they could be

949

00:44:37,210 --> 00:44:35,569

overhyped very easily how much part do

950

00:44:39,009 --> 00:44:37,220

you think it played in the financial

951  
00:44:40,839 --> 00:44:39,019  
crisis we now find ourselves in these

952  
00:44:42,339 --> 00:44:40,849  
models people relying on these models

953  
00:44:45,220 --> 00:44:42,349  
but and how much of it was basically

954  
00:44:48,279 --> 00:44:45,230  
agreed with that deregulation there's a

955  
00:44:51,099 --> 00:44:48,289  
strong sense in which the models were

956  
00:44:53,470 --> 00:44:51,109  
misused in the lead-up to the financial

957  
00:44:56,589 --> 00:44:53,480  
crisis i think that one can put a kind

958  
00:44:58,029 --> 00:44:56,599  
of faith in models that sort of blind

959  
00:44:59,670 --> 00:44:58,039  
you two ways in which they can fail and

960  
00:45:02,920 --> 00:44:59,680  
in particular can blind you to

961  
00:45:04,690 --> 00:45:02,930  
particular assumptions that go into to

962  
00:45:06,640 --> 00:45:04,700  
some model that you'd like to use or

963  
00:45:09,039 --> 00:45:06,650

some financial practices based on some

964

00:45:11,650 --> 00:45:09,049

model and as a result can create

965

00:45:13,180 --> 00:45:11,660

situations that are very very risky I

966

00:45:14,739 --> 00:45:13,190

think that's what happened in 2008 that

967

00:45:16,150 --> 00:45:14,749

there was a particular model that was

968

00:45:18,460 --> 00:45:16,160

based on an assumption about housing

969

00:45:20,109 --> 00:45:18,470

prices that was very very good up to

970

00:45:21,549 --> 00:45:20,119

about two thousand six and then the

971

00:45:23,980 --> 00:45:21,559

assumption started being less and less

972

00:45:25,870 --> 00:45:23,990

good as housing prices started to drop

973

00:45:28,599 --> 00:45:25,880

there were certainly plenty of people

974

00:45:29,920 --> 00:45:28,609

around who recognized that the model was

975

00:45:32,200 --> 00:45:29,930

based on the assumption that that

976  
00:45:34,150 --> 00:45:32,210  
assumption was failing and changed the

977  
00:45:36,700 --> 00:45:34,160  
practices it's just that for instance

978  
00:45:38,349 --> 00:45:36,710  
credit ratings agencies didn't change

979  
00:45:41,829 --> 00:45:38,359  
their practices and so they kept

980  
00:45:44,140 --> 00:45:41,839  
assigning very high ratings to deserting

981  
00:45:46,120 --> 00:45:44,150  
products that were much more risky than

982  
00:45:47,739 --> 00:45:46,130  
it appeared you shouldn't think that you

983  
00:45:49,450 --> 00:45:47,749  
have solved the problem you should think

984  
00:45:50,950 --> 00:45:49,460  
that you have gotten the kind of

985  
00:45:52,839 --> 00:45:50,960  
approximate solution that's going to

986  
00:45:54,759 --> 00:45:52,849  
work sometimes and you should spend an

987  
00:45:56,920 --> 00:45:54,769  
awful lot of energy trying to figure out

988  
00:45:59,019 --> 00:45:56,930

under what circumstances these things

989

00:46:00,130 --> 00:45:59,029

are going to be effective and identify

990

00:46:01,630 --> 00:46:00,140

the circumstances under which they're

991

00:46:03,460 --> 00:46:01,640

going to fail to be effective and what

992

00:46:05,410 --> 00:46:03,470

exactly did economists and

993

00:46:07,539 --> 00:46:05,420

mathematicians get together and start to

994

00:46:08,799 --> 00:46:07,549

try and come up with modeling that could

995

00:46:11,019 --> 00:46:08,809

help them make money on the stock market

996

00:46:15,220 --> 00:46:11,029

was it shortly after Sumerians invented

997

00:46:16,809 --> 00:46:15,230

writing or what happened so shortly

998

00:46:19,120 --> 00:46:16,819

after the Sumerians invented writing

999

00:46:20,920 --> 00:46:19,130

they invented a derivative contract so

1000

00:46:22,749 --> 00:46:20,930

we started seeing we spent heard a lot

1001  
00:46:24,970 --> 00:46:22,759  
of the last few years about how how

1002  
00:46:27,249 --> 00:46:24,980  
derivatives or this disastrous new

1003  
00:46:29,440 --> 00:46:27,259  
financial practice someone with a bit of

1004  
00:46:31,150 --> 00:46:29,450  
sense even the Sumerians would have gone

1005  
00:46:32,680 --> 00:46:31,160  
hang on a minute this derivative stuff

1006  
00:46:34,180 --> 00:46:32,690  
just looks like it's going to file one

1007  
00:46:35,739 --> 00:46:34,190  
day and fail big and if there'd been

1008  
00:46:37,599 --> 00:46:35,749  
someone like you in the room you would

1009  
00:46:39,039 --> 00:46:37,609  
have gone you this is just like betting

1010  
00:46:39,999 --> 00:46:39,049  
you this is just like gambling what you

1011  
00:46:41,769 --> 00:46:40,009  
guys are doing there must have been

1012  
00:46:42,970 --> 00:46:41,779  
someone somewhere that said that I think

1013  
00:46:44,380 --> 00:46:42,980

that there are a lot of people I mean I

1014

00:46:45,910 --> 00:46:44,390

think people are recognized

1015

00:46:47,349 --> 00:46:45,920

Reuters are a lot like gambling for a

1016

00:46:48,819 --> 00:46:47,359

long time you know the thing that the

1017

00:46:51,400 --> 00:46:48,829

derivatives are useful for is

1018

00:46:52,660 --> 00:46:51,410

controlling risk in a certain way make

1019

00:46:54,279 --> 00:46:52,670

certain sorts of investments for

1020

00:46:57,069 --> 00:46:54,289

instance that are inherently risky and

1021

00:46:58,299 --> 00:46:57,079

if you can come up with something some

1022

00:47:01,240 --> 00:46:58,309

sort of bet that you can make that

1023

00:47:03,609 --> 00:47:01,250

you're going to win just in case the

1024

00:47:05,529 --> 00:47:03,619

decision you have to make goes bad then

1025

00:47:06,940 --> 00:47:05,539

you know you protected yourself a little

1026

00:47:08,319 --> 00:47:06,950

bit that's the right way of thinking

1027

00:47:10,059 --> 00:47:08,329

about say an options contract or the

1028

00:47:11,470 --> 00:47:10,069

kind of insurance have you ever been

1029

00:47:12,880 --> 00:47:11,480

involved in the stock market have you

1030

00:47:14,980 --> 00:47:12,890

ever been tempted to get into this so

1031

00:47:17,200 --> 00:47:14,990

you've gone all no not me I think what

1032

00:47:19,509 --> 00:47:17,210

I've learned from spending a few years

1033

00:47:21,460 --> 00:47:19,519

writing a book about finance is that you

1034

00:47:23,140 --> 00:47:21,470

got either and try and answer the

1035

00:47:25,569 --> 00:47:23,150

question without using the term insider

1036

00:47:27,370 --> 00:47:25,579

trading as well James if you can yeah

1037

00:47:28,990 --> 00:47:27,380

that's right so look I mean the way I

1038

00:47:30,789 --> 00:47:29,000

think about it unless you can do this

1039

00:47:32,769 --> 00:47:30,799

full time you're better off just

1040

00:47:34,299 --> 00:47:32,779

investing in index funds for instance

1041

00:47:36,039 --> 00:47:34,309

because as well as about talking about

1042

00:47:38,289 --> 00:47:36,049

the Wall Street connection with various

1043

00:47:40,450 --> 00:47:38,299

theories and models you go into the

1044

00:47:42,339 --> 00:47:40,460

history of chaos and unpredictability

1045

00:47:44,470 --> 00:47:42,349

theory I've learned a lot about

1046

00:47:45,730 --> 00:47:44,480

Mandelbrot and the Mandelbrot set which

1047

00:47:48,220 --> 00:47:45,740

I just thought used to be a very cool

1048

00:47:50,019 --> 00:47:48,230

indie band but in fact detection it's

1049

00:47:51,430 --> 00:47:50,029

actually a mathematical theory please

1050

00:47:53,079 --> 00:47:51,440

some it just tells bit more about

1051

00:47:55,089 --> 00:47:53,089

Mandelbrot and particularly how his

1052

00:47:56,559 --> 00:47:55,099

experiences in Vichy France during the

1053

00:47:59,140 --> 00:47:56,569

Second World War got him interested in

1054

00:48:01,029 --> 00:47:59,150

chaos Mandelbrot was a French

1055

00:48:02,920 --> 00:48:01,039

mathematician who came to the US right

1056

00:48:05,769 --> 00:48:02,930

after World War Two and invented the

1057

00:48:08,829 --> 00:48:05,779

word fractal and Mandelbrot's big

1058

00:48:12,099 --> 00:48:08,839

contribution to financial theory with

1059

00:48:15,160 --> 00:48:12,109

the observation that there are systems

1060

00:48:17,920 --> 00:48:15,170

or events that can vary way more

1061

00:48:19,390 --> 00:48:17,930

dramatically than the kind of random

1062

00:48:21,910 --> 00:48:19,400

processes that were used to so we're

1063

00:48:24,160 --> 00:48:21,920

used to things like coin flips and their

1064

00:48:26,499 --> 00:48:24,170

systems that are just in some sense more

1065

00:48:30,609 --> 00:48:26,509

wildly random than that he had at one

1066

00:48:33,519 --> 00:48:30,619

point made a kind of analogy to his life

1067

00:48:35,650 --> 00:48:33,529

during as a Jew in hiding in France

1068

00:48:37,660 --> 00:48:35,660

during World War two that you know most

1069

00:48:40,120 --> 00:48:37,670

of the time things were fine but then

1070

00:48:41,620 --> 00:48:40,130

some panzer division would roll through

1071

00:48:44,559 --> 00:48:41,630

town and things would become very very

1072

00:48:47,470 --> 00:48:44,569

hairy very very fast and that kind of

1073

00:48:49,539 --> 00:48:47,480

dramatic variation was uh I think pretty

1074

00:48:51,519 --> 00:48:49,549

pretty influential forum I love talking

1075

00:48:53,710 --> 00:48:51,529

about fractals I like talking about that

1076  
00:48:56,170 --> 00:48:53,720  
in everyday life where a small situation

1077  
00:48:58,120 --> 00:48:56,180  
to me and please tell me if I'm wrong

1078  
00:49:01,269 --> 00:48:58,130  
here because I'm asking the right guy as

1079  
00:49:03,220 --> 00:49:01,279  
all situation is a indicative of a

1080  
00:49:04,990 --> 00:49:03,230  
larger situation that's going on in the

1081  
00:49:06,940 --> 00:49:05,000  
world I'm just experiencing one small

1082  
00:49:09,309 --> 00:49:06,950  
fractal of it is that a correct usage of

1083  
00:49:11,410 --> 00:49:09,319  
the term or not I don't think that's the

1084  
00:49:13,900 --> 00:49:11,420  
right way of using the term it is the

1085  
00:49:15,039 --> 00:49:13,910  
case though that fractals are patterns

1086  
00:49:16,690 --> 00:49:15,049  
that have a certain kind of

1087  
00:49:19,329 --> 00:49:16,700  
self-similarity so just like you say I

1088  
00:49:21,099 --> 00:49:19,339

mean microcosms of a certain sort have

1089

00:49:22,359 --> 00:49:21,109

have this feature in order for it to

1090

00:49:24,519 --> 00:49:22,369

actually be a frazzle though it has to

1091

00:49:26,650 --> 00:49:24,529

repeat infinitely many times so you know

1092

00:49:29,019 --> 00:49:26,660

no matter how finely you look things

1093

00:49:30,970 --> 00:49:29,029

have to look just the same as you know

1094

00:49:32,980 --> 00:49:30,980

larger larger distances your larger

1095

00:49:35,980 --> 00:49:32,990

scales so you think it's possible to use

1096

00:49:38,859 --> 00:49:35,990

the term factor for any social modeling

1097

00:49:41,019 --> 00:49:38,869

or not this is just how modeling work

1098

00:49:42,460 --> 00:49:41,029

there's a sense in which when you have

1099

00:49:44,140 --> 00:49:42,470

finite systems you can't really talk

1100

00:49:47,769 --> 00:49:44,150

about fractals there's another sense

1101

00:49:50,490 --> 00:49:47,779

though in which self-similarity can can

1102

00:49:53,559 --> 00:49:50,500

certainly occur where dynamics between

1103

00:49:56,049 --> 00:49:53,569

two people for instance in a some sort

1104

00:49:58,150 --> 00:49:56,059

of romantic relationship can be similar

1105

00:50:00,309 --> 00:49:58,160

to dynamics between two groups which

1106

00:50:02,859 --> 00:50:00,319

could be similar to dynamics between two

1107

00:50:05,650 --> 00:50:02,869

nations one can certainly look at

1108

00:50:08,200 --> 00:50:05,660

patterns like that of was looking at a

1109

00:50:10,180 --> 00:50:08,210

graph of a pattern in your book the

1110

00:50:11,980 --> 00:50:10,190

physics of Wall Street was a a graph

1111

00:50:14,259 --> 00:50:11,990

that predicts where you would be if you

1112

00:50:16,120 --> 00:50:14,269

were drunk in a long corridor looking

1113

00:50:18,249 --> 00:50:16,130

for your hotel room if you've got where

1114

00:50:19,539 --> 00:50:18,259

it is called a Cauchy pattern what is

1115

00:50:21,579 --> 00:50:19,549

that the correct pronunciation of that

1116

00:50:23,230 --> 00:50:21,589

so the one characterizing where you'd be

1117

00:50:25,749 --> 00:50:23,240

if you're wandering around a hotel room

1118

00:50:28,839 --> 00:50:25,759

is a called a normal distribution a co

1119

00:50:30,940 --> 00:50:28,849

she distribution is one that actually

1120

00:50:32,410 --> 00:50:30,950

Mandelbrot spent a lot of time working

1121

00:50:34,059 --> 00:50:32,420

on the difference in turn or mille

1122

00:50:36,279 --> 00:50:34,069

distribution and koshi distribution is

1123

00:50:38,680 --> 00:50:36,289

just this difference of wild variations

1124

00:50:41,289 --> 00:50:38,690

of kosher distribution make a kind of

1125

00:50:43,079 --> 00:50:41,299

prediction about the likelihood of for

1126  
00:50:46,059 --> 00:50:43,089  
instance you ending up in front of room

1127  
00:50:47,289 --> 00:50:46,069  
1000 if you start in front of room 100

1128  
00:50:49,029 --> 00:50:47,299  
much more likely that you're going to

1129  
00:50:49,900 --> 00:50:49,039  
end up that far away and if you're

1130  
00:50:51,970 --> 00:50:49,910  
governed by a normal distribution

1131  
00:50:53,499 --> 00:50:51,980  
there's different sorts of random and

1132  
00:50:55,150 --> 00:50:53,509  
the way you would be drunk looking for

1133  
00:50:57,339 --> 00:50:55,160  
your hotel room in a long corridor is

1134  
00:50:58,630 --> 00:50:57,349  
different from a random distribution of

1135  
00:51:00,039 --> 00:50:58,640  
those numbers is that correct that's

1136  
00:51:03,069 --> 00:51:00,049  
right there are different senses in

1137  
00:51:06,789 --> 00:51:03,079  
which probabilities can vary we have an

1138  
00:51:08,140 --> 00:51:06,799

idea that randomness corresponds to a

1139

00:51:09,099 --> 00:51:08,150

certain kind of unpredictability and

1140

00:51:10,870 --> 00:51:09,109

there's certainly a sense in which

1141

00:51:12,100 --> 00:51:10,880

that's true if I flip a coin I can't

1142

00:51:14,260 --> 00:51:12,110

predict if it's going to come up

1143

00:51:16,030 --> 00:51:14,270

details I can make predictions about

1144

00:51:18,670 --> 00:51:16,040

what would happen if I were to flip the

1145

00:51:20,320 --> 00:51:18,680

coin say a million time understanding

1146

00:51:22,150 --> 00:51:20,330

what kind of random process you're

1147

00:51:23,830 --> 00:51:22,160

dealing with can allow you to make this

1148

00:51:25,780 --> 00:51:23,840

sorts of long-term statistical

1149

00:51:27,520 --> 00:51:25,790

predictions about relative frequencies

1150

00:51:29,020 --> 00:51:27,530

how often head is going to show up

1151  
00:51:30,790 --> 00:51:29,030  
relative to how often tails is going to

1152  
00:51:33,760 --> 00:51:30,800  
show up do you think sometimes the

1153  
00:51:35,950 --> 00:51:33,770  
popular view of science makes us expect

1154  
00:51:37,450 --> 00:51:35,960  
a little bit much where's my quantum

1155  
00:51:39,670 --> 00:51:37,460  
computer laptop I haven't got it yet

1156  
00:51:42,460 --> 00:51:39,680  
yeah I do think that in fact i think

1157  
00:51:45,910 --> 00:51:42,470  
that there's an awful lot of pressure on

1158  
00:51:48,130 --> 00:51:45,920  
scientist to make the case prematurely

1159  
00:51:50,260 --> 00:51:48,140  
for what sorts of ramifications or

1160  
00:51:52,270 --> 00:51:50,270  
Consequences the research could have

1161  
00:51:54,360 --> 00:51:52,280  
they're often pressed to make certain

1162  
00:51:56,440 --> 00:51:54,370  
kinds of promises lead to misplaced

1163  
00:51:57,970 --> 00:51:56,450

expectations I mean these are very very

1164

00:52:00,430 --> 00:51:57,980

difficult problems I concern the

1165

00:52:01,930 --> 00:52:00,440

fundamental nature of the world they

1166

00:52:03,700 --> 00:52:01,940

aren't solved overnight that's not going

1167

00:52:05,890 --> 00:52:03,710

to send very good on TV show James I

1168

00:52:07,930 --> 00:52:05,900

don't they can let you on he stopped the

1169

00:52:09,370 --> 00:52:07,940

widow sang our look we probably can't do

1170

00:52:11,890 --> 00:52:09,380

it but wait I mean really who's gonna

1171

00:52:12,940 --> 00:52:11,900

want to hear that it worse we're

1172

00:52:13,960 --> 00:52:12,950

probably not going to be able to do it

1173

00:52:17,050 --> 00:52:13,970

but wait and give us a lot of money

1174

00:52:18,940 --> 00:52:17,060

along the way science is fun but science

1175

00:52:21,160 --> 00:52:18,950

is also if done properly science is hard

1176  
00:52:23,230 --> 00:52:21,170  
it's very hard I mean there's not much

1177  
00:52:24,580 --> 00:52:23,240  
low-hanging fruit left be there the

1178  
00:52:26,710 --> 00:52:24,590  
problems that we're running up against

1179  
00:52:29,080 --> 00:52:26,720  
now really I think at the very edge of

1180  
00:52:31,810 --> 00:52:29,090  
our technological ability and and

1181  
00:52:33,370 --> 00:52:31,820  
perhaps our intellectual ability in the

1182  
00:52:35,800 --> 00:52:33,380  
physics of Wall Street we're looking at

1183  
00:52:37,690 --> 00:52:35,810  
a situation where people have tried to

1184  
00:52:39,640 --> 00:52:37,700  
find the golden bullet to be rich and

1185  
00:52:40,960 --> 00:52:39,650  
they've tried to miss you science the

1186  
00:52:42,190 --> 00:52:40,970  
physicist that I talk about in the book

1187  
00:52:43,960 --> 00:52:42,200  
I don't think it's fair to say that they

1188  
00:52:45,010 --> 00:52:43,970

miss you science but I think it there

1189

00:52:47,770 --> 00:52:45,020

have been an awful lot of people who

1190

00:52:50,050 --> 00:52:47,780

have taken these ideas look these things

1191

00:52:53,080 --> 00:52:50,060

were produced by these brilliant people

1192

00:52:54,550 --> 00:52:53,090

and that makes them reliable and a kind

1193

00:52:56,560 --> 00:52:54,560

of insight into the world and no one

1194

00:52:58,060 --> 00:52:56,570

else has and you should invest in my

1195

00:52:59,890 --> 00:52:58,070

fund and give me twenty percent of

1196

00:53:01,180 --> 00:52:59,900

anything you make because I've got I've

1197

00:53:02,710 --> 00:53:01,190

got this equation that I'm going to

1198

00:53:05,440 --> 00:53:02,720

invest based on be wary of

1199

00:53:06,850 --> 00:53:05,450

mathematicians bearing gifts the Hilaria

1200

00:53:09,130 --> 00:53:06,860

mathematicians inviting you to join

1201  
00:53:11,170 --> 00:53:09,140  
hedge fund I'd like a message for people

1202  
00:53:12,730 --> 00:53:11,180  
who might be getting into university or

1203  
00:53:14,320 --> 00:53:12,740  
getting into some of the fields that

1204  
00:53:16,390 --> 00:53:14,330  
you've been involved in but what do you

1205  
00:53:18,550 --> 00:53:16,400  
think is the next great challenge that

1206  
00:53:20,230 --> 00:53:18,560  
someone who's at university now can get

1207  
00:53:21,610 --> 00:53:20,240  
involved in and possibly be part of the

1208  
00:53:23,710 --> 00:53:21,620  
next break through it I know you said

1209  
00:53:25,180 --> 00:53:23,720  
earlier things are hard what field

1210  
00:53:25,509 --> 00:53:25,190  
should they be getting into and looking

1211  
00:53:31,029 --> 00:53:25,519  
at

1212  
00:53:33,759 --> 00:53:31,039  
amazing discovery is waiting to be found

1213  
00:53:35,169 --> 00:53:33,769

in for instance in neuroscience and the

1214

00:53:36,909 --> 00:53:35,179

brain is something that we don't

1215

00:53:38,139 --> 00:53:36,919

understand that we you know we think we

1216

00:53:40,929 --> 00:53:38,149

have a chance of understanding i think

1217

00:53:42,370 --> 00:53:40,939

their mathematics of Social Sciences is

1218

00:53:43,929 --> 00:53:42,380

something that we're really only

1219

00:53:45,309 --> 00:53:43,939

beginning to understand I'm still

1220

00:53:47,199 --> 00:53:45,319

hopeful that we're going to figure out

1221

00:53:49,899 --> 00:53:47,209

for instance stuff like how to build a

1222

00:53:51,279 --> 00:53:49,909

quantum quantum computer and how to put

1223

00:53:52,779 --> 00:53:51,289

together general relativity and quantum

1224

00:53:54,759 --> 00:53:52,789

mechanics and so I would still encourage

1225

00:53:56,799 --> 00:53:54,769

students to go into that when i meet

1226

00:53:58,029 --> 00:53:56,809

physicists which I occasionally do it

1227

00:54:00,549 --> 00:53:58,039

like the amazing meeting or something

1228

00:54:02,319 --> 00:54:00,559

like that I mentioned the name of a dr

1229

00:54:04,479 --> 00:54:02,329

michio Keiko and they usually get bit of

1230

00:54:06,699 --> 00:54:04,489

an eye roll or the theoretical physicist

1231

00:54:11,769 --> 00:54:06,709

from New York where do you stand on some

1232

00:54:13,269 --> 00:54:11,779

of the things he says no coffee I was

1233

00:54:15,909 --> 00:54:13,279

going to bring up hologram theory but

1234

00:54:17,889 --> 00:54:15,919

probably shouldn't I don't think i will

1235

00:54:19,779 --> 00:54:17,899

say that i think that is very important

1236

00:54:21,370 --> 00:54:19,789

I mean I as i said i got into physics

1237

00:54:23,409 --> 00:54:21,380

because of a scientific American article

1238

00:54:25,120 --> 00:54:23,419

i read that was in many ways over the

1239

00:54:26,589 --> 00:54:25,130

top and promised more than men could

1240

00:54:28,329 --> 00:54:26,599

ever be delivered certainly ever was

1241

00:54:30,699 --> 00:54:28,339

delivered on that theory there's a way

1242

00:54:32,799 --> 00:54:30,709

in which is exhilarating to think not

1243

00:54:34,329 --> 00:54:32,809

just about what what we're going to be

1244

00:54:36,489 --> 00:54:34,339

able to do over the next five or ten

1245

00:54:38,620 --> 00:54:36,499

years but to speculate a bit about what

1246

00:54:40,779 --> 00:54:38,630

might be possible in science in order to

1247

00:54:42,909 --> 00:54:40,789

get people interested to draw young

1248

00:54:45,009 --> 00:54:42,919

people into the field my own view on

1249

00:54:46,839 --> 00:54:45,019

speculative physics are one thing my

1250

00:54:49,929 --> 00:54:46,849

view though on and the importance of

1251  
00:54:51,519 --> 00:54:49,939  
making science exciting is another let's

1252  
00:54:53,829 --> 00:54:51,529  
finish out what do you find the most

1253  
00:54:54,909 --> 00:54:53,839  
fascinating science website to go to one

1254  
00:54:56,199 --> 00:54:54,919  
that you would recommend where you can

1255  
00:54:58,209 --> 00:54:56,209  
find everything things that you always

1256  
00:55:00,249 --> 00:54:58,219  
find interesting to read honestly my

1257  
00:55:02,799 --> 00:55:00,259  
favorite and you know it's a little bit

1258  
00:55:05,409 --> 00:55:02,809  
of you syncretic and not everyone's

1259  
00:55:09,279 --> 00:55:05,419  
going to love it but it's john biases

1260  
00:55:11,499 --> 00:55:09,289  
website da easy joan baez cousins felt

1261  
00:55:14,079 --> 00:55:11,509  
the same way he is the oldest science

1262  
00:55:15,879 --> 00:55:14,089  
blog online called this week's finds in

1263  
00:55:18,999 --> 00:55:15,889

mathematical physics and he is a

1264

00:55:21,039 --> 00:55:19,009

brilliant expositor of the wildest ways

1265

00:55:22,749 --> 00:55:21,049

in which mass appears in the natural

1266

00:55:24,189 --> 00:55:22,759

world what's an example of something he

1267

00:55:25,870 --> 00:55:24,199

might have looked at in the past we go

1268

00:55:28,449 --> 00:55:25,880

well he'd become very interested

1269

00:55:29,859 --> 00:55:28,459

recently in environmentalism and so he's

1270

00:55:32,289 --> 00:55:29,869

been doing a lot of stuff on how

1271

00:55:33,909 --> 00:55:32,299

mathematics can be used to understand

1272

00:55:35,589 --> 00:55:33,919

the climate and understand climate

1273

00:55:37,779 --> 00:55:35,599

change but he's done all sorts of stuff

1274

00:55:39,400 --> 00:55:37,789

on game theory and so he'll you know who

1275

00:55:41,640 --> 00:55:39,410

give very simple examples of

1276

00:55:43,599 --> 00:55:41,650

mathematics of different games

1277

00:55:44,950 --> 00:55:43,609

mathematical patterns come up their

1278

00:55:46,690 --> 00:55:44,960

stuff like that that's something to keep

1279

00:56:01,100 --> 00:55:46,700

us up late at night right thank you very

1280

00:56:05,490 --> 00:56:03,900

the hand side is a podcast of the

1281

00:56:08,670 --> 00:56:05,500

monthly lectures run back camera

1282

00:56:10,550 --> 00:56:08,680

skeptics incorporating each month camera

1283

00:56:13,290 --> 00:56:10,560

skeptics provides experts in their field

1284

00:56:15,810 --> 00:56:13,300

ranging from science and philosophy to

1285

00:56:18,270 --> 00:56:15,820

politics and national security with an

1286

00:56:22,260 --> 00:56:18,280

opportunity to present their views you

1287

00:56:25,680 --> 00:56:22,270

can find us at WWE Ambrose skeptics dot

1288

00:56:45,960 --> 00:56:25,690

org dot a you the hand side cameras kept

1289

00:56:54,010 --> 00:56:48,340

thank you for listening to the skeptic

1290

00:56:55,840 --> 00:56:54,020

zone I have to now sadly start thinking

1291

00:56:59,860 --> 00:56:55,850

about packing my bags have it a long

1292

00:57:03,000 --> 00:56:59,870

flight tomorrow an extended stay on an

1293

00:57:05,980 --> 00:57:03,010

aeroplane while I fly back to Australia

1294

00:57:09,660 --> 00:57:05,990

it's hard to imagine as I look up here

1295

00:57:12,010 --> 00:57:09,670

at the city the city walls and the trees

1296

00:57:15,010 --> 00:57:12,020

but all good things must come to an end

1297

00:57:16,480 --> 00:57:15,020

I guess so I'm till next week back in

1298

00:57:19,210 --> 00:57:16,490

Australia this is Richard Saunders

1299

00:57:27,910 --> 00:57:19,220

signing off from beautiful al emotes in

1300

00:57:32,100 --> 00:57:27,920

the Czech Republic you've been listening

1301

00:57:36,790 --> 00:57:32,110

to the skeptic zone visit our website at