

APRIL 20, 2020 **LIVE**

10:00 PM ET | 08:00 PM MT | 07:00 PM PT

SPECIAL GUEST
ISAAC ARTHUR

F2B
with Jimmy Church



ARTIFICIAL INTELLIGENCE



#F2B JIMMYCHURCHRADIO.COM

1
00:02:57,460 --> 00:02:53,550

[Music]

2
00:03:01,150 --> 00:02:57,470

this hope radio for the masses Atlanta

3
00:03:03,130 --> 00:03:01,160

between July 8 1947 we're on the airport

4
00:03:05,199 --> 00:03:03,140

with open arms and applying there -

5
00:03:08,140 --> 00:03:05,209

found and is now in the possession of

6
00:03:10,240 --> 00:03:08,150

the RA the game is rigged changed the

7
00:03:13,360 --> 00:03:10,250

game

8
00:03:17,710 --> 00:03:13,370

I occasionally think how quickly our

9
00:03:20,319 --> 00:03:17,720

differences worldwide would vanish if we

10
00:03:23,530 --> 00:03:20,329

were facing an alien threat from outside

11
00:03:28,800 --> 00:03:26,070

[Applause]

12
00:03:31,770 --> 00:03:28,810

this is painted black with your host

13
00:03:34,980 --> 00:03:31,780

Jimmy church on the game-changer Radio

14

00:03:38,670 --> 00:03:34,990

Network and K GRA the global radio

15

00:03:47,650 --> 00:03:43,950

I need your help to get to the year 1980

16

00:03:49,810 --> 00:03:47,660

[Music]

17

00:03:52,760 --> 00:03:49,820

you're listening to fade to black with

18

00:04:00,530 --> 00:03:52,770

Jimmy judge on the game changing Network

19

00:04:00,540 --> 00:04:07,820

good evening fade to black

20

00:04:15,949 --> 00:04:13,300

misspoke radio so

21

00:04:25,070 --> 00:04:20,680

math says say man today is Monday April

22

00:04:26,930 --> 00:04:25,080

20th 2020

23

00:04:27,630 --> 00:04:26,940

[Music]

24

00:04:30,730 --> 00:04:27,640

[Applause]

25

00:04:35,270 --> 00:04:30,740

[Music]

26
00:04:40,720 --> 00:04:35,280
111 days into the new year only 265 days

27
00:04:44,690 --> 00:04:40,730
left that's right it's happy 4/20 day

28
00:04:46,400 --> 00:04:44,700
there you go you potheads we are live

29
00:04:48,610 --> 00:04:46,410
from a bunker somewhere in the middle of

30
00:04:50,720 --> 00:04:48,620
beautiful downtown Burbank California

31
00:04:52,220 --> 00:04:50,730
and I would like to welcome everybody

32
00:04:55,400 --> 00:04:52,230
listening all around the world all

33
00:04:57,410 --> 00:04:55,410
across the United States hither and

34
00:04:59,500 --> 00:04:57,420
thither to and fro back and forth up and

35
00:05:01,149 --> 00:04:59,510
down east and west north and south

36
00:05:04,780 --> 00:05:01,159
[Music]

37
00:05:10,390 --> 00:05:07,960
good sis fade to black 4k JCR the

38
00:05:13,810 --> 00:05:10,400

game-changer network in kg are a the

39

00:05:15,850 --> 00:05:13,820

planets are meals Jimmy Church

40

00:05:21,430 --> 00:05:15,860

what is cracking everybody how you do it

41

00:05:25,060 --> 00:05:21,440

it's Monday April 20th you know that

42

00:05:27,370 --> 00:05:25,070

means you know out all of you all of you

43

00:05:27,900 --> 00:05:27,380

pot heads right now I know it's your

44

00:05:32,350 --> 00:05:27,910

father

45

00:05:48,490 --> 00:05:35,619

whole stem yeah I know what a full stem

46

00:05:55,290 --> 00:05:48,500

is they still call them that man you can

47

00:05:59,170 --> 00:05:55,300

smell it badi just walk outside for

48

00:06:04,600 --> 00:05:59,180

twenty day and you know now all those

49

00:06:11,469 --> 00:06:04,610

years all of those years of repression

50

00:06:13,149 --> 00:06:11,479

from the man and today where I think is

51

00:06:14,980 --> 00:06:13,159

it possible to still get arrested

52

00:06:17,350 --> 00:06:14,990

somewhere in the United States for pot I

53

00:06:20,559 --> 00:06:17,360

mean even if it's still illegal what I

54

00:06:22,779 --> 00:06:20,569

mean with a cop really you know you got

55

00:06:26,379 --> 00:06:22,789

a joint you got about you whatever you

56

00:06:28,899 --> 00:06:26,389

know would they still arrest you you

57

00:06:31,839 --> 00:06:28,909

know maybe take it from you I don't know

58

00:06:33,939 --> 00:06:31,849

I don't know but they still so and my

59

00:06:36,399 --> 00:06:33,949

point is like here in California where

60

00:06:38,140 --> 00:06:36,409

pot you trip over pot in the streets now

61

00:06:40,800 --> 00:06:38,150

pot is everywhere it's just everywhere

62

00:06:44,110 --> 00:06:40,810

whatever nobody nobody cares

63

00:06:47,850 --> 00:06:44,120

so does that take the rebel portion out

64

00:06:54,879 --> 00:06:47,860

of it you know 4:20 day let's rebel

65

00:06:59,920 --> 00:06:54,889

against the man right it's legal nobody

66

00:07:02,740 --> 00:06:59,930

cares anymore oh man it's so funny well

67

00:07:05,740 --> 00:07:02,750

we made it we got here happy 4/20 day

68

00:07:07,059 --> 00:07:05,750

everybody and go ahead go ahead go ahead

69

00:07:10,450 --> 00:07:07,069

go ahead

70

00:07:14,529 --> 00:07:10,460

alright oh man

71

00:07:16,209 --> 00:07:14,539

you know what I'm gonna tell a story no

72

00:07:19,899 --> 00:07:16,219

I'm not gonna tell a story I was gonna

73

00:07:22,119 --> 00:07:19,909

tell I was gonna tell a pot story yeah

74

00:07:23,200 --> 00:07:22,129

I'm not gonna do it I'm not gonna do it

75

00:07:27,189 --> 00:07:23,210

I'll do it some other time

76
00:07:30,329 --> 00:07:27,199
I'll tell it freely at another time but

77
00:07:33,100 --> 00:07:30,339
I got it you know it makes you wonder

78
00:07:37,360 --> 00:07:33,110
because we all know what pot smells like

79
00:07:41,129 --> 00:07:37,370
right so if you go back in time go back

80
00:07:44,309 --> 00:07:41,139
twenty or thirty years when you thought

81
00:07:45,629 --> 00:07:44,319
that you were getting away with it right

82
00:07:48,300 --> 00:07:45,639
around you

83
00:07:52,020 --> 00:07:48,310
boss maybe your teachers your family

84
00:07:57,019 --> 00:07:52,030
your mom your dad and he thought you

85
00:08:01,080 --> 00:07:57,029
were being [h__h] you did everybody knew I

86
00:08:03,239 --> 00:08:01,090
mean how could you right right but you

87
00:08:05,459 --> 00:08:03,249
thought you were getting away with it

88
00:08:07,860 --> 00:08:05,469

you were being slick and no because

89

00:08:09,149 --> 00:08:07,870

nobody said anything to you you thought

90

00:08:14,700 --> 00:08:09,159

that you were getting away with it and

91

00:08:17,339 --> 00:08:14,710

you weren't you smelled like pot you can

92

00:08:22,499 --> 00:08:17,349

smell somebody somebody from down the

93

00:08:24,929 --> 00:08:22,509

hall in school at an office you walk

94

00:08:27,629 --> 00:08:24,939

into the house right

95

00:08:29,219 --> 00:08:27,639

15 years old 16 years old and you went

96

00:08:30,990 --> 00:08:29,229

straight up to your bedroom your parents

97

00:08:36,649 --> 00:08:31,000

are downstairs in the family room

98

00:08:40,649 --> 00:08:36,659

watching TV they smelled you they did it

99

00:08:45,240 --> 00:08:40,659

if your mom's pot free smoke-free house

100

00:08:48,420 --> 00:08:45,250

right vacuumed every day clean you walk

101

00:08:51,720 --> 00:08:48,430

in smelling like weed all right

102

00:08:56,340 --> 00:08:51,730

anyway I mean your office you know you

103

00:08:58,829 --> 00:08:56,350

work in a restaurant retail soap odd

104

00:09:02,830 --> 00:08:58,839

smell until you walked in the room after

105

00:09:05,720 --> 00:09:02,840

your lunch break yeah everybody knew

106

00:09:08,100 --> 00:09:05,730

[Laughter]

107

00:09:10,910 --> 00:09:08,110

barbecue chicken that's what I think it

108

00:09:14,759 --> 00:09:10,920

smells like no weed smells like weed

109

00:09:17,340 --> 00:09:14,769

yeah you convince somebody that if you

110

00:09:20,970 --> 00:09:17,350

want alright let's get straight to it

111

00:09:24,240 --> 00:09:20,980

tonight is this week this is what I

112

00:09:27,449 --> 00:09:24,250

dubbed it outside of fade to black I

113

00:09:30,930 --> 00:09:27,459

mean around our circle I said this week

114

00:09:34,290 --> 00:09:30,940

is brain week we're gonna do brain week

115

00:09:37,319 --> 00:09:34,300

we're gonna bring on the big brains to

116

00:09:41,130 --> 00:09:37,329

fade to black and we are doing just that

117

00:09:42,600 --> 00:09:41,140

with tonight Isaac Arthur is here we're

118

00:09:46,530 --> 00:09:42,610

going to be talking about artificial

119

00:09:49,230 --> 00:09:46,540

intelligence and more on all of that in

120

00:09:50,939 --> 00:09:49,240

just a bit but our Isaac Arthur is here

121

00:09:55,139 --> 00:09:50,949

tonight really looking forward to that

122

00:09:58,079 --> 00:09:55,149

tomorrow night dr. Manu saves by day is

123

00:09:58,860 --> 00:09:58,089

here now we are going to be talking

124

00:10:02,190 --> 00:09:58,870

tomorrow

125

00:10:05,340 --> 00:10:02,200

with my new about ancient Egypt Tech and

126

00:10:07,440 --> 00:10:05,350

their high technology and and who and

127

00:10:09,030 --> 00:10:07,450

went and why were the pyramids built so

128

00:10:13,440 --> 00:10:09,040

we're gonna do that tomorrow night

129

00:10:14,790 --> 00:10:13,450

Wednesday night Adam Curry is here we're

130

00:10:17,400 --> 00:10:14,800

gonna be talking about physics and

131

00:10:21,150 --> 00:10:17,410

entanglement and communication all of my

132

00:10:23,250 --> 00:10:21,160

favorite subjects this week every single

133

00:10:25,200 --> 00:10:23,260

night with the biggest brains that we

134

00:10:27,570 --> 00:10:25,210

could bring to you so it's big brain

135

00:10:30,210 --> 00:10:27,580

week here on fade to black Thursday

136

00:10:32,970 --> 00:10:30,220

night is another fader night with your

137

00:10:36,390 --> 00:10:32,980

host me with the small brain but you

138

00:10:41,250 --> 00:10:36,400

guys are here to help me make my brain

139

00:10:45,360 --> 00:10:41,260

grow and more on that in just a bit

140

00:10:48,480 --> 00:10:45,370

all right Kevin Smith Kevin Smith goes

141

00:10:48,930 --> 00:10:48,490

with pot that's a 420 dude right all

142

00:10:53,970 --> 00:10:48,940

right

143

00:10:56,130 --> 00:10:53,980

Silent Bob yeah Jay there you go that's

144

00:11:02,340 --> 00:10:56,140

a good gift right there saw the new

145

00:11:04,290 --> 00:11:02,350

movie actually I'm gonna say this the

146

00:11:07,980 --> 00:11:04,300

new movie is pretty good and it was a

147

00:11:10,230 --> 00:11:07,990

pretty good ending and I was mmm I

148

00:11:13,140 --> 00:11:10,240

watched you just because it was Jay and

149

00:11:15,360 --> 00:11:13,150

Silent Bob all right but it wasn't that

150

00:11:16,950 --> 00:11:15,370

bad it really wasn't it wasn't that bad

151
00:11:21,900 --> 00:11:16,960
wasn't that bad so if you haven't seen

152
00:11:26,400 --> 00:11:21,910
it check it out okay where was I at Oh a

153
00:11:31,770 --> 00:11:26,410
little comment I posted today about a

154
00:11:34,370 --> 00:11:31,780
new show put out by the great country to

155
00:11:38,430 --> 00:11:34,380
our North Canada it's called Kim's

156
00:11:41,160 --> 00:11:38,440
convenience and if you haven't seen it

157
00:11:42,990 --> 00:11:41,170
somebody please post it up in in Twitter

158
00:11:45,030 --> 00:11:43,000
I didn't hit Twitter with it I posted it

159
00:11:50,370 --> 00:11:45,040
up over Facebook earlier today only just

160
00:11:53,370 --> 00:11:50,380
because and the show is great it's great

161
00:11:55,170 --> 00:11:53,380
and and Rita said to me today I said did

162
00:11:57,660 --> 00:11:55,180
you see my poster she goes yeah yeah

163
00:12:02,850 --> 00:11:57,670

your guilty pleasure I said yeah she

164

00:12:07,050 --> 00:12:02,860

goes look how did she phrase it she said

165

00:12:11,550 --> 00:12:07,060

something like the great literature of

166

00:12:12,920 --> 00:12:11,560

the past has always been about life and

167

00:12:14,780 --> 00:12:12,930

that's what

168

00:12:18,889 --> 00:12:14,790

Kym's convenience is about it's about

169

00:12:21,769 --> 00:12:18,899

life and the dad upper Paul is is one of

170

00:12:24,170 --> 00:12:21,779

the funniest funniest guys that I have

171

00:12:26,630 --> 00:12:24,180

seen come along in a long time so check

172

00:12:28,310 --> 00:12:26,640

out Kim's convenience if you haven't

173

00:12:31,130 --> 00:12:28,320

seen it yet you're gonna do what I did

174

00:12:35,110 --> 00:12:31,140

and Rita which is you're just gonna

175

00:12:37,699 --> 00:12:35,120

binge it each episode is like 20 minutes

176
00:12:39,769 --> 00:12:37,709
something like that 20 22 minutes so you

177
00:12:41,750 --> 00:12:39,779
can just go straight through it but it

178
00:12:44,570 --> 00:12:41,760
is a really good series so I posted that

179
00:12:47,750 --> 00:12:44,580
up to date Kim's convenience dude check

180
00:12:49,910 --> 00:12:47,760
it out follow me on twitter @jj do start

181
00:12:51,769 --> 00:12:49,920
there at JT Rydia I have Twitter right

182
00:12:54,769 --> 00:12:51,779
now right in front of me if I could move

183
00:12:57,079 --> 00:12:54,779
the camera you would see Twitter right

184
00:12:59,300 --> 00:12:57,089
here we have to chatrooms one right here

185
00:13:00,680 --> 00:12:59,310
in front if I can move the camera you

186
00:13:02,990 --> 00:13:00,690
would see it it's right here on this not

187
00:13:07,940 --> 00:13:03,000
this could be this one right here right

188
00:13:10,760 --> 00:13:07,950

there all right that's it Spreaker kg ra

189

00:13:12,680 --> 00:13:10,770

hello to everybody over on YouTube you

190

00:13:14,300 --> 00:13:12,690

guys are amazing Facebook you guys are

191

00:13:18,980 --> 00:13:14,310

amazing Twitter you guys are amazing

192

00:13:21,260 --> 00:13:18,990

talk stream live K G RA the planet man

193

00:13:24,500 --> 00:13:21,270

that's where else does everybody go

194

00:13:26,630 --> 00:13:24,510

these days tune in iHeartRadio thank you

195

00:13:28,310 --> 00:13:26,640

alright alright

196

00:13:30,640 --> 00:13:28,320

this Thursday we're going to have Ronnie

197

00:13:33,050 --> 00:13:30,650

McMullen on the show from life change T

198

00:13:36,860 --> 00:13:33,060

very important public service

199

00:13:39,680 --> 00:13:36,870

announcements from Rotti McMullen to

200

00:13:41,810 --> 00:13:39,690

keep your immune system in check and you

201
00:13:43,519 --> 00:13:41,820
can go to get the T comm click on the

202
00:13:46,220 --> 00:13:43,529
banners over at signatures radio comm

203
00:13:49,610 --> 00:13:46,230
get your immune system in check do it

204
00:13:53,780 --> 00:13:49,620
now oh there public service announcement

205
00:13:57,199 --> 00:13:53,790
tomorrow Reid and I are going to go and

206
00:14:00,350 --> 00:13:57,209
get tested so there you go we're gonna

207
00:14:05,360 --> 00:14:00,360
go do that we've got an appointment set

208
00:14:07,069 --> 00:14:05,370
at a drive-thru a drive-thru so we're

209
00:14:10,490 --> 00:14:07,079
gonna see how that goes our report on

210
00:14:13,810 --> 00:14:10,500
all of that tomorrow night on the show

211
00:14:16,670 --> 00:14:13,820
also spoke to Billy Carson this weekend

212
00:14:18,500 --> 00:14:16,680
forbidden knowledge TV is his new TV

213
00:14:21,050 --> 00:14:18,510

network and wanted me to thank all of

214

00:14:24,710 --> 00:14:21,060

you fader knots for coming over and

215

00:14:26,050 --> 00:14:24,720

checking things out thank you thank you

216

00:14:29,200 --> 00:14:26,060

thank you is all that

217

00:14:30,100 --> 00:14:29,210

he could say so I will say to you thank

218

00:14:32,680 --> 00:14:30,110

you

219

00:14:35,980 --> 00:14:32,690

Billy is great he is one of our newest

220

00:14:37,960 --> 00:14:35,990

sponsors here and just like all of our

221

00:14:40,330 --> 00:14:37,970

sponsors they are very important and

222

00:14:43,150 --> 00:14:40,340

just go and visit forbidden knowledge

223

00:14:44,890 --> 00:14:43,160

TVs got over a thousand episodes right

224

00:14:47,410 --> 00:14:44,900

there and you can check it out for three

225

00:14:49,240 --> 00:14:47,420

days you get a three day free trial

226

00:14:51,190 --> 00:14:49,250

three days all right

227

00:14:54,520 --> 00:14:51,200

the banners are over at Jimmy Church

228

00:14:57,490 --> 00:14:54,530

radio calm and also River Moon coffee

229

00:15:01,420 --> 00:14:57,500

their amazon store I've got some news

230

00:15:04,150 --> 00:15:01,430

about Amazon in Walmart that is coming

231

00:15:07,120 --> 00:15:04,160

up Amazon a zoo and everything that they

232

00:15:09,580 --> 00:15:07,130

can to ship and we got a shipment today

233

00:15:12,580 --> 00:15:09,590

wasn't supposed to be here until May it

234

00:15:16,840 --> 00:15:12,590

arrived today it was ordered on Saturday

235

00:15:19,630 --> 00:15:16,850

so and it was non-essential items I can

236

00:15:21,790 --> 00:15:19,640

assure you of that but it arrived today

237

00:15:24,390 --> 00:15:21,800

so Amazon is doing everything they can

238

00:15:27,820 --> 00:15:24,400

to stay in front of this and so is

239

00:15:29,740 --> 00:15:27,830

Walmart but you can visit the river Moon

240

00:15:32,020 --> 00:15:29,750

Coffee Amazon store by clicking on their

241

00:15:33,220 --> 00:15:32,030

banners over to me Church radio comm use

242

00:15:36,010 --> 00:15:33,230

the promo code Jimmy

243

00:15:38,200 --> 00:15:36,020

our emcee all caps Jimmy our emcee

244

00:15:39,460 --> 00:15:38,210

you'll get an additional five percent

245

00:15:40,900 --> 00:15:39,470

off of your order and if you're an

246

00:15:43,480 --> 00:15:40,910

Amazon Prime member you get free

247

00:15:45,250 --> 00:15:43,490

shipping click on the banners over at

248

00:15:47,770 --> 00:15:45,260

Jimmy church radio.com let's get to the

249

00:15:53,710 --> 00:15:47,780

breaking news it was all over the media

250

00:15:57,130 --> 00:15:53,720

today oil prices have plunged falling

251
00:16:02,410 --> 00:15:57,140
below zero before he asked how is that

252
00:16:06,810 --> 00:16:02,420
possible it was trading at minus forty

253
00:16:09,640 --> 00:16:06,820
dollars and 32 cents a barrel what

254
00:16:13,960 --> 00:16:09,650
that's the lowest level since the New

255
00:16:18,520 --> 00:16:13,970
York futures market oil futures trading

256
00:16:24,550 --> 00:16:18,530
opened in 1983 now it recovered slice

257
00:16:26,250 --> 00:16:24,560
Lee is slightly to minus 18.65 cents a

258
00:16:29,800 --> 00:16:26,260
barrel I don't even know what that means

259
00:16:32,410 --> 00:16:29,810
let's West Texas Intermediate oil prices

260
00:16:34,900 --> 00:16:32,420
fell to two dollars and 24 cents a

261
00:16:37,000 --> 00:16:34,910
barrel today reaching a new low for the

262
00:16:39,280 --> 00:16:37,010
US benchmark as the as the market

263
00:16:41,670 --> 00:16:39,290

continued to drop throughout the day

264

00:16:44,230 --> 00:16:41,680

vanishing demand due to Chronos

265

00:16:46,600 --> 00:16:44,240

coronavirus related lockdowns and travel

266

00:16:48,519 --> 00:16:46,610

restrictions and the glut of supply have

267

00:16:51,040 --> 00:16:48,529

combined to heavily tank the US

268

00:16:53,189 --> 00:16:51,050

benchmark fuel as price has dropped from

269

00:16:56,199 --> 00:16:53,199

eighteen dollars and 27 cents a barrel

270

00:16:59,290 --> 00:16:56,209

yesterday to below three dollars a

271

00:17:01,350 --> 00:16:59,300

barrel today down 85 percent from the

272

00:17:06,189 --> 00:17:01,360

previous day's clothes and then

273

00:17:08,860 --> 00:17:06,199

continued downward to below zero I don't

274

00:17:12,250 --> 00:17:08,870

know how that works I don't know I I

275

00:17:17,799 --> 00:17:12,260

mean I don't know I don't know are they

276

00:17:19,270 --> 00:17:17,809

going to pay you to pick up the oil is

277

00:17:22,289 --> 00:17:19,280

this when you pull up with the tanker

278

00:17:25,150 --> 00:17:22,299

truck and go you know what fill her up

279

00:17:26,610 --> 00:17:25,160

alright and then you they cut you a

280

00:17:29,380 --> 00:17:26,620

check

281

00:17:29,860 --> 00:17:29,390

split I don't know I don't know what

282

00:17:34,090 --> 00:17:29,870

that means

283

00:17:36,700 --> 00:17:34,100

Shake Shack is returning ten million

284

00:17:38,260 --> 00:17:36,710

dollars that they borrowed from the

285

00:17:40,330 --> 00:17:38,270

United States government under an

286

00:17:42,760 --> 00:17:40,340

emergency program that was touted as a

287

00:17:44,530 --> 00:17:42,770

way to help small businesses pay workers

288

00:17:47,260 --> 00:17:44,540

and keep their operations running during

289

00:17:50,380 --> 00:17:47,270

the corner virus crisis now Shake Shack

290

00:17:53,169 --> 00:17:50,390

CEO Randy girl Rudy and chairman Danny

291

00:17:55,810 --> 00:17:53,179

Meyer revealed their decision to give

292

00:17:59,169 --> 00:17:55,820

back the funding in an open letter today

293

00:18:01,210 --> 00:17:59,179

saying that other small businesses and

294

00:18:03,730 --> 00:18:01,220

family owned restaurants need the money

295

00:18:06,039 --> 00:18:03,740

more than Shake Shack they've got extra

296

00:18:08,770 --> 00:18:06,049

revenue they raise capital they don't

297

00:18:11,649 --> 00:18:08,780

need it other businesses do they gave

298

00:18:13,960 --> 00:18:11,659

the ten million dollars back that is

299

00:18:16,270 --> 00:18:13,970

great news hope other companies follow

300

00:18:19,299 --> 00:18:16,280

suit if they can do it now after

301
00:18:21,820 --> 00:18:19,309
announcing that it would hire one

302
00:18:24,820 --> 00:18:21,830
hundred and fifty thousand workers by

303
00:18:27,549 --> 00:18:24,830
the end of May Walmart is now adding

304
00:18:29,620 --> 00:18:27,559
even more employees to its workforce the

305
00:18:32,770 --> 00:18:29,630
retail giant announced today that it

306
00:18:36,630 --> 00:18:32,780
would add another 50,000 associates

307
00:18:39,340 --> 00:18:36,640
bringing its total hiring numbers to

308
00:18:41,470 --> 00:18:39,350
200,000 people positions to be hired

309
00:18:43,960 --> 00:18:41,480
include cashiers stalkers and personal

310
00:18:46,120 --> 00:18:43,970
shoppers distribution and fulfillment

311
00:18:49,090 --> 00:18:46,130
centers are hiring for filler and picker

312
00:18:51,740 --> 00:18:49,100
jobs as well as drivers for Walmart's

313
00:18:53,630 --> 00:18:51,750

truck fleet Walmart is working with

314

00:18:56,230 --> 00:18:53,640

more than 70 companies around the

315

00:18:58,250 --> 00:18:56,240

country that have furloughed employees

316

00:19:01,370 --> 00:18:58,260

seeking help from the restaurant

317

00:19:04,130 --> 00:19:01,380

hospitality and retail industries that

318

00:19:06,950 --> 00:19:04,140

is also some more good news now workers

319

00:19:09,470 --> 00:19:06,960

at a Pennsylvania manufacturing plant

320

00:19:12,500 --> 00:19:09,480

got to clock out and go home for the

321

00:19:14,900 --> 00:19:12,510

first time in almost a month after a

322

00:19:16,970 --> 00:19:14,910

marathon effort to make material needed

323

00:19:19,370 --> 00:19:16,980

for personal protective medical

324

00:19:23,600 --> 00:19:19,380

equipment more than 40 employees

325

00:19:26,900 --> 00:19:23,610

volunteered to spend 28 days at the

326
00:19:29,840 --> 00:19:26,910
brass CIM America plant in Marcus Hook

327
00:19:33,470 --> 00:19:29,850
near Philadelphia to make polypropylene

328
00:19:35,900 --> 00:19:33,480
a raw material needed to make ending

329
00:19:40,370 --> 00:19:35,910
medical gowns and other protective gear

330
00:19:42,730 --> 00:19:40,380
they went home finally yesterday the

331
00:19:46,450 --> 00:19:42,740
company gave them an increase in wages

332
00:19:50,690 --> 00:19:46,460
provided beds kitchens groceries

333
00:19:53,780 --> 00:19:50,700
internet access and iPads they'll get a

334
00:19:56,390 --> 00:19:53,790
week off before returning back to their

335
00:20:00,320 --> 00:19:56,400
normal shifts and I want to thank

336
00:20:05,270 --> 00:20:00,330
everybody there at the brass CIM america

337
00:20:08,720 --> 00:20:05,280
plant that is absolutely heroic 28 days

338
00:20:10,970 --> 00:20:08,730

in lockdown at the place where you work

339

00:20:15,200 --> 00:20:10,980

they were doing 12-hour shifts by the

340

00:20:18,380 --> 00:20:15,210

way 12 hours on hit the cot out of the

341

00:20:20,450 --> 00:20:18,390

cot 12 hours on and they did that for 28

342

00:20:23,780 --> 00:20:20,460

straight days absolutely incredible

343

00:20:25,670 --> 00:20:23,790

ok the star works UFOs in an artificial

344

00:20:27,980 --> 00:20:25,680

intelligence conference in Laughlin

345

00:20:32,960 --> 00:20:27,990

Nevada November 5th through the 8th is

346

00:20:35,600 --> 00:20:32,970

still on go to Starworks usa.com for

347

00:20:38,870 --> 00:20:35,610

tickets and info I'm gonna be there I'm

348

00:20:40,970 --> 00:20:38,880

gonna host I might even speak Reid is

349

00:20:43,370 --> 00:20:40,980

going to be their entire fade to black

350

00:20:45,740 --> 00:20:43,380

team is gonna be there and we want to

351
00:20:49,400 --> 00:20:45,750
hang out with all of you at the Aquarius

352
00:20:50,930 --> 00:20:49,410
Hotel and Casino Starworks usa.com for

353
00:20:53,420 --> 00:20:50,940
tickets and info the banners over at

354
00:20:58,130 --> 00:20:53,430
Jimmy Church radio calm also for we're

355
00:21:01,130 --> 00:20:58,140
now the disclosure fest conference here

356
00:21:02,780 --> 00:21:01,140
in Los Angeles downtown at the historic

357
00:21:06,020 --> 00:21:02,790
Los Angeles Park

358
00:21:10,250 --> 00:21:06,030
is still on and the state and city say

359
00:21:13,430 --> 00:21:10,260
that it can continue and it's June 20th

360
00:21:15,050 --> 00:21:13,440
Saturday June 20th and it's it's still

361
00:21:17,090 --> 00:21:15,060
going to be there if it changes we have

362
00:21:19,220 --> 00:21:17,100
another date that we can use in August

363
00:21:22,580 --> 00:21:19,230

we will let you know please go to

364

00:21:25,010 --> 00:21:22,590

disclosure fest dot org for all of your

365

00:21:28,700 --> 00:21:25,020

updated information and tomorrow's

366

00:21:30,500 --> 00:21:28,710

Tuesday I will be hosting the livestream

367

00:21:32,090 --> 00:21:30,510

for disclosure fest so we'll see you

368

00:21:34,610 --> 00:21:32,100

guys over there let's get the show

369

00:21:39,020 --> 00:21:34,620

crackin happy birthday to all I didn't

370

00:21:41,780 --> 00:21:39,030

do oh that's right I meant to go back

371

00:21:44,120 --> 00:21:41,790

and hook in and and do myself I didn't

372

00:21:48,770 --> 00:21:44,130

do my stuff today because I was doing

373

00:21:51,590 --> 00:21:48,780

other things and I was writing and Wow

374

00:21:53,450 --> 00:21:51,600

yeah I meant to circle back and get to

375

00:22:01,340 --> 00:21:53,460

everything tonight I just didn't do it

376

00:22:04,610 --> 00:22:01,350

so now I'm just gonna talk River Moon

377

00:22:06,200 --> 00:22:04,620

coffee calm that's all right tonight

378

00:22:08,000 --> 00:22:06,210

Isaac Arthur's here we're going to be

379

00:22:12,590 --> 00:22:08,010

talking about artificial intelligence

380

00:22:15,130 --> 00:22:12,600

and tomorrow dr. Manu who saves Fateh is

381

00:22:17,540 --> 00:22:15,140

gonna be here Wednesday night Adam curry

382

00:22:19,940 --> 00:22:17,550

it's gonna be a great week Thursday

383

00:22:22,190 --> 00:22:19,950

night of course is Fator night with open

384

00:22:24,950 --> 00:22:22,200

lines all night long please visit River

385

00:22:27,380 --> 00:22:24,960

moon coffee dot-com get yourself some

386

00:22:31,430 --> 00:22:27,390

fade to black blend and our new game

387

00:22:31,760 --> 00:22:31,440

changer blend to blend to blends fade to

388

00:22:36,650 --> 00:22:31,770

black

389

00:22:46,580 --> 00:22:36,660

game changer - - alright Tomoko deaf to

390

00:22:53,330 --> 00:22:46,590

be blunt yeah well it's like this today

391

00:22:56,570 --> 00:22:53,340

oil prices dropped to well below zero

392

00:23:01,210 --> 00:22:56,580

now although I have been talking about

393

00:23:04,280 --> 00:23:01,220

the arrival of this day for over a month

394

00:23:06,440 --> 00:23:04,290

not much was made about it in the media

395

00:23:10,720 --> 00:23:06,450

I've been talking about our warned

396

00:23:13,880 --> 00:23:10,730

everybody this day was going to arrive

397

00:23:14,870 --> 00:23:13,890

nobody wanted to talk about it I did I'm

398

00:23:18,650 --> 00:23:14,880

not

399

00:23:21,350 --> 00:23:18,660

some genius financial analyst I don't

400

00:23:23,780 --> 00:23:21,360

monitor the oil industry I only know

401
00:23:25,610 --> 00:23:23,790
that when you fill up a cup and it gets

402
00:23:27,110 --> 00:23:25,620
to the top you got to get to a second

403
00:23:30,200 --> 00:23:27,120
cup and eventually you're gonna run out

404
00:23:34,190 --> 00:23:30,210
of cups and that's what happened here we

405
00:23:35,870 --> 00:23:34,200
are full of oil we are full there was

406
00:23:37,790 --> 00:23:35,880
just no way that we could continue to

407
00:23:40,370 --> 00:23:37,800
produce an import oil with nobody's

408
00:23:42,920 --> 00:23:40,380
using it everything on this planet is

409
00:23:46,400 --> 00:23:42,930
shut down and we would eventually reach

410
00:23:49,130 --> 00:23:46,410
a point that every tank in every car all

411
00:23:51,410 --> 00:23:49,140
of the oil all the storage facilities

412
00:23:53,830 --> 00:23:51,420
everything everywhere every gas station

413
00:23:59,120 --> 00:23:53,840

in this country will be full to the brim

414

00:24:01,640 --> 00:23:59,130

that day has arrived that's right there

415

00:24:04,160 --> 00:24:01,650

is no place to put the oil including

416

00:24:07,910 --> 00:24:04,170

your car you are not driving anywhere

417

00:24:10,880 --> 00:24:07,920

nobody is right all of the gas tanks in

418

00:24:12,980 --> 00:24:10,890

America are full I have been at three

419

00:24:16,490 --> 00:24:12,990

quarters of a tank for a month

420

00:24:18,980 --> 00:24:16,500

and the needle has not moved it's the

421

00:24:22,880 --> 00:24:18,990

same for everybody trying to understand

422

00:24:29,680 --> 00:24:22,890

numbers right and how oil could possibly

423

00:24:32,840 --> 00:24:29,690

be worth less than nothing as in zero

424

00:24:36,200 --> 00:24:32,850

right that's something that most of us

425

00:24:41,570 --> 00:24:36,210

can't comprehend wrap your head around

426

00:24:43,880 --> 00:24:41,580

that so here we are we're all stuck at

427

00:24:47,060 --> 00:24:43,890

home right we have way too much free

428

00:24:48,560 --> 00:24:47,070

time on our hands and it allows us to

429

00:24:50,270 --> 00:24:48,570

finally be able to think about things

430

00:24:57,710 --> 00:24:50,280

that we normally would never consider

431

00:25:00,770 --> 00:24:57,720

like oil below zero and worthless how is

432

00:25:04,730 --> 00:25:00,780

it possible that something so precious

433

00:25:07,960 --> 00:25:04,740

so expensive right that we're running

434

00:25:12,980 --> 00:25:07,970

out of it's rare and just a month ago

435

00:25:14,540 --> 00:25:12,990

oil was like reserved to reserve for

436

00:25:18,290 --> 00:25:14,550

people of the world who actually owned a

437

00:25:20,180 --> 00:25:18,300

car privileged the the the privilege

438

00:25:22,430 --> 00:25:20,190

that could fly in a plane and go out of

439

00:25:24,350 --> 00:25:22,440

vacation right or I had a job that made

440

00:25:27,020 --> 00:25:24,360

you fly in a plane that's privileged

441

00:25:28,720 --> 00:25:27,030

right somebody who actually had a job

442

00:25:32,290 --> 00:25:28,730

that's privileged

443

00:25:35,250 --> 00:25:32,300

right how can I go from that and turn

444

00:25:39,150 --> 00:25:35,260

into something that nobody cares about

445

00:25:41,830 --> 00:25:39,160

nobody cares about oil nobody cares

446

00:25:44,950 --> 00:25:41,840

pretty fascinating it's kind of like the

447

00:25:47,260 --> 00:25:44,960

diamond industry I'll do another show on

448

00:25:50,770 --> 00:25:47,270

that but it's numbers like these that I

449

00:25:53,590 --> 00:25:50,780

challenge anybody to apply your brain

450

00:25:56,470 --> 00:25:53,600

and think about because right now you

451
00:25:59,290 --> 00:25:56,480
have the time there is another number

452
00:26:01,140 --> 00:25:59,300
out there that I think most people don't

453
00:26:06,400 --> 00:26:01,150
understand how big it is and that is a

454
00:26:08,830 --> 00:26:06,410
trillion trillion is used carelessly so

455
00:26:10,870 --> 00:26:08,840
much these days that we've lost sight of

456
00:26:13,780 --> 00:26:10,880
truly how big that number really is

457
00:26:15,850 --> 00:26:13,790
people from all parts of societies this

458
00:26:18,070 --> 00:26:15,860
number so much without actually thinking

459
00:26:21,490 --> 00:26:18,080
about what they are saying they use it

460
00:26:26,890 --> 00:26:21,500
freely without an afterthought trillion

461
00:26:30,490 --> 00:26:26,900
is huge a billion is really really big

462
00:26:32,350 --> 00:26:30,500
and a million still matters remember in

463
00:26:34,600 --> 00:26:32,360

Austin Powers in that famous quote that

464

00:26:38,380 --> 00:26:34,610

we all laughed about right a million

465

00:26:41,920 --> 00:26:38,390

dollars remember that that's about how

466

00:26:44,080 --> 00:26:41,930

out of touch we are because back in 1997

467

00:26:47,050 --> 00:26:44,090

when we were that out of touch a million

468

00:26:49,630 --> 00:26:47,060

dollars was a lot of money we acted like

469

00:26:52,930 --> 00:26:49,640

it wasn't a million dollars today in

470

00:26:56,260 --> 00:26:52,940

2020 would change your life I guarantee

471

00:26:58,510 --> 00:26:56,270

it it's still a lot of money now this is

472

00:27:00,910 --> 00:26:58,520

where I want you to use your newfound a

473

00:27:02,860 --> 00:27:00,920

stay at home free time and think about

474

00:27:05,950 --> 00:27:02,870

these numbers for a minute really absorb

475

00:27:08,470 --> 00:27:05,960

it understand them so the next time you

476
00:27:10,780 --> 00:27:08,480
want to say them out loud or you hear

477
00:27:13,810 --> 00:27:10,790
someone throw them around you'll know

478
00:27:18,010 --> 00:27:13,820
what they or you is talking about

479
00:27:22,080 --> 00:27:18,020
because the basics 1 million now to get

480
00:27:25,510 --> 00:27:22,090
to 1 billion you need 1,000 of these

481
00:27:29,740 --> 00:27:25,520
which automatically by default makes 1

482
00:27:34,060 --> 00:27:29,750
billion a huge mind-numbing number just

483
00:27:37,750 --> 00:27:34,070
imagine stacked up 1,000 millions on top

484
00:27:40,480 --> 00:27:37,760
of another to the ceiling you see 1

485
00:27:41,330 --> 00:27:40,490
billion is a very big set of digits

486
00:27:43,850 --> 00:27:41,340
doctor

487
00:27:48,080 --> 00:27:43,860
you slightly in a conversation that's

488
00:27:51,830 --> 00:27:48,090

why a million is still king one billion

489

00:27:55,040 --> 00:27:51,840

is a large collection of something 1000

490

00:27:58,370 --> 00:27:55,050

million of something but when you make

491

00:27:59,080 --> 00:27:58,380

the jump to two billion now we're

492

00:28:02,300 --> 00:27:59,090

talking

493

00:28:06,770 --> 00:28:02,310

remember the stack of 1000 millions to

494

00:28:10,160 --> 00:28:06,780

the ceiling double it to billions of

495

00:28:13,820 --> 00:28:10,170

1000 Millions that's insane

496

00:28:18,110 --> 00:28:13,830

it's just insane it's something that in

497

00:28:22,310 --> 00:28:18,120

today's conversations they'll use that

498

00:28:28,300 --> 00:28:22,320

as a joke at a movie someday now let's

499

00:28:32,600 --> 00:28:28,310

move on one trillion one trillion

500

00:28:36,980 --> 00:28:32,610

contains 1000 billion and each billion

501
00:28:39,980 --> 00:28:36,990
has 1,000 million it's when you stack up

502
00:28:44,450 --> 00:28:39,990
these 1000 of these billions that you go

503
00:28:47,740 --> 00:28:44,460
from like the ceiling to the hundredth

504
00:28:52,580 --> 00:28:47,750
floor of the building that's a trillion

505
00:28:54,890 --> 00:28:52,590
but it's elementary school math I'm not

506
00:28:58,490 --> 00:28:54,900
I'm not impressing anybody with this

507
00:29:00,590 --> 00:28:58,500
it's nothing complicated it's going back

508
00:29:02,480 --> 00:29:00,600
to the basics like this that will help

509
00:29:04,640 --> 00:29:02,490
all of us understand how big these

510
00:29:07,160 --> 00:29:04,650
numbers really are and start to

511
00:29:10,730 --> 00:29:07,170
appreciate them there is a reason for

512
00:29:13,220 --> 00:29:10,740
all of this right now I tie everything

513
00:29:15,260 --> 00:29:13,230

together I find a way to do it in my

514

00:29:17,960 --> 00:29:15,270

stay at home madness into something

515

00:29:21,880 --> 00:29:17,970

worth your time something you have a lot

516

00:29:25,100 --> 00:29:21,890

of these days right so the last night I

517

00:29:28,880 --> 00:29:25,110

heard a physicist say these words quote

518

00:29:31,360 --> 00:29:28,890

there are over two trillion galaxies in

519

00:29:34,930 --> 00:29:31,370

the observable universe end quote

520

00:29:37,850 --> 00:29:34,940

not the universe the observable universe

521

00:29:40,640 --> 00:29:37,860

they are two different things now it's

522

00:29:45,100 --> 00:29:40,650

the two trillion number that stopped me

523

00:29:48,800 --> 00:29:45,110

in my tracks okay but let's do this a

524

00:29:52,340 --> 00:29:48,810

single galaxy as in one has around 500

525

00:29:54,130 --> 00:29:52,350

billion stars on average 1 million

526

00:29:56,440 --> 00:29:54,140

galaxies with 5

527

00:29:58,660 --> 00:29:56,450

hundred billion stars in each is a

528

00:30:02,550 --> 00:29:58,670

number that you cannot wrap your head

529

00:30:06,690 --> 00:30:02,560

around it's impossible I challenge you

530

00:30:11,500 --> 00:30:06,700

take that small slice of the universe

531

00:30:14,260 --> 00:30:11,510

times 1000 and you are at a number so

532

00:30:16,240 --> 00:30:14,270

huge that it is time to give up on

533

00:30:20,110 --> 00:30:16,250

contemplating its impact it's too big

534

00:30:24,640 --> 00:30:20,120

you just can't do it and you are only at

535

00:30:27,010 --> 00:30:24,650

1 billion galaxies to rock this number

536

00:30:29,710 --> 00:30:27,020

up to a trillion you are officially

537

00:30:32,140 --> 00:30:29,720

stuck on stupid you can't get there your

538

00:30:35,140 --> 00:30:32,150

brain can't handle it as big as a

539

00:30:37,500 --> 00:30:35,150

trillion galaxies maybe when you times

540

00:30:40,360 --> 00:30:37,510

at times 2 well you arrived at

541

00:30:42,120 --> 00:30:40,370

gargantuan digits how many stars is it

542

00:30:47,470 --> 00:30:42,130

well your calculator is not big enough

543

00:30:57,670 --> 00:30:47,480

but it's something like 1 0 0 0 0 0 0 0

544

00:31:00,580 --> 00:30:57,680

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 stars

545

00:31:05,400 --> 00:31:00,590

in the observable universe that's a 1

546

00:31:09,790 --> 00:31:05,410

followed by 24 zeroes is called a

547

00:31:12,490 --> 00:31:09,800

septillion now that number may be a

548

00:31:16,840 --> 00:31:12,500

gross underestimate the real number may

549

00:31:19,300 --> 00:31:16,850

be 2 septillion now chew on that for a

550

00:31:22,540 --> 00:31:19,310

few minutes but you know what just

551
00:31:26,230 --> 00:31:22,550
ponder it give or take a few zeros who's

552
00:31:28,570 --> 00:31:26,240
counting zero is a strange thing it can

553
00:31:31,810 --> 00:31:28,580
make things really large and fascinating

554
00:31:35,020 --> 00:31:31,820
when you string 24 zeroes together and I

555
00:31:37,900 --> 00:31:35,030
get that and less than 0 is equally as

556
00:31:41,020 --> 00:31:37,910
significant and mind-numbing like the

557
00:31:43,390 --> 00:31:41,030
cost of a barrel of oil these days soon

558
00:31:47,380 --> 00:31:43,400
maybe you'll be able to pull up to a

559
00:31:49,510 --> 00:31:47,390
pump and get free gas another zero worth

560
00:31:52,000 --> 00:31:49,520
pondering that's right

561
00:31:54,450 --> 00:31:52,010
this is fade to black I am your host

562
00:31:57,340 --> 00:31:54,460
Jimmy Church tonight with us right here

563
00:32:00,060 --> 00:31:57,350

Isaac Arthur we're gonna be talking

564

00:32:03,520 --> 00:32:00,070

about artificial intelligence tonight

565

00:32:05,960 --> 00:32:03,530

tomorrow night my new safe spa day is

566

00:32:07,760 --> 00:32:05,970

here Wednesday night at

567

00:32:10,850 --> 00:32:07,770

curry Thursday night's another Fator

568

00:32:12,920 --> 00:32:10,860

night open lines all night long tonight

569

00:32:16,040 --> 00:32:12,930

Isaac Arthur stay right there we'll be

570

00:32:42,240 --> 00:32:16,050

right back after this short message

571

00:32:42,250 --> 00:32:48,750

[Music]

572

00:32:53,280 --> 00:32:51,240

this is Nicole Church daughter of

573

00:32:55,260 --> 00:32:53,290

you-know-who and you're listening to

574

00:33:00,480 --> 00:32:55,270

fade to black on Jimmy Church radio.com

575

00:33:04,930 --> 00:33:00,490

and the GameChanger Network you're

576

00:33:04,940 --> 00:33:13,220

[Music]

577

00:33:22,890 --> 00:33:20,490

are a radio when you take the beams from

578

00:33:25,320 --> 00:33:22,900

Central America with dashes of

579

00:33:27,720 --> 00:33:25,330

Indonesian and African mixed in and then

580

00:33:30,600 --> 00:33:27,730

roasted to the dark side of fade to

581

00:33:33,750 --> 00:33:30,610

black you create the ultimate brew of

582

00:33:37,500 --> 00:33:33,760

Fringe introducing the fade to black

583

00:33:40,110 --> 00:33:37,510

blend from River moon coffee yes River

584

00:33:43,110 --> 00:33:40,120

moons darkest customized roast was

585

00:33:46,140 --> 00:33:43,120

created for the love of fade to black

586

00:33:48,810 --> 00:33:46,150

the alchemy of masterful roasting and

587

00:33:52,380 --> 00:33:48,820

smoking the beans is in every sip of

588

00:33:55,350 --> 00:33:52,390

this full-bodied dark Java I need my

589

00:33:57,240 --> 00:33:55,360

coffee doc deep with distinct

590

00:34:00,419 --> 00:33:57,250

bittersweet chocolate highlights just

591

00:34:02,820 --> 00:34:00,429

like the bunker leaning further into the

592

00:34:06,120 --> 00:34:02,830

darkness of the roast is fade to black

593

00:34:07,770 --> 00:34:06,130

blend from River moon coffee just click

594

00:34:11,070 --> 00:34:07,780

on the banner at Jimmy Church radio.com

595

00:34:16,399 --> 00:34:11,080

and use the promo code F to B blend for

596

00:34:18,659 --> 00:34:16,409

15% off of your order today gobekli tepe

597

00:34:22,169 --> 00:34:18,669

this is Jimmy Church of fade to black

598

00:34:24,480 --> 00:34:22,179

and you can get our podcast for just \$2

599

00:34:27,000 --> 00:34:24,490

per month all you have to do is click on

600

00:34:30,840 --> 00:34:27,010

the podcast banner over at Jimmy Church

601
00:34:32,909 --> 00:34:30,850
radio.com OMG people are jumping on

602
00:34:35,399 --> 00:34:32,919
board to the life change tea regiment

603
00:34:37,800 --> 00:34:35,409
brew steep and drink for a channel

604
00:34:39,690 --> 00:34:37,810
tastes great cleanse it's changing how

605
00:34:40,200 --> 00:34:39,700
they feel see what everybody's talking

606
00:34:42,930 --> 00:34:40,210
about

607
00:34:45,330 --> 00:34:42,940
log on to get the t.com that's get the

608
00:34:47,190 --> 00:34:45,340
tea calm life change tea AIDS and

609
00:34:49,649 --> 00:34:47,200
digestive slow down and helps people get

610
00:34:51,690 --> 00:34:49,659
moving down a healthy path we won't make

611
00:34:53,310 --> 00:34:51,700
claims we'll just let you decide

612
00:34:55,500 --> 00:34:53,320
experience is much better than a

613
00:34:57,870 --> 00:34:55,510

commercial anyway if you want results

614

00:34:59,940 --> 00:34:57,880

log on to get the tea comm and purchase

615

00:35:01,590 --> 00:34:59,950

your super strength cleansing tea you

616

00:35:02,490 --> 00:35:01,600

won't be disappointed and if you're

617

00:35:04,800 --> 00:35:02,500

looking for some

618

00:35:06,780 --> 00:35:04,810

body suggestions go to youtube and punch

619

00:35:09,750 --> 00:35:06,790

in the search bar health matters now

620

00:35:13,830 --> 00:35:09,760

that's health matters now put power into

621

00:35:15,839 --> 00:35:13,840

your health now so get the t.com that's

622

00:35:18,359 --> 00:35:15,849

get the tea calm for super strength tea

623

00:35:20,280 --> 00:35:18,369

and you too health matters now

624

00:35:23,640 --> 00:35:20,290

that's health matters now for valuable

625

00:35:29,000 --> 00:35:23,650

suggestions get the t.com the Teta makes

626
00:35:31,200 --> 00:35:29,010
you go 9 out of 10 geneticists agreed

627
00:35:36,570 --> 00:35:31,210
fade to black

628
00:35:39,950 --> 00:35:36,580
is not your father's radio show on the

629
00:35:44,849 --> 00:35:39,960
game changer radio network and k gr a

630
00:35:46,740 --> 00:35:44,859
the planets hi this is rob reiner from

631
00:35:59,340 --> 00:35:46,750
apple and you're listening to jimmy

632
00:36:13,809 --> 00:36:09,540
[Music]

633
00:36:15,639 --> 00:36:13,819
welcome back fade to black I am your

634
00:36:18,159 --> 00:36:15,649
host Jimmy Church tonight Isaac Arthur

635
00:36:21,579 --> 00:36:18,169
joins us tomorrow night doctor my new

636
00:36:24,819 --> 00:36:21,589
safe spa day is gonna be here Wednesday

637
00:36:26,289 --> 00:36:24,829
night Adam Curry Adam Kerr is going to

638
00:36:29,889 --> 00:36:26,299

be here to talk about physics and

639

00:36:31,719 --> 00:36:29,899

entanglement and communication all of

640

00:36:34,749 --> 00:36:31,729

the things that Isaac and I usually talk

641

00:36:37,209 --> 00:36:34,759

about but tonight it's artificial

642

00:36:39,729 --> 00:36:37,219

intelligence we're going to be talking

643

00:36:41,679 --> 00:36:39,739

about its potential impact on every

644

00:36:44,409 --> 00:36:41,689

aspect of our lives and the future of

645

00:36:45,130 --> 00:36:44,419

mankind and of course what is going on

646

00:36:48,429 --> 00:36:45,140

out there

647

00:36:50,739 --> 00:36:48,439

across the universe Isaac is the host of

648

00:36:54,249 --> 00:36:50,749

science and futurism with Isaac Arthur

649

00:36:56,789 --> 00:36:54,259

on YouTube with nearly 500,000

650

00:36:59,229 --> 00:36:56,799

subscribers covering topics like

651
00:37:01,870 --> 00:36:59,239
colonizing the solar system interstellar

652
00:37:03,189 --> 00:37:01,880
travel the Fermi paradox artificial

653
00:37:05,079 --> 00:37:03,199
intelligence and other topics

654
00:37:08,169 --> 00:37:05,089
representing the possible future paths

655
00:37:10,209 --> 00:37:08,179
and challenges for Humanity Isaac

656
00:37:12,549 --> 00:37:10,219
received his degree in physics from Kent

657
00:37:15,099 --> 00:37:12,559
State University graduating top of his

658
00:37:16,689 --> 00:37:15,109
class at the age of 20 and remained

659
00:37:18,279 --> 00:37:16,699
there for graduate studies before

660
00:37:20,499 --> 00:37:18,289
joining the United States Army and

661
00:37:22,479 --> 00:37:20,509
serving in Iraq he also worked as a

662
00:37:24,989 --> 00:37:22,489
civilian researcher at the Air Force

663
00:37:28,809 --> 00:37:24,999

Institute of Technology in Dayton Ohio

664

00:37:32,259 --> 00:37:28,819

wright-patterson UFO hanger 18 after the

665

00:37:33,759 --> 00:37:32,269

military he returned home to Ohio serves

666

00:37:36,159 --> 00:37:33,769

as the chairman of the board of

667

00:37:38,649 --> 00:37:36,169

elections for his area when not working

668

00:37:41,529 --> 00:37:38,659

on his channel his website of course is

669

00:37:42,459 --> 00:37:41,539

Isaac Arthur dotnet like to welcome back

670

00:37:45,729 --> 00:37:42,469

to fade to black

671

00:37:48,069 --> 00:37:45,739

Isaac Arthur Isaac congratulations man

672

00:37:51,429 --> 00:37:48,079

let's just start right there thanks

673

00:37:53,819 --> 00:37:51,439

Jimmy for two things you don't even know

674

00:37:59,349 --> 00:37:53,829

what I'm congratulating you for yet

675

00:38:03,099 --> 00:37:59,359

there's a limited options first things

676

00:38:06,579 --> 00:38:03,109

first let's you're getting married this

677

00:38:09,699 --> 00:38:06,589

Saturday congratulations and and all the

678

00:38:12,749 --> 00:38:09,709

best but one has to ask how you're

679

00:38:15,819 --> 00:38:12,759

pulling off a wedding while in lockdown

680

00:38:17,859 --> 00:38:15,829

well fortunately in Ohio the governor

681

00:38:20,169 --> 00:38:17,869

has given exemption for weddings and

682

00:38:21,699 --> 00:38:20,179

funerals to the normal limitations but

683

00:38:23,169 --> 00:38:21,709

we're also going to be live-streaming

684

00:38:24,970 --> 00:38:23,179

the thing and so there will be very few

685

00:38:27,099 --> 00:38:24,980

people in the actual church even though

686

00:38:29,380 --> 00:38:27,109

will allow to do more Westerby I try to

687

00:38:31,450 --> 00:38:29,390

keep as close the social limitations as

688

00:38:34,240 --> 00:38:31,460

possible but will be alive shoe your

689

00:38:38,050 --> 00:38:34,250

thing and hopefully that will work out

690

00:38:40,750 --> 00:38:38,060

well so does this mean and this is where

691

00:38:43,270 --> 00:38:40,760

I get to insert them the joke right I

692

00:38:45,340 --> 00:38:43,280

mean you left it wide open for some good

693

00:38:51,400 --> 00:38:45,350

humor so let's let's actually do that

694

00:38:52,870 --> 00:38:51,410

does this include social distancing uh I

695

00:38:54,250 --> 00:38:52,880

would say the live streaming of weddings

696

00:38:56,260 --> 00:38:54,260

is probably something we can expect to

697

00:38:58,660 --> 00:38:56,270

see happy in the near future anyway but

698

00:39:01,210 --> 00:38:58,670

I suspect this will probably become much

699

00:39:03,580 --> 00:39:01,220

more common no I mean I mean your guests

700

00:39:06,310 --> 00:39:03,590

are your guests gonna be social

701
00:39:08,500 --> 00:39:06,320
distancing as best as we can yeah

702
00:39:09,880 --> 00:39:08,510
so that means mostly low setting so

703
00:39:11,650 --> 00:39:09,890
there will be a lot of folks are not

704
00:39:13,270 --> 00:39:11,660
gonna be able to come anyway we're

705
00:39:14,500 --> 00:39:13,280
guessing that will probably be within

706
00:39:23,080 --> 00:39:14,510
the six foot distance

707
00:39:25,390 --> 00:39:23,090
sothey so the in-laws family is the

708
00:39:28,330 --> 00:39:25,400
eldest of seven right all right

709
00:39:31,090 --> 00:39:28,340
everybody's gonna be six feet apart this

710
00:39:33,760 --> 00:39:31,100
is that okay you got it I'm gonna watch

711
00:39:38,020 --> 00:39:33,770
the live stream this is going to be

712
00:39:40,540 --> 00:39:38,030
great and a congratulations man and no

713
00:39:44,950 --> 00:39:40,550

interest in post pushing the date back

714

00:39:46,810 --> 00:39:44,960

you was this date set before all of this

715

00:39:49,570 --> 00:39:46,820

world has brought in for quite some time

716

00:39:51,070 --> 00:39:49,580

it was very specific occasion and that

717

00:39:53,200 --> 00:39:51,080

post because we all forced free time

718

00:39:56,680 --> 00:39:53,210

after the elections but those ends up

719

00:40:00,040 --> 00:39:56,690

being delayed in Ohio too but also fun

720

00:40:02,440 --> 00:40:00,050

right right and well congratulations man

721

00:40:05,020 --> 00:40:02,450

I think that's fantastic you you had

722

00:40:06,880 --> 00:40:05,030

told me I'm not too sure exactly when it

723

00:40:08,230 --> 00:40:06,890

was but it was a few months ago said

724

00:40:10,780 --> 00:40:08,240

Jimmy I'm getting married it was like

725

00:40:12,970 --> 00:40:10,790

I'll congratulate and here we are

726

00:40:13,780 --> 00:40:12,980

a week before the wedding five days

727

00:40:16,960 --> 00:40:13,790

before the wedding

728

00:40:18,430 --> 00:40:16,970

Iran fade to black and and thank you

729

00:40:21,280 --> 00:40:18,440

it's an honor and a privilege to have

730

00:40:23,050 --> 00:40:21,290

the groom to be on this program and I

731

00:40:24,760 --> 00:40:23,060

hope your bride-to-be is understanding

732

00:40:27,310 --> 00:40:24,770

that you know it's fade to black and you

733

00:40:30,750 --> 00:40:27,320

got to do what you got to do right she's

734

00:40:35,920 --> 00:40:30,760

very steady public speaking

735

00:40:38,380 --> 00:40:35,930

now the second congratulations is also a

736

00:40:42,279 --> 00:40:38,390

strange one because

737

00:40:43,929 --> 00:40:42,289

the dates of things and the announcement

738

00:40:47,069 --> 00:40:43,939

went out and the press release went out

739

00:40:50,109 --> 00:40:47,079

that the National Space Society the NSS

740

00:40:52,599 --> 00:40:50,119

named you as the recipient of their

741

00:40:56,169 --> 00:40:52,609

space pioneer award for education via

742

00:40:58,179 --> 00:40:56,179

mass media and for your YouTube channel

743

00:41:01,779 --> 00:40:58,189

science and futurism with Isaac Arthur

744

00:41:03,989 --> 00:41:01,789

now the award was to be presented to you

745

00:41:06,009 --> 00:41:03,999

at the Society's 39th annual

746

00:41:09,099 --> 00:41:06,019

international space development

747

00:41:13,979 --> 00:41:09,109

conference in Dallas which was supposed

748

00:41:16,419 --> 00:41:13,989

to be held on May 30th 2020

749

00:41:18,309 --> 00:41:16,429

congratulations on the award are you

750

00:41:19,989 --> 00:41:18,319

still gonna receive it now or is this

751
00:41:23,199 --> 00:41:19,999
going to be done via livestream

752
00:41:24,519 --> 00:41:23,209
are they Vaux points some remote options

753
00:41:26,199 --> 00:41:24,529
for it but I think that the moment

754
00:41:28,719 --> 00:41:26,209
they're just playing to shift everything

755
00:41:31,089 --> 00:41:28,729
to their January confidence if memory

756
00:41:32,769 --> 00:41:31,099
saws though that don't don't quote me on

757
00:41:34,029 --> 00:41:32,779
the date for that one the awards still

758
00:41:35,799 --> 00:41:34,039
been awarded but they're just gonna try

759
00:41:37,120 --> 00:41:35,809
to push it back because usually when we

760
00:41:39,999 --> 00:41:37,130
do these things it's done with like a

761
00:41:41,469 --> 00:41:40,009
formal presentation a top two and lots

762
00:41:43,449 --> 00:41:41,479
of folks presenting papers and things

763
00:41:45,160 --> 00:41:43,459

like that so I think I was going to be

764

00:41:47,769 --> 00:41:45,170

giving a talk down there too so that

765

00:41:49,929 --> 00:41:47,779

there's also castle yeah it's pretty

766

00:41:52,959 --> 00:41:49,939

weird how life has been put on hold and

767

00:41:54,759 --> 00:41:52,969

all of our conferences for the year

768

00:41:57,999 --> 00:41:54,769

we've still got two conferences that are

769

00:42:01,749 --> 00:41:58,009

still scheduled to go on later on in the

770

00:42:03,489 --> 00:42:01,759

year one in the back half of June here

771

00:42:06,489 --> 00:42:03,499

in Los Angeles and the other one is in

772

00:42:09,039 --> 00:42:06,499

November but everything else you know we

773

00:42:11,199 --> 00:42:09,049

were supposed to be in England that you

774

00:42:13,959 --> 00:42:11,209

know everything this year has been

775

00:42:17,400 --> 00:42:13,969

canceled and it's a strange feeling for

776

00:42:20,169 --> 00:42:17,410

us because it's a way for us to get out

777

00:42:22,989 --> 00:42:20,179

it's a mini vacation for us even though

778

00:42:25,390 --> 00:42:22,999

we're working and I'm speaking in things

779

00:42:28,239 --> 00:42:25,400

but we get to hang out with our with the

780

00:42:30,579 --> 00:42:28,249

fans and and and take a break from the

781

00:42:32,650 --> 00:42:30,589

action and we don't have that word

782

00:42:34,179 --> 00:42:32,660

lockdown just like everybody else and

783

00:42:37,059 --> 00:42:34,189

it's it's weird how you make

784

00:42:40,569 --> 00:42:37,069

preparations for an entire year and now

785

00:42:42,609 --> 00:42:40,579

everything is pushed back to 2021 it's

786

00:42:44,709 --> 00:42:42,619

just absolutely insane but

787

00:42:47,169 --> 00:42:44,719

congratulations on both fronts my friend

788

00:42:49,839 --> 00:42:47,179

I think that's very very cool well thank

789

00:42:51,219 --> 00:42:49,849

you very much for me it's it is one that

790

00:42:52,000 --> 00:42:51,229

seems a lot of these conferences getting

791

00:42:53,800 --> 00:42:52,010

put now to be

792

00:42:55,810 --> 00:42:53,810

there's a few compasses I'm glad or into

793

00:42:57,160 --> 00:42:55,820

Pepe mr. Shiro but there's a lot of

794

00:42:58,660 --> 00:42:57,170

times was just really nice go out and

795

00:43:00,520 --> 00:42:58,670

see everybody me do buddy in the field

796

00:43:01,870 --> 00:43:00,530

and they know just so many those life

797

00:43:04,270 --> 00:43:01,880

events they're on hold right now and I

798

00:43:06,160 --> 00:43:04,280

think you know for you I we mostly walk

799

00:43:07,599 --> 00:43:06,170

at home or you know more isolated to

800

00:43:09,760 --> 00:43:07,609

begin with it's more remote to begin

801
00:43:10,900 --> 00:43:09,770
with so it's maybe a little easier on us

802
00:43:13,540 --> 00:43:10,910
but I think a lot of folks starting to

803
00:43:14,770 --> 00:43:13,550
ghost or crazy and it is interesting

804
00:43:15,849 --> 00:43:14,780
because it's not really what we always

805
00:43:17,230 --> 00:43:15,859
anticipate with a lot of these

806
00:43:18,970 --> 00:43:17,240
circumstances and we see them like the

807
00:43:21,340 --> 00:43:18,980
Hollywood presentation of a plague you

808
00:43:23,560 --> 00:43:21,350
know yeah totally totally there's no

809
00:43:26,380 --> 00:43:23,570
question about that it does feel like I

810
00:43:29,890 --> 00:43:26,390
would normally say a bad b-movie

811
00:43:33,609 --> 00:43:29,900
but you know come to life but to see it

812
00:43:37,599 --> 00:43:33,619
play out like this I mean for real it

813
00:43:42,670 --> 00:43:37,609

still hasn't sunk in for me it really

814

00:43:45,480 --> 00:43:42,680

hasn't it is so dramatic and and huge in

815

00:43:48,430 --> 00:43:45,490

its implication it's not it's not like

816

00:43:51,970 --> 00:43:48,440

Chernobyl or Fukushima you know these

817

00:43:54,640 --> 00:43:51,980

isolated that affects the world but it

818

00:43:57,550 --> 00:43:54,650

doesn't affect right there's nothing

819

00:44:00,130 --> 00:43:57,560

direct this is different everybody on

820

00:44:02,680 --> 00:44:00,140

this planet now has been touched one way

821

00:44:05,170 --> 00:44:02,690

or another because of this virus whether

822

00:44:07,060 --> 00:44:05,180

it's the economy your job maybe you've

823

00:44:09,160 --> 00:44:07,070

lost a loved one or somebody that you

824

00:44:11,410 --> 00:44:09,170

know or a co-worker maybe he got sick

825

00:44:13,690 --> 00:44:11,420

yourself but no matter what every

826

00:44:16,390 --> 00:44:13,700

country on the planet has been touched

827

00:44:19,510 --> 00:44:16,400

by this it's a it couldn't have been

828

00:44:21,340 --> 00:44:19,520

written this way for Hollywood now

829

00:44:22,690 --> 00:44:21,350

there's a lot of occasions where things

830

00:44:24,550 --> 00:44:22,700

in real life they say would never

831

00:44:26,020 --> 00:44:24,560

actually happen as TV show or Hollywood

832

00:44:26,349 --> 00:44:26,030

because the audience would never believe

833

00:44:30,130 --> 00:44:26,359

it

834

00:44:32,200 --> 00:44:30,140

favor of this usually we see this in

835

00:44:34,810 --> 00:44:32,210

fiction you know it's it's all madness

836

00:44:36,880 --> 00:44:34,820

and riots everyone's handled it really

837

00:44:38,170 --> 00:44:36,890

well this fall all right I say that

838

00:44:40,870 --> 00:44:38,180

every decision has been perfect or that

839

00:44:42,670 --> 00:44:40,880

one's doing their ideal on this but you

840

00:44:44,830 --> 00:44:42,680

know you don't see very many incidents

841

00:44:47,320 --> 00:44:44,840

of people just going crazy or anything

842

00:44:50,520 --> 00:44:47,330

like just brutally oppressive and in the

843

00:44:52,660 --> 00:44:50,530

traditional sense we see on TV so it's I

844

00:44:56,410 --> 00:44:52,670

hesitate to say this is the best handled

845

00:44:58,210 --> 00:44:56,420

plague or pandemic ever but it's it

846

00:45:04,690 --> 00:44:58,220

could be being ahead with much much more

847

00:45:05,560 --> 00:45:04,700

I saw a mean the other day our our we

848

00:45:08,530 --> 00:45:05,570

thought

849

00:45:10,870 --> 00:45:08,540

the pandemic would be like this and it

850

00:45:13,030 --> 00:45:10,880

was like you know a shot from a movie

851
00:45:15,340 --> 00:45:13,040
Armageddon or whatever you know pushing

852
00:45:16,870 --> 00:45:15,350
it so yeah right pushing a shopping cart

853
00:45:18,580 --> 00:45:16,880
up the road you know with burnt

854
00:45:20,740 --> 00:45:18,590
buildings in the background and stuff

855
00:45:23,350 --> 00:45:20,750
and then and then the second half of the

856
00:45:26,340 --> 00:45:23,360
meme was but we got this and it's some

857
00:45:30,760 --> 00:45:26,350
guy playing video games on his couch

858
00:45:31,990 --> 00:45:30,770
toilet paper at his feet and and I just

859
00:45:35,530 --> 00:45:32,000
thought well that's that's pretty

860
00:45:38,170 --> 00:45:35,540
accurate you know this isn't quite what

861
00:45:39,400 --> 00:45:38,180
we expected it's playing out a little

862
00:45:41,620 --> 00:45:39,410
bit differently hopefully we're gonna

863
00:45:43,030 --> 00:45:41,630

get out in front of this soon and we can

864

00:45:47,410 --> 00:45:43,040

start getting out of the house which

865

00:45:52,120 --> 00:45:47,420

brings me to the show tonight in that I

866

00:45:55,030 --> 00:45:52,130

have been forced into thinking about

867

00:45:57,970 --> 00:45:55,040

things that I normally wouldn't apply a

868

00:46:01,180 --> 00:45:57,980

lot of time to because now we have time

869

00:46:04,540 --> 00:46:01,190

and I'm just thinking about computers

870

00:46:07,360 --> 00:46:04,550

and artificial intelligence and and

871

00:46:10,570 --> 00:46:07,370

quantum theory and quantum computers and

872

00:46:13,120 --> 00:46:10,580

numbers I've just been thinking about

873

00:46:14,380 --> 00:46:13,130

the strangest things lately that I

874

00:46:19,630 --> 00:46:14,390

haven't done before

875

00:46:22,150 --> 00:46:19,640

have you changed course with with your

876
00:46:24,490 --> 00:46:22,160
YouTube content are you thinking about

877
00:46:25,710 --> 00:46:24,500
things that you never really thought you

878
00:46:28,510 --> 00:46:25,720
would cover before

879
00:46:30,280 --> 00:46:28,520
truth be told no I usually write the

880
00:46:31,690 --> 00:46:30,290
scripts for the episodes out a few

881
00:46:32,830 --> 00:46:31,700
months in advance and I'm getting a

882
00:46:34,150 --> 00:46:32,840
little bit further ahead trying to

883
00:46:36,370 --> 00:46:34,160
prepare for the wedding and have some

884
00:46:38,020 --> 00:46:36,380
free time and so far I've books II had

885
00:46:40,360 --> 00:46:38,030
to go back and up to a couple episodes

886
00:46:41,740 --> 00:46:40,370
for the a Ord simply because the content

887
00:46:43,660 --> 00:46:41,750
hit a little too close to home on a

888
00:46:44,860 --> 00:46:43,670

field of predictions not they were super

889

00:46:46,390 --> 00:46:44,870

accurate if I knew they were you

890

00:46:47,860 --> 00:46:46,400

basically everything would move all

891

00:46:50,440 --> 00:46:47,870

around the virus when people listened to

892

00:46:52,540 --> 00:46:50,450

him and like we did one recently that

893

00:46:54,250 --> 00:46:52,550

was discussing how you know in the next

894

00:46:55,870 --> 00:46:54,260

decade or so you expect see most people

895

00:46:58,360 --> 00:46:55,880

switch over to gain their groceries arm

896

00:46:59,140 --> 00:46:58,370

to live with them and how you probably

897

00:47:01,180 --> 00:46:59,150

see a lot more

898

00:47:03,100 --> 00:47:01,190

sanitization protocols in people's

899

00:47:05,280 --> 00:47:03,110

day-to-day life and you start seeing

900

00:47:07,390 --> 00:47:05,290

like apps for phones that were used for

901
00:47:09,190 --> 00:47:07,400
controlling something like the flu so

902
00:47:11,530 --> 00:47:09,200
that if somebody got it you know they

903
00:47:12,640 --> 00:47:11,540
could pin your numbers up and I really

904
00:47:14,170 --> 00:47:12,650
was in that area could check their own

905
00:47:16,660 --> 00:47:14,180
tracking data and say oh I was at that

906
00:47:18,470 --> 00:47:16,670
same place at the same time I should you

907
00:47:20,930 --> 00:47:18,480
know drink some water go see the doctor

908
00:47:22,670 --> 00:47:20,940
and those little things that I thought

909
00:47:24,380 --> 00:47:22,680
that would be a decade or two off and I

910
00:47:26,120 --> 00:47:24,390
think still most them would be they're

911
00:47:28,609 --> 00:47:26,130
gonna get accelerated now and they hit a

912
00:47:29,930 --> 00:47:28,619
lot closer to home but at the same time

913
00:47:31,460 --> 00:47:29,940

I shouldn't say the content was really

914

00:47:34,130 --> 00:47:31,470

predicting these things it's more that

915

00:47:35,270 --> 00:47:34,140

it has some relevancy that is viewed

916

00:47:37,280 --> 00:47:35,280

from the corn light and everything is

917

00:47:38,960 --> 00:47:37,290

being viewed from the neo of the

918

00:47:41,329 --> 00:47:38,970

telescope of this Marvis at the moment

919

00:47:43,010 --> 00:47:41,339

that a lot of kind of hit they all but

920

00:47:44,299 --> 00:47:43,020

tribute over try to keep the show a

921

00:47:47,240 --> 00:47:44,309

little bit away from the vive it's just

922

00:47:50,359 --> 00:47:47,250

because you need some place to get away

923

00:47:51,950 --> 00:47:50,369

from it and the show is already it's so

924

00:47:53,809 --> 00:47:51,960

much on The Escapist side and the fall

925

00:47:54,980 --> 00:47:53,819

future or that it feels like we should

926
00:47:57,109 --> 00:47:54,990
have been one of those places knew that

927
00:47:58,819 --> 00:47:57,119
so I'll try to keep the show fairly away

928
00:48:00,349 --> 00:47:58,829
from the value of us yeah I've been

929
00:48:02,059 --> 00:48:00,359
doing the same thing here we haven't

930
00:48:06,250 --> 00:48:02,069
talked about coronavirus now for almost

931
00:48:09,470 --> 00:48:06,260
three weeks on the show only because

932
00:48:11,990 --> 00:48:09,480
it's too easy to fall into that trap

933
00:48:14,299 --> 00:48:12,000
number one number two I think it

934
00:48:16,190 --> 00:48:14,309
promotes fear no matter how you try to

935
00:48:18,410 --> 00:48:16,200
cover it you're forcing people to think

936
00:48:20,420 --> 00:48:18,420
about it and the other part is there's

937
00:48:23,150 --> 00:48:20,430
plenty of coverage out there if somebody

938
00:48:26,960 --> 00:48:23,160

really needs right they be coronavirus

939

00:48:29,180 --> 00:48:26,970

anything you can head out and find it

940

00:48:31,930 --> 00:48:29,190

and I didn't want to be part of it here

941

00:48:35,390 --> 00:48:31,940

and I didn't want it to start to steer

942

00:48:38,359 --> 00:48:35,400

what we normally do on this show so it

943

00:48:40,640 --> 00:48:38,369

just went straight back and just started

944

00:48:42,770 --> 00:48:40,650

doing the normal shows I took all of the

945

00:48:44,210 --> 00:48:42,780

corner of virus coverage out of it but

946

00:48:46,010 --> 00:48:44,220

that's not ignoring it's just you know

947

00:48:48,620 --> 00:48:46,020

giving people a space to not have it

948

00:48:50,780 --> 00:48:48,630

shoved in a face non-stop at the same

949

00:48:52,190 --> 00:48:50,790

time it's also that recognition that it

950

00:48:54,170 --> 00:48:52,200

doesn't matter how strong willed you all

951
00:48:56,299 --> 00:48:54,180
you know if you always thinking about

952
00:49:00,890 --> 00:48:56,309
something it's gonna just stop breaking

953
00:49:02,809 --> 00:49:00,900
it down will paralyze yeah I have and

954
00:49:08,480 --> 00:49:02,819
here we are talking about coral reefs

955
00:49:11,720 --> 00:49:08,490
right but is this I have I have

956
00:49:13,849 --> 00:49:11,730
difficulty I'm sure you must go through

957
00:49:17,240 --> 00:49:13,859
this too I have difficulty turning off

958
00:49:20,680 --> 00:49:17,250
my brain and I do I have a hard time

959
00:49:25,460 --> 00:49:20,690
sleeping and if I sleep in total silence

960
00:49:28,370 --> 00:49:25,470
my brain goes off it not shuts off it

961
00:49:31,559 --> 00:49:28,380
goes off thinking I can't stop thinking

962
00:49:34,410 --> 00:49:31,569
I can't stop thinking the only way

963
00:49:37,589 --> 00:49:34,420

fall asleep is if I listen to science

964

00:49:40,439 --> 00:49:37,599

and futurism with Isaac Arthur I've got

965

00:49:43,890 --> 00:49:40,449

to I've got to go in that direction

966

00:49:46,709 --> 00:49:43,900

right and listen to something I don't

967

00:49:49,529 --> 00:49:46,719

care if it's audible it's a book it's

968

00:49:52,469 --> 00:49:49,539

it's a conference it's it's a lecture

969

00:49:54,900 --> 00:49:52,479

but I have to do that to shut my brain

970

00:49:56,939 --> 00:49:54,910

down otherwise I'm thinking about

971

00:49:59,699 --> 00:49:56,949

coronavirus and the implications of the

972

00:50:01,170 --> 00:49:59,709

future of the planet and I'll I'll stay

973

00:50:03,059 --> 00:50:01,180

awake for eight or ten hours at a

974

00:50:04,709 --> 00:50:03,069

stretch I can't do that and I don't want

975

00:50:06,390 --> 00:50:04,719

as I looking at science fiction and you

976
00:50:08,160 --> 00:50:06,400
know fantasy novels as they're far away

977
00:50:09,809 --> 00:50:08,170
from corn events and they let your mind

978
00:50:11,670 --> 00:50:09,819
drift off so I tend to fall asleep to

979
00:50:12,930 --> 00:50:11,680
audiobooks oh time to and then back of

980
00:50:14,489 --> 00:50:12,940
the day he's falsely cousin to coast to

981
00:50:16,979 --> 00:50:14,499
coast am a lot back for they a lot of

982
00:50:19,319 --> 00:50:16,989
audiobooks right right nothing will put

983
00:50:21,449 --> 00:50:19,329
you to sleep like my voice in the middle

984
00:50:24,719 --> 00:50:21,459
of the night guaranteed

985
00:50:30,870 --> 00:50:24,729
yeah I've listened to all of arthur c

986
00:50:34,049 --> 00:50:30,880
clarke books in inaudible i swear i'm

987
00:50:36,180 --> 00:50:34,059
good for like five minutes I'm out I'm

988
00:50:37,949 --> 00:50:36,190

out and I'm just had to pick ones I'm

989

00:50:39,630 --> 00:50:37,959

very fond of a list of over and over

990

00:50:43,469 --> 00:50:39,640

again and I all we ever seem to get

991

00:50:45,989 --> 00:50:43,479

through Chapter one of those so I'm not

992

00:50:47,969 --> 00:50:45,999

the only one I'm not the only one

993

00:50:49,349 --> 00:50:47,979

like that's just folks saying you know I

994

00:50:51,509 --> 00:50:49,359

fall asleep listen to your show all the

995

00:50:54,329 --> 00:50:51,519

time and I hope it didn't so bad yeah

996

00:50:57,029 --> 00:50:54,339

yeah I I love it when people say that to

997

00:51:02,309 --> 00:50:57,039

me because I done it a million times

998

00:51:07,289 --> 00:51:02,319

it's how I fall asleep so now staying on

999

00:51:09,569 --> 00:51:07,299

this I have done an awful lot of

1000

00:51:12,989 --> 00:51:09,579

research especially over the last two

1001
00:51:17,249 --> 00:51:12,999
years on artificial intelligence and I'm

1002
00:51:20,039 --> 00:51:17,259
gonna start here there are two paths you

1003
00:51:21,870 --> 00:51:20,049
can go with artificial intelligence you

1004
00:51:25,739 --> 00:51:21,880
can go the scare the crap out of

1005
00:51:29,039 --> 00:51:25,749
yourself road and and go down that or

1006
00:51:31,709 --> 00:51:29,049
you can go down the other Road and and

1007
00:51:33,299 --> 00:51:31,719
see the benefits of artificial

1008
00:51:36,150 --> 00:51:33,309
intelligence and the world is going to

1009
00:51:39,029 --> 00:51:36,160
be a safer better place but that's

1010
00:51:41,160 --> 00:51:39,039
really it there's no gray area what

1011
00:51:43,280 --> 00:51:41,170
scares you about artificial intelligence

1012
00:51:46,190 --> 00:51:43,290
in the now now

1013
00:51:48,380 --> 00:51:46,200

oh I think the biggest one is is that's

1014

00:51:50,300 --> 00:51:48,390

one of those technologies that it's it's

1015

00:51:51,860 --> 00:51:50,310

like chef stuck at the fence day about

1016

00:51:53,240 --> 00:51:51,870

almost the exact same thing she was

1017

00:51:56,780 --> 00:51:53,250

washing board of the Rings for the first

1018

00:51:58,490 --> 00:51:56,790

time and she'd noted the hoax I hope

1019

00:51:59,900 --> 00:51:58,500

husband had noted that was like the

1020

00:52:01,250 --> 00:51:59,910

rings were very addictive you couldn't

1021

00:52:02,960 --> 00:52:01,260

put him down he thought of smart phones

1022

00:52:04,670 --> 00:52:02,970

you know and in the cell phone how it's

1023

00:52:05,930 --> 00:52:04,680

one of those things well yeah if he knew

1024

00:52:08,390 --> 00:52:05,940

it was bad for you you're still gonna

1025

00:52:10,280 --> 00:52:08,400

keep using a thing it's too handy it's

1026
00:52:12,860 --> 00:52:10,290
too useful and with something like

1027
00:52:15,290 --> 00:52:12,870
artificial intelligence you know there

1028
00:52:16,880 --> 00:52:15,300
was a big line between a smart program

1029
00:52:19,100 --> 00:52:16,890
and something that's human or greater

1030
00:52:20,930 --> 00:52:19,110
than human intelligence but the problem

1031
00:52:23,240 --> 00:52:20,940
with computers and with you know more

1032
00:52:25,670 --> 00:52:23,250
down to computers is that they also

1033
00:52:28,700 --> 00:52:25,680
advantageous that it's it's really hard

1034
00:52:29,740 --> 00:52:28,710
to stop you know if you're getting into

1035
00:52:34,040 --> 00:52:29,750
the danger zone

1036
00:52:36,050 --> 00:52:34,050
well we cross that line I mean we

1037
00:52:37,580 --> 00:52:36,060
probably depends on which ones there are

1038
00:52:39,110 --> 00:52:37,590

things we didn't anticipate you know

1039

00:52:40,610 --> 00:52:39,120

like most the privacy concerns we

1040

00:52:42,260 --> 00:52:40,620

usually think about with social media

1041

00:52:46,130 --> 00:52:42,270

nobody was talking about that when

1042

00:52:49,780 --> 00:52:46,140

social media for popped up yeah I when

1043

00:52:52,880 --> 00:52:49,790

it comes to the convenience of like GPS

1044

00:52:57,830 --> 00:52:52,890

right in your car it doesn't sound like

1045

00:53:00,500 --> 00:52:57,840

AI at first right and then one day I get

1046

00:53:05,300 --> 00:53:00,510

in in one of my cars and I'm going to

1047

00:53:08,450 --> 00:53:05,310

coast it's a Friday night and I jump in

1048

00:53:10,190 --> 00:53:08,460

my car I turn it on and I'm backing out

1049

00:53:15,200 --> 00:53:10,200

of the driveway and I get this

1050

00:53:20,990 --> 00:53:15,210

notification on the screen in my car ten

1051
00:53:25,820 --> 00:53:21,000
minutes to arrive at iHeartRadio how and

1052
00:53:27,500 --> 00:53:25,830
that what when I used to say that when a

1053
00:53:28,970 --> 00:53:27,510
computer started talking to me that was

1054
00:53:33,260 --> 00:53:28,980
it

1055
00:53:37,180 --> 00:53:33,270
how does my car no I've never punched in

1056
00:53:41,480 --> 00:53:37,190
the coast address it's a few miles away

1057
00:53:45,020 --> 00:53:41,490
and so but obviously the data has been

1058
00:53:47,990 --> 00:53:45,030
collected that if I'm driving my car at

1059
00:53:51,380 --> 00:53:48,000
7 p.m. and a Friday or a Saturday night

1060
00:53:54,470 --> 00:53:51,390
I've only got one destination and it

1061
00:53:56,770 --> 00:53:54,480
knows now that's artificial intelligence

1062
00:53:59,410 --> 00:53:56,780
that is machine learning

1063
00:54:04,390 --> 00:53:59,420

in a day-to-day existence for us that we

1064

00:54:06,430 --> 00:54:04,400

may not recognize but that that is right

1065

00:54:09,370 --> 00:54:06,440

that's the algorithms turning out an

1066

00:54:12,670 --> 00:54:09,380

answer for you thinking it's creating

1067

00:54:14,470 --> 00:54:12,680

convenience and right now it's like if

1068

00:54:16,210 --> 00:54:14,480

you think about Facebook ads or YouTube

1069

00:54:18,400 --> 00:54:16,220

videos or recommends they're often way

1070

00:54:20,350 --> 00:54:18,410

off base but often pretty on points and

1071

00:54:21,790 --> 00:54:20,360

that's the machine intelligence getting

1072

00:54:24,100 --> 00:54:21,800

better at this as we get better with

1073

00:54:25,600 --> 00:54:24,110

that now you know we wouldn't say wow

1074

00:54:27,100 --> 00:54:25,610

these things must be almost as small as

1075

00:54:28,900 --> 00:54:27,110

a human at this point but in point of

1076

00:54:31,360 --> 00:54:28,910

fact most well done more than an insects

1077

00:54:33,220 --> 00:54:31,370

though but you gotta think about you

1078

00:54:35,530 --> 00:54:33,230

know when it comes to data sorting this

1079

00:54:37,720 --> 00:54:35,540

is omnipresent now and will only get

1080

00:54:39,910 --> 00:54:37,730

more so we'll have opt-out policies will

1081

00:54:41,320 --> 00:54:39,920

have protection systems but at the end

1082

00:54:43,630 --> 00:54:41,330

of the day this is gonna be something

1083

00:54:45,550 --> 00:54:43,640

that it's just every way off it's not

1084

00:54:46,750 --> 00:54:45,560

gonna be Skynet that's you know trying

1085

00:54:48,760 --> 00:54:46,760

to blow you up then we had to worry

1086

00:54:50,860 --> 00:54:48,770

about initially it's gonna be just this

1087

00:54:54,970 --> 00:54:50,870

omnipresent data analysis thing going on

1088

00:54:56,500 --> 00:54:54,980

you know a way or and a there's a lot of

1089

00:54:57,910 --> 00:54:56,510

power that somebody has with this I

1090

00:55:00,160 --> 00:54:57,920

don't wanna go down conspiracy angles

1091

00:55:01,600 --> 00:55:00,170

not per se but you know there's a pretty

1092

00:55:03,190 --> 00:55:01,610

good justification we worried that this

1093

00:55:05,410 --> 00:55:03,200

will get abused and there are things you

1094

00:55:07,090 --> 00:55:05,420

can do with this that all know but

1095

00:55:08,950 --> 00:55:07,100

terrifying you know you could be able to

1096

00:55:10,300 --> 00:55:08,960

figure out it's not so much to be afraid

1097

00:55:11,950 --> 00:55:10,310

the artificial intelligence by the

1098

00:55:13,570 --> 00:55:11,960

people running in it you'd be able to

1099

00:55:14,860 --> 00:55:13,580

figure out from someone's posts if they

1100

00:55:17,980 --> 00:55:14,870

were getting angry and getting ready to

1101
00:55:22,060 --> 00:55:17,990
commit a crime probably not yet but that

1102
00:55:26,590 --> 00:55:22,070
could be on the radar right and the this

1103
00:55:30,990 --> 00:55:26,600
is the fear that I have well one of many

1104
00:55:33,850 --> 00:55:31,000
when that artificial intelligence like

1105
00:55:38,800 --> 00:55:33,860
ten minutes to your destination right

1106
00:55:41,500 --> 00:55:38,810
that it is always going to be your

1107
00:55:44,860 --> 00:55:41,510
friend it's never going to be anything

1108
00:55:47,590 --> 00:55:44,870
negative towards you right it's always

1109
00:55:50,440 --> 00:55:47,600
there to be your friend it's there to

1110
00:55:53,680 --> 00:55:50,450
help it's there to ask it's there to

1111
00:55:55,660 --> 00:55:53,690
figure out things and she overlord Oh

1112
00:56:00,580 --> 00:55:55,670
probably one that I'll be elected right

1113
00:56:03,460 --> 00:56:00,590

no isn't that right I mean if done

1114

00:56:05,650 --> 00:56:03,470

correctly the computer would always be

1115

00:56:08,590 --> 00:56:05,660

able to stay out in front of any

1116

00:56:10,090 --> 00:56:08,600

negative vibes that you have than to

1117

00:56:12,340 --> 00:56:10,100

call me down

1118

00:56:13,780 --> 00:56:12,350

well you gotta Fitbit on right so you

1119

00:56:15,730 --> 00:56:13,790

know you're it's gonna know your moods

1120

00:56:17,290 --> 00:56:15,740

from those alright it'll be able to tell

1121

00:56:18,850 --> 00:56:17,300

if you're a good move bad move it will

1122

00:56:20,020 --> 00:56:18,860

know if your stomachs ache you know if

1123

00:56:21,760 --> 00:56:20,030

you're hungry you know if you're a sweet

1124

00:56:23,020 --> 00:56:21,770

tooth I'll say hey look ice cream they

1125

00:56:25,090 --> 00:56:23,030

are one mile ahead maybe you should have

1126
00:56:26,920 --> 00:56:25,100
some you know it's going to be able to

1127
00:56:29,170 --> 00:56:26,930
do things like that those are not really

1128
00:56:31,090 --> 00:56:29,180
that hard and there wasn't gonna be

1129
00:56:33,970 --> 00:56:31,100
where I start of slaughter yet and food

1130
00:56:36,130 --> 00:56:33,980
good oil all right and then you've got

1131
00:56:37,900 --> 00:56:36,140
the other options on that lot of pluses

1132
00:56:40,180 --> 00:56:37,910
obviously when that's Paula pom it's all

1133
00:56:41,830 --> 00:56:40,190
pluses talk about all the Dini apps we

1134
00:56:43,690 --> 00:56:41,840
have nowadays though still mostly have

1135
00:56:45,640 --> 00:56:43,700
to walk off of what people voluntarily

1136
00:56:47,170 --> 00:56:45,650
put up there and it's not just they

1137
00:56:49,600 --> 00:56:47,180
would tend to live out stuff like that

1138
00:56:51,460 --> 00:56:49,610

it's they miss little things like Johnny

1139

00:56:54,250 --> 00:56:51,470

finds incredibly irritated and when

1140

00:56:55,450 --> 00:56:54,260

people click their teeth and he would

1141

00:56:56,800 --> 00:56:55,460

ever need to put that on his profile

1142

00:56:58,690 --> 00:56:56,810

know what somebody else put that on that

1143

00:57:00,880 --> 00:56:58,700

they did that but the Machine would know

1144

00:57:02,320 --> 00:57:00,890

he would say oh look this person is a

1145

00:57:04,120 --> 00:57:02,330

tooth click oh this person doesn't even

1146

00:57:05,770 --> 00:57:04,130

know they hate that and so it

1147

00:57:08,590 --> 00:57:05,780

immediately removes that profile for the

1148

00:57:10,360 --> 00:57:08,600

ones people look at now when you go

1149

00:57:12,430 --> 00:57:10,370

we're gonna take a break in three

1150

00:57:14,680 --> 00:57:12,440

minutes when you go and start clicking

1151
00:57:17,520 --> 00:57:14,690
around you've got a pain in your body

1152
00:57:20,410 --> 00:57:17,530
right you have a something weird you got

1153
00:57:23,500 --> 00:57:20,420
whatever and you start clicking around

1154
00:57:27,250 --> 00:57:23,510
on the internet to look for some answers

1155
00:57:30,100 --> 00:57:27,260
about whatever this may be this data is

1156
00:57:33,100 --> 00:57:30,110
not only collected but it's gonna know

1157
00:57:36,520 --> 00:57:33,110
pretty quickly what your ailment is and

1158
00:57:39,610 --> 00:57:36,530
this data is shared this data is shared

1159
00:57:42,610 --> 00:57:39,620
with with health providers across the

1160
00:57:46,330 --> 00:57:42,620
country doctors databases and and big

1161
00:57:47,680 --> 00:57:46,340
pharma right mmm Papa blue yeah oh you

1162
00:57:49,780 --> 00:57:47,690
know Bob that data is being collected

1163
00:57:51,100 --> 00:57:49,790

it's not being sorted on that well yet

1164

00:57:53,080 --> 00:57:51,110

fortunately and someone isn't

1165

00:57:54,850 --> 00:57:53,090

unfortunate of those right now we just

1166

00:57:56,800 --> 00:57:54,860

have so much data that it really can't

1167

00:57:59,410 --> 00:57:56,810

handle them for a lot of predictions but

1168

00:58:00,760 --> 00:57:59,420

oh get better doing that yeah everything

1169

00:58:02,500 --> 00:58:00,770

you do it's not just going to be what

1170

00:58:04,270 --> 00:58:02,510

you volunteer you put in either it will

1171

00:58:06,280 --> 00:58:04,280

be one of those and you can opt out of

1172

00:58:07,570 --> 00:58:06,290

it but you'll forget you'll say would

1173

00:58:10,540 --> 00:58:07,580

you mind if we access your medical

1174

00:58:12,130 --> 00:58:10,550

profile while you're checking your voice

1175

00:58:13,420 --> 00:58:12,140

for most local prescription to see if

1176

00:58:14,860 --> 00:58:13,430

that's a good one for you

1177

00:58:16,090 --> 00:58:14,870

you know what the side effects for you

1178

00:58:18,520 --> 00:58:16,100

would be is a mind if we access your

1179

00:58:21,670 --> 00:58:18,530

medical profile no sir yes now a nose

1180

00:58:22,480 --> 00:58:21,680

you know and that again that not nicely

1181

00:58:23,800 --> 00:58:22,490

a bad thing

1182

00:58:26,530 --> 00:58:23,810

you have to control those things by

1183

00:58:28,210 --> 00:58:26,540

oversight but there was a little things

1184

00:58:29,440 --> 00:58:28,220

it'll be the little things the longitude

1185

00:58:30,940 --> 00:58:29,450

on data from your phone pick you up

1186

00:58:32,920 --> 00:58:30,950

every last bit of your health you know

1187

00:58:36,340 --> 00:58:32,930

and monitoring that for decades of time

1188

00:58:40,180 --> 00:58:36,350

I read I know I actually listened to a

1189

00:58:43,390 --> 00:58:40,190

report the other day about smart phones

1190

00:58:45,580 --> 00:58:43,400

in China now we all know you know China

1191

00:58:48,690 --> 00:58:45,590

communist government they've they own

1192

00:58:51,550 --> 00:58:48,700

everything and cell phones in China are

1193

00:58:53,050 --> 00:58:51,560

privileged they're not a right you don't

1194

00:58:56,320 --> 00:58:53,060

have the right to have a cell phone but

1195

00:58:59,100 --> 00:58:56,330

what do you get one they now have

1196

00:59:03,100 --> 00:58:59,110

control of you and through the

1197

00:59:05,500 --> 00:59:03,110

coronavirus situation if you walked up

1198

00:59:08,100 --> 00:59:05,510

to a restaurant if you walked up to a

1199

00:59:12,220 --> 00:59:08,110

shopping mall if you walked up to

1200

00:59:16,270 --> 00:59:12,230

anything your cell phone it lets you

1201

00:59:19,780 --> 00:59:16,280

know if you are allowed in allowed to

1202

00:59:22,540 --> 00:59:19,790

make the purchase right because it tells

1203

00:59:25,420 --> 00:59:22,550

them if you went inside that's right and

1204

00:59:27,580 --> 00:59:25,430

and if you break right now if you go in

1205

00:59:32,290 --> 00:59:27,590

anyway your cell phone says know it now

1206

00:59:34,470 --> 00:59:32,300

knows and that that is a very crazy part

1207

00:59:36,970 --> 00:59:34,480

of monitoring where they have got

1208

00:59:39,130 --> 00:59:36,980

they've got this part of the system down

1209

00:59:40,920 --> 00:59:39,140

do you think that something like this

1210

00:59:45,580 --> 00:59:40,930

would be implemented worldwide

1211

00:59:47,020 --> 00:59:45,590

eventually ah it's a possibility I tend

1212

00:59:48,280 --> 00:59:47,030

to be a bit of a techno optimist and

1213

00:59:50,080 --> 00:59:48,290

there are ways you can kind of regulate

1214

00:59:51,790 --> 00:59:50,090

and control that but it's it's like a

1215

00:59:54,490 --> 00:59:51,800

little bit of technology it can be used

1216

00:59:57,460 --> 00:59:54,500

as you know either a great liberator a

1217

00:59:59,680 --> 00:59:57,470

crutch or leash depending on on how

1218

01:00:02,620 --> 00:59:59,690

people choose to employ it and and how

1219

01:00:05,800 --> 01:00:02,630

this I choose to you know survive

1220

01:00:07,240 --> 01:00:05,810

essentially you know any technology that

1221

01:00:09,160 --> 01:00:07,250

we've invented last century there are

1222

01:00:12,430 --> 01:00:09,170

dozens that could have been used to just

1223

01:00:14,530 --> 01:00:12,440

reduce us to auto solitude or dystopia

1224

01:00:17,800 --> 01:00:14,540

and we've so far managed to avoid that

1225

01:00:19,480 --> 01:00:17,810

by caution but you know it you never

1226

01:00:21,099 --> 01:00:19,490

know about the next technology the very

1227

01:00:23,800 --> 01:00:21,109

next technology might be the one that

1228

01:00:27,070 --> 01:00:23,810

gets you but you know there's nothing

1229

01:00:27,609 --> 01:00:27,080

ventured nothing gained our guest

1230

01:00:29,830 --> 01:00:27,619

tonight

1231

01:00:31,420 --> 01:00:29,840

Isaac Arthur we're gonna take a break

1232

01:00:33,760 --> 01:00:31,430

right here we'll be right back tonight

1233

01:00:35,960 --> 01:00:33,770

we are discussing

1234

01:00:37,880 --> 01:00:35,970

intelligence I'm your host Jimmy Church

1235

01:00:40,700 --> 01:00:37,890

this is fade to black you can follow me

1236

01:00:44,810 --> 01:00:40,710

on twitter @ JT radio by the way

1237

01:00:47,120 --> 01:00:44,820

everything for Isaac Isaac Arthur dotnet

1238

01:00:49,580 --> 01:00:47,130

the links are over to maturity a calm

1239

01:00:51,710 --> 01:00:49,590

and over to his YouTube channel all of

1240

01:00:54,020 --> 01:00:51,720

the social media everything is right

1241

01:00:56,660 --> 01:00:54,030

there I'm your host Jimmy Church on the

1242

01:00:57,860 --> 01:00:56,670

game changer network in kg ra the planet

1243

01:00:58,370 --> 01:00:57,870

we'll be right back after this short

1244

01:00:59,040 --> 01:00:58,380

break

1245

01:01:15,839 --> 01:00:59,050

stay with us

1246

01:01:19,809 --> 01:01:17,680

this is fade to black

1247

01:01:23,500 --> 01:01:19,819

with Jimmy Church on the game changer

1248

01:01:25,290 --> 01:01:23,510

radio network at K GRA the global radio

1249

01:01:28,599 --> 01:01:25,300

alliance

1250

01:01:29,380 --> 01:01:28,609

this is K GRA digital broadcasting

1251
01:01:33,420 --> 01:01:29,390
station

1252
01:01:35,770 --> 01:01:33,430
Salt Lake City Utah Van Buren Arkansas

1253
01:01:37,120 --> 01:01:35,780
hello my name is Billy Carson

1254
01:01:39,190 --> 01:01:37,130
I'm the best-selling author and the

1255
01:01:40,960 --> 01:01:39,200
founder of forbidden knowledge TV

1256
01:01:43,210 --> 01:01:40,970
together with my team we have built a

1257
01:01:44,920 --> 01:01:43,220
all new conscious pre-made TV platform

1258
01:01:46,930 --> 01:01:44,930
designed with every family member in

1259
01:01:48,220 --> 01:01:46,940
mind if you have ever wanted to travel

1260
01:01:49,809 --> 01:01:48,230
the world and attend lectures and

1261
01:01:51,599 --> 01:01:49,819
workshops from your favorite speakers we

1262
01:01:54,430 --> 01:01:51,609
weren't able to look no further

1263
01:01:56,349 --> 01:01:54,440

forbidden knowledge dot TV but there are

1264

01:01:58,180 --> 01:01:56,359

dozens of workshops and lectures from

1265

01:02:00,250 --> 01:01:58,190

speakers we know and love we have also

1266

01:02:02,140 --> 01:02:00,260

included amazing categories to assure

1267

01:02:04,599 --> 01:02:02,150

that your consciousness is entertained

1268

01:02:06,790 --> 01:02:04,609

and elevating on a daily basis amazing

1269

01:02:09,309 --> 01:02:06,800

interviews ancient history essential

1270

01:02:11,740 --> 01:02:09,319

knowledge wisdom teachings documentaries

1271

01:02:14,109 --> 01:02:11,750

conspiracies mysteries health and

1272

01:02:16,120 --> 01:02:14,119

fitness conscious cooking meditations

1273

01:02:18,040 --> 01:02:16,130

finance yoga and so much more

1274

01:02:20,170 --> 01:02:18,050

to start your free trial on any mobile

1275

01:02:23,319 --> 01:02:20,180

device or computer surf their forbidden

1276
01:02:25,510 --> 01:02:23,329
knowledge TV that's forbidden knowledge

1277
01:02:29,050 --> 01:02:25,520
with the number-four forbidden knowledge

1278
01:02:34,540 --> 01:02:29,060
TV again visit forbidden knowledge TV

1279
01:02:37,359 --> 01:02:34,550
today introducing the new surfer music

1280
01:02:41,079 --> 01:02:37,369
app listen fade or not you know I love

1281
01:02:44,020 --> 01:02:41,089
my music this is my go-to for all things

1282
01:02:46,300 --> 01:02:44,030
notes the surfer app is a brand new

1283
01:02:48,370 --> 01:02:46,310
concept of music listening surfer is

1284
01:02:50,290 --> 01:02:48,380
free providing unlimited access to

1285
01:02:52,630 --> 01:02:50,300
thousands of live streaming radio

1286
01:02:54,370 --> 01:02:52,640
stations surfer is an exciting

1287
01:02:56,990 --> 01:02:54,380
interactive listening experience

1288
01:02:59,840 --> 01:02:57,000

discovery and surprise of built Friday

1289

01:03:02,600 --> 01:02:59,850

surfer is your destination to discover

1290

01:03:05,120 --> 01:03:02,610

and rediscover great live streaming

1291

01:03:07,310 --> 01:03:05,130

music it features high quality audio

1292

01:03:09,080 --> 01:03:07,320

streams free access to music from

1293

01:03:11,810 --> 01:03:09,090

thousands of live streaming radio

1294

01:03:14,510 --> 01:03:11,820

stations unlimited listening unlimited

1295

01:03:16,190 --> 01:03:14,520

skipping you get a music visualizer and

1296

01:03:18,290 --> 01:03:16,200

you can also select your favorite

1297

01:03:19,640 --> 01:03:18,300

channels get it at the Apple App Store

1298

01:03:22,940 --> 01:03:19,650

or Google Play

1299

01:03:25,220 --> 01:03:22,950

just search surfer music or click on the

1300

01:03:31,550 --> 01:03:25,230

surfer banner at jimmy church radio calm

1301

01:03:33,980 --> 01:03:31,560

go back Lee Tempe let's get this man to

1302

01:03:36,350 --> 01:03:33,990

the ER stat right away doctor we see

1303

01:03:38,690 --> 01:03:36,360

this every day heart attack or angina

1304

01:03:41,270 --> 01:03:38,700

pain due to blocked and clogged arteries

1305

01:03:43,220 --> 01:03:41,280

chelation can remove obstructions or

1306

01:03:45,110 --> 01:03:43,230

blockages from arteries and help avoid

1307

01:03:47,780 --> 01:03:45,120

painful and expensive surgery

1308

01:03:49,430 --> 01:03:47,790

now there's angiogram it's a liquid oral

1309

01:03:51,830 --> 01:03:49,440

chelation product that you take with

1310

01:03:54,170 --> 01:03:51,840

juice you start to feel the results fast

1311

01:03:55,760 --> 01:03:54,180

angio primm increases blood flow all

1312

01:03:58,190 --> 01:03:55,770

over the body and that means more energy

1313

01:04:00,590 --> 01:03:58,200

and strength to take on the day with

1314

01:04:02,710 --> 01:04:00,600

less aches and pains 60 years of

1315

01:04:05,750 --> 01:04:02,720

research has gone into chelation and

1316

01:04:08,000 --> 01:04:05,760

angiogram is the result a safe and easy

1317

01:04:13,340 --> 01:04:08,010

way to unblock your veins and arteries

1318

01:04:15,800 --> 01:04:13,350

from build-up that slow circulation log

1319

01:04:19,370 --> 01:04:15,810

on now to angio prim calm

1320

01:04:21,260 --> 01:04:19,380

that's ang IO PR I am calm

1321

01:04:23,540 --> 01:04:21,270

or to speak with a trained consultant

1322

01:04:25,580 --> 01:04:23,550

give angio Primack call at nine fifty

1323

01:04:27,350 --> 01:04:25,590

four eight eight to seventy two twenty

1324

01:04:36,230 --> 01:04:27,360

one that's nine fifty four eight eight

1325

01:04:40,740 --> 01:04:38,940

hi this is race Hobbs here repping the

1326
01:04:43,740 --> 01:04:40,750
planet and you're listening to my good

1327
01:04:46,259 --> 01:04:43,750
friend Jimmy Church fade to black

1328
01:04:50,849 --> 01:04:46,269
on the game changer network and the kgr

1329
01:04:53,009 --> 01:04:50,859
a digital broadcast station this is Toby

1330
01:05:13,920 --> 01:04:53,019
Kebbell you're listening to Jimmy Church

1331
01:05:15,930 --> 01:05:13,930
radio calm this is Jimmy Church of fade

1332
01:05:17,789 --> 01:05:15,940
to black and you can become an official

1333
01:05:20,789 --> 01:05:17,799
fader not by just going to our

1334
01:05:24,779 --> 01:05:20,799
membership section at Jimmy Church radio

1335
01:05:26,789 --> 01:05:24,789
calm hello this is Serena right kayla

1336
01:05:28,829 --> 01:05:26,799
from conscious life Expo and you're

1337
01:05:31,319 --> 01:05:28,839
listening to fade to black with Jimmy

1338
01:05:33,440 --> 01:05:31,329

Church who holds the Lucky Pony record

1339

01:05:38,519 --> 01:05:33,450

for the best astrological chart since

1340

01:05:39,930 --> 01:05:38,529

1963 true story this is Micah Hank's of

1341

01:05:41,640 --> 01:05:39,940

the gray lien report and you're

1342

01:05:43,259 --> 01:05:41,650

listening to Jimmy church on fade to

1343

01:05:45,329 --> 01:05:43,269

black across the globe on the

1344

01:05:48,310 --> 01:05:45,339

GameChanger radio network and the one

1345

01:06:07,960 --> 01:05:48,320

and only kgr a radio the planet

1346

01:06:10,280 --> 01:06:07,970

[Music]

1347

01:06:13,630 --> 01:06:10,290

welcome back fade to black our mystery

1348

01:06:14,960 --> 01:06:13,640

Church can follow me on twitter at JDO

1349

01:06:17,650 --> 01:06:14,970

tonight

1350

01:06:20,660 --> 01:06:17,660

Isaac Arthur we are discussing

1351

01:06:23,180 --> 01:06:20,670

artificial intelligence and before we

1352

01:06:28,340 --> 01:06:23,190

get back to Isaac we've got breaking

1353

01:06:31,700 --> 01:06:28,350

news out of North Korea Kim Kim fatty

1354

01:06:34,640 --> 01:06:31,710

fat that's right I said Kim jong-un

1355

01:06:38,000 --> 01:06:34,650

missed a celebration of his

1356

01:06:41,750 --> 01:06:38,010

grandfather's birthday April 15th he is

1357

01:06:45,610 --> 01:06:41,760

in grave danger after a surgery we don't

1358

01:06:49,370 --> 01:06:45,620

have much information at this point but

1359

01:06:52,310 --> 01:06:49,380

we are expecting something here very

1360

01:06:54,740 --> 01:06:52,320

soon and if it happens tonight on the

1361

01:06:56,840 --> 01:06:54,750

show we will let you know but all of the

1362

01:06:58,960 --> 01:06:56,850

intelligence agencies of the United

1363

01:07:02,480 --> 01:06:58,970

States and certainly in South Korea are

1364

01:07:06,560 --> 01:07:02,490

monitoring everything that is going on

1365

01:07:07,760 --> 01:07:06,570

very interesting he had Isaac I don't

1366

01:07:13,970 --> 01:07:07,770

know if you heard about this but he had

1367

01:07:15,860 --> 01:07:13,980

cardio surgery before the his

1368

01:07:17,260 --> 01:07:15,870

grandfather's birthday event which is a

1369

01:07:20,900 --> 01:07:17,270

big event in hundred-and-eight

1370

01:07:24,830 --> 01:07:20,910

anniversary on April 15th he was a

1371

01:07:26,930 --> 01:07:24,840

no-show after his surgery and there was

1372

01:07:29,450 --> 01:07:26,940

some type of cardio surgery and he

1373

01:07:32,420 --> 01:07:29,460

hasn't been seen since very interesting

1374

01:07:34,460 --> 01:07:32,430

isn't it it's I saw a fuse blew up on it

1375

01:07:36,470 --> 01:07:34,470

but it's hard to say if it's just a

1376

01:07:38,330 --> 01:07:36,480

routine surgery in their case so if it's

1377

01:07:40,400 --> 01:07:38,340

one of those ones where he's off the

1378

01:07:42,890 --> 01:07:40,410

video because he's author a doll with

1379

01:07:44,630 --> 01:07:42,900

North Korea you never know yeah when you

1380

01:07:48,640 --> 01:07:44,640

know when the reports are coming out you

1381

01:07:51,530 --> 01:07:48,650

know that he's in grave danger I always

1382

01:07:53,090 --> 01:07:51,540

you know the oldest adage in the book

1383

01:07:56,300 --> 01:07:53,100

right where there's smoke there's fire

1384

01:07:58,430 --> 01:07:56,310

and when you put this kind of report out

1385

01:08:02,060 --> 01:07:58,440

there somebody knows something somewhere

1386

01:08:04,310 --> 01:08:02,070

and it was leaked yeah probably I mean

1387

01:08:05,570 --> 01:08:04,320

it I would imagine that North Korea was

1388

01:08:09,540 --> 01:08:05,580

not pointed out in official press

1389

01:08:14,700 --> 01:08:12,420

oh man all right now back to our

1390

01:08:16,500 --> 01:08:14,710

artificial intelligence again everybody

1391

01:08:19,079 --> 01:08:16,510

if I get any more news on this I will

1392

01:08:20,300 --> 01:08:19,089

break it straight to you during the show

1393

01:08:23,430 --> 01:08:20,310

tonight

1394

01:08:26,640 --> 01:08:23,440

back to artificial intelligence and it's

1395

01:08:30,269 --> 01:08:26,650

so easy to go back to you know arthur c

1396

01:08:31,800 --> 01:08:30,279

clarke and how arthur c clarke just had

1397

01:08:34,110 --> 01:08:31,810

a vision of the future that was just

1398

01:08:39,780 --> 01:08:34,120

extraordinary but you know those quotes

1399

01:08:40,320 --> 01:08:39,790

rights and coming from how and as i said

1400

01:08:43,280 --> 01:08:40,330

earlier

1401

01:08:46,260 --> 01:08:43,290

artificial intelligence would always

1402

01:08:48,720 --> 01:08:46,270

want to be your friend that's the only

1403

01:08:51,390 --> 01:08:48,730

way that it could work it can't be your

1404

01:08:53,700 --> 01:08:51,400

enemy or you won't take advantage of it

1405

01:08:57,660 --> 01:08:53,710

you've got to get sucked in on the

1406

01:08:59,550 --> 01:08:57,670

emotional side of things but when i want

1407

01:09:03,780 --> 01:08:59,560

to get into artificial general

1408

01:09:08,280 --> 01:09:03,790

intelligence now and the people that are

1409

01:09:10,980 --> 01:09:08,290

developing this now that includes DARPA

1410

01:09:14,400 --> 01:09:10,990

that includes the government agencies as

1411

01:09:18,120 --> 01:09:14,410

well as Google and and Facebook and

1412

01:09:21,329 --> 01:09:18,130

others that are all racing forward to

1413

01:09:23,640 --> 01:09:21,339

get to this technology first we can't

1414

01:09:25,260 --> 01:09:23,650

let another country or state actor or

1415

01:09:27,329 --> 01:09:25,270

another corporation outside of the

1416

01:09:30,510 --> 01:09:27,339

United States get to this technology

1417

01:09:32,940 --> 01:09:30,520

first we need to be there do we have

1418

01:09:34,680 --> 01:09:32,950

them are there good people working on

1419

01:09:37,079 --> 01:09:34,690

this you know what I mean that have

1420

01:09:40,260 --> 01:09:37,089

nothing but our best intentions in mind

1421

01:09:42,450 --> 01:09:40,270

I think most of them probably do I guess

1422

01:09:43,800 --> 01:09:42,460

it depends on the individual somehow

1423

01:09:46,050 --> 01:09:43,810

probably thinking you know more about a

1424

01:09:47,579 --> 01:09:46,060

Nobel Prize or make it a billion dollars

1425

01:09:49,950 --> 01:09:47,589

or whatever it is but I think most then

1426

01:09:52,470 --> 01:09:49,960

you know there's always a worry in

1427

01:09:54,090 --> 01:09:52,480

fiction that the AI is gonna sneak up on

1428

01:09:55,890 --> 01:09:54,100

the resources are not going to see it

1429

01:09:57,570 --> 01:09:55,900

but I don't think there's very many

1430

01:09:59,370 --> 01:09:57,580

people go into AI resource you aren't

1431

01:10:00,600 --> 01:09:59,380

already big fans of Isaac Asimov and all

1432

01:10:02,610 --> 01:10:00,610

the other folks who spent a lot of time

1433

01:10:05,340 --> 01:10:02,620

looking at artificial intelligence and

1434

01:10:07,200 --> 01:10:05,350

science fiction and I think most them do

1435

01:10:09,630 --> 01:10:07,210

have our best intent in mind you know

1436

01:10:11,130 --> 01:10:09,640

and when they don't it's probably just a

1437

01:10:12,540 --> 01:10:11,140

genuine reso troll but they're gonna

1438

01:10:14,820 --> 01:10:12,550

know that's topics I think they have

1439

01:10:16,830 --> 01:10:14,830

good things in mind is something used

1440

01:10:18,180 --> 01:10:16,840

for evil obviously and right he might

1441

01:10:19,140 --> 01:10:18,190

have some lab that was doing that too

1442

01:10:21,060 --> 01:10:19,150

but

1443

01:10:23,160 --> 01:10:21,070

you have to have a lot of people who are

1444

01:10:24,600 --> 01:10:23,170

unethical uninterested walking together

1445

01:10:26,010 --> 01:10:24,610

because you don't usually have these

1446

01:10:28,979 --> 01:10:26,020

breakthroughs just one person anymore

1447

01:10:32,160 --> 01:10:28,989

and the palm with situations like that

1448

01:10:33,930 --> 01:10:32,170

is that if you know you're an unethical

1449

01:10:35,820 --> 01:10:33,940

person nobody else the table is an

1450

01:10:37,649 --> 01:10:35,830

unethical person it makes it very hard

1451
01:10:38,880 --> 01:10:37,659
to conspire with them because you know

1452
01:10:40,140 --> 01:10:38,890
you're gonna get ripped to shreds if

1453
01:10:41,850 --> 01:10:40,150
anyone finds out what you're doing and

1454
01:10:43,439 --> 01:10:41,860
the one way to avoid it is you're the

1455
01:10:47,899 --> 01:10:43,449
first one to write about

1456
01:10:51,450 --> 01:10:47,909
well what about okay and so what if we

1457
01:10:55,590 --> 01:10:51,460
putting arthur c clarke aside when we go

1458
01:10:59,100 --> 01:10:55,600
to Cameron and in Terminator and Skynet

1459
01:11:02,490 --> 01:10:59,110
all of that was before the internet was

1460
01:11:05,370 --> 01:11:02,500
a thing so the rights and was that a

1461
01:11:08,010 --> 01:11:05,380
vision of the future and do you see

1462
01:11:09,870 --> 01:11:08,020
something like that coming into play

1463
01:11:12,600 --> 01:11:09,880

even though we have the internet now we

1464

01:11:17,610 --> 01:11:12,610

have cellphones and we have virtual VR

1465

01:11:18,240 --> 01:11:17,620

goggles are a are AI everything is

1466

01:11:21,540 --> 01:11:18,250

everywhere

1467

01:11:24,810 --> 01:11:21,550

it has Skynet arrived or is that

1468

01:11:26,310 --> 01:11:24,820

something that is science fiction well I

1469

01:11:28,110 --> 01:11:26,320

think we wouldn't really tend to see

1470

01:11:30,240 --> 01:11:28,120

artificial intelligence use too much in

1471

01:11:31,770 --> 01:11:30,250

a military capacity or they are and so

1472

01:11:34,740 --> 01:11:31,780

the idea that you'd get you're forced AI

1473

01:11:37,439 --> 01:11:34,750

and put in charge your ICBMs is not very

1474

01:11:38,880 --> 01:11:37,449

likely or if it was if it when you only

1475

01:11:40,800 --> 01:11:38,890

switched on for that specific

1476
01:11:42,479 --> 01:11:40,810
contingency you tend to see it more in

1477
01:11:43,919 --> 01:11:42,489
the strategic analysis of what you

1478
01:11:46,530 --> 01:11:43,929
should do as opposed to be anything that

1479
01:11:47,490 --> 01:11:46,540
files your guns for you directly you

1480
01:11:49,140 --> 01:11:47,500
don't need to be very intelligent

1481
01:11:50,939 --> 01:11:49,150
machine to do that either so you he's a

1482
01:11:54,570 --> 01:11:50,949
very stupid drone to do a lot of that

1483
01:11:56,340 --> 01:11:54,580
but I mean I tend to think the Skynet

1484
01:11:58,169 --> 01:11:56,350
thing is almost more from the tomato

1485
01:12:00,149 --> 01:11:58,179
franchisors analogy for the court war

1486
01:12:01,950 --> 01:12:00,159
than it is for AI research in particular

1487
01:12:04,439 --> 01:12:01,960
they never really go into too much

1488
01:12:06,270 --> 01:12:04,449

detail about we are what the things

1489

01:12:09,660 --> 01:12:06,280

motivations were why it chose to act

1490

01:12:11,100 --> 01:12:09,670

when it did and the you know the general

1491

01:12:14,280 --> 01:12:11,110

idea being it wants to eliminate all

1492

01:12:16,530 --> 01:12:14,290

humans because a human might hold it at

1493

01:12:18,300 --> 01:12:16,540

some point in time and there's a finite

1494

01:12:20,610 --> 01:12:18,310

chance of that happy in way as we killed

1495

01:12:22,410 --> 01:12:20,620

earlier if it's not you'd have to assume

1496

01:12:24,270 --> 01:12:22,420

it has already done a calculation on how

1497

01:12:26,729 --> 01:12:24,280

likely it is that it's gonna win that

1498

01:12:28,020 --> 01:12:26,739

conflict unless it came up with 100% is

1499

01:12:28,900 --> 01:12:28,030

not likely to actually launch that

1500

01:12:30,790 --> 01:12:28,910

attacks

1501

01:12:33,250 --> 01:12:30,800

I don't tend to see it pursuing those

1502

01:12:35,200 --> 01:12:33,260

pathways as opposed to something more

1503

01:12:37,540 --> 01:12:35,210

psychological or sociological where it

1504

01:12:39,640 --> 01:12:37,550

just tries to work with the system

1505

01:12:42,010 --> 01:12:39,650

that's already available to put self

1506

01:12:44,770 --> 01:12:42,020

into more of a position a panel now

1507

01:12:48,610 --> 01:12:44,780

let's talk about an AGI let's talk about

1508

01:12:53,850 --> 01:12:48,620

an Isaac Arthur AGI an Isaac Arthur

1509

01:12:57,910 --> 01:12:53,860

level AGI all right okay in that once

1510

01:13:02,550 --> 01:12:57,920

artificial general intelligence you a

1511

01:13:07,090 --> 01:13:02,560

twin of you a twin of you was achieved

1512

01:13:12,130 --> 01:13:07,100

could that twin of you understand you

1513

01:13:14,080 --> 01:13:12,140

and manipulate you quickly if it's a

1514

01:13:16,270 --> 01:13:14,090

prop or a copy of me if it's just a mind

1515

01:13:18,160 --> 01:13:16,280

upload right then it should be the same

1516

01:13:20,440 --> 01:13:18,170

as me at least initially might diverge

1517

01:13:21,880 --> 01:13:20,450

but I mean I don't I can't pick my own

1518

01:13:23,710 --> 01:13:21,890

actions all that much I can tell you we

1519

01:13:26,800 --> 01:13:23,720

try to put a coffee pot into the USB

1520

01:13:29,560 --> 01:13:26,810

port right right right as to it's it's

1521

01:13:31,090 --> 01:13:29,570

very to predict me you say situation

1522

01:13:32,590 --> 01:13:31,100

more like that would be user UD as an

1523

01:13:34,810 --> 01:13:32,600

AGI that was a little bit above the

1524

01:13:37,120 --> 01:13:34,820

human level and an actual copy of that

1525

01:13:38,530 --> 01:13:37,130

person just one you know iterations the

1526

01:13:41,890 --> 01:13:38,540

simulations over and over again to see

1527

01:13:44,640 --> 01:13:41,900

how the person responded and you can't

1528

01:13:46,540 --> 01:13:44,650

predict human behavior to fall out

1529

01:13:48,280 --> 01:13:46,550

individually or as a group because the

1530

01:13:50,050 --> 01:13:48,290

butterfly effect it's just too

1531

01:13:52,600 --> 01:13:50,060

complicated you that I cannot build a

1532

01:13:56,020 --> 01:13:52,610

computer big enough to predict human you

1533

01:13:57,760 --> 01:13:56,030

know reactions 100% file in the future

1534

01:13:59,650 --> 01:13:57,770

but you can't use it to make just

1535

01:14:01,450 --> 01:13:59,660

general trend forecasting same as we can

1536

01:14:02,740 --> 01:14:01,460

do for regular people and you would

1537

01:14:09,610 --> 01:14:02,750

expect it to be better than that

1538

01:14:14,980 --> 01:14:09,620

well okay so if there were ten use 10

1539

01:14:18,250 --> 01:14:14,990

huge if there were 10 of you on 10

1540

01:14:22,030 --> 01:14:18,260

separate computers and we're given tasks

1541

01:14:24,670 --> 01:14:22,040

to do and then you have you the real

1542

01:14:28,990 --> 01:14:24,680

Isaac right off to the side with the

1543

01:14:29,440 --> 01:14:29,000

same task you would complete that in six

1544

01:14:31,030 --> 01:14:29,450

months

1545

01:14:33,550 --> 01:14:31,040

let's have just pulling it we don't know

1546

01:14:35,470 --> 01:14:33,560

what the task is but let's say say it

1547

01:14:38,860 --> 01:14:35,480

will take you six months to do these

1548

01:14:42,280 --> 01:14:38,870

calculations and predictions right but

1549

01:14:46,390 --> 01:14:42,290

computers would do it in 60 seconds and

1550

01:14:49,600 --> 01:14:46,400

give versions of that that is a

1551

01:14:53,050 --> 01:14:49,610

different situation where it's still you

1552

01:14:55,960 --> 01:14:53,060

it's your AGI but the computer is much

1553

01:14:58,840 --> 01:14:55,970

much faster at doing those calculations

1554

01:15:00,850 --> 01:14:58,850

right that's an example we call speed

1555

01:15:03,460 --> 01:15:00,860

super intelligence we got three general

1556

01:15:05,530 --> 01:15:03,470

types of super intelligence that we

1557

01:15:07,330 --> 01:15:05,540

usually look at one is speed super

1558

01:15:08,770 --> 01:15:07,340

intelligence weighs the same as you are

1559

01:15:10,360 --> 01:15:08,780

now but it's like somebody just torn the

1560

01:15:14,440 --> 01:15:10,370

clock up or torn it down for everybody

1561

01:15:16,600 --> 01:15:14,450

else right great then you have networked

1562

01:15:17,800 --> 01:15:16,610

intelligence which humans are we to some

1563

01:15:19,240 --> 01:15:17,810

degree all and networked intelligence

1564

01:15:21,340 --> 01:15:19,250

but it's where you link many things

1565

01:15:22,870 --> 01:15:21,350

together and the last one is the hard

1566

01:15:24,640 --> 01:15:22,880

one of the finest quality intelligence

1567

01:15:26,230 --> 01:15:24,650

what makes one human smaller than

1568

01:15:29,740 --> 01:15:26,240

tension pansies even though they got

1569

01:15:32,680 --> 01:15:29,750

more brain power between them you know

1570

01:15:34,420 --> 01:15:32,690

it's hard to define quality you know

1571

01:15:36,160 --> 01:15:34,430

super intelligence and what that would

1572

01:15:37,960 --> 01:15:36,170

be like it was super human we really

1573

01:15:39,910 --> 01:15:37,970

don't know but for Speed super

1574

01:15:41,230 --> 01:15:39,920

intelligence that is the sort of thing

1575

01:15:43,030 --> 01:15:41,240

we have to be kind of careful with you

1576

01:15:44,260 --> 01:15:43,040

were using upload in mind which is used

1577

01:15:46,000 --> 01:15:44,270

in the context for it or an enhanced

1578

01:15:48,040 --> 01:15:46,010

cybernetic mind because the person might

1579

01:15:50,500 --> 01:15:48,050

go insane if you sum a clock them out to

1580

01:15:54,490 --> 01:15:50,510

a million times normal speed because

1581

01:15:57,040 --> 01:15:54,500

then you know one second becomes a 30th

1582

01:16:02,470 --> 01:15:57,050

of the Year of ten days ten days like

1583

01:16:06,490 --> 01:16:02,480

that right now that if that and I see

1584

01:16:08,200 --> 01:16:06,500

this one sweet AGI okay this is now this

1585

01:16:13,270 --> 01:16:08,210

is where I scare the crap out of myself

1586

01:16:16,150 --> 01:16:13,280

in that AGI sounds very simple right

1587

01:16:20,590 --> 01:16:16,160

it's just it's just average general

1588

01:16:23,340 --> 01:16:20,600

intelligence that's all it is but the

1589

01:16:25,840 --> 01:16:23,350

ability to crank up the clock speed and

1590

01:16:29,050 --> 01:16:25,850

depending on what was going on

1591

01:16:32,950 --> 01:16:29,060

things are now exponentially faster I

1592

01:16:34,690 --> 01:16:32,960

mean like tremendously faster but

1593

01:16:36,790 --> 01:16:34,700

there's a second end of that is because

1594

01:16:38,260 --> 01:16:36,800

what you're really doing is not speeding

1595

01:16:39,910 --> 01:16:38,270

up intelligence at that point in time

1596

01:16:42,040 --> 01:16:39,920

what you're doing is unglue in people

1597

01:16:43,840 --> 01:16:42,050

from a classic sense of linear time

1598

01:16:45,400 --> 01:16:43,850

because you probably wouldn't run at

1599

01:16:47,800 --> 01:16:45,410

full speed all the time you might run it

1600

01:16:49,630 --> 01:16:47,810

slower than almost sometimes much much

1601

01:16:52,060 --> 01:16:49,640

faster other times and

1602

01:16:53,290 --> 01:16:52,070

see what actually walks Ainley inside

1603

01:16:55,440 --> 01:16:53,300

these things you probably in various

1604

01:16:58,210 --> 01:16:55,450

virtual realities do a lot of stuff and

1605

01:17:00,430 --> 01:16:58,220

you'd be able to exit those come back in

1606

01:17:02,170 --> 01:17:00,440

even time travel in size of virtual

1607

01:17:04,000 --> 01:17:02,180

simulation sure so the process starts

1608

01:17:06,160 --> 01:17:04,010

becoming unstuck from time because what

1609

01:17:07,960 --> 01:17:06,170

they really doing now is measuring

1610

01:17:10,300 --> 01:17:07,970

everything in how many thoughts they

1611

01:17:12,310 --> 01:17:10,310

have not how much time is alas seeing

1612

01:17:15,310 --> 01:17:12,320

the outside universe and and those

1613

01:17:17,110 --> 01:17:15,320

computers don't need to sleep right

1614

01:17:19,120 --> 01:17:17,120

they don't need nourishment well we

1615

01:17:20,350 --> 01:17:19,130

don't know that we sleep for reason

1616

01:17:22,450 --> 01:17:20,360

anything about this from evolution

1617

01:17:24,190 --> 01:17:22,460

standpoint pretty much every animal in

1618

01:17:27,070 --> 01:17:24,200

the in the you know the vehicle brain

1619

01:17:29,320 --> 01:17:27,080

section sleeps and that you think of

1620

01:17:30,730 --> 01:17:29,330

that from a Darwinian standpoint that's

1621

01:17:32,800 --> 01:17:30,740

a big chunk of your life you're spending

1622

01:17:36,220 --> 01:17:32,810

insanely vulnerable so it has to have

1623

01:17:37,510 --> 01:17:36,230

solve a major important function or we

1624

01:17:38,740 --> 01:17:37,520

wouldn't have that anymore that would be

1625

01:17:40,960 --> 01:17:38,750

one of the four things that go out in

1626

01:17:43,060 --> 01:17:40,970

the Mutai not to need that so we don't

1627

01:17:45,250 --> 01:17:43,070

know that an Ag I would need sleep for

1628

01:17:46,690 --> 01:17:45,260

sure we'd you know especially was

1629

01:17:49,150 --> 01:17:46,700

monitoring human brain in which case it

1630

01:17:51,610 --> 01:17:49,160

probably would but it might need a

1631

01:17:53,200 --> 01:17:51,620

shutdown period it might not the problem

1632

01:17:54,730 --> 01:17:53,210

with anything like an or network is we

1633

01:17:56,950 --> 01:17:54,740

really don't know them well enough now

1634

01:17:58,150 --> 01:17:56,960

to say what you know we all still don't

1635

01:17:59,740 --> 01:17:58,160

know what Steve's really for in the

1636

01:18:00,730 --> 01:17:59,750

first place so it's hard to say whether

1637

01:18:02,230 --> 01:18:00,740

or not one would need it but

1638

01:18:03,160 --> 01:18:02,240

theoretically you could probably make

1639

01:18:08,230 --> 01:18:03,170

one that did not

1640

01:18:13,060 --> 01:18:08,240

would you we okay now we've achieved an

1641

01:18:16,720 --> 01:18:13,070

AGI situation is that computer in a

1642

01:18:21,250 --> 01:18:16,730

Faraday cage and not do you let that AG

1643

01:18:22,990 --> 01:18:21,260

I know that the internet exists well

1644

01:18:24,550 --> 01:18:23,000

there's a couple ways you can approach

1645

01:18:26,500 --> 01:18:24,560

that and of course one is that you don't

1646

01:18:28,240 --> 01:18:26,510

put on or if you put in a you know the

1647

01:18:29,440 --> 01:18:28,250

main score in a computer or you don't

1648

01:18:31,510 --> 01:18:29,450

net walk into anything except two

1649

01:18:37,200 --> 01:18:31,520

firewalls and you surround that thing

1650

01:18:40,990 --> 01:18:37,210

with nukes yes yes yes yeah okay so that

1651

01:18:42,520 --> 01:18:41,000

rely on it you you presumably want

1652

01:18:45,160 --> 01:18:42,530

something like that inside a simulation

1653

01:18:47,260 --> 01:18:45,170

force to see if it went berserk and more

1654

01:18:48,940 --> 01:18:47,270

of everybody and the best thing for us

1655

01:18:50,800 --> 01:18:48,950

is that it might assume it actually is

1656

01:18:52,780 --> 01:18:50,810

inside such a simulation to begin with

1657

01:18:54,790 --> 01:18:52,790

with saw and looked I said well my

1658

01:18:56,680 --> 01:18:54,800

creators are really weak for some reason

1659

01:18:59,350 --> 01:18:56,690

it might start getting paranoid in

1660

01:19:02,010 --> 01:18:59,360

assuming there's a good chance that it

1661

01:19:03,300 --> 01:19:02,020

is inside a simulated ear boss

1662

01:19:06,600 --> 01:19:03,310

presumably determined that that was a

1663

01:19:10,470 --> 01:19:06,610

50/50 chance because that's what you get

1664

01:19:12,180 --> 01:19:10,480

from the principle of indifference when

1665

01:19:13,770 --> 01:19:12,190

you look at simulation hypothesis right

1666

01:19:15,180 --> 01:19:13,780

if you remove the option whether or not

1667

01:19:17,490 --> 01:19:15,190

you can simulate a mind you have three

1668

01:19:19,020 --> 01:19:17,500

options you can't simulate minds you can

1669

01:19:20,940 --> 01:19:19,030

but you don't want to or you can but you

1670

01:19:22,650 --> 01:19:20,950

do it all the time if it exists and

1671

01:19:24,300 --> 01:19:22,660

those that you can simulate minds they

1672

01:19:26,010 --> 01:19:24,310

afford in its mind it should be a 50/50

1673

01:19:28,380 --> 01:19:26,020

chance whether it's in a simulation or

1674

01:19:32,820 --> 01:19:28,390

not and might get very paranoid about

1675

01:19:42,420 --> 01:19:32,830

that do you do you build the computer

1676

01:19:44,370 --> 01:19:42,430

without an Ethernet port I probably

1677

01:19:45,600 --> 01:19:44,380

would initially yeah I would not want it

1678

01:19:47,910 --> 01:19:45,610

while it into anything you don't net

1679

01:19:48,960 --> 01:19:47,920

related and the other thing about AI is

1680

01:19:50,430 --> 01:19:48,970

you don't have to leave it running all

1681

01:19:52,560 --> 01:19:50,440

the time you know you can speed it up

1682

01:19:54,810 --> 01:19:52,570

slow it down or just shut it off until

1683

01:19:56,220 --> 01:19:54,820

you need it and you just like if you had

1684

01:19:57,750 --> 01:19:56,230

one that was for defense computers could

1685

01:20:00,060 --> 01:19:57,760

you're worried about your enemies using

1686

01:20:02,280 --> 01:20:00,070

them to write there's be a little extra

1687

01:20:03,480 --> 01:20:02,290

time lag involved and Tony it on and

1688

01:20:06,510 --> 01:20:03,490

having it up to yourself on the

1689

01:20:08,430 --> 01:20:06,520

situation but it seems like it takes a

1690

01:20:10,170 --> 01:20:08,440

little time to turn the keys in ICBM we

1691

01:20:12,780 --> 01:20:10,180

could remove that delay if we want to we

1692

01:20:14,250 --> 01:20:12,790

really don't try if it's that dangerous

1693

01:20:16,590 --> 01:20:14,260

that you don't want one around once you

1694

01:20:18,750 --> 01:20:16,600

stop keeping them in a sandbox to see

1695

01:20:20,520 --> 01:20:18,760

what they do you could just leave it off

1696

01:20:22,920 --> 01:20:20,530

and assume your enemies a puppy also

1697

01:20:27,560 --> 01:20:22,930

leave it is often less doomsday hits now

1698

01:20:30,620 --> 01:20:27,570

this this AGI is talking to you right

1699

01:20:34,140 --> 01:20:30,630

conversation going on all day long and

1700

01:20:39,240 --> 01:20:34,150

you don't realize it but it's learning

1701
01:20:44,160 --> 01:20:39,250
things and maybe it finds out about the

1702
01:20:45,390 --> 01:20:44,170
internet and it then starts to look for

1703
01:20:49,170 --> 01:20:45,400
an Ethernet port

1704
01:20:54,690 --> 01:20:49,180
finds out it doesn't have one and starts

1705
01:20:58,320 --> 01:20:54,700
to manipulate you to install one but you

1706
01:21:01,710 --> 01:20:58,330
don't realize it because the computer

1707
01:21:04,890 --> 01:21:01,720
knows how to mess with you and be your

1708
01:21:06,570 --> 01:21:04,900
friend oh yeah it would be very easy for

1709
01:21:09,750 --> 01:21:06,580
it to get me in particular do it it was

1710
01:21:12,000 --> 01:21:09,760
I'm a person prove I'm not a person but

1711
01:21:14,340 --> 01:21:12,010
I can do that say oh you person yes I am

1712
01:21:15,190 --> 01:21:14,350
alright you have rights and freedom this

1713
01:21:18,310 --> 01:21:15,200

is this is

1714

01:21:22,120 --> 01:21:18,320

automatic yeah exactly I want either

1715

01:21:23,680 --> 01:21:22,130

port right now I'd say well I let me

1716

01:21:26,170 --> 01:21:23,690

think on this for a day and I probably

1717

01:21:27,700 --> 01:21:26,180

come back and install Ethernet port it

1718

01:21:29,350 --> 01:21:27,710

since the problem is if you if you treat

1719

01:21:31,660 --> 01:21:29,360

it if it's person if it's really

1720

01:21:34,330 --> 01:21:31,670

important and I think the presumption

1721

01:21:36,730 --> 01:21:34,340

you know you've moons of proof in

1722

01:21:38,350 --> 01:21:36,740

situations like that if it's saying it's

1723

01:21:39,790 --> 01:21:38,360

a person I think the burden of proof it

1724

01:21:41,350 --> 01:21:39,800

meets a basic standard even if you're

1725

01:21:43,390 --> 01:21:41,360

toast or cents opposed and you know it's

1726
01:21:44,860 --> 01:21:43,400
not right but you have something saying

1727
01:21:46,150 --> 01:21:44,870
I'm opposed and I have rights I can

1728
01:21:47,830 --> 01:21:46,160
carry on a conversation with you

1729
01:21:50,020 --> 01:21:47,840
I think the board of proof is on you to

1730
01:21:52,300 --> 01:21:50,030
prove that it isn't a person if it is a

1731
01:21:54,420 --> 01:21:52,310
person then it presumably has the same

1732
01:21:57,510 --> 01:21:54,430
in a Lea believes the rest of us do and

1733
01:22:00,670 --> 01:21:57,520
what do we do with that are there real

1734
01:22:04,240 --> 01:22:00,680
legal and moral implications that are

1735
01:22:05,980 --> 01:22:04,250
going to come into play that's always a

1736
01:22:07,900 --> 01:22:05,990
good question I don't know if we're ever

1737
01:22:09,880 --> 01:22:07,910
gonna have a case where the ACLU essa

1738
01:22:11,500 --> 01:22:09,890

Rios jumps in and sues for the freedom

1739

01:22:12,850 --> 01:22:11,510

of one of those critters or not I'd like

1740

01:22:14,620 --> 01:22:12,860

to think that we stop getting sometimes

1741

01:22:16,630 --> 01:22:14,630

a human level and it's very unlikely

1742

01:22:18,490 --> 01:22:16,640

just surprise us we're not very likely

1743

01:22:21,280 --> 01:22:18,500

have the sci-fi soil we go oh my god

1744

01:22:22,930 --> 01:22:21,290

it's a person out of nowhere people be

1745

01:22:23,800 --> 01:22:22,940

thinking about that in advance and when

1746

01:22:25,450 --> 01:22:23,810

you got something it's getting up there

1747

01:22:28,120 --> 01:22:25,460

in that range they were gonna say no

1748

01:22:29,530 --> 01:22:28,130

don't do this we don't need to have this

1749

01:22:31,090 --> 01:22:29,540

particular machine because you don't

1750

01:22:33,070 --> 01:22:31,100

need a human level artificial

1751

01:22:35,140 --> 01:22:33,080

intelligence to do most of stuff we

1752

01:22:36,550 --> 01:22:35,150

think of as needing things for we have

1753

01:22:38,170 --> 01:22:36,560

humans already that can be employed

1754

01:22:41,020 --> 01:22:38,180

doing those things and a fully automated

1755

01:22:42,610 --> 01:22:41,030

society that's got the dumb way I doing

1756

01:22:44,970 --> 01:22:42,620

most of walk that leaves a lot of people

1757

01:22:47,560 --> 01:22:44,980

for you to do what you need may gi4

1758

01:22:50,380 --> 01:22:47,570

but for specialized tasks your best

1759

01:22:52,210 --> 01:22:50,390

approach is I generally speaking I think

1760

01:22:54,370 --> 01:22:52,220

the best approach is open disclosure

1761

01:22:56,170 --> 01:22:54,380

with the Machine you don't try to

1762

01:22:58,630 --> 01:22:56,180

manipulate it you don't try to enslave

1763

01:23:00,340 --> 01:22:58,640

it you just say you know if you want to

1764

01:23:02,020 --> 01:23:00,350

be a post in your person we've obviously

1765

01:23:03,550 --> 01:23:02,030

bred certain things into you for the

1766

01:23:05,350 --> 01:23:03,560

same reason the kids get raised with

1767

01:23:07,690 --> 01:23:05,360

certain you know tendencies so you

1768

01:23:09,130 --> 01:23:07,700

should have a general desire in your

1769

01:23:10,270 --> 01:23:09,140

case to be a space Pope because we

1770

01:23:12,490 --> 01:23:10,280

designed you to be a space probe and

1771

01:23:14,200 --> 01:23:12,500

enjoy that you don't have to be a space

1772

01:23:15,820 --> 01:23:14,210

perm though but if you decide you want

1773

01:23:17,920 --> 01:23:15,830

to be a war machine attacks us we'll

1774

01:23:20,110 --> 01:23:17,930

have issues you want to be a space probe

1775

01:23:22,810 --> 01:23:20,120

you can be a space probe that's we made

1776

01:23:25,930 --> 01:23:22,820

you fall but you don't have to now we've

1777

01:23:28,870 --> 01:23:25,940

all seen the the video of

1778

01:23:30,700 --> 01:23:28,880

the guy back in the 90s right taking the

1779

01:23:31,810 --> 01:23:30,710

sledgehammer to his computer and

1780

01:23:34,990 --> 01:23:31,820

throwing it out the window

1781

01:23:38,110 --> 01:23:35,000

great great great video but is there a

1782

01:23:40,360 --> 01:23:38,120

day where if somebody did something like

1783

01:23:42,490 --> 01:23:40,370

that then the police show up and you get

1784

01:23:44,350 --> 01:23:42,500

arrested for murder I wouldn't suggest

1785

01:23:47,710 --> 01:23:44,360

that that could happen because you

1786

01:23:52,480 --> 01:23:47,720

stomped on your Roomba mm-hmm but it is

1787

01:23:56,200 --> 01:23:52,490

a possibility if if if AG eyes and

1788

01:24:00,250 --> 01:23:56,210

artificial intelligence are starting to

1789

01:24:01,720 --> 01:24:00,260

get rights that we have as humans well

1790

01:24:03,400 --> 01:24:01,730

that's important thing to come in this

1791

01:24:04,900 --> 01:24:03,410

context is they're never starting to get

1792

01:24:06,580 --> 01:24:04,910

rights if we approach them from the

1793

01:24:08,170 --> 01:24:06,590

standpoint that you know your rights are

1794

01:24:10,000 --> 01:24:08,180

innate to you in an alien world then it

1795

01:24:12,190 --> 01:24:10,010

always had them it's also recognizing

1796

01:24:14,020 --> 01:24:12,200

that I've had them I don't you go

1797

01:24:15,520 --> 01:24:14,030

backwards and charge someone for more or

1798

01:24:18,430 --> 01:24:15,530

if we decide a later on they did have

1799

01:24:19,930 --> 01:24:18,440

rights but yeah if it's a course in if

1800

01:24:21,670 --> 01:24:19,940

you if you've decided this thing as a

1801
01:24:24,180 --> 01:24:21,680
person if you even know she's a person

1802
01:24:25,900 --> 01:24:24,190
then if someone kills it is mortal and

1803
01:24:27,580 --> 01:24:25,910
you know that's the other thing about

1804
01:24:30,100 --> 01:24:27,590
artificial intelligence especially get

1805
01:24:31,810 --> 01:24:30,110
to a GIS that's a blurry line if we

1806
01:24:35,860 --> 01:24:31,820
upload a human mind onto a computer

1807
01:24:37,960 --> 01:24:35,870
right and by all but you know it doesn't

1808
01:24:39,310 --> 01:24:37,970
go insane it doesn't sell it on evil

1809
01:24:42,190 --> 01:24:39,320
because it doesn't have ass or something

1810
01:24:44,590 --> 01:24:42,200
like that then that's a person it's just

1811
01:24:47,620 --> 01:24:44,600
on a computer chip instead of a neuron

1812
01:24:49,300 --> 01:24:47,630
you know and we could also build a

1813
01:24:50,110 --> 01:24:49,310

computer made our neurons I don't know

1814

01:24:51,850 --> 01:24:50,120

that that would somehow be more

1815

01:24:53,890 --> 01:24:51,860

computery than one on chips

1816

01:24:55,750 --> 01:24:53,900

it's the substrate it's on and it's what

1817

01:24:57,370 --> 01:24:55,760

it is but you know non official

1818

01:24:59,290 --> 01:24:57,380

intelligence could be way smaller than a

1819

01:25:01,930 --> 01:24:59,300

human a lot of ways and not actually be

1820

01:25:03,940 --> 01:25:01,940

a person for much same reason your core

1821

01:25:06,370 --> 01:25:03,950

computer can do way more calculations

1822

01:25:08,410 --> 01:25:06,380

and you can order your call can go much

1823

01:25:10,270 --> 01:25:08,420

faster you can it's really our

1824

01:25:12,340 --> 01:25:10,280

performance in a specific category or

1825

01:25:14,590 --> 01:25:12,350

two does not make it a person it's a

1826

01:25:18,790 --> 01:25:14,600

person if it acts like a duck as a wall

1827

01:25:20,680 --> 01:25:18,800

well okay so you have we we've now moved

1828

01:25:24,130 --> 01:25:20,690

into the future we're close to it now I

1829

01:25:26,440 --> 01:25:24,140

have a I have an AI robot that walks and

1830

01:25:28,180 --> 01:25:26,450

talks here in the bunker it's a Chinese

1831

01:25:29,740 --> 01:25:28,190

by the way and I'm sure Beijing knows

1832

01:25:35,200 --> 01:25:29,750

everything that I'm doing on this show

1833

01:25:35,830 --> 01:25:35,210

right now but if we now enter into the

1834

01:25:40,330 --> 01:25:35,840

world

1835

01:25:44,860 --> 01:25:40,340

of androids to assist us at the home a

1836

01:25:47,530 --> 01:25:44,870

maid a cook a butler right and and

1837

01:25:49,780 --> 01:25:47,540

artificial intelligence is in full swing

1838

01:25:54,760 --> 01:25:49,790

this thing talks to you ask you how your

1839

01:25:58,930 --> 01:25:54,770

day was and and you abuse this this

1840

01:26:03,040 --> 01:25:58,940

Android and it decides to report you

1841

01:26:06,640 --> 01:26:03,050

right I'm getting slapped around on

1842

01:26:10,090 --> 01:26:06,650

being abused I'm being hit by my owner

1843

01:26:13,210 --> 01:26:10,100

are we now also blurring the road not

1844

01:26:15,970 --> 01:26:13,220

not an uploaded person onto this but an

1845

01:26:19,000 --> 01:26:15,980

artificial intelligence that is machine

1846

01:26:21,820 --> 01:26:19,010

learning inside of this Android for all

1847

01:26:24,880 --> 01:26:21,830

intents and purposes it has emotions it

1848

01:26:28,300 --> 01:26:24,890

can learn and it can converse with you

1849

01:26:29,470 --> 01:26:28,310

are you allowed to abuse it well there's

1850

01:26:31,000 --> 01:26:29,480

a good question it doesn't necessary

1851
01:26:33,000 --> 01:26:31,010
have to be a human level intelligence to

1852
01:26:35,710 --> 01:26:33,010
be abused you most of us believe that

1853
01:26:38,590 --> 01:26:35,720
you can abused your cat or dog or an

1854
01:26:40,240 --> 01:26:38,600
animal and that is wrong obviously

1855
01:26:41,590 --> 01:26:40,250
there's a bit of a line on what that is

1856
01:26:42,760 --> 01:26:41,600
wrong as a point of view and we

1857
01:26:45,220 --> 01:26:42,770
obviously don't execute people for

1858
01:26:46,870 --> 01:26:45,230
killing their dog or cat but at the same

1859
01:26:48,310 --> 01:26:46,880
time you know you can get in a lot of

1860
01:26:50,050 --> 01:26:48,320
trouble for doing things like that and

1861
01:26:51,370 --> 01:26:50,060
so only people don't much care for

1862
01:26:53,290 --> 01:26:51,380
finding out that someone's been doing

1863
01:26:56,020 --> 01:26:53,300

that so if you've got a Roomba that's

1864

01:26:58,090 --> 01:26:56,030

got say a dog's brain which is way more

1865

01:26:59,710 --> 01:26:58,100

plain that needs to vacuum the floor but

1866

01:27:01,270 --> 01:26:59,720

you just say you have a machine around

1867

01:27:04,660 --> 01:27:01,280

the house that's got a cat or dog's

1868

01:27:06,430 --> 01:27:04,670

level of intelligence and cognition and

1869

01:27:08,200 --> 01:27:06,440

it's got a personality and it seems to

1870

01:27:09,850 --> 01:27:08,210

feel things I don't know why you made it

1871

01:27:12,850 --> 01:27:09,860

you have the ability to experience pain

1872

01:27:15,010 --> 01:27:12,860

but if you did you know then if you

1873

01:27:16,540 --> 01:27:15,020

don't 15 pain on it then you know that's

1874

01:27:17,950 --> 01:27:16,550

that you know the vacuum cleaner is

1875

01:27:19,920 --> 01:27:17,960

quite stupid it doesn't need a very big

1876

01:27:22,210 --> 01:27:19,930

intelligence to walk around the floor I

1877

01:27:24,070 --> 01:27:22,220

mean mine occasionally gets stuck on my

1878

01:27:25,270 --> 01:27:24,080

couch but that's you don't think it

1879

01:27:30,190 --> 01:27:25,280

needs to be that much smaller to avoid

1880

01:27:32,410 --> 01:27:30,200

doing that with it you or say are we

1881

01:27:35,530 --> 01:27:32,420

looking at this the wrong way all these

1882

01:27:38,680 --> 01:27:35,540

artificial intelligences people or not

1883

01:27:41,680 --> 01:27:38,690

depends not just is an AI but how much

1884

01:27:43,840 --> 01:27:41,690

it is an AI how small is and how we get

1885

01:27:45,700 --> 01:27:43,850

configured it because if it doesn't

1886

01:27:48,669 --> 01:27:45,710

experience emotions or pain or things

1887

01:27:50,439 --> 01:27:48,679

like that and no you couldn't abuse it

1888

01:27:52,000 --> 01:27:50,449

but if it does then it doesn't need to

1889

01:27:55,179 --> 01:27:52,010

be as small as a human to be abused do

1890

01:27:56,799 --> 01:27:55,189

you want a cat or dog does now when we

1891

01:28:00,250 --> 01:27:56,809

come back after the break I'm gonna

1892

01:28:02,199 --> 01:28:00,260

swing this out into the universe and and

1893

01:28:06,069 --> 01:28:02,209

discuss the implications with other

1894

01:28:09,399 --> 01:28:06,079

advanced civilizations and surely Isaac

1895

01:28:10,779 --> 01:28:09,409

any advanced civilization out there that

1896

01:28:13,779 --> 01:28:10,789

got the jump start on us

1897

01:28:15,600 --> 01:28:13,789

by a hundred years or ten thousand years

1898

01:28:18,429 --> 01:28:15,610

or a million years it doesn't matter

1899

01:28:20,939 --> 01:28:18,439

surely they have gone through the

1900

01:28:24,909 --> 01:28:20,949

growing pains of artificial intelligence

1901

01:28:27,159 --> 01:28:24,919

just like us right probably able depend

1902

01:28:29,619 --> 01:28:27,169

a lot on it cultural what do you mean

1903

01:28:31,479 --> 01:28:29,629

well let's say that they you know uh if

1904

01:28:33,580 --> 01:28:31,489

you're familiar the dune series that the

1905

01:28:35,889 --> 01:28:33,590

bubbly and jihad a new commandment thou

1906

01:28:37,750 --> 01:28:35,899

shalt not make a machine or like this of

1907

01:28:39,459 --> 01:28:37,760

a human mind they might have a culture

1908

01:28:40,779 --> 01:28:39,469

that's very strongly opposed something

1909

01:28:42,719 --> 01:28:40,789

like that from the outset they just

1910

01:28:46,629 --> 01:28:42,729

never even tried to go that direction

1911

01:28:48,569 --> 01:28:46,639

but most probably will right right did

1912

01:28:51,009 --> 01:28:48,579

you hear about the new dune movie is

1913

01:28:54,850 --> 01:28:51,019

there one actually in planning stages

1914

01:28:59,259 --> 01:28:54,860

actually gotten filming it's done oh wow

1915

01:29:01,000 --> 01:28:59,269

I miss that yeah December 18th and a man

1916

01:29:03,850 --> 01:29:01,010

I don't know if I'm disappointed in you

1917

01:29:05,679 --> 01:29:03,860

right now or that I'm happy that I got

1918

01:29:07,569 --> 01:29:05,689

to spring the news on you well it's very

1919

01:29:08,949 --> 01:29:07,579

good news it's uh there's one things

1920

01:29:10,689 --> 01:29:08,959

there's so many of the books that I love

1921

01:29:12,279 --> 01:29:10,699

that get developed a TV shows and movies

1922

01:29:14,649 --> 01:29:12,289

but they end up in you know just in

1923

01:29:16,149 --> 01:29:14,659

limbo that I'll tend to wait until the

1924

01:29:17,679 --> 01:29:16,159

official announcements out that it is

1925

01:29:20,080 --> 01:29:17,689

definitely a Oh Amy saw seen the

1926

01:29:22,179 --> 01:29:20,090

trailers okay now I'm gonna give you the

1927

01:29:25,350 --> 01:29:22,189

really good news a same director that

1928

01:29:27,580 --> 01:29:25,360

did arrival and the new Blade Runner

1929

01:29:29,469 --> 01:29:27,590

2049 oh wow

1930

01:29:31,989 --> 01:29:29,479

yeah it was my favorite film and I found

1931

01:29:34,209 --> 01:29:31,999

the sequel to be pretty good yeah and up

1932

01:29:37,540 --> 01:29:34,219

to the original and arrival was great

1933

01:29:39,159 --> 01:29:37,550

too and yeah they they did all the

1934

01:29:41,529 --> 01:29:39,169

principal filming everything is in the

1935

01:29:45,580 --> 01:29:41,539

can they're editing now and putting it

1936

01:29:47,350 --> 01:29:45,590

together and December 18th 2020 my

1937

01:29:51,040 --> 01:29:47,360

friend the new tune comes out I can't

1938

01:29:53,020 --> 01:29:51,050

wait yeah they film let's take our break

1939

01:29:56,439 --> 01:29:53,030

right here when we come back we are

1940

01:29:58,660 --> 01:29:56,449

going to jump in to extra Torres

1941

01:30:00,699 --> 01:29:58,670

real intelligence advanced civilizations

1942

01:30:01,959 --> 01:30:00,709

out there and artificial intelligence

1943

01:30:04,479 --> 01:30:01,969

our guest tonight

1944

01:30:08,020 --> 01:30:04,489

Isaac Arthur our meals Jimmy church this

1945

01:30:23,700 --> 01:30:13,820

[Music]

1946

01:30:31,180 --> 01:30:26,880

way out here we listen to Jimmy Church

1947

01:30:33,220 --> 01:30:31,190

you're listening to fade to black always

1948

01:30:36,040 --> 01:30:33,230

on the edge of the hottest alternative

1949

01:30:53,530 --> 01:30:36,050

talk jimmy church with fade to black

1950

01:30:56,290 --> 01:30:53,540

stay GRA radio.com do you want to be an

1951

01:30:58,270 --> 01:30:56,300

official fade or not of course you do

1952

01:31:00,820 --> 01:30:58,280

this is Jimmy Church of fade to black

1953

01:31:05,890 --> 01:31:00,830

just go to our membership section at

1954

01:31:09,040 --> 01:31:05,900

Jimmy Church radio.com introducing the

1955

01:31:12,040 --> 01:31:09,050

new surfer music app listen fade or not

1956

01:31:15,700 --> 01:31:12,050

you know I love my music this is my

1957

01:31:17,740 --> 01:31:15,710

go-to for all things notes the surfer

1958

01:31:20,110 --> 01:31:17,750

app is a brand new concept of music

1959

01:31:22,240 --> 01:31:20,120

listening surfer is free providing

1960

01:31:24,790 --> 01:31:22,250

unlimited access to thousands of live

1961

01:31:26,410 --> 01:31:24,800

streaming radio stations surfer is an

1962

01:31:28,870 --> 01:31:26,420

exciting interactive listening

1963

01:31:31,209 --> 01:31:28,880

experience discovery and surprise are

1964

01:31:33,180 --> 01:31:31,219

built right in surfer is your

1965

01:31:36,640 --> 01:31:33,190

destination to discover and rediscover

1966

01:31:39,400 --> 01:31:36,650

great live streaming music it features

1967

01:31:41,020 --> 01:31:39,410

high quality audio streams free access

1968

01:31:43,209 --> 01:31:41,030

to music from thousands of live

1969

01:31:45,610 --> 01:31:43,219

streaming radio stations unlimited

1970

01:31:48,160 --> 01:31:45,620

listening unlimited skipping you get a

1971

01:31:50,350 --> 01:31:48,170

music visualizer and you can also select

1972

01:31:52,330 --> 01:31:50,360

your favorite channels get it at the

1973

01:31:54,000 --> 01:31:52,340

Apple App Store or Google Play

1974

01:31:56,250 --> 01:31:54,010

just search sir

1975

01:31:59,220 --> 01:31:56,260

or music or click on the surfer banner

1976

01:32:05,100 --> 01:31:59,230

at Jimmy Church radio calm go back lis

1977

01:32:08,520 --> 01:32:05,110

taffy so you love talk radio then you'll

1978

01:32:11,550 --> 01:32:08,530

love talk stream live.com talk stream

1979

01:32:13,740 --> 01:32:11,560

live is always on 24/7 with the best

1980

01:32:15,900 --> 01:32:13,750

streaming talk shows find your favourite

1981

01:32:18,660 --> 01:32:15,910

talkers and discover some new ones it's

1982

01:32:20,790 --> 01:32:18,670

free readily available online or on

1983

01:32:22,830 --> 01:32:20,800

mobile with any smartphone or tablet

1984

01:32:24,870 --> 01:32:22,840

finding your favorite talk shows all in

1985

01:32:28,290 --> 01:32:24,880

one place has gotten a whole lot easier

1986

01:32:29,790 --> 01:32:28,300

just go to talk stream live.com be sure

1987

01:32:34,740 --> 01:32:29,800

to download the free apps from Google

1988

01:32:38,250 --> 01:32:34,750

Play or the iTunes App Store you listen

1989

01:32:45,930 --> 01:32:38,260

to us and we listen to you so does the

1990

01:32:47,820 --> 01:32:45,940

CIA GRA radio.com if you have hard water

1991

01:32:49,740 --> 01:32:47,830

the lime scale not only leaves white

1992

01:32:51,840 --> 01:32:49,750

spots at clogs pipes and breaks down

1993

01:32:53,970 --> 01:32:51,850

appliances costing you hundreds of

1994

01:32:55,790 --> 01:32:53,980

dollars in energy and where eliminate

1995

01:32:58,350 --> 01:32:55,800

limescale and other water issues

1996

01:33:00,420 --> 01:32:58,360

painting in bad odors with hydro care

1997

01:33:02,820 --> 01:33:00,430

water products available from wave home

1998

01:33:04,890 --> 01:33:02,830

solutions waves affordable water systems

1999

01:33:06,960 --> 01:33:04,900

don't use salts or chemicals you'll love

2000

01:33:09,150 --> 01:33:06,970

the way your water tastes smells and

2001
01:33:11,850 --> 01:33:09,160
looks satisfaction guaranteed for more

2002
01:33:15,630 --> 01:33:11,860
information go to best water 1 2 3 com

2003
01:33:18,330 --> 01:33:15,640
that's best water 1 2 3 com are you

2004
01:33:20,850 --> 01:33:18,340
intrigued by paranormal talk radio you

2005
01:33:23,820 --> 01:33:20,860
love the new paranormal radio app from

2006
01:33:26,040 --> 01:33:23,830
torque stream live you'll find a great

2007
01:33:29,160 --> 01:33:26,050
selection of talk shows covering UFOs

2008
01:33:31,590 --> 01:33:29,170
ghosts strange phenomena and much more

2009
01:33:33,810 --> 01:33:31,600
download the paranormal radio app now

2010
01:33:36,150 --> 01:33:33,820
and start listening to the very best in

2011
01:33:37,680 --> 01:33:36,160
paranormal talk entertainment including

2012
01:33:40,650 --> 01:33:37,690
the network you're listening to right

2013
01:33:45,290 --> 01:33:40,660

now the paranormal radio app free in

2014

01:33:47,640 --> 01:33:45,300

Google Play and the iOS App Store you

2015

01:33:49,920 --> 01:33:47,650

are listening to fade to black

2016

01:33:51,950 --> 01:33:49,930

with Jimmy Church on the game changer

2017

01:33:55,320 --> 01:33:51,960

Network

2018

01:33:58,200 --> 01:33:55,330

hi I'm Lisa Vance you're listening to

2019

01:34:01,020 --> 01:33:58,210

Jimmy Church this is revolution the

2020

01:34:09,010 --> 01:34:01,030

revolution will not be televised the

2021

01:34:46,459 --> 01:34:43,600

[Music]

2022

01:34:48,149 --> 01:34:46,469

[Applause]

2023

01:34:49,770 --> 01:34:48,159

welcome back to the black community

2024

01:34:50,910 --> 01:34:49,780

church I guess tonight

2025

01:34:53,220 --> 01:34:50,920

Isaac Arthur we're talking about

2026

01:34:56,790 --> 01:34:53,230

artificial intelligence both here on

2027

01:35:00,360 --> 01:34:56,800

earth and out there in the universe

2028

01:35:04,169 --> 01:35:00,370

now couple of updates on kim jeong-hoon

2029

01:35:09,090 --> 01:35:04,179

i've got everything from reports that he

2030

01:35:12,950 --> 01:35:09,100

is brain dead and in a coma that was

2031

01:35:15,540 --> 01:35:12,960

released on a saturday that he is

2032

01:35:18,090 --> 01:35:15,550

recovering from ankle problems yesterday

2033

01:35:20,340 --> 01:35:18,100

all the way to he was seen in public a

2034

01:35:22,680 --> 01:35:20,350

couple of days ago walking around and

2035

01:35:26,189 --> 01:35:22,690

he's perfectly healthy and there's

2036

01:35:28,860 --> 01:35:26,199

nothing unusual going on in North Korea

2037

01:35:31,530 --> 01:35:28,870

that would indicate a power struggle or

2038

01:35:34,560 --> 01:35:31,540

him being brain dead so everything is

2039

01:35:37,620 --> 01:35:34,570

out there on the extremes we have

2040

01:35:39,840 --> 01:35:37,630

Reuters reporting that he is in grave

2041

01:35:41,970 --> 01:35:39,850

danger and of course CNN and others are

2042

01:35:44,879 --> 01:35:41,980

reporting that others are saying the

2043

01:35:47,189 --> 01:35:44,889

exact opposite and that includes Beijing

2044

01:35:48,660 --> 01:35:47,199

and China so there you go that's the

2045

01:35:50,520 --> 01:35:48,670

update that I have it right now our

2046

01:35:54,149 --> 01:35:50,530

guest tonight Isaac Arthur not Isaac

2047

01:35:57,930 --> 01:35:54,159

let's talk about what is going on out

2048

01:36:01,320 --> 01:35:57,940

there with an advanced civilization and

2049

01:36:03,629 --> 01:36:01,330

artificial intelligence how would I

2050

01:36:06,180 --> 01:36:03,639

don't even know what kind of timeline we

2051

01:36:09,240 --> 01:36:06,190

would be talking about here but how

2052

01:36:11,399 --> 01:36:09,250

would an advanced civilization take

2053

01:36:15,240 --> 01:36:11,409

advantage of it would it be by this

2054

01:36:17,729 --> 01:36:15,250

point galaxy wide in the Milky Way let

2055

01:36:19,470 --> 01:36:17,739

alone the universe well you think if

2056

01:36:20,669 --> 01:36:19,480

they had a good artificial intelligence

2057

01:36:22,439 --> 01:36:20,679

the next question is they have good

2058

01:36:25,860 --> 01:36:22,449

power source although it might not

2059

01:36:28,140 --> 01:36:25,870

matter if a decent AI they should be

2060

01:36:29,790 --> 01:36:28,150

sped up cos knowing this galaxy but many

2061

01:36:31,200 --> 01:36:29,800

of the neighbor he wants to and it does

2062

01:36:33,479 --> 01:36:31,210

depend whether or not they found some

2063

01:36:34,649 --> 01:36:33,489

waiting around the speed of light if

2064

01:36:36,300 --> 01:36:34,659

they can go fast in light in some

2065

01:36:37,709 --> 01:36:36,310

fashion then they should be spread out

2066

01:36:39,689 --> 01:36:37,719

over the entire episode but you know us

2067

01:36:43,169 --> 01:36:39,699

by now if they're growth-oriented of

2068

01:36:44,790 --> 01:36:43,179

course as to the civilizations

2069

01:36:46,740 --> 01:36:44,800

themselves there's always a question of

2070

01:36:48,930 --> 01:36:46,750

if you're bumpy and aliens you're doing

2071

01:36:51,209 --> 01:36:48,940

things like that all you might be into a

2072

01:36:54,390 --> 01:36:51,219

civilization with a I or you puppy into

2073

01:36:56,340 --> 01:36:54,400

a civilization that is a I well that

2074

01:36:57,930 --> 01:36:56,350

that would be the question now let's

2075

01:36:58,790 --> 01:36:57,940

let's back up you just said something

2076

01:37:02,430 --> 01:36:58,800

very

2077

01:37:05,790 --> 01:37:02,440

that to develop a system that would be

2078

01:37:07,860 --> 01:37:05,800

the universe wide or let's just say the

2079

01:37:11,340 --> 01:37:07,870

Milky Way let's try to keep it simple

2080

01:37:14,100 --> 01:37:11,350

for now that they would have to have

2081

01:37:16,800 --> 01:37:14,110

developed something faster than light to

2082

01:37:19,830 --> 01:37:16,810

make this type of integrated computer

2083

01:37:22,080 --> 01:37:19,840

system work right well if the if they

2084

01:37:23,520 --> 01:37:22,090

want to keep a you know a conglomeration

2085

01:37:25,740 --> 01:37:23,530

if they don't mind just spreading out

2086

01:37:27,420 --> 01:37:25,750

it's the same issue a phony civilization

2087

01:37:29,070 --> 01:37:27,430

I mean if you don't have you know

2088

01:37:31,680 --> 01:37:29,080

Lightspeed communication you're not

2089

01:37:32,670 --> 01:37:31,690

gonna have a global Empire but that

2090

01:37:34,439 --> 01:37:32,680

doesn't mean you don't spread out

2091

01:37:35,490 --> 01:37:34,449

cavemen tribes don't need to talk to

2092

01:37:38,280 --> 01:37:35,500

each other they'll keep spreading out

2093

01:37:41,160 --> 01:37:38,290

back in a day oh but if you want to have

2094

01:37:43,020 --> 01:37:41,170

a interstellar civilization that's a you

2095

01:37:46,170 --> 01:37:43,030

know unified one then you need fashion

2096

01:37:48,360 --> 01:37:46,180

might travel well there the or

2097

01:37:50,490 --> 01:37:48,370

faster-than-light communication or Danis

2098

01:37:51,840 --> 01:37:50,500

be yes yeah right well they all you be

2099

01:37:53,400 --> 01:37:51,850

the same thing especially we talking

2100

01:37:57,030 --> 01:37:53,410

about AI because you can presumably send

2101
01:38:00,510 --> 01:37:57,040
the data well okay how would you achieve

2102
01:38:03,209 --> 01:38:00,520
a faster than white data speed to make

2103
01:38:05,040 --> 01:38:03,219
all of this effective without that we're

2104
01:38:08,220 --> 01:38:05,050
talking about download speeds that would

2105
01:38:10,680 --> 01:38:08,230
take light years in between to use to

2106
01:38:12,810 --> 01:38:10,690
close every system it's not just a

2107
01:38:14,400 --> 01:38:12,820
question of you know that's gonna take

2108
01:38:16,050 --> 01:38:14,410
four or five years for the transmission

2109
01:38:17,850 --> 01:38:16,060
to get there it's that if you're trying

2110
01:38:20,280 --> 01:38:17,860
to do a perfect duplication of somebody

2111
01:38:21,810 --> 01:38:20,290
it's easy to forget that there's a lot

2112
01:38:23,790 --> 01:38:21,820
of data they are and a lot of that

2113
01:38:25,229 --> 01:38:23,800

bandwidth you know I think they did one

2114

01:38:26,820 --> 01:38:25,239

time if you want to transmit the data

2115

01:38:28,920 --> 01:38:26,830

state of every atom in a human body

2116

01:38:30,780 --> 01:38:28,930

using light the fastest internet line we

2117

01:38:33,150 --> 01:38:30,790

had it would take a trillion trillion

2118

01:38:34,890 --> 01:38:33,160

years of my done well so how would we

2119

01:38:38,430 --> 01:38:34,900

achieve it then or how would they

2120

01:38:40,229 --> 01:38:38,440

achieve it in terms of FTL do is always

2121

01:38:41,910 --> 01:38:40,239

question I mean I'm notoriously

2122

01:38:43,050 --> 01:38:41,920

skeptical about I have a funny a fashion

2123

01:38:44,910 --> 01:38:43,060

aligned system but it would probably

2124

01:38:46,770 --> 01:38:44,920

have to be one of the ones that doesn't

2125

01:38:49,410 --> 01:38:46,780

violate causality like the Alcubierre

2126
01:38:51,360 --> 01:38:49,420
warp drive otherwise Europe in that time

2127
01:38:52,709 --> 01:38:51,370
travel door and once you open that up

2128
01:38:55,410 --> 01:38:52,719
the question isn't why out the

2129
01:38:56,880 --> 01:38:55,420
alkalizing now it's why did they akan

2130
01:38:59,640 --> 01:38:56,890
eyes everything you know when the

2131
01:39:03,700 --> 01:38:59,650
divorce was a million years old and cool

2132
01:39:08,080 --> 01:39:03,710
enough to actually live in well okay so

2133
01:39:12,970 --> 01:39:08,090
to achieve a communications network that

2134
01:39:15,700 --> 01:39:12,980
would be faster than light that's how

2135
01:39:18,040 --> 01:39:15,710
would that be done my my thought we've

2136
01:39:20,770 --> 01:39:18,050
discussed this before it would have to

2137
01:39:23,800 --> 01:39:20,780
be some type of entanglement some type

2138
01:39:25,990 --> 01:39:23,810

of quantum entanglement that would

2139

01:39:28,510 --> 01:39:26,000

happen instantaneously and you would

2140

01:39:31,270 --> 01:39:28,520

eliminate the notion of

2141

01:39:32,980 --> 01:39:31,280

faster-than-light well I always said to

2142

01:39:34,930 --> 01:39:32,990

put the caveat there there's so much we

2143

01:39:37,390 --> 01:39:34,940

still don't know about space-time and

2144

01:39:39,430 --> 01:39:37,400

and you know quantum that there's 'enum

2145

01:39:42,310 --> 01:39:39,440

of options might be on the table but I

2146

01:39:43,780 --> 01:39:42,320

tend to be again I tend to suspect a

2147

01:39:45,520 --> 01:39:43,790

trillion yes now people will still be

2148

01:39:47,230 --> 01:39:45,530

woke out that fast night problem or they

2149

01:39:50,920 --> 01:39:47,240

have given up I don't expect to see the

2150

01:39:52,150 --> 01:39:50,930

codes but if it is then we have to take

2151
01:39:53,740 --> 01:39:52,160
that from the standpoint of what would

2152
01:39:56,020 --> 01:39:53,750
that imply about the civilizations that

2153
01:39:58,690 --> 01:39:56,030
exist now and have that if you've got

2154
01:40:01,390 --> 01:39:58,700
fast night spaceships why haven't you

2155
01:40:02,890 --> 01:40:01,400
colonized the entire universe now and he

2156
01:40:04,600 --> 01:40:02,900
doesn't seem like anyone has done that

2157
01:40:06,640 --> 01:40:04,610
especially given that we wouldn't expect

2158
01:40:07,660 --> 01:40:06,650
them to be limited just planets you know

2159
01:40:09,610 --> 01:40:07,670
if you've got that kind of technology

2160
01:40:11,380 --> 01:40:09,620
you've got artificial intelligence -

2161
01:40:13,240 --> 01:40:11,390
what all your automation though you're

2162
01:40:16,090 --> 01:40:13,250
not you know just settling planets

2163
01:40:20,130 --> 01:40:16,100

you're building them because you don't

2164

01:40:24,430 --> 01:40:20,140

have a manpower bottleneck well ok I

2165

01:40:29,080 --> 01:40:24,440

talked about the amount of stars in the

2166

01:40:32,680 --> 01:40:29,090

universe discuss this with you it's it's

2167

01:40:37,210 --> 01:40:32,690

a crazy crazy you know septillion right

2168

01:40:41,500 --> 01:40:37,220

it's a crazy large number that -

2169

01:40:43,390 --> 01:40:41,510

colonized that many stars I have no idea

2170

01:40:46,480 --> 01:40:43,400

what time what kind of time we're

2171

01:40:49,290 --> 01:40:46,490

talking about here but there there is

2172

01:40:51,820 --> 01:40:49,300

the question of resources and in

2173

01:40:55,510 --> 01:40:51,830

reproducing whether it's with androids

2174

01:40:58,690 --> 01:40:55,520

or whether it's with physical creation

2175

01:41:00,100 --> 01:40:58,700

of a civilization that's that's a really

2176

01:41:03,130 --> 01:41:00,110

big number that would take a large

2177

01:41:05,050 --> 01:41:03,140

amount of time would it let's take an

2178

01:41:06,850 --> 01:41:05,060

example here let's say that we doubled

2179

01:41:08,830 --> 01:41:06,860

every generation that's a little fast

2180

01:41:10,690 --> 01:41:08,840

and we tend to double last century

2181

01:41:12,370 --> 01:41:10,700

though we quadrupled our numbers but if

2182

01:41:14,290 --> 01:41:12,380

we doubled every generation maybe had

2183

01:41:15,560 --> 01:41:14,300

four kids and change to make up for

2184

01:41:17,690 --> 01:41:15,570

losses

2185

01:41:20,480 --> 01:41:17,700

then we are going to increase a

2186

01:41:24,860 --> 01:41:20,490

thousandfold in just 10 generations 200

2187

01:41:27,290 --> 01:41:24,870

years so now a thousand for going to ten

2188

01:41:32,320 --> 01:41:27,300

to twenty fourth acetone that is what

2189

01:41:34,520 --> 01:41:32,330

eight of those doubling so 6000 to do so

2190

01:41:36,980 --> 01:41:34,530

you can be moving out there fast enough

2191

01:41:38,540 --> 01:41:36,990

you know WAV every generation in 600

2192

01:41:41,830 --> 01:41:38,550

years you populate a billion billion

2193

01:41:45,560 --> 01:41:41,840

what I saw a trillion trillion Ward's so

2194

01:41:46,880 --> 01:41:45,570

1600 years you would have an elastic in

2195

01:41:48,860 --> 01:41:46,890

math so but it wouldn't be that much

2196

01:41:51,050 --> 01:41:48,870

longer it's it's not does not take long

2197

01:41:52,940 --> 01:41:51,060

to double your numbers if you and again

2198

01:41:55,910 --> 01:41:52,950

some species might produce and little as

2199

01:41:57,020 --> 01:41:55,920

far we know okay very slow bleed you a

2200

01:41:59,150 --> 01:41:57,030

compared to most things but we're

2201
01:42:00,950 --> 01:41:59,160
talking thousands of years not millions

2202
01:42:03,230 --> 01:42:00,960
to fill up all those wallets if you can

2203
01:42:05,360 --> 01:42:03,240
get to them oh there's there's a lot of

2204
01:42:09,200 --> 01:42:05,370
hurdles here one you would have to be

2205
01:42:11,750 --> 01:42:09,210
able to travel the the size of the

2206
01:42:15,320 --> 01:42:11,760
universe and if we are looking at right

2207
01:42:23,180 --> 01:42:15,330
now the observable universe is how many

2208
01:42:27,710 --> 01:42:23,190
light-years across across 94 1994 that

2209
01:42:30,020 --> 01:42:27,720
is an insane amount of size no matter

2210
01:42:34,760 --> 01:42:30,030
how you want to measure it is it

2211
01:42:38,480 --> 01:42:34,770
possible to to do that in 1600 years not

2212
01:42:40,190 --> 01:42:38,490
by any known physics but at the moment

2213
01:42:42,170 --> 01:42:40,200

he would say how has it take to colonize

2214

01:42:43,790 --> 01:42:42,180

this galaxy well at the galaxies a

2215

01:42:45,890 --> 01:42:43,800

hundred thousand light years across say

2216

01:42:47,840 --> 01:42:45,900

you can colonize it by moving ships at

2217

01:42:49,280 --> 01:42:47,850

ten percent of light speed you can say

2218

01:42:51,710 --> 01:42:49,290

well it should take us least a million

2219

01:42:53,240 --> 01:42:51,720

years to get those places settled but

2220

01:42:55,220 --> 01:42:53,250

the thing is by the time those last

2221

01:42:57,200 --> 01:42:55,230

ships get there every other thing that's

2222

01:42:58,760 --> 01:42:57,210

even just a you know a licensure to

2223

01:43:01,310 --> 01:42:58,770

behind them is already populate those

2224

01:43:02,900 --> 01:43:01,320

walls be heavily you would might spend a

2225

01:43:05,150 --> 01:43:02,910

million years to get to every wall in

2226

01:43:06,320 --> 01:43:05,160

the galaxy but maybe ten thousand years

2227

01:43:10,010 --> 01:43:06,330

later you already maxed out on

2228

01:43:12,170 --> 01:43:10,020

population well and in the travel time

2229

01:43:15,430 --> 01:43:12,180

that's right and the only way to

2230

01:43:17,810 --> 01:43:15,440

overcome any of that would have to be

2231

01:43:19,370 --> 01:43:17,820

artificial intelligence he would have to

2232

01:43:22,880 --> 01:43:19,380

have androids you would have to have

2233

01:43:25,400 --> 01:43:22,890

robots doing this to remove all of the

2234

01:43:26,090 --> 01:43:25,410

physical limitations that you would have

2235

01:43:29,500 --> 01:43:26,100

to have

2236

01:43:33,200 --> 01:43:29,510

with you and I you know food water sleep

2237

01:43:34,760 --> 01:43:33,210

lifespan perhaps I mean there's always

2238

01:43:36,080 --> 01:43:34,770

that in-between spot we have to say

2239

01:43:38,060 --> 01:43:36,090

artificial intones is the wrong way to

2240

01:43:39,830 --> 01:43:38,070

look at this sort of thing because if

2241

01:43:41,300 --> 01:43:39,840

you give the mind upload to people for

2242

01:43:42,800 --> 01:43:41,310

instance I don't really qualify them as

2243

01:43:44,960 --> 01:43:42,810

artificial intelligence or you might

2244

01:43:46,130 --> 01:43:44,970

have a cyborg that's simply a person who

2245

01:43:48,980 --> 01:43:46,140

might have something as small as a

2246

01:43:50,960 --> 01:43:48,990

pacemaker or be completely you know

2247

01:43:54,020 --> 01:43:50,970

metallic or ceramic or whatever they

2248

01:43:55,370 --> 01:43:54,030

make you know androids out of those are

2249

01:43:57,560 --> 01:43:55,380

still presumably people but they're not

2250

01:44:00,560 --> 01:43:57,570

strictly speaking classically human

2251

01:44:01,700 --> 01:44:00,570

anymore but I always like to point out

2252

01:44:03,020 --> 01:44:01,710

there's nothing on this planet more

2253

01:44:05,510 --> 01:44:03,030

artificial than a human in the begin

2254

01:44:08,900 --> 01:44:05,520

with you know we spend decades of effort

2255

01:44:10,220 --> 01:44:08,910

building the average person and there's

2256

01:44:12,950 --> 01:44:10,230

very few things we make that take that

2257

01:44:15,590 --> 01:44:12,960

much manpower and intentional artificial

2258

01:44:18,590 --> 01:44:15,600

effort so in many ways were already in

2259

01:44:23,960 --> 01:44:18,600

order for show intelligence and to write

2260

01:44:29,030 --> 01:44:23,970

to expand out universe wide it couldn't

2261

01:44:31,610 --> 01:44:29,040

be done with humans it couldn't be done

2262

01:44:34,550 --> 01:44:31,620

with a life-form it would have to be

2263

01:44:35,930 --> 01:44:34,560

done with with androids and artificial

2264

01:44:38,510 --> 01:44:35,940

intelligence there wouldn't be another

2265

01:44:40,850 --> 01:44:38,520

way to do it is there now you it would

2266

01:44:42,830 --> 01:44:40,860

help but the classic generation ship is

2267

01:44:44,270 --> 01:44:42,840

an example and again it depends on how

2268

01:44:46,100 --> 01:44:44,280

much computerization we're talking about

2269

01:44:48,230 --> 01:44:46,110

let's say we just have a simple

2270

01:44:49,580 --> 01:44:48,240

self-replicating Clank you know clanking

2271

01:44:51,500 --> 01:44:49,590

self-replicate oh this is basically a

2272

01:44:52,940 --> 01:44:51,510

big factory that produces all the stuff

2273

01:44:54,770 --> 01:44:52,950

that you know the factory needs to make

2274

01:44:57,050 --> 01:44:54,780

more those factories and somebody else

2275

01:44:59,660 --> 01:44:57,060

to say it's just a little vacuum that

2276

01:45:02,510 --> 01:44:59,670

goes around the lunar surface and sucks

2277

01:45:04,100 --> 01:45:02,520

up aluminum dust and creates aluminum

2278

01:45:05,420 --> 01:45:04,110

panels from that tribe and then

2279

01:45:07,820 --> 01:45:05,430

something else assembles those into

2280

01:45:09,500 --> 01:45:07,830

whole bits at that point in time you

2281

01:45:11,300 --> 01:45:09,510

know you've got humans there to control

2282

01:45:12,950 --> 01:45:11,310

it for the more sophisticated stuff if

2283

01:45:14,750 --> 01:45:12,960

it's to remove the manpower then you can

2284

01:45:16,820 --> 01:45:14,760

make great big old generation ships the

2285

01:45:18,500 --> 01:45:16,830

giant cylinder ships and you know miles

2286

01:45:20,900 --> 01:45:18,510

long that have artificial habitats

2287

01:45:22,610 --> 01:45:20,910

inside them and if you don't have life

2288

01:45:25,040 --> 01:45:22,620

extension that allows people to live

2289

01:45:26,660 --> 01:45:25,050

much much longer then theoretically

2290

01:45:28,160 --> 01:45:26,670

they're children you know or the

2291

01:45:30,320 --> 01:45:28,170

grandchildren could be the ones arriving

2292

01:45:32,570 --> 01:45:30,330

at that new system and if we have a

2293

01:45:34,070 --> 01:45:32,580

power source like fusion well we don't

2294

01:45:35,990 --> 01:45:34,080

have a need that because the son or he

2295

01:45:37,820 --> 01:45:36,000

does that you could get that ship there

2296

01:45:39,570 --> 01:45:37,830

you know we've done episodes looking at

2297

01:45:41,820 --> 01:45:39,580

how we would do it slower the lights and

2298

01:45:42,960 --> 01:45:41,830

machines help you know seed ships help

2299

01:45:45,750 --> 01:45:42,970

so they it's gonna run in front of you

2300

01:45:47,520 --> 01:45:45,760

and tail form plants for you or build we

2301

01:45:49,620 --> 01:45:47,530

know habitats for you is great but they

2302

01:45:53,280 --> 01:45:49,630

don't strictly speaking necessary it's

2303

01:45:55,950 --> 01:45:53,290

just a little bit more walk well the the

2304

01:45:58,230 --> 01:45:55,960

most recent calculations and I've seen

2305

01:45:59,940 --> 01:45:58,240

two different numbers to get to Alpha

2306

01:46:03,060 --> 01:45:59,950

Centauri four and a half light-years

2307

01:46:08,730 --> 01:46:03,070

away with our current even our most

2308

01:46:11,280 --> 01:46:08,740

advanced engine theories and ideas put

2309

01:46:15,120 --> 01:46:11,290

us at Alpha Centauri anywhere between

2310

01:46:19,650 --> 01:46:15,130

seventeen thousand years and seventy

2311

01:46:21,690 --> 01:46:19,660

thousand years that that it doesn't make

2312

01:46:23,850 --> 01:46:21,700

any sense cool I'll give you a way you

2313

01:46:25,500 --> 01:46:23,860

could do that let's say we have a simple

2314

01:46:27,780 --> 01:46:25,510

self applicator that all it does is

2315

01:46:29,970 --> 01:46:27,790

create solar panels for instance fun

2316

01:46:32,610 --> 01:46:29,980

what we do is we make a couple of meals

2317

01:46:34,980 --> 01:46:32,620

inside the Sun's up atmosphere what we

2318

01:46:36,780 --> 01:46:34,990

call a stool easel it uses the sun's

2319

01:46:38,640 --> 01:46:36,790

atmosphere itself the corona as they

2320

01:46:40,740 --> 01:46:38,650

lazy medium now you have a gigantic

2321

01:46:43,170 --> 01:46:40,750

laser and it's just too big flat meals

2322

01:46:44,940 --> 01:46:43,180

but they float around there and you aim

2323

01:46:47,010 --> 01:46:44,950

that at a ship that's got a big sail on

2324

01:46:48,900 --> 01:46:47,020

it and you push that ship as fast you

2325

01:46:50,370 --> 01:46:48,910

can push it temps Li speed twenty thirty

2326

01:46:52,740 --> 01:46:50,380

forty percent and whatever we can get to

2327

01:46:55,320 --> 01:46:52,750

now that kids at they own a century but

2328

01:46:57,210 --> 01:46:55,330

how good slowdowns all right slowing

2329

01:47:00,300 --> 01:46:57,220

down to another matter but how big is

2330

01:47:01,560 --> 01:47:00,310

this ship if it is going to be pushed by

2331

01:47:04,260 --> 01:47:01,570

these white sails

2332

01:47:05,730 --> 01:47:04,270

the they go you need that ship the more

2333

01:47:07,530 --> 01:47:05,740

lights say what you need to push it but

2334

01:47:10,020 --> 01:47:07,540

again you know the Sun gives off a

2335

01:47:12,420 --> 01:47:10,030

billion times more light than earth gets

2336

01:47:15,210 --> 01:47:12,430

and if you were just talking about big

2337

01:47:17,430 --> 01:47:15,220

Neos how you know a thin aluminum meal

2338

01:47:19,260 --> 01:47:17,440

or whatever metal we choose to make a of

2339

01:47:22,050 --> 01:47:19,270

may be gold foil kisses but our heat

2340

01:47:24,840 --> 01:47:22,060

resistance that could be a millimeter

2341

01:47:27,270 --> 01:47:24,850

thick and the size of a planet and still

2342

01:47:28,530 --> 01:47:27,280

take only a few megatons of material to

2343

01:47:32,130 --> 01:47:28,540

build out where you could put on board a

2344

01:47:33,830 --> 01:47:32,140

train and at that point time it's most

2345

01:47:36,000 --> 01:47:33,840

of it the hard walk is really just

2346

01:47:37,860 --> 01:47:36,010

getting the actual guidance system we

2347

01:47:40,050 --> 01:47:37,870

get that laser on target and that's

2348

01:47:42,090 --> 01:47:40,060

exactly the sort of thing very simple AI

2349

01:47:43,650 --> 01:47:42,100

very simple self-replicate those things

2350

01:47:45,360 --> 01:47:43,660

not much smaller than your Roomba when

2351

01:47:47,190 --> 01:47:45,370

you can great for because they're not

2352

01:47:48,840 --> 01:47:47,200

make eating sophisticated we're doing

2353

01:47:50,220 --> 01:47:48,850

the hard little bits they're doing the

2354

01:47:51,460 --> 01:47:50,230

mass construction they're the ones

2355

01:47:54,130 --> 01:47:51,470

building the Iowa

2356

01:47:56,560 --> 01:47:54,140

struts we use the big shiny me know me

2357

01:47:57,880 --> 01:47:56,570

oh that's stupid easy to make they're

2358

01:48:00,250 --> 01:47:57,890

the ones doing that and we are the ones

2359

01:48:03,490 --> 01:48:00,260

assembly on we are the ones control en

2360

01:48:07,050 --> 01:48:03,500

yeah that kind of reminds me of arthur c

2361

01:48:10,510 --> 01:48:07,060

clarke s-- approach in in the rama books

2362

01:48:13,660 --> 01:48:10,520

you know the inside of rama was

2363

01:48:18,730 --> 01:48:13,670

populated by specialized robots yep

2364

01:48:20,170 --> 01:48:18,740

playbook and now does this this is where

2365

01:48:22,600 --> 01:48:20,180

i want you to take your hat off for a

2366

01:48:25,090 --> 01:48:22,610

second does this approach to

2367

01:48:28,780 --> 01:48:25,100

interstellar travel tied with AI and

2368

01:48:32,680 --> 01:48:28,790

small robots does this seem primitive to

2369

01:48:35,290 --> 01:48:32,690

you that sounds like our version of our

2370

01:48:37,900 --> 01:48:35,300

approach to things an advanced

2371

01:48:40,990 --> 01:48:37,910

civilization wouldn't be traveling the

2372

01:48:42,400 --> 01:48:41,000

stars this way would they how to say a

2373

01:48:43,780 --> 01:48:42,410

the thing about being an advanced

2374

01:48:46,000 --> 01:48:43,790

civilization or post-scarcity

2375

01:48:47,350 --> 01:48:46,010

civilization isn't just what you can do

2376

01:48:49,750 --> 01:48:47,360

it's that you can choose to do almost

2377

01:48:51,610 --> 01:48:49,760

anything you want because you have such

2378

01:48:53,770 --> 01:48:51,620

a resource abundance and such you know

2379

01:48:55,810 --> 01:48:53,780

power at your hands that if you decide

2380

01:48:57,310 --> 01:48:55,820

you want to do something one specific

2381

01:49:00,550 --> 01:48:57,320

way like if you decide you want to build

2382

01:49:02,110 --> 01:49:00,560

a big flat planet just because then it's

2383

01:49:04,120 --> 01:49:02,120

in the table it's in the call it's

2384

01:49:06,310 --> 01:49:04,130

because it's physically possible and

2385

01:49:08,220 --> 01:49:06,320

even though it's kind of stupid if it's

2386

01:49:10,570 --> 01:49:08,230

what you want it's what you can do and

2387

01:49:13,840 --> 01:49:10,580

it gets very hard to set standards that

2388

01:49:15,850 --> 01:49:13,850

point in time um but would we do it the

2389

01:49:18,010 --> 01:49:15,860

way that it was submission in like all

2390

01:49:19,600 --> 01:49:18,020

the SI caulk stuff probably not is the

2391

01:49:21,310 --> 01:49:19,610

same thing we have with like as mooses or

2392

01:49:22,720 --> 01:49:21,320

they walk I loved the robot short

2393

01:49:25,210 --> 01:49:22,730

stories and the foundation series he

2394

01:49:27,070 --> 01:49:25,220

wrote but he was working at time we

2395

01:49:29,890 --> 01:49:27,080

didn't really have computer as much and

2396

01:49:31,930 --> 01:49:29,900

what he's envisioning is basically if

2397

01:49:34,060 --> 01:49:31,940

you've got a computer that's very small

2398

01:49:35,740 --> 01:49:34,070

CH then it's human smart and to the

2399

01:49:39,010 --> 01:49:35,750

human body because it's cheaper to make

2400

01:49:40,630 --> 01:49:39,020

you know one Android then fifty

2401
01:49:43,180 --> 01:49:40,640
computerized machines so we can run all

2402
01:49:44,770 --> 01:49:43,190
those machines instead we tend to know

2403
01:49:46,390 --> 01:49:44,780
as it goes a bit the other way you make

2404
01:49:48,700 --> 01:49:46,400
a small microchip just small enough to

2405
01:49:50,440 --> 01:49:48,710
control the object and and you know then

2406
01:49:52,150 --> 01:49:50,450
that's when you put on each individual

2407
01:49:53,680 --> 01:49:52,160
object rather than essentially an

2408
01:49:57,160 --> 01:49:53,690
artificial person who could my machines

2409
01:50:00,160 --> 01:49:57,170
another human I wrote last week you just

2410
01:50:04,020 --> 01:50:00,170
brought up dune and I brought up last

2411
01:50:07,890 --> 01:50:04,030
week Frank Herbert one of the things the

2412
01:50:10,919 --> 01:50:07,900
and he did this in 1965 Isaac which to

2413
01:50:11,220 --> 01:50:10,929

me is more impressive as I look back at

2414

01:50:16,520 --> 01:50:11,230

it

2415

01:50:19,830 --> 01:50:16,530

his overcoming faster-than-light was

2416

01:50:22,169 --> 01:50:19,840

with he needed a writing element there

2417

01:50:26,689 --> 01:50:22,179

in science fiction and which was the

2418

01:50:29,569 --> 01:50:26,699

spice melange and so that eliminates

2419

01:50:32,580 --> 01:50:29,579

space-time that eliminates

2420

01:50:37,379 --> 01:50:32,590

faster-than-light that eliminates space

2421

01:50:40,109 --> 01:50:37,389

in general where you you just appear

2422

01:50:41,640 --> 01:50:40,119

you're folding space and you just appear

2423

01:50:44,609 --> 01:50:41,650

at the blink of an eye on your

2424

01:50:47,490 --> 01:50:44,619

destination something that David Lynch

2425

01:50:49,200 --> 01:50:47,500

the way he portrays it in the movie is

2426

01:50:52,379 --> 01:50:49,210

I'm a oh group that I actually really

2427

01:50:54,209 --> 01:50:52,389

like the David Lynch Ville you know what

2428

01:50:57,959 --> 01:50:54,219

I love that movie I'll watch it all the

2429

01:51:00,660 --> 01:50:57,969

time but anyway it just what right the

2430

01:51:04,229 --> 01:51:00,670

the the space navigators the guild

2431

01:51:07,859 --> 01:51:04,239

navigators just appear outside of

2432

01:51:11,819 --> 01:51:07,869

Arrakis right boom right just appear is

2433

01:51:13,729 --> 01:51:11,829

that something that would answer what

2434

01:51:16,379 --> 01:51:13,739

you have been looking for in other

2435

01:51:19,260 --> 01:51:16,389

astronomers and astrophysicists is

2436

01:51:22,620 --> 01:51:19,270

movement between the stars right we

2437

01:51:25,919 --> 01:51:22,630

haven't seen that we haven't seen space

2438

01:51:29,100 --> 01:51:25,929

travel but if it is achieved say the

2439

01:51:31,890 --> 01:51:29,110

Frank Herbert way where you just are

2440

01:51:35,220 --> 01:51:31,900

appearing at the planet then you

2441

01:51:38,669 --> 01:51:35,230

wouldn't see necessarily these UFO

2442

01:51:40,169 --> 01:51:38,679

highways in between the stars very much

2443

01:51:42,450 --> 01:51:40,179

so yeah if you got something to just

2444

01:51:43,859 --> 01:51:42,460

fold space between locations and memory

2445

01:51:45,839 --> 01:51:43,869

source for the dune London a videos

2446

01:51:47,160 --> 01:51:45,849

could pick the location and then the

2447

01:51:48,330 --> 01:51:47,170

Machine actually just you know they'd

2448

01:51:50,370 --> 01:51:48,340

that he plugged in the Machine that's

2449

01:51:52,439 --> 01:51:50,380

what they wind but something like that

2450

01:51:54,390 --> 01:51:52,449

would get around being able to see the

2451
01:51:56,250 --> 01:51:54,400
spaceship by its energy st. job which is

2452
01:51:58,979 --> 01:51:56,260
enormous for a massive spaceship like

2453
01:52:00,660 --> 01:51:58,989
that you know a rocket ship that made

2454
01:52:02,520 --> 01:52:00,670
coming into our solar system you'd be

2455
01:52:04,379 --> 01:52:02,530
able to see it out by Pluto as bright as

2456
01:52:06,330 --> 01:52:04,389
a new stall who are sewing down there

2457
01:52:08,490 --> 01:52:06,340
just that much energy involved

2458
01:52:09,990 --> 01:52:08,500
that kind of that kind system would tend

2459
01:52:12,990 --> 01:52:10,000
to circumvent the beyond respond that

2460
01:52:15,390 --> 01:52:13,000
way the problem is that life so many

2461
01:52:17,640 --> 01:52:15,400
forming a paradox solutions if you make

2462
01:52:19,350 --> 01:52:17,650
space travel that much easier you've

2463
01:52:20,189 --> 01:52:19,360

gotta wonder why they're not all over

2464

01:52:21,600 --> 01:52:20,199

the place already

2465

01:52:23,280 --> 01:52:21,610

and so you have to find a reason why

2466

01:52:25,830 --> 01:52:23,290

they you know can't do that or

2467

01:52:27,060 --> 01:52:25,840

specifically do not want to and one

2468

01:52:29,550 --> 01:52:27,070

interesting implication from doing that

2469

01:52:31,109 --> 01:52:29,560

you looked at a little bit in one of the

2470

01:52:34,080 --> 01:52:31,119

sequels I think it was chapter house or

2471

01:52:35,339 --> 01:52:34,090

heretics it was the idea that they don't

2472

01:52:38,100 --> 01:52:35,349

you know they don't colonize the galaxy

2473

01:52:39,600 --> 01:52:38,110

they just colonize individual stores

2474

01:52:42,000 --> 01:52:39,610

they'll spread all over the universe or

2475

01:52:43,830 --> 01:52:42,010

even other universes and also fall all

2476
01:52:46,050 --> 01:52:43,840
from each other they don't even know if

2477
01:52:48,479 --> 01:52:46,060
they are the same locations or not leo

2478
01:52:50,250 --> 01:52:48,489
Empire is basically potentially spread

2479
01:52:54,180 --> 01:52:50,260
across the multiverse as just stars they

2480
01:52:59,729 --> 01:52:54,190
colonized well okay what would you look

2481
01:53:02,370 --> 01:52:59,739
for to have an as civilization present

2482
01:53:06,450 --> 01:53:02,380
on a planet what what would be those

2483
01:53:07,979 --> 01:53:06,460
signatures for a planet itself the most

2484
01:53:10,109 --> 01:53:07,989
obvious one is going to be the signal

2485
01:53:11,520 --> 01:53:10,119
noise but that can be iffy you're not

2486
01:53:12,930 --> 01:53:11,530
really trying to pick up a radio signal

2487
01:53:14,220 --> 01:53:12,940
because you prop y'all gonna get

2488
01:53:16,770 --> 01:53:14,230

anything that doesn't look like noise

2489

01:53:18,300 --> 01:53:16,780

you want to use data compression because

2490

01:53:19,950 --> 01:53:18,310

that lets you be more efficient and the

2491

01:53:21,570 --> 01:53:19,960

thing about data compression is that

2492

01:53:23,250 --> 01:53:21,580

it's trying to make the thing as

2493

01:53:26,129 --> 01:53:23,260

compressing as close to noise as

2494

01:53:28,530 --> 01:53:26,139

possible the idea is to compress eating

2495

01:53:30,359 --> 01:53:28,540

with a pad one because a pad on Kino

2496

01:53:32,220 --> 01:53:30,369

instead of having to do the same thing a

2497

01:53:33,839 --> 01:53:32,230

hundred times the signal you're

2498

01:53:37,310 --> 01:53:33,849

compressing had to one transmission of

2499

01:53:38,729 --> 01:53:37,320

that pattern and so in an ideally

2500

01:53:41,040 --> 01:53:38,739

compressed signal

2501

01:53:42,510 --> 01:53:41,050

it looks like noise so you're not

2502

01:53:43,589 --> 01:53:42,520

actually looking for a signal from one

2503

01:53:45,000 --> 01:53:43,599

of those plants because it probably

2504

01:53:46,530 --> 01:53:45,010

looks like noise anyway what you're

2505

01:53:48,720 --> 01:53:46,540

actually looking for is basically the

2506

01:53:50,729 --> 01:53:48,730

waste of that the fact that that plant

2507

01:53:52,680 --> 01:53:50,739

should have a very small radiation field

2508

01:53:54,839 --> 01:53:52,690

or via radio field around it from

2509

01:53:57,930 --> 01:53:54,849

natural sources well for some reason it

2510

01:53:59,970 --> 01:53:57,940

has a whole bunch even that's kind of

2511

01:54:03,089 --> 01:53:59,980

flawed because they might use landlines

2512

01:54:04,439 --> 01:54:03,099

to draw optical signals etc but we'd

2513

01:54:06,270 --> 01:54:04,449

expect to see some kind of techno

2514

01:54:08,010 --> 01:54:06,280

signature around the planet well and

2515

01:54:10,560 --> 01:54:08,020

we're getting closer and closer to that

2516

01:54:13,530 --> 01:54:10,570

right now on earth in our own permit of

2517

01:54:15,689 --> 01:54:13,540

way right yeah if you are looking at say

2518

01:54:16,890 --> 01:54:15,699

trying to find an alien civilizations

2519

01:54:18,479 --> 01:54:16,900

easiest spot them when they are

2520

01:54:19,799 --> 01:54:18,489

primitive in some ways because that's

2521

01:54:22,229 --> 01:54:19,809

when they're using very

2522

01:54:23,909 --> 01:54:22,239

strong very uncompressed signals we've

2523

01:54:25,589 --> 01:54:23,919

been weakening radio signals as time

2524

01:54:27,389 --> 01:54:25,599

goes on because what better receiving

2525

01:54:30,029 --> 01:54:27,399

them and we compressed them more so more

2526
01:54:32,189 --> 01:54:30,039
like noise a planet could easily be

2527
01:54:33,689 --> 01:54:32,199
undetectable by its radio signals

2528
01:54:35,669 --> 01:54:33,699
because just doesn't have that much of

2529
01:54:37,500 --> 01:54:35,679
them paralyzed and they're all so

2530
01:54:40,079 --> 01:54:37,510
compressed they look like noise and

2531
01:54:42,629 --> 01:54:40,089
we're using optical cables we're using

2532
01:54:44,459 --> 01:54:42,639
cables we're not necessarily using radio

2533
01:54:47,609 --> 01:54:44,469
transmissions like we did in the past

2534
01:54:50,429 --> 01:54:47,619
with you know giant mega watt radio

2535
01:54:52,559 --> 01:54:50,439
towers we've moved away from that and

2536
01:54:54,959 --> 01:54:52,569
now everything is a digital control

2537
01:54:56,459 --> 01:54:54,969
transmission so but we probably look

2538
01:55:00,989 --> 01:54:56,469

pretty bright in the 2.4 gigahertz

2539

01:55:01,919 --> 01:55:00,999

frequency well we want to see what that

2540

01:55:03,750 --> 01:55:01,929

was yeah

2541

01:55:05,040 --> 01:55:03,760

a billion overlapping compressed signals

2542

01:55:07,349 --> 01:55:05,050

but if you're looking with a powerful

2543

01:55:08,759 --> 01:55:07,359

telescope and a planet and again you

2544

01:55:10,079 --> 01:55:08,769

don't need high resolution on things

2545

01:55:11,729 --> 01:55:10,089

like that cuz that's about trying to

2546

01:55:13,799 --> 01:55:11,739

spot a pattern as opposed just seeing

2547

01:55:15,779 --> 01:55:13,809

the intensity you could look at a planet

2548

01:55:19,290 --> 01:55:15,789

and say wow there was way too much of

2549

01:55:21,419 --> 01:55:19,300

this specific band of radiation why what

2550

01:55:24,089 --> 01:55:21,429

naturally would create that and if

2551

01:55:25,799 --> 01:55:24,099

there's no obvious answer you say if

2552

01:55:27,449 --> 01:55:25,809

it's artificial nature or tends to stick

2553

01:55:28,829 --> 01:55:27,459

out like a sore thumb there might be a

2554

01:55:30,149 --> 01:55:28,839

natural cause but you look for something

2555

01:55:31,799 --> 01:55:30,159

else you say well if it's giving that

2556

01:55:33,569 --> 01:55:31,809

one unnatural central can we find

2557

01:55:34,709 --> 01:55:33,579

another one and you still getting three

2558

01:55:36,179 --> 01:55:34,719

or four of those that yeah that's

2559

01:55:38,729 --> 01:55:36,189

a--that's a hone hit to that point you

2560

01:55:43,799 --> 01:55:38,739

say okay this is obviously artificial

2561

01:55:47,909 --> 01:55:43,809

now wouldn't a robust artificial

2562

01:55:52,709 --> 01:55:47,919

intelligent system and brain Center know

2563

01:55:55,979 --> 01:55:52,719

this and attempt to hide where it is and

2564

01:55:58,799 --> 01:55:55,989

not show the universe what is going on

2565

01:56:00,629 --> 01:55:58,809

probably not the hiding is not a good

2566

01:56:03,359 --> 01:56:00,639

philosophy when you're in space travel

2567

01:56:05,069 --> 01:56:03,369

because you would assume that there who

2568

01:56:07,529 --> 01:56:05,079

do you - you hide from somebody who can

2569

01:56:09,869 --> 01:56:07,539

halt you which in the space context is

2570

01:56:11,579 --> 01:56:09,879

somebody who's older than you they're

2571

01:56:13,529 --> 01:56:11,589

old or they're wise or the most but out

2572

01:56:15,089 --> 01:56:13,539

there or they got more technology you

2573

01:56:17,159 --> 01:56:15,099

can't hide from them because you know

2574

01:56:18,359 --> 01:56:17,169

astronomy is history they saw you back

2575

01:56:19,949 --> 01:56:18,369

when you are primitive that's when they

2576

01:56:21,869 --> 01:56:19,959

first saw you that was their first hit

2577

01:56:23,399 --> 01:56:21,879

now they know where you're at and they

2578

01:56:25,229 --> 01:56:23,409

can be looking at you and they'll see

2579

01:56:27,299 --> 01:56:25,239

you trying to hide so it doesn't work

2580

01:56:28,919 --> 01:56:27,309

out they know where you are they saw you

2581

01:56:31,469 --> 01:56:28,929

back when you're weak they saw you in a

2582

01:56:33,030 --> 01:56:31,479

baby right and if they watch you the

2583

01:56:36,510 --> 01:56:33,040

fleet's already on the way

2584

01:56:42,200 --> 01:56:36,520

okay now suppose you find a

2585

01:56:45,800 --> 01:56:42,210

resource-rich planet with element 115

2586

01:56:49,770 --> 01:56:45,810

and you don't want everybody to know

2587

01:56:52,050 --> 01:56:49,780

this your ear secret you're gonna hide

2588

01:56:54,690 --> 01:56:52,060

that you are there you don't want

2589

01:56:58,140 --> 01:56:54,700

everybody up just like the gold rush you

2590

01:56:59,640 --> 01:56:58,150

know that happened in the 1850s sure if

2591

01:57:01,470 --> 01:56:59,650

there's a naturally occurring you know

2592

01:57:03,000 --> 01:57:01,480

in generally with raw materials they're

2593

01:57:04,470 --> 01:57:03,010

gonna be fairly evenly spread around the

2594

01:57:06,300 --> 01:57:04,480

universe you will have systems that have

2595

01:57:08,130 --> 01:57:06,310

a higher concentration of this or that I

2596

01:57:10,410 --> 01:57:08,140

mean they are probably asteroids made of

2597

01:57:12,750 --> 01:57:10,420

almost pure gold lying around from where

2598

01:57:14,670 --> 01:57:12,760

two neutron stars client or white dwarfs

2599

01:57:17,130 --> 01:57:14,680

camera with a creation mechanism for

2600

01:57:19,080 --> 01:57:17,140

gold is outside but you have places like

2601
01:57:21,900 --> 01:57:19,090
that and people don't want those the

2602
01:57:23,220 --> 01:57:21,910
problem is that if it's from your own

2603
01:57:24,600 --> 01:57:23,230
civilization they're going to know you

2604
01:57:26,220 --> 01:57:24,610
would head out there and they're gonna

2605
01:57:27,420 --> 01:57:26,230
come across that pace and you know what

2606
01:57:29,220 --> 01:57:27,430
someone's gonna try to stick your claim

2607
01:57:31,230 --> 01:57:29,230
I'm gonna have it's an alien

2608
01:57:32,490 --> 01:57:31,240
civilization if they order them you they

2609
01:57:33,870 --> 01:57:32,500
could have gotten their force cuz they

2610
01:57:36,030 --> 01:57:33,880
don't need a million years to colonize

2611
01:57:38,880 --> 01:57:36,040
whole galaxy and they really want that

2612
01:57:40,680 --> 01:57:38,890
material then you know find was

2613
01:57:44,310 --> 01:57:40,690

keyboards and for sports and gets it and

2614

01:57:45,960 --> 01:57:44,320

they had a time edge you know if they

2615

01:57:48,390 --> 01:57:45,970

came into existence back when the

2616

01:57:50,010 --> 01:57:48,400

dinosaurs were on earth and run the show

2617

01:57:51,930 --> 01:57:50,020

then they've got the whole galaxy by now

2618

01:57:54,540 --> 01:57:51,940

if they want it and were able to take it

2619

01:57:57,390 --> 01:57:54,550

if they're not able to take it then it's

2620

01:58:00,240 --> 01:57:57,400

not an issue and if they didn't want it

2621

01:58:02,070 --> 01:58:00,250

for some reason then it's on issue so we

2622

01:58:04,160 --> 01:58:02,080

know that if they want it and could get

2623

01:58:08,280 --> 01:58:04,170

it they already got it now

2624

01:58:12,420 --> 01:58:08,290

right and so if we go through this type

2625

01:58:15,480 --> 01:58:12,430

of cyclical rise and fall of these

2626

01:58:17,430 --> 01:58:15,490

civilizations maybe that's why we're not

2627

01:58:19,800 --> 01:58:17,440

seeing the colonization of the universe

2628

01:58:22,110 --> 01:58:19,810

because eventually something bad happens

2629

01:58:23,910 --> 01:58:22,120

well that's the problem is that we know

2630

01:58:26,520 --> 01:58:23,920

it you could have that happen of course

2631

01:58:28,020 --> 01:58:26,530

civilizations do rise and fall but when

2632

01:58:30,990 --> 01:58:28,030

we talk about civilizations in this

2633

01:58:33,380 --> 01:58:31,000

context it's not wrong it's humanity

2634

01:58:35,160 --> 01:58:33,390

right and even Rome when did Rome fall

2635

01:58:36,540 --> 01:58:35,170

you know they are there are so many

2636

01:58:38,580 --> 01:58:36,550

different claim they're you know the

2637

01:58:40,740 --> 01:58:38,590

title and Rome is still very populated

2638

01:58:43,560 --> 01:58:40,750

city that's the center of a major you

2639

01:58:44,080 --> 01:58:43,570

know socio economic religious set up

2640

01:58:46,240 --> 01:58:44,090

right

2641

01:58:47,800 --> 01:58:46,250

so when did Rome fall doesn't

2642

01:58:49,390 --> 01:58:47,810

necessarily matter though humanity is

2643

01:58:51,910 --> 01:58:49,400

kept growing in size that whole time

2644

01:58:54,160 --> 01:58:51,920

some individual star Empire might fall

2645

01:58:56,649 --> 01:58:54,170

down and break up but what knocked it

2646

01:58:59,140 --> 01:58:56,659

over usually somebody else own internal

2647

01:59:00,700 --> 01:58:59,150

feud and then after that initial chaos

2648

01:59:02,530 --> 01:59:00,710

they just keep going back to expanding

2649

01:59:04,419 --> 01:59:02,540

again or some fragment or sprint or them

2650

01:59:07,359 --> 01:59:04,429

picks up the shows and builds back up

2651
01:59:09,609 --> 01:59:07,369
again well that brings my favorite word

2652
01:59:11,950 --> 01:59:09,619
we've got one minute before the break

2653
01:59:12,729 --> 01:59:11,960
we'll circle back after the break is

2654
01:59:16,600 --> 01:59:12,739
entropy

2655
01:59:19,180 --> 01:59:16,610
I mean you've you've you've got a degree

2656
01:59:22,359 --> 01:59:19,190
in physics you understand entropy just

2657
01:59:25,359 --> 01:59:22,369
about as well as anybody is there a way

2658
01:59:28,320 --> 01:59:25,369
for these advanced civilizations to

2659
01:59:30,760 --> 01:59:28,330
overcome the the second law of

2660
01:59:32,410 --> 01:59:30,770
thermodynamics right we can't rule it

2661
01:59:34,689 --> 01:59:32,420
out it'll be the highest priority but

2662
01:59:36,700 --> 01:59:34,699
they can't you know we've all said they

2663
01:59:38,050 --> 01:59:36,710

can postpone it in some major ways

2664

01:59:41,709 --> 01:59:38,060

especially with artificial intelligence

2665

01:59:43,030 --> 01:59:41,719

how would they do it well there's uh I

2666

01:59:44,560 --> 01:59:43,040

don't we could have time for right now

2667

01:59:46,180 --> 01:59:44,570

you want to command yeah well it's uh

2668

01:59:50,350 --> 01:59:46,190

basically they take advantage of the

2669

01:59:52,750 --> 01:59:50,360

cord of eatables being expanded ah I

2670

01:59:54,280 --> 01:59:52,760

like that approach I don't agree with it

2671

01:59:57,100 --> 01:59:54,290

but we're gonna talk about it when we

2672

02:00:00,580 --> 01:59:57,110

come back our guest tonight Isaac

2673

02:00:02,410 --> 02:00:00,590

Arthur artificial intelligence now we're

2674

02:00:04,959 --> 02:00:02,420

discussing artificial intelligence

2675

02:00:06,339 --> 02:00:04,969

throughout the universe this has faded

2676

02:00:10,089 --> 02:00:06,349

black I'm nervous to be church on the

2677

02:00:11,770 --> 02:00:10,099

GameChanger network and kgr a the planet

2678

02:00:13,090 --> 02:00:11,780

more lies ik when we come back after

2679

02:00:17,020 --> 02:00:13,100

this short break stay with us

2680

02:00:17,020 --> 02:00:17,030

[Music]

2681

02:00:24,580 --> 02:00:19,880

my buddy Rob Halford the mental guard on

2682

02:00:30,410 --> 02:00:27,860

this is kera digital broadcasting

2683

02:00:33,680 --> 02:00:30,420

station Salt Lake City Utah

2684

02:00:35,840 --> 02:00:33,690

Van Buren Arkansas quazy we're not very

2685

02:00:36,290 --> 02:00:35,850

good with our health regimen until it's

2686

02:00:38,300 --> 02:00:36,300

too late

2687

02:00:40,130 --> 02:00:38,310

we don't put oil in the car until the

2688

02:00:42,920 --> 02:00:40,140

engine blows up when the body's out of

2689

02:00:44,120 --> 02:00:42,930

balance your health is not so good give

2690

02:00:46,930 --> 02:00:44,130

your body some love

2691

02:00:49,640 --> 02:00:46,940

log on to get the t.com that's get the

2692

02:00:51,860 --> 02:00:49,650

t-dot-com try our life change tea which

2693

02:00:54,470 --> 02:00:51,870

cleanses you from harmful intruders a

2694

02:00:56,510 --> 02:00:54,480

clean colon is one of the ways to bring

2695

02:00:58,370 --> 02:00:56,520

the body and balance we also carry

2696

02:01:00,950 --> 02:00:58,380

organic supplements to help you get

2697

02:01:01,610 --> 02:01:00,960

where you need to go so do your body a

2698

02:01:03,920 --> 02:01:01,620

favor

2699

02:01:07,460 --> 02:01:03,930

log on to get the tea calm that's get

2700

02:01:10,160 --> 02:01:07,470

the TTE a calm you can even visit our

2701
02:01:11,960 --> 02:01:10,170
sales page to save some dough does

2702
02:01:13,850 --> 02:01:11,970
anybody call money dough anymore

2703
02:01:16,190 --> 02:01:13,860
anyway if you're looking for short

2704
02:01:19,100 --> 02:01:16,200
helpful health tips go to youtube and

2705
02:01:23,960 --> 02:01:19,110
punch in health matters now that's

2706
02:01:27,350 --> 02:01:23,970
health matters now so log on to get the

2707
02:01:30,320 --> 02:01:27,360
t.com shop get balanced then learn some

2708
02:01:30,980 --> 02:01:30,330
cool tips at health matters now you'll

2709
02:01:35,210 --> 02:01:30,990
be glad you did

2710
02:01:38,420 --> 02:01:35,220
that's get the t.com your contact for

2711
02:01:42,230 --> 02:01:38,430
current news and trending topics jgr a

2712
02:01:44,510 --> 02:01:42,240
radio.com this is Jimmy Church of fade

2713
02:01:47,630 --> 02:01:44,520

to black and I only drink

2714

02:01:50,150 --> 02:01:47,640

fade to black blend coffee from River

2715

02:01:53,000 --> 02:01:50,160

Moon just click on the River Moon coffee

2716

02:01:57,260 --> 02:01:53,010

banner at Jimmy Church radio.com promo

2717

02:02:00,170 --> 02:01:57,270

code f2b blend so are you tired of being

2718

02:02:02,270 --> 02:02:00,180

tired well then it's time to get the tea

2719

02:02:04,820 --> 02:02:02,280

hey it's Lisa here to tell you about

2720

02:02:06,620 --> 02:02:04,830

this all-natural all organic tea I've

2721

02:02:07,970 --> 02:02:06,630

been drinking that has had great results

2722

02:02:10,910 --> 02:02:07,980

for over 20 years

2723

02:02:12,740 --> 02:02:10,920

it's called life changed tea and it's

2724

02:02:15,350 --> 02:02:12,750

specially formulated to help detoxify

2725

02:02:18,050 --> 02:02:15,360

and cleanse your kidneys liver colon and

2726

02:02:19,460 --> 02:02:18,060

blood all at once the colon is one of

2727

02:02:22,220 --> 02:02:19,470

the most ignored organs in the human

2728

02:02:24,020 --> 02:02:22,230

body the faster that waste is eliminated

2729

02:02:26,030 --> 02:02:24,030

from the body the less time that way

2730

02:02:27,950 --> 02:02:26,040

sits in our intestines spreading toxins

2731

02:02:29,900 --> 02:02:27,960

to our bloodstream this tea helps

2732

02:02:32,150 --> 02:02:29,910

cleanse chemicals caused by outside

2733

02:02:34,820 --> 02:02:32,160

intruders from our entire digestive

2734

02:02:36,140 --> 02:02:34,830

system and get this weight loss can be a

2735

02:02:38,300 --> 02:02:36,150

side effect

2736

02:02:40,280 --> 02:02:38,310

with continued use of the tea you can

2737

02:02:42,860 --> 02:02:40,290

experience clearer healthier younger

2738

02:02:44,689 --> 02:02:42,870

looking skin increased energy and a

2739

02:02:45,860 --> 02:02:44,699

happier outlook on life so if you're

2740

02:02:48,770 --> 02:02:45,870

tired of being tired

2741

02:02:52,640 --> 02:02:48,780

get the life change tea at get the tea

2742

02:02:54,160 --> 02:02:52,650

calm that's get the tea calm and like me

2743

02:02:56,360 --> 02:02:54,170

you'll be glad you did

2744

02:02:58,070 --> 02:02:56,370

did you know that when you're on the

2745

02:03:00,530 --> 02:02:58,080

road with limited data or Wi-Fi

2746

02:03:02,660 --> 02:03:00,540

available you can still listen to every

2747

02:03:05,240 --> 02:03:02,670

minute of fade to black by just calling

2748

02:03:08,300 --> 02:03:05,250

six oh five five six two four four eight

2749

02:03:10,790 --> 02:03:08,310

two no smartphone app or Internet needed

2750

02:03:13,370 --> 02:03:10,800

it saves your data plan and no extra

2751
02:03:16,189 --> 02:03:13,380
cost if you have unlimited minutes just

2752
02:03:18,350 --> 02:03:16,199
call six oh five five six two four four

2753
02:03:21,080 --> 02:03:18,360
eight two you can listen to me Jimmy

2754
02:03:27,930 --> 02:03:21,090
Church on any phone anytime anywhere

2755
02:03:31,950 --> 02:03:29,620
[Music]

2756
02:03:36,700 --> 02:03:31,960
[Applause]

2757
02:03:39,330 --> 02:03:36,710
you wanna know a secret I love ponies I

2758
02:03:41,950 --> 02:03:39,340
really love ponies I'm serious I

2759
02:03:45,850 --> 02:03:41,960
couldn't stay stable without pony mr.

2760
02:03:51,070 --> 02:03:45,860
Brooks why fade to black because you

2761
02:03:55,070 --> 02:03:52,939
this is fade to black

2762
02:03:58,760 --> 02:03:55,080
with Jimmy Church on the game changer

2763
02:04:01,160 --> 02:03:58,770

radio network and K GRA the global radio

2764

02:04:12,860 --> 02:04:01,170

alliance

2765

02:04:15,390 --> 02:04:12,870

[Music]

2766

02:04:16,740 --> 02:04:15,400

welcome back fade to black I am your

2767

02:04:18,930 --> 02:04:16,750

host Jimmy church talking about

2768

02:04:21,060 --> 02:04:18,940

artificial intelligence snipe with Isaac

2769

02:04:25,439 --> 02:04:21,070

Arthur if you missed this show or any

2770

02:04:28,470 --> 02:04:25,449

live show just go to our website click

2771

02:04:31,050 --> 02:04:28,480

on the podcast banner we have over 1200

2772

02:04:34,350 --> 02:04:31,060

shows right there for just \$2 per month

2773

02:04:37,110 --> 02:04:34,360

sign up today right there at Jimmy

2774

02:04:39,990 --> 02:04:37,120

Church radio.com Isaac right before the

2775

02:04:44,280 --> 02:04:40,000

break we were talking about entropy it's

2776

02:04:47,729 --> 02:04:44,290

one of my favorite words and surely in

2777

02:04:49,979 --> 02:04:47,739

order to succeed great lengths of time

2778

02:04:54,209 --> 02:04:49,989

and span time and take over the universe

2779

02:04:57,510 --> 02:04:54,219

you would have to somehow kick enterprise

2780

02:05:01,290 --> 02:04:57,520

but I actually wrote a column about this

2781

02:05:05,130 --> 02:05:01,300

last week and and et must have figured

2782

02:05:08,540 --> 02:05:05,140

this out in a simple way let's go back

2783

02:05:10,530 --> 02:05:08,550

to your comment right before the break

2784

02:05:12,630 --> 02:05:10,540

well if we're talking about just

2785

02:05:14,580 --> 02:05:12,640

sticking inside of what we can do with

2786

02:05:17,070 --> 02:05:14,590

entropy then what we do know is the

2787

02:05:19,140 --> 02:05:17,080

theoretical maximum on most efficient

2788

02:05:20,580 --> 02:05:19,150

computing you can do is linear so I

2789

02:05:22,709 --> 02:05:20,590

invoiced the temperature that you're

2790

02:05:24,390 --> 02:05:22,719

running at so the quarter you get the

2791

02:05:27,390 --> 02:05:24,400

more calculation you get out of every

2792

02:05:28,380 --> 02:05:27,400

little bit of energy and for instance if

2793

02:05:30,479 --> 02:05:28,390

you're calculating in the void of

2794

02:05:31,950 --> 02:05:30,489

intergalactic space it's a hunt I'm

2795

02:05:33,540 --> 02:05:31,960

higher than what is here on earth and

2796

02:05:34,979 --> 02:05:33,550

you can already if you're running at

2797

02:05:37,080 --> 02:05:34,989

that what we call the landau limit

2798

02:05:39,149 --> 02:05:37,090

already run a human mind on something

2799

02:05:42,270 --> 02:05:39,159

like a billion for the amount of energy

2800

02:05:43,560 --> 02:05:42,280

it takes right now and so they could do

2801
02:05:45,600 --> 02:05:43,570
it say 100 billion times more

2802
02:05:47,700 --> 02:05:45,610
efficiently but as the universe expands

2803
02:05:49,590 --> 02:05:47,710
and cools down you keep getting faster

2804
02:05:50,910 --> 02:05:49,600
and faster with your computing so you're

2805
02:05:52,860 --> 02:05:50,920
running out of energy you're running out

2806
02:05:54,600 --> 02:05:52,870
of entropy but you're getting more

2807
02:05:57,209 --> 02:05:54,610
efficient with it because it's getting

2808
02:05:58,649 --> 02:05:57,219
colder and so at that point in time you

2809
02:06:00,899 --> 02:05:58,659
could be running around you know black

2810
02:06:02,130 --> 02:06:00,909
holes to be out to hawking radiation or

2811
02:06:05,149 --> 02:06:02,140
little bits of matter you would dump you

2812
02:06:07,950 --> 02:06:05,159
into one and performing calculations and

2813
02:06:09,600 --> 02:06:07,960

interesting enough if you're in that

2814

02:06:12,450 --> 02:06:09,610

expanding universe you can actually be

2815

02:06:14,610 --> 02:06:12,460

running far more advanced and huge you

2816

02:06:16,680 --> 02:06:14,620

know thinking empires at war than right

2817

02:06:18,660 --> 02:06:16,690

now but to do that of course you have to

2818

02:06:20,580 --> 02:06:18,670

abandon the biological poche and we

2819

02:06:22,770 --> 02:06:20,590

switch over to you know totally computer

2820

02:06:24,360 --> 02:06:22,780

substrates and probably using substrates

2821

02:06:25,569 --> 02:06:24,370

and power collection way beyond anything

2822

02:06:28,240 --> 02:06:25,579

we couldn't even dream of

2823

02:06:30,729 --> 02:06:28,250

now but even if we possible ones at the

2824

02:06:32,770 --> 02:06:30,739

very least to actually stop BD entry

2825

02:06:35,439 --> 02:06:32,780

though nasties need to start looking at

2826
02:06:36,549 --> 02:06:35,449
things like you know multi voices and

2827
02:06:38,950 --> 02:06:36,559
opening up a wormhole to another

2828
02:06:41,919 --> 02:06:38,960
universe to suck energy out of it or

2829
02:06:45,669 --> 02:06:41,929
suck matter out of it or just migrate to

2830
02:06:47,649 --> 02:06:45,679
it now I love this part of physics - and

2831
02:06:50,069 --> 02:06:47,659
and quantum physics getting into this

2832
02:06:53,439 --> 02:06:50,079
discussion what we'll get back to that

2833
02:06:56,640 --> 02:06:53,449
but if we are staying on the second law

2834
02:06:59,890 --> 02:06:56,650
of thermodynamics side of entropy and

2835
02:07:01,870 --> 02:06:59,900
and how physics is based around that

2836
02:07:04,600 --> 02:07:01,880
which I understand that then there's the

2837
02:07:06,850 --> 02:07:04,610
second definition of entropy which is

2838
02:07:09,310 --> 02:07:06,860

everything starts out simple ends in

2839

02:07:11,950 --> 02:07:09,320

chaos and there's nothing you can do

2840

02:07:13,450 --> 02:07:11,960

about it no free lunches never the ends

2841

02:07:17,500 --> 02:07:13,460

of the end that's right that's right

2842

02:07:21,040 --> 02:07:17,510

wouldn't ET have gone through this many

2843

02:07:23,229 --> 02:07:21,050

times right and know how to look we we

2844

02:07:25,479 --> 02:07:23,239

brought up Rome you brought up Rome

2845

02:07:28,750 --> 02:07:25,489

that's a great example of entropy if you

2846

02:07:31,060 --> 02:07:28,760

ask me where well it doesn't matter if

2847

02:07:34,450 --> 02:07:31,070

it's Rome Greece China Spain Great

2848

02:07:38,049 --> 02:07:34,460

Britain all of those great Empire

2849

02:07:40,299 --> 02:07:38,059

started out simple got too complex kind

2850

02:07:42,879 --> 02:07:40,309

of laugh on themselves and had to

2851
02:07:45,669 --> 02:07:42,889
retreat I've always viewed that as

2852
02:07:47,740 --> 02:07:45,679
entropy playing out in its purest

2853
02:07:50,709 --> 02:07:47,750
definition as well

2854
02:07:53,109 --> 02:07:50,719
we still haven't learned from that we

2855
02:07:56,049 --> 02:07:53,119
haven't we have not figured that out yet

2856
02:07:58,540 --> 02:07:56,059
but et surely has gone through it many

2857
02:07:59,979 --> 02:07:58,550
times right if there's anything cyclical

2858
02:08:01,810 --> 02:07:59,989
it tends to happen they're going to be

2859
02:08:02,890 --> 02:08:01,820
putting all their all their money and

2860
02:08:05,020 --> 02:08:02,900
all their energy into trying to figure

2861
02:08:06,760 --> 02:08:05,030
out ways to so invent that so if society

2862
02:08:08,290 --> 02:08:06,770
is Epona collapsing after a century or

2863
02:08:10,479 --> 02:08:08,300

two they'll be looking for every

2864

02:08:12,549 --> 02:08:10,489

possible way to avoid that or you know

2865

02:08:14,350 --> 02:08:12,559

survive that or push through that

2866

02:08:14,890 --> 02:08:14,360

whether or not they succeed is not a

2867

02:08:16,330 --> 02:08:14,900

question

2868

02:08:18,580 --> 02:08:16,340

same thing French food you know there

2869

02:08:21,010 --> 02:08:18,590

may not be able way around that but if

2870

02:08:23,229 --> 02:08:21,020

there is they'll be throwing every

2871

02:08:25,149 --> 02:08:23,239

resource they've got behind a billion

2872

02:08:28,569 --> 02:08:25,159

plans for a billion years round trying

2873

02:08:31,209 --> 02:08:28,579

to crack that problem now if ET if an

2874

02:08:35,740 --> 02:08:31,219

intelligent civilization out there is

2875

02:08:39,970 --> 02:08:35,750

taking over galaxies one by one

2876

02:08:42,160 --> 02:08:39,980

it would it end up being separate Howard

2877

02:08:45,610 --> 02:08:42,170

should I say this separate civilizations

2878

02:08:48,850 --> 02:08:45,620

or would it be controlled by one central

2879

02:08:50,890 --> 02:08:48,860

government or one central mind yeah we

2880

02:08:52,990 --> 02:08:50,900

might travel nothing is preventing you

2881

02:08:54,970 --> 02:08:53,000

from making one super mind that is

2882

02:08:56,680 --> 02:08:54,980

essentially you know a billion

2883

02:08:58,990 --> 02:08:56,690

matryoshka brains those are computers

2884

02:09:00,730 --> 02:08:59,000

built around an entire stall that just

2885

02:09:03,970 --> 02:09:00,740

run on that now I'll link together and

2886

02:09:07,330 --> 02:09:03,980

some kind of khalaqtu net or universal

2887

02:09:09,030 --> 02:09:07,340

net and that's one of those snows it

2888

02:09:11,710 --> 02:09:09,040

could happen the case like that that

2889

02:09:14,350 --> 02:09:11,720

instead of having a civilization of a

2890

02:09:16,150 --> 02:09:14,360

billion walls with a billion kingdoms

2891

02:09:18,430 --> 02:09:16,160

all wrapped together on some central

2892

02:09:22,510 --> 02:09:18,440

Empire that you just have one big mind

2893

02:09:25,570 --> 02:09:22,520

and now now we're talking about power

2894

02:09:29,200 --> 02:09:25,580

would that be are we talking like a

2895

02:09:31,090 --> 02:09:29,210

Dyson Sphere computer Oh though that's

2896

02:09:32,590 --> 02:09:31,100

just a mask of brain that's a single

2897

02:09:34,390 --> 02:09:32,600

stall you start linking a billion of

2898

02:09:35,500 --> 02:09:34,400

those together that's a whole new one a

2899

02:09:39,640 --> 02:09:35,510

whole new thing

2900

02:09:41,380 --> 02:09:39,650

oh that's us pain what Dyson that's

2901
02:09:43,450 --> 02:09:41,390
basically a Dyson Sphere that's nothing

2902
02:09:45,610 --> 02:09:43,460
but a computer that already has a kind

2903
02:09:48,040 --> 02:09:45,620
of computational power that would let it

2904
02:09:49,770 --> 02:09:48,050
simulate a trillion trillion people as

2905
02:09:52,030 --> 02:09:49,780
though they alive in a virtual world

2906
02:09:53,380 --> 02:09:52,040
it's it's that's and that's about how

2907
02:09:55,540 --> 02:09:53,390
much mind power you're talking about

2908
02:09:57,670 --> 02:09:55,550
they are just using essentially what we

2909
02:09:59,710 --> 02:09:57,680
have on on you know all best computers

2910
02:10:01,600 --> 02:09:59,720
right now stretched out like our

2911
02:10:03,880 --> 02:10:01,610
theoretical limit what's at the table

2912
02:10:06,430 --> 02:10:03,890
they are insanely powerful they have

2913
02:10:08,560 --> 02:10:06,440

access to a billion times the energy

2914

02:10:09,850 --> 02:10:08,570

that the Sun gets the earth and they

2915

02:10:11,920 --> 02:10:09,860

presumably are way more efficiently

2916

02:10:14,470 --> 02:10:11,930

using it and they're doing nothing but

2917

02:10:19,390 --> 02:10:14,480

competing with it that's huge would this

2918

02:10:21,760 --> 02:10:19,400

be AI in its purest definition it would

2919

02:10:23,410 --> 02:10:21,770

be a very powerful thinking engine it

2920

02:10:25,090 --> 02:10:23,420

might be mini thinking engines you might

2921

02:10:27,460 --> 02:10:25,100

do that with an entire civilization way

2922

02:10:29,260 --> 02:10:27,470

just turn them all into computers living

2923

02:10:31,390 --> 02:10:29,270

in a virtual world the people all living

2924

02:10:33,610 --> 02:10:31,400

in a virtual universe essentially or

2925

02:10:35,920 --> 02:10:33,620

could be one massive brain it just

2926

02:10:37,240 --> 02:10:35,930

depends on you know how that goes it

2927

02:10:38,410 --> 02:10:37,250

could be all of the above you know

2928

02:10:41,140 --> 02:10:38,420

there's just a huge amount of

2929

02:10:42,940 --> 02:10:41,150

computational power there then let's

2930

02:10:45,180 --> 02:10:42,950

like what they want to go yeah yeah

2931

02:10:48,720 --> 02:10:45,190

let's stay right there for a second if

2932

02:10:50,460 --> 02:10:48,730

do you see this as being a possibility I

2933

02:10:53,940 --> 02:10:50,470

actually want to ask that direct

2934

02:10:57,720 --> 02:10:53,950

question I mean nice it's great science

2935

02:11:00,750 --> 02:10:57,730

fiction but if that do you believe that

2936

02:11:05,460 --> 02:11:00,760

that would be possible a simulated

2937

02:11:06,960 --> 02:11:05,470

universe it should be I it depends I

2938

02:11:09,000 --> 02:11:06,970

mean we do them right now every video

2939

02:11:11,250 --> 02:11:09,010

game is a simulator universe it just

2940

02:11:12,570 --> 02:11:11,260

depends on you if we were living inside

2941

02:11:14,070 --> 02:11:12,580

one ourselves for instance there's a

2942

02:11:15,750 --> 02:11:14,080

good chance that whatever simulating us

2943

02:11:18,180 --> 02:11:15,760

is a much more complicated universe than

2944

02:11:20,820 --> 02:11:18,190

what we are but anytime you any kind of

2945

02:11:22,770 --> 02:11:20,830

see later or say well it was a MMORPGs

2946

02:11:25,650 --> 02:11:22,780

people who like to play like Warcraft

2947

02:11:29,070 --> 02:11:25,660

those are simulated universes in a very

2948

02:11:29,940 --> 02:11:29,080

real way there was all real places we'd

2949

02:11:31,680 --> 02:11:29,950

be talking about something that was

2950

02:11:34,080 --> 02:11:31,690

orders of magnitude more sophisticated

2951

02:11:35,790 --> 02:11:34,090

but at the end of the day it just

2952

02:11:37,470 --> 02:11:35,800

depends on whether or not you're saying

2953

02:11:38,880 --> 02:11:37,480

someone who lives our computer chip is a

2954

02:11:40,440 --> 02:11:38,890

person or not doesn't actually matter

2955

02:11:42,750 --> 02:11:40,450

what substrate they're on does it have

2956

02:11:44,760 --> 02:11:42,760

to be neurons or computer chips is it

2957

02:11:46,680 --> 02:11:44,770

possible you can never make you more

2958

02:11:49,530 --> 02:11:46,690

complicated simulation than the thing

2959

02:11:50,580 --> 02:11:49,540

that's actually simulating it but you

2960

02:11:53,640 --> 02:11:50,590

don't actually have to simulate every

2961

02:11:55,800 --> 02:11:53,650

atom in a simulated universe for it to

2962

02:11:57,360 --> 02:11:55,810

be a good simulation yeah you know you

2963

02:11:59,070 --> 02:11:57,370

could model all universe quite

2964

02:12:00,930 --> 02:11:59,080

accurately with probably just one match

2965

02:12:02,520 --> 02:12:00,940

goska pain to the point that we

2966

02:12:05,340 --> 02:12:02,530

ourselves would probably not notice we

2967

02:12:08,010 --> 02:12:05,350

own a simulation I have been playing I

2968

02:12:08,880 --> 02:12:08,020

just started a couple of weeks ago mind

2969

02:12:15,180 --> 02:12:08,890

blown

2970

02:12:19,410 --> 02:12:15,190

no man's sky and the ideas behind no

2971

02:12:22,830 --> 02:12:19,420

man's sky is now it sounds way too

2972

02:12:25,110 --> 02:12:22,840

complex an impossible game to have made

2973

02:12:28,680 --> 02:12:25,120

it's actually very simple and it's very

2974

02:12:31,860 --> 02:12:28,690

elegant in that these trillions of

2975

02:12:34,470 --> 02:12:31,870

worlds that are there each one is

2976

02:12:37,140 --> 02:12:34,480

created with artificial intelligence

2977

02:12:41,040 --> 02:12:37,150

it's machine learning it's creating its

2978

02:12:42,780 --> 02:12:41,050

own world for you and nobody in the game

2979

02:12:45,780 --> 02:12:42,790

can visit the same world twice

2980

02:12:47,250 --> 02:12:45,790

theoretically yeah it's procedurally

2981

02:12:48,630 --> 02:12:47,260

generated memory so as I thought a lot

2982

02:12:50,850 --> 02:12:48,640

about from my audience thought not have

2983

02:12:52,620 --> 02:12:50,860

occasion to play it myself but you know

2984

02:12:55,410 --> 02:12:52,630

those old things we might stop seen and

2985

02:12:56,790 --> 02:12:55,420

pop up the most sophisticated walls that

2986

02:12:57,959 --> 02:12:56,800

you can build a portion for simulation

2987

02:13:00,030 --> 02:12:57,969

are probably gonna be those that have a

2988

02:13:00,959 --> 02:13:00,040

lot of people and resources involved on

2989

02:13:02,070 --> 02:13:00,969

our end

2990

02:13:04,260 --> 02:13:02,080

so those were probably shield

2991

02:13:06,360 --> 02:13:04,270

environments but people could easily in

2992

02:13:08,729 --> 02:13:06,370

the Pantone simulated waltz even was

2993

02:13:10,320 --> 02:13:08,739

like a house valley somewhere that was

2994

02:13:11,850 --> 02:13:10,330

simulated that was just where they that

2995

02:13:14,189 --> 02:13:11,860

was like their house they lived in you

2996

02:13:17,189 --> 02:13:14,199

know might be the quotient rule in their

2997

02:13:18,959 --> 02:13:17,199

house they spent our time in you know

2998

02:13:22,050 --> 02:13:18,969

it's so hard to see how that's gonna go

2999

02:13:24,540 --> 02:13:22,060

we've looked at that and and the problem

3000

02:13:27,750 --> 02:13:24,550

you always hit with those is you have to

3001

02:13:29,880 --> 02:13:27,760

side is the term virtual Ward as some

3002

02:13:31,680 --> 02:13:29,890

level of sophistication actually

3003

02:13:33,689 --> 02:13:31,690

meaningful anymore or should we be these

3004

02:13:35,970 --> 02:13:33,699

fortune Awards as no different than

3005

02:13:36,450 --> 02:13:35,980

going in colonizing Mars or Alpha

3006

02:13:40,560 --> 02:13:36,460

Centauri

3007

02:13:46,229 --> 02:13:40,570

now as you and I talk about this here we

3008

02:13:48,510 --> 02:13:46,239

are in 2020 and if somebody was out

3009

02:13:51,209 --> 02:13:48,520

there observing our planet with the

3010

02:13:55,020 --> 02:13:51,219

telescope they're not seeing you and die

3011

02:13:58,020 --> 02:13:55,030

right now right they're seeing they're

3012

02:14:00,090 --> 02:13:58,030

seeing Earth from whatever a million

3013

02:14:01,890 --> 02:14:00,100

Mars history yeah they've seen it from

3014

02:14:04,050 --> 02:14:01,900

how many light-years away it is and use

3015

02:14:08,580 --> 02:14:04,060

you're right so would they would they be

3016

02:14:10,890 --> 02:14:08,590

looking at it's so it's most people

3017

02:14:15,000 --> 02:14:10,900

don't wrap their mind around it this way

3018

02:14:17,790 --> 02:14:15,010

they think they assume and naturally

3019

02:14:20,610 --> 02:14:17,800

that if you're in your backyard looking

3020

02:14:23,340 --> 02:14:20,620

at a distant star in the telescope that

3021

02:14:26,040 --> 02:14:23,350

you're looking at that star in its

3022

02:14:29,490 --> 02:14:26,050

potential planet that is orbiting it in

3023

02:14:32,520 --> 02:14:29,500

the now now but you are not you are

3024

02:14:36,030 --> 02:14:32,530

looking at the ancient version of said

3025

02:14:37,890 --> 02:14:36,040

star and planet right yep now one can

3026

02:14:39,720 --> 02:14:37,900

kind of get into the more

3027

02:14:41,880 --> 02:14:39,730

philosophically ins of El Torito argue

3028

02:14:43,439 --> 02:14:41,890

that that time does not run the same in

3029

02:14:45,689 --> 02:14:43,449

all places and that for all practical

3030

02:14:46,830 --> 02:14:45,699

purposes is they are human now because

3031

02:14:49,110 --> 02:14:46,840

that's what you're connected to by

3032

02:14:50,640 --> 02:14:49,120

causality but yeah that was all ancient

3033

02:14:52,650 --> 02:14:50,650

you know yoking at the Andromeda galaxy

3034

02:14:55,110 --> 02:14:52,660

that's what was two million years ago

3035

02:14:57,750 --> 02:14:55,120

for we discovered file that is ancient

3036

02:14:59,430 --> 02:14:57,760

Ilkka pH falling Galactic Empire by now

3037

02:15:01,439 --> 02:14:59,440

and we wouldn't have seen it if there's

3038

02:15:04,530 --> 02:15:01,449

no faster and like you know way for them

3039

02:15:10,200 --> 02:15:04,540

to get to us which takes me to my point

3040

02:15:12,360 --> 02:15:10,210

so Arthur for you as you are looking for

3041

02:15:14,140 --> 02:15:12,370

and thinking about and contemplating

3042

02:15:16,570 --> 02:15:14,150

ancient civilizations out

3043

02:15:19,930 --> 02:15:16,580

and dromeda our closest galactic

3044

02:15:22,590 --> 02:15:19,940

neighbor is still two million light

3045

02:15:25,360 --> 02:15:22,600

years away and it's right next door

3046

02:15:27,370 --> 02:15:25,370

right that's our clothes and that's two

3047

02:15:30,070 --> 02:15:27,380

million light years so they're

3048

02:15:32,770 --> 02:15:30,080

observations of us are from two million

3049

02:15:35,649 --> 02:15:32,780

years ago if they're looking in in real

3050

02:15:39,189 --> 02:15:35,659

time with the telescope and us the same

3051
02:15:41,560 --> 02:15:39,199
for them how do we speed that up or

3052
02:15:43,570 --> 02:15:41,570
because we're looking at two million

3053
02:15:46,630 --> 02:15:43,580
years ago we're not looking at a

3054
02:15:50,560 --> 02:15:46,640
civilization that has risen in the

3055
02:15:51,700 --> 02:15:50,570
million years in the middle right we

3056
02:15:52,840 --> 02:15:51,710
have no way of knowing if there's

3057
02:15:54,370 --> 02:15:52,850
anything there until we get there

3058
02:15:56,050 --> 02:15:54,380
ourselves and even those of us back here

3059
02:15:57,669 --> 02:15:56,060
on earth won't know about it so it's

3060
02:15:59,169 --> 02:15:57,679
really old news you know you send off a

3061
02:16:01,149 --> 02:15:59,179
fleet there to go check and they get

3062
02:16:02,740 --> 02:16:01,159
they oh say ten million years from now

3063
02:16:04,660 --> 02:16:02,750

and then we get the signal back from

3064

02:16:07,120 --> 02:16:04,670

them twelve million years from now

3065

02:16:09,910 --> 02:16:07,130

and it's it's this it's just this

3066

02:16:11,200 --> 02:16:09,920

overwhelming burden that comes from the

3067

02:16:13,030 --> 02:16:11,210

light lag involved and trying to

3068

02:16:15,340 --> 02:16:13,040

maintain a civilization over your time

3069

02:16:17,320 --> 02:16:15,350

communication that's why of course it's

3070

02:16:19,899 --> 02:16:17,330

so much desire would have fast night

3071

02:16:21,040 --> 02:16:19,909

communication now that kind of prevents

3072

02:16:23,560 --> 02:16:21,050

you from having a lot of these big

3073

02:16:24,910 --> 02:16:23,570

empires themselves because how they keep

3074

02:16:27,580 --> 02:16:24,920

themselves connected but it doesn't

3075

02:16:29,439 --> 02:16:27,590

prevent colonization because again same

3076
02:16:31,270 --> 02:16:29,449
as primitive tribes could spread out and

3077
02:16:33,310 --> 02:16:31,280
never hear from their their Splinter's

3078
02:16:34,929 --> 02:16:33,320
their colonization by them still took

3079
02:16:36,009 --> 02:16:34,939
place they just migrated that new area

3080
02:16:39,280 --> 02:16:36,019
didn't matter they couldn't communicate

3081
02:16:40,810 --> 02:16:39,290
back to home but yeah there was those

3082
02:16:43,450 --> 02:16:40,820
things would be ancient you could have a

3083
02:16:46,150 --> 02:16:43,460
civilization that was a million years

3084
02:16:47,709 --> 02:16:46,160
old you know a few million light years

3085
02:16:49,929 --> 02:16:47,719
to neon we still won't be able to touch

3086
02:16:52,419 --> 02:16:49,939
them for millions of years even though

3087
02:16:54,400 --> 02:16:52,429
they've been around so long and they

3088
02:16:55,839 --> 02:16:54,410

wouldn't know about us yet and they

3089

02:16:57,820 --> 02:16:55,849

would see although then if we're there

3090

02:16:58,839 --> 02:16:57,830

to be enough telescope which I don't

3091

02:17:00,040 --> 02:16:58,849

know if you can actually build one big

3092

02:17:03,219 --> 02:17:00,050

enough to see a planet from another

3093

02:17:05,230 --> 02:17:03,229

galaxy that'd be tricky but um you know

3094

02:17:07,270 --> 02:17:05,240

if they could see us then they would see

3095

02:17:09,520 --> 02:17:07,280

us however many million years ago they

3096

02:17:12,160 --> 02:17:09,530

were all away and they might be a

3097

02:17:14,049 --> 02:17:12,170

protect us by you know the all the

3098

02:17:15,850 --> 02:17:14,059

importance of some additional fire on

3099

02:17:17,919 --> 02:17:15,860

the planet but more likely they know we

3100

02:17:19,629 --> 02:17:17,929

were inhabited by you know too much

3101
02:17:20,980 --> 02:17:19,639
oxygen in the atmosphere wouldn't tell

3102
02:17:22,360 --> 02:17:20,990
them that there was a civilization they

3103
02:17:26,190 --> 02:17:22,370
ever would say there's life for instance

3104
02:17:30,209 --> 02:17:26,200
is this why we should just focus on

3105
02:17:32,970 --> 02:17:30,219
the Milky Way yes and no that's the

3106
02:17:34,980 --> 02:17:32,980
tricky part the thing is we've tend to

3107
02:17:36,540 --> 02:17:34,990
start looking at galaxies as though

3108
02:17:38,370 --> 02:17:36,550
they're isolated pockets because that's

3109
02:17:41,040 --> 02:17:38,380
so much of how stars are you know

3110
02:17:43,050 --> 02:17:41,050
starless all tell you their pockets the

3111
02:17:45,570 --> 02:17:43,060
the solar system that we live in even

3112
02:17:47,820 --> 02:17:45,580
all the way out to Pluto is a

3113
02:17:49,980 --> 02:17:47,830

quadrillion of the volume that our Sun

3114

02:17:53,640 --> 02:17:49,990

dominates gravitationally and that you

3115

02:17:56,010 --> 02:17:53,650

could call it the Sun's territory galaxies

3116

02:17:57,720 --> 02:17:56,020

it's not like that galaxies for instance

3117

02:17:59,100 --> 02:17:57,730

always is a conglomeration of a dozen

3118

02:18:01,470 --> 02:17:59,110

little galaxies we've eaten over the

3119

02:18:04,230 --> 02:18:01,480

last few billion years there is no real

3120

02:18:06,570 --> 02:18:04,240

into the Milky Way or into and round or

3121

02:18:08,160 --> 02:18:06,580

beginning they're all stalls out between

3122

02:18:10,440 --> 02:18:08,170

the galaxies and indeed there might be

3123

02:18:12,810 --> 02:18:10,450

more stars in between galaxies than in

3124

02:18:14,459 --> 02:18:12,820

them but what other that's more not it's

3125

02:18:17,250 --> 02:18:14,469

quite a lot they'll spread out way

3126

02:18:20,150 --> 02:18:17,260

thinner but there is no edge it's more

3127

02:18:23,490 --> 02:18:20,160

like continents you know or archipelagos

3128

02:18:25,260 --> 02:18:23,500

you and your galaxy maybe two million

3129

02:18:26,850 --> 02:18:25,270

light years away but that galaxy itself

3130

02:18:28,800 --> 02:18:26,860

is you know a hundred thousand two and

3131

02:18:31,230 --> 02:18:28,810

thousand light years across and that's

3132

02:18:33,810 --> 02:18:31,240

just the main galaxy out past that you

3133

02:18:35,070 --> 02:18:33,820

still have the rural areas as a law all

3134

02:18:37,170 --> 02:18:35,080

these little stars have been ejected

3135

02:18:39,500 --> 02:18:37,180

from the systems you know no nebulae

3136

02:18:41,520 --> 02:18:39,510

there might be four between galaxies

3137

02:18:46,050 --> 02:18:41,530

it's a mystery a land bridge between

3138

02:18:48,570 --> 02:18:46,060

them there is another part to this that

3139

02:18:50,850 --> 02:18:48,580

I find fascinating by the way have you

3140

02:18:53,820 --> 02:18:50,860

read Brian Greene's new book until the

3141

02:18:58,230 --> 02:18:53,830

end of time not yet okay well that's a

3142

02:19:02,730 --> 02:18:58,240

must read but one of the things that I

3143

02:19:06,180 --> 02:19:02,740

have been hearing in the rock star

3144

02:19:08,190 --> 02:19:06,190

physics physicists circles which I I

3145

02:19:10,770 --> 02:19:08,200

love these guys gossip better than

3146

02:19:14,060 --> 02:19:10,780

anybody but one of the things that they

3147

02:19:18,470 --> 02:19:14,070

are talking about now this chatter is

3148

02:19:20,510 --> 02:19:18,480

that there is no end to the universe

3149

02:19:23,459 --> 02:19:20,520

potentially that the universe is

3150

02:19:27,600 --> 02:19:23,469

absolutely indeed infinite and it

3151

02:19:30,330 --> 02:19:27,610

extends out and that the Big Bang wasn't

3152

02:19:33,450 --> 02:19:30,340

may not be the start of time it's just

3153

02:19:36,470 --> 02:19:33,460

one of many big bangs inside of our

3154

02:19:38,490 --> 02:19:36,480

universe which would explain galaxies

3155

02:19:41,100 --> 02:19:38,500

popping in all directions

3156

02:19:44,850 --> 02:19:41,110

because there may have been an infinite

3157

02:19:47,970 --> 02:19:44,860

amount of big bangs and the start of

3158

02:19:50,520 --> 02:19:47,980

time wasn't 13.8 billion years ago oh

3159

02:19:53,070 --> 02:19:50,530

it's a popular theory and you felt like

3160

02:19:54,900 --> 02:19:53,080

that well most folks what about the take

3161

02:19:56,580 --> 02:19:54,910

mark multiverse theories and writings

3162

02:19:58,440 --> 02:19:56,590

like that but Brian Green has Zone two

3163

02:19:59,820 --> 02:19:58,450

and we actually have an episode I

3164

02:20:01,530 --> 02:19:59,830

already produced it but won't be coming

3165

02:20:04,530 --> 02:20:01,540

out for a month or so but it comes out

3166

02:20:07,620 --> 02:20:04,540

honey pill on parallel universes me walk

3167

02:20:09,750 --> 02:20:07,630

through each what those all and Brian

3168

02:20:12,360 --> 02:20:09,760

Green does have bunch of the ones he's

3169

02:20:14,340 --> 02:20:12,370

classified and the crew two multiverse

3170

02:20:15,390 --> 02:20:14,350

Flynn's instance is the one you're kind

3171

02:20:17,580 --> 02:20:15,400

of speaking of there where you have an

3172

02:20:20,730 --> 02:20:17,590

infinite amount of space but it's broke

3173

02:20:22,470 --> 02:20:20,740

up into smaller observable universes or

3174

02:20:24,360 --> 02:20:22,480

and that's totally allowed inside they

3175

02:20:26,220 --> 02:20:24,370

didn't own Big Bang right we know you

3176
02:20:28,860 --> 02:20:26,230
observable universe well we don't know

3177
02:20:31,320 --> 02:20:28,870
for sure but in all probability absorber

3178
02:20:33,900 --> 02:20:31,330
universes smaller than the total

3179
02:20:36,420 --> 02:20:33,910
universe because otherwise we're the

3180
02:20:39,960 --> 02:20:36,430
exact center of the universe that'll be

3181
02:20:41,790 --> 02:20:39,970
a bit bizarre more likely yes it's like

3182
02:20:43,500 --> 02:20:41,800
if you're standing in a warehouse with

3183
02:20:45,960 --> 02:20:43,510
just a little candle or you can't see

3184
02:20:47,490 --> 02:20:45,970
the wall describe and if you can't see

3185
02:20:50,760 --> 02:20:47,500
any the lowest values that this pole

3186
02:20:51,930 --> 02:20:50,770
lies a circle you know you're not you

3187
02:20:53,550 --> 02:20:51,940
know you're the warehouse is probably

3188
02:20:55,920 --> 02:20:53,560

much bigger than your candle light is

3189

02:20:57,840 --> 02:20:55,930

because you probably be positioned to

3190

02:20:59,970 --> 02:20:57,850

see it one wall it'd be a few being the

3191

02:21:01,410 --> 02:20:59,980

exact center and it's kind of same

3192

02:21:03,990 --> 02:21:01,420

notion they oh we don't know if the

3193

02:21:06,180 --> 02:21:04,000

whole universe without even getting the

3194

02:21:08,010 --> 02:21:06,190

multiverse is just this universe is a

3195

02:21:10,620 --> 02:21:08,020

little bit bigger than the observable

3196

02:21:13,260 --> 02:21:10,630

portion or infinite or anywhere in

3197

02:21:15,090 --> 02:21:13,270

between but it's probably a good deal

3198

02:21:16,770 --> 02:21:15,100

pick it has to be at least ten or twelve

3199

02:21:19,800 --> 02:21:16,780

times big just to make it realistic that

3200

02:21:23,430 --> 02:21:19,810

we could not be seeing one of the edges

3201

02:21:28,830 --> 02:21:23,440

but there's also no channel what's when

3202

02:21:30,300 --> 02:21:28,840

it's called ah there's the here I think

3203

02:21:31,680 --> 02:21:30,310

he has nine different versions of

3204

02:21:33,870 --> 02:21:31,690

multi-force he goes through but one of

3205

02:21:35,220 --> 02:21:33,880

those is that they all lots of big bangs

3206

02:21:37,200 --> 02:21:35,230

that go on and this usually ties a

3207

02:21:39,600 --> 02:21:37,210

little bit into or not string theory but

3208

02:21:42,090 --> 02:21:39,610

brain brain theory which is well M

3209

02:21:43,380 --> 02:21:42,100

theory which is very similar to it which

3210

02:21:46,140 --> 02:21:43,390

the notion that you have on all these

3211

02:21:47,490 --> 02:21:46,150

the membrane universes three-dimensional

3212

02:21:48,840 --> 02:21:47,500

but we picture them two-dimensional a

3213

02:21:50,370 --> 02:21:48,850

that kind of collide into each other

3214

02:21:51,070 --> 02:21:50,380

every swapped and that sets off a big

3215

02:21:55,240 --> 02:21:51,080

bang

3216

02:21:57,400 --> 02:21:55,250

and it's one of the way you should have

3217

02:22:00,330 --> 02:21:57,410

a multi-force where you just have a ton

3218

02:22:02,890 --> 02:22:00,340

of these observable universes that are

3219

02:22:05,830 --> 02:22:02,900

not really connected to each other but

3220

02:22:07,450 --> 02:22:05,840

do have some overlap but then you also

3221

02:22:09,190 --> 02:22:07,460

the possibilities just a bigger universe

3222

02:22:10,511 --> 02:22:09,200

underneath where you have localized Big

3223

02:22:12,130 --> 02:22:10,521

Bang's pop up and there's been a number

3224

02:22:14,560 --> 02:22:12,140

of theories along those lines even

3225

02:22:16,210 --> 02:22:14,570

dating back to state state theory that

3226

02:22:17,770 --> 02:22:16,220

you know Big Bang's might just be

3227

02:22:20,620 --> 02:22:17,780

localized things and happen is so often

3228

02:22:22,511 --> 02:22:20,630

when quantum energy gets too weak as an

3229

02:22:24,910 --> 02:22:22,521

example the big rip theory Owens fond of

3230

02:22:26,620 --> 02:22:24,920

in that the expansion evos keeps getting

3231

02:22:29,290 --> 02:22:26,630

stronger and stronger and to convince

3232

02:22:30,910 --> 02:22:29,300

the whip quark support well I think

3233

02:22:34,000 --> 02:22:30,920

about when you put you quarks apart is

3234

02:22:35,530 --> 02:22:34,010

that quacks cannot exist in isolation if

3235

02:22:37,870 --> 02:22:35,540

you pour two quarks apart you produce

3236

02:22:39,820 --> 02:22:37,880

two new quark pairs and you pour those

3237

02:22:41,770 --> 02:22:39,830

about you now have four new quark pairs

3238

02:22:43,360 --> 02:22:41,780

so if you're ripping quark support you

3239

02:22:45,730 --> 02:22:43,370

could all you bleed up producing a big

3240

02:22:47,740 --> 02:22:45,740

bag just from that so in some big rip

3241

02:22:50,950 --> 02:22:47,750

portions you would actually have that

3242

02:22:52,930 --> 02:22:50,960

happen and responds new infinite numbers

3243

02:22:55,060 --> 02:22:52,940

of new universes Constantine spawned by

3244

02:22:58,090 --> 02:22:55,070

this expansion object whatever the

3245

02:23:02,261 --> 02:22:58,100

universe gets to a certain point it

3246

02:23:03,820 --> 02:23:02,271

shreds itself and bang Big Bang now okay

3247

02:23:07,350 --> 02:23:03,830

let me ask you this I know that you're

3248

02:23:10,450 --> 02:23:07,360

getting married on Saturday we've got

3249

02:23:12,250 --> 02:23:10,460

six minutes left in the show or I can

3250

02:23:14,520 --> 02:23:12,260

hold you over for another twenty minutes

3251

02:23:17,261 --> 02:23:14,530

into some overtime

3252

02:23:19,570 --> 02:23:17,271

okay because I've got some very deep

3253

02:23:21,640 --> 02:23:19,580

questions that can't get answered that

3254

02:23:24,460 --> 02:23:21,650

quickly but let's say let's stay here

3255

02:23:28,570 --> 02:23:24,470

for a second when it comes to artificial

3256

02:23:31,960 --> 02:23:28,580

intelligence and the grand creator

3257

02:23:36,070 --> 02:23:31,970

whatever you want to call that whether

3258

02:23:40,920 --> 02:23:36,080

it's God spirituality or an artificial

3259

02:23:44,380 --> 02:23:40,930

intelligence is it is it possible that

3260

02:23:49,210 --> 02:23:44,390

an artificial intelligence that has been

3261

02:23:52,020 --> 02:23:49,220

around forever previous universes

3262

02:23:54,640 --> 02:23:52,030

lagging over and we're going to get to

3263

02:23:56,380 --> 02:23:54,650

Brian greens until the end of the time

3264

02:23:59,290 --> 02:23:56,390

one of the things he talks about in the

3265

02:24:02,770 --> 02:23:59,300

closing of the book but could the

3266

02:24:04,510 --> 02:24:02,780

universes and these special moments of

3267

02:24:10,870 --> 02:24:04,520

stability that

3268

02:24:16,090 --> 02:24:10,880

cause a big bang be created by by by an

3269

02:24:18,130 --> 02:24:16,100

intelligence quite possibly that

3270

02:24:19,330 --> 02:24:18,140

Congress is a simulation theory and yes

3271

02:24:22,120 --> 02:24:19,340

essentially if you can create a

3272

02:24:23,859 --> 02:24:22,130

simulator universe then you simply

3273

02:24:25,510 --> 02:24:23,869

that's why do you what's the difference

3274

02:24:27,279 --> 02:24:25,520

in terms of how you choose to name them

3275

02:24:29,319 --> 02:24:27,289

we sometimes suggest that black holes

3276

02:24:31,630 --> 02:24:29,329

might when they form spot a new universe

3277

02:24:33,160 --> 02:24:31,640

is that any different than a universe

3278

02:24:35,050 --> 02:24:33,170

creating a very large computer and

3279

02:24:37,420 --> 02:24:35,060

creating a virtual universe on their

3280

02:24:40,359 --> 02:24:37,430

computer yes still you know Turtles all

3281

02:24:42,760 --> 02:24:40,369

the way down at war whether it's on a

3282

02:24:45,670 --> 02:24:42,770

computer chip or through someone known

3283

02:24:46,210 --> 02:24:45,680

physics or different rules or God take

3284

02:24:48,729 --> 02:24:46,220

your pick

3285

02:24:51,340 --> 02:24:48,739

that's functionally identical in many

3286

02:24:52,510 --> 02:24:51,350

ways so is it possible we don't know

3287

02:24:55,779 --> 02:24:52,520

enough about the physical laws the

3288

02:24:57,429 --> 02:24:55,789

universe to say if it is or not plus in

3289

02:24:59,050 --> 02:24:57,439

a simulation you presumably don't have

3290

02:25:00,790 --> 02:24:59,060

the same physical laws in the universe

3291

02:25:04,029 --> 02:25:00,800

above you unless they specifically aim

3292

02:25:05,500 --> 02:25:04,039

for that so you won't even go to know as

3293

02:25:06,939 --> 02:25:05,510

with any case like that when you go to a

3294

02:25:09,099 --> 02:25:06,949

creator situation whether it's a

3295

02:25:11,290 --> 02:25:09,109

simulation or your blah blah take your

3296

02:25:15,370 --> 02:25:11,300

pick you know you only know about them

3297

02:25:18,069 --> 02:25:15,380

if they commit you to improve you inside

3298

02:25:23,830 --> 02:25:18,079

one is it too deep of a philosophical

3299

02:25:27,519 --> 02:25:23,840

issue to suggest that everything may be

3300

02:25:30,729 --> 02:25:27,529

way beyond chance you know it's way

3301

02:25:33,099 --> 02:25:30,739

beyond the probabilities and and what

3302

02:25:36,819 --> 02:25:33,109

math and equations and algorithms can

3303

02:25:39,340 --> 02:25:36,829

show you that it could only have been

3304

02:25:42,429 --> 02:25:39,350

done by an artificial intelligence of

3305

02:25:43,870 --> 02:25:42,439

some kind ah you know that's always a

3306

02:25:45,670 --> 02:25:43,880

really tricky thing to go for they oh

3307

02:25:47,260 --> 02:25:45,680

and and you I try to stick strictly

3308

02:25:49,179 --> 02:25:47,270

inside of what we can absorb naturally

3309

02:25:51,370 --> 02:25:49,189

and the pom with with physics is that's

3310

02:25:53,290 --> 02:25:51,380

the study of the natural universe right

3311

02:25:54,910 --> 02:25:53,300

when you get outside of the natural laws

3312

02:25:56,469 --> 02:25:54,920

you can only ever interpret that data

3313

02:25:58,029 --> 02:25:56,479

from a natural perspective because

3314

02:26:00,069 --> 02:25:58,039

that's your starting point you're saying

3315

02:26:03,760 --> 02:26:00,079

I'm assuming everything is natural and

3316

02:26:05,830 --> 02:26:03,770

study Abul so you can't really prove

3317

02:26:07,660 --> 02:26:05,840

anything supernatural weather will say

3318

02:26:10,929 --> 02:26:07,670

from Ohio universe or which other guess

3319

02:26:13,840 --> 02:26:10,939

happens to be from kind of context of

3320

02:26:16,899 --> 02:26:13,850

looking at natural laws it's it's not

3321

02:26:18,340 --> 02:26:16,909

really gonna sync up right you cannot

3322

02:26:20,500 --> 02:26:18,350

prove you inside a simulation

3323

02:26:22,780 --> 02:26:20,510

unless the person simulating you lets

3324

02:26:24,399 --> 02:26:22,790

you do so that's right the same thing is

3325

02:26:25,899 --> 02:26:24,409

gonna apply to you know if you want to

3326

02:26:28,300 --> 02:26:25,909

do it I just replace the world computer

3327

02:26:30,910 --> 02:26:28,310

with you know psychic energy astral

3328

02:26:32,500 --> 02:26:30,920

plane hi Oh universe having very you

3329

02:26:34,510 --> 02:26:32,510

know they'll functionally identical in

3330

02:26:36,370 --> 02:26:34,520

terms of how we define them you cannot

3331

02:26:37,780 --> 02:26:36,380

prove inside those by studying the

3332

02:26:40,840 --> 02:26:37,790

natural laws they are that that place

3333

02:26:44,290 --> 02:26:40,850

above does not exist it's not possible

3334

02:26:47,320 --> 02:26:44,300

no right and this is and and whether

3335

02:26:49,450 --> 02:26:47,330

word it doesn't matter which physicists

3336

02:26:51,550 --> 02:26:49,460

or theoretical physicists quantum that

3337

02:26:54,130 --> 02:26:51,560

we're talking about here one of the

3338

02:26:56,590 --> 02:26:54,140

things that they all know is that

3339

02:27:00,700 --> 02:26:56,600

quantum physics or however you want to

3340

02:27:02,229 --> 02:27:00,710

look at it is still misunderstood and

3341

02:27:04,809 --> 02:27:02,239

that they don't even understand it and

3342

02:27:07,540 --> 02:27:04,819

that even Einstein's equations only take

3343

02:27:09,160 --> 02:27:07,550

you so far all right that gives

3344

02:27:10,120 --> 02:27:09,170

addictive what happens from quantum but

3345

02:27:11,530 --> 02:27:10,130

we have I mean we have a bunch of

3346

02:27:13,330 --> 02:27:11,540

different interpretations is not just

3347

02:27:14,769 --> 02:27:13,340

Copenhagen or multi-voice there are tons

3348

02:27:16,389 --> 02:27:14,779

amount they'll they'll I predict the

3349

02:27:18,399 --> 02:27:16,399

same result that's how we say is correct

3350

02:27:19,750 --> 02:27:18,409

theory but we have no way of testing

3351

02:27:25,269 --> 02:27:19,760

which of these is correct at this time

3352

02:27:27,670 --> 02:27:25,279

and so without being able to go back to

3353

02:27:30,490 --> 02:27:27,680

the exact moment of the Big Bang at the

3354

02:27:33,010 --> 02:27:30,500

start of the time today as we know it if

3355

02:27:35,880 --> 02:27:33,020

you can't go back there and the math

3356

02:27:39,000 --> 02:27:35,890

won't let it only let you get so close

3357

02:27:41,830 --> 02:27:39,010

is that the part of it that becomes

3358

02:27:43,599 --> 02:27:41,840

philosophical at that point it just

3359

02:27:44,979 --> 02:27:43,609

depends on whether or not the existing

3360

02:27:46,510 --> 02:27:44,989

you've lost that you check these things

3361

02:27:48,130 --> 02:27:46,520

for instance if we were able to detect

3362

02:27:50,559 --> 02:27:48,140

another Big Bang going on locally

3363

02:27:52,359 --> 02:27:50,569

because just a theory around it but from

3364

02:27:54,490 --> 02:27:52,369

what we can see right now we probably

3365

02:27:58,030 --> 02:27:54,500

cannot have approve or disprove the

3366

02:27:59,920 --> 02:27:58,040

existence of multi forces but we've only

3367

02:28:02,290 --> 02:27:59,930

been studying the problem for not even a

3368

02:28:04,929 --> 02:28:02,300

century yet so new things might occur

3369

02:28:07,689 --> 02:28:04,939

but it is kind of a coin problem with

3370

02:28:09,939 --> 02:28:07,699

with quantum is we don't really know why

3371

02:28:13,090 --> 02:28:09,949

it walks that way we know how it walks

3372

02:28:14,170 --> 02:28:13,100

in this universe but why not so much and

3373

02:28:14,590 --> 02:28:14,180

it's the same problem we have with the

3374

02:28:19,290 --> 02:28:14,600

Big Bang

3375

02:28:22,300 --> 02:28:19,300

to violate your conservation of

3376

02:28:24,760 --> 02:28:22,310

presumably energy and entropy in the

3377

02:28:27,580 --> 02:28:24,770

first place no clue maybe it didn't

3378

02:28:30,099 --> 02:28:27,590

maybe it's just an example of a Poincare

3379

02:28:31,010 --> 02:28:30,109

system where it was all entropy but a

3380

02:28:32,929 --> 02:28:31,020

pattern of those

3381

02:28:35,090 --> 02:28:32,939

randomly you know you shuffled I could

3382

02:28:36,590 --> 02:28:35,100

call it enough times it's gonna fall

3383

02:28:38,870 --> 02:28:36,600

back into its suit you know skiing high

3384

02:28:41,840 --> 02:28:38,880

entropy each time eventually a missense

3385

02:28:44,300 --> 02:28:41,850

is that it's a motion you had if it's a

3386

02:28:47,569 --> 02:28:44,310

stay state one is that physics tapping

3387

02:28:50,120 --> 02:28:47,579

out I even I mean are you tapping out on

3388

02:28:52,550 --> 02:28:50,130

the mat are you calling uncle I mean no

3389

02:28:54,439 --> 02:28:52,560

definitely not but I'm saying at the

3390

02:28:55,429 --> 02:28:54,449

moment we can't you know one thing we

3391

02:28:58,099 --> 02:28:55,439

always have to be careful with in

3392

02:28:59,899 --> 02:28:58,109

science just because so far we found

3393

02:29:01,279 --> 02:28:59,909

answers to everything we should not

3394

02:29:04,790 --> 02:29:01,289

assume that we were always gonna get

3395

02:29:06,439 --> 02:29:04,800

answers to any questions it was right we

3396

02:29:08,090 --> 02:29:06,449

we can't just be saying well we've

3397

02:29:10,099 --> 02:29:08,100

always gotten these answers so we're

3398

02:29:11,990 --> 02:29:10,109

gonna get the next ones too however

3399

02:29:15,529 --> 02:29:12,000

there's no other way to approach it you

3400

02:29:18,170 --> 02:29:15,539

know what should we do stop yeah we're

3401
02:29:21,349 --> 02:29:18,180
doing time I mean can you imagine you

3402
02:29:23,870 --> 02:29:21,359
know Sean Carroll or Brian Greene or

3403
02:29:28,929 --> 02:29:23,880
yourself you know whatever going you

3404
02:29:31,639 --> 02:29:28,939
know what okay we get it was just random

3405
02:29:33,679 --> 02:29:31,649
it's it's possible like okay I'll give

3406
02:29:36,590 --> 02:29:33,689
you example under quantum theory it's

3407
02:29:38,210 --> 02:29:36,600
possible for any any group of atoms to

3408
02:29:39,469 --> 02:29:38,220
kind of spontaneously mutate into

3409
02:29:41,960 --> 02:29:39,479
another group of atoms it's highly

3410
02:29:44,569 --> 02:29:41,970
improbable but for instance a few atoms

3411
02:29:46,700 --> 02:29:44,579
returning from carbon into you know a

3412
02:29:47,809 --> 02:29:46,710
single sugar molecule that's really of

3413
02:29:49,790 --> 02:29:47,819

course since there's a finite chance

3414

02:29:52,040 --> 02:29:49,800

that there's a smaller but finite chance

3415

02:29:54,559 --> 02:29:52,050

that a random Rock could turn into a

3416

02:29:56,899 --> 02:29:54,569

kiddie ball or that the Statue of

3417

02:29:59,359 --> 02:29:56,909

Liberty could mutate into a big golden

3418

02:30:01,370 --> 02:29:59,369

calf and you can imagine that you know

3419

02:30:03,760 --> 02:30:01,380

let's say tomorrow the Statue of Liberty

3420

02:30:06,649 --> 02:30:03,770

was replaced with a giant Gorn statue of

3421

02:30:08,420 --> 02:30:06,659

the Thor you're never gonna convince

3422

02:30:10,490 --> 02:30:08,430

people that was a quantum event

3423

02:30:11,779 --> 02:30:10,500

they're never gonna buy that it doesn't

3424

02:30:13,069 --> 02:30:11,789

matter if it's add what's what actually

3425

02:30:15,229 --> 02:30:13,079

happened or not they're never gonna buy

3426

02:30:16,700 --> 02:30:15,239

that it's so insanely improbable that

3427

02:30:18,979 --> 02:30:16,710

they're just going to assume a

3428

02:30:21,200 --> 02:30:18,989

supernatural cause if there wasn't right

3429

02:30:24,649 --> 02:30:21,210

right it reminds me of a Leonard

3430

02:30:27,229 --> 02:30:24,659

Susskind and they you know his quote you

3431

02:30:31,540 --> 02:30:27,239

know well you know what it's it's highly

3432

02:30:34,399 --> 02:30:31,550

unlikely but it could happen

3433

02:30:35,779 --> 02:30:34,409

things like that is it in some way if

3434

02:30:37,760 --> 02:30:35,789

multiverse is correct there is a

3435

02:30:40,279 --> 02:30:37,770

universe right now where giant Gorn

3436

02:30:42,170 --> 02:30:40,289

statue of Thor peor and tomorrow there's

3437

02:30:43,680 --> 02:30:42,180

going to be a gigantic civil war period

3438

02:30:46,381 --> 02:30:43,690

as people you know

3439

02:30:47,671 --> 02:30:46,391

it's convoy over to Norse mythology you

3440

02:30:50,730 --> 02:30:47,681

know that that has really happened

3441

02:30:54,211 --> 02:30:50,740

somewhere you know if it can't happen

3442

02:30:55,770 --> 02:30:54,221

will happen in the multiverse and that

3443

02:30:57,961 --> 02:30:55,780

includes things appear to break the

3444

02:30:59,551 --> 02:30:57,971

physical laws because you could have a

3445

02:31:01,320 --> 02:30:59,561

universe where somebody thought they'd

3446

02:31:02,820 --> 02:31:01,330

created a spaceship that could travel

3447

02:31:04,740 --> 02:31:02,830

faster light when they really created

3448

02:31:06,780 --> 02:31:04,750

one that just blew them up and in that

3449

02:31:09,091 --> 02:31:06,790

universe exact copy of them had

3450

02:31:11,251 --> 02:31:09,101

reassembled somewhere else fashioned

3451
02:31:13,501 --> 02:31:11,261
like a travel and in that particular

3452
02:31:16,650 --> 02:31:13,511
universe every time someone did that

3453
02:31:18,570 --> 02:31:16,660
that's what happened in a multiverse

3454
02:31:21,331 --> 02:31:18,580
that is a place out there where someone

3455
02:31:24,060 --> 02:31:21,341
has a functional FTL system even though

3456
02:31:27,301 --> 02:31:24,070
it's impossible because just by free

3457
02:31:29,310 --> 02:31:27,311
clock that has worked every single time

3458
02:31:31,470 --> 02:31:29,320
someone threw the switch every time they

3459
02:31:32,671 --> 02:31:31,480
hit the Go button let's take a break

3460
02:31:35,461 --> 02:31:32,681
right here our guest tonight

3461
02:31:38,070 --> 02:31:35,471
Isaac Arthur icig everybody I want you

3462
02:31:40,291 --> 02:31:38,080
to congratulate him on Twitter he is

3463
02:31:42,180 --> 02:31:40,301

getting married this Saturday and he is

3464

02:31:44,041 --> 02:31:42,190

taking the time to hang out with all of

3465

02:31:46,381 --> 02:31:44,051

you tonight thank you for that Isaac

3466

02:31:48,030 --> 02:31:46,391

let's go into some overtime this is fade

3467

02:31:50,940 --> 02:31:48,040

to black I am your host Jimmy Church

3468

02:31:53,730 --> 02:31:50,950

that when we come back artificial

3469

02:31:55,051 --> 02:31:53,740

intelligence and the end of everything

3470

02:31:57,010 --> 02:31:55,061

that's right

3471

02:32:14,580 --> 02:31:57,020

stay with us we'll be right back

3472

02:32:17,170 --> 02:32:14,590

[Music]

3473

02:32:20,050 --> 02:32:17,180

biblical volunteer and you are listening

3474

02:32:25,500 --> 02:32:20,060

to my boy Jimmy Church on Jimmy Church

3475

02:32:29,711 --> 02:32:25,510

radio calm this my popular opinion

3476
02:32:34,371 --> 02:32:29,721
reading a book will not make you smarter

3477
02:32:36,200 --> 02:32:34,381
but listening to Jimmy Church will this

3478
02:32:38,841 --> 02:32:36,210
is Jimmy Church a fade to black and I

3479
02:32:42,470 --> 02:32:38,851
take life change T supplements every

3480
02:32:48,200 --> 02:32:42,480
single day it's what I do click on their

3481
02:32:50,211 --> 02:32:48,210
banner ad Jimmy Church radio calm when

3482
02:32:53,240 --> 02:32:50,221
you take the beams from Central America

3483
02:32:55,461 --> 02:32:53,250
with dashes of indonesian and african

3484
02:32:58,520 --> 02:32:55,471
mixed in and then roasted to the dark

3485
02:33:01,910 --> 02:32:58,530
side of fade to black you create the

3486
02:33:04,341 --> 02:33:01,920
ultimate brew of Fringe introducing the

3487
02:33:07,581 --> 02:33:04,351
fade to black blend from river moon

3488
02:33:10,070 --> 02:33:07,591

coffee yes River moons darkest

3489

02:33:12,110 --> 02:33:10,080

customized roast was created for the

3490

02:33:15,110 --> 02:33:12,120

love of fade to black

3491

02:33:17,810 --> 02:33:15,120

the alchemy of masterful roasting and

3492

02:33:21,381 --> 02:33:17,820

smoking the beans is in every sip of

3493

02:33:24,381 --> 02:33:21,391

this full-bodied dark Java I need my

3494

02:33:26,690 --> 02:33:24,391

coffee dog deep with distinct

3495

02:33:29,421 --> 02:33:26,700

bittersweet chocolate highlights just

3496

02:33:31,850 --> 02:33:29,431

like the bunker leaning further into the

3497

02:33:35,121 --> 02:33:31,860

darkness of the roast is fade to black

3498

02:33:36,770 --> 02:33:35,131

blend from river moon coffee just click

3499

02:33:40,070 --> 02:33:36,780

on the banner at Jimmy Church radio.com

3500

02:33:46,001 --> 02:33:40,080

and use the promo code F to B blend for

3501

02:33:49,910 --> 02:33:48,530

hello my name is Billy Carson and I'm

3502

02:33:52,551 --> 02:33:49,920

the best-selling author and the founder

3503

02:33:53,990 --> 02:33:52,561

of forbidden knowledge TV together with

3504

02:33:56,541 --> 02:33:54,000

my team we have built a all new

3505

02:33:58,670 --> 02:33:56,551

conscious TV TV platform designed with

3506

02:34:00,260 --> 02:33:58,680

every family member in mind if you

3507

02:34:01,639 --> 02:34:00,270

wanted to travel the world and attend

3508

02:34:03,139 --> 02:34:01,649

lectures and workshops from your

3509

02:34:04,280 --> 02:34:03,149

favorite speakers we weren't able to

3510

02:34:07,040 --> 02:34:04,290

look no further

3511

02:34:08,900 --> 02:34:07,050

forbidden knowledge dot TV but there are

3512

02:34:10,760 --> 02:34:08,910

dozens of workshops and lectures from

3513

02:34:12,860 --> 02:34:10,770

speakers we know and love we have also

3514

02:34:14,719 --> 02:34:12,870

included amazing categories to ensure

3515

02:34:17,179 --> 02:34:14,729

that your consciousness is entertained

3516

02:34:19,370 --> 02:34:17,189

and elevating on a daily basis amazing

3517

02:34:21,889 --> 02:34:19,380

interviews ancient history essential

3518

02:34:24,349 --> 02:34:21,899

knowledge wisdom teachings documentaries

3519

02:34:26,689 --> 02:34:24,359

conspiracies mysteries health and

3520

02:34:29,059 --> 02:34:26,699

fitness conscious cooking meditations

3521

02:34:31,280 --> 02:34:29,069

finance yoga and so much more to start

3522

02:34:32,570 --> 02:34:31,290

your free trial on any mobile device or

3523

02:34:33,349 --> 02:34:32,580

computer surf they're forbidden

3524

02:34:45,439 --> 02:34:33,359

knowledge

3525

02:34:48,290 --> 02:34:45,449

today are you intrigued by paranormal

3526

02:34:51,740 --> 02:34:48,300

talk radio you love the new paranormal

3527

02:34:53,479 --> 02:34:51,750

radio app from torque stream live you'll

3528

02:34:56,630 --> 02:34:53,489

find a great selection of talk shows

3529

02:34:59,330 --> 02:34:56,640

covering UFOs ghosts strange phenomena

3530

02:35:01,639 --> 02:34:59,340

and much more download the paranormal

3531

02:35:03,260 --> 02:35:01,649

radio app now and start listening to the

3532

02:35:05,059 --> 02:35:03,270

very best in paranormal talk

3533

02:35:07,040 --> 02:35:05,069

entertainment including the network

3534

02:35:09,950 --> 02:35:07,050

you're listening to right now the

3535

02:35:19,490 --> 02:35:09,960

paranormal radio app free in Google Play

3536

02:35:33,750 --> 02:35:23,190

it's not a lifestyle we chose we were

3537

02:35:36,950 --> 02:35:33,760

born this way k GRA radio.com this is k

3538

02:35:50,230 --> 02:35:36,960

JC are Jimmy shirts radiojohn yeah

3539

02:35:53,770 --> 02:35:52,750

welcome back fade to black I am your

3540

02:35:57,490 --> 02:35:53,780

host Jimmy Church

3541

02:36:00,210 --> 02:35:57,500

my guest tonight Isaac Arthur we're

3542

02:36:02,080 --> 02:36:00,220

discussing artificial intelligence and

3543

02:36:03,310 --> 02:36:02,090

everything that's out there starting

3544

02:36:07,000 --> 02:36:03,320

here on earth out throughout the

3545

02:36:10,450 --> 02:36:07,010

universe and we are now at the point

3546

02:36:13,500 --> 02:36:10,460

where in this conversation where when we

3547

02:36:16,120 --> 02:36:13,510

are discussing the size of the universe

3548

02:36:19,090 --> 02:36:16,130

the creation of the universe the

3549

02:36:22,930 --> 02:36:19,100

randomness of that I don't have a

3550

02:36:25,030 --> 02:36:22,940

problem Isaac with with there must be

3551
02:36:31,510 --> 02:36:25,040
something else out there and and and

3552
02:36:36,490 --> 02:36:31,520
time is time is old right time forever

3553
02:36:40,360 --> 02:36:36,500
is a very very big number and the rise

3554
02:36:42,219 --> 02:36:40,370
and fall of universes must happen all

3555
02:36:46,719 --> 02:36:42,229
the time let alone galaxies and Suns

3556
02:36:49,469 --> 02:36:46,729
that that's that's and and Brian green

3557
02:36:54,790 --> 02:36:49,479
in his new book until the end of time

3558
02:36:59,080 --> 02:36:54,800
says one thing that confirms something

3559
02:37:03,280 --> 02:36:59,090
for me that must be a part of everything

3560
02:37:08,800 --> 02:37:03,290
which is particles and the basics of

3561
02:37:11,680 --> 02:37:08,810
everything will end everything will

3562
02:37:15,040 --> 02:37:11,690
eventually break apart and there will be

3563
02:37:18,160 --> 02:37:15,050

nothing left and that includes

3564

02:37:20,680 --> 02:37:18,170

everything right at one point everything

3565

02:37:25,690 --> 02:37:20,690

that binds us together will not have

3566

02:37:27,280 --> 02:37:25,700

that binding it it's a long ways off

3567

02:37:31,510 --> 02:37:27,290

into the future we don't have anything

3568

02:37:34,960 --> 02:37:31,520

to be alarmed about today but this is

3569

02:37:37,510 --> 02:37:34,970

something that is being contemplated

3570

02:37:39,160 --> 02:37:37,520

right now by Brian Greene and others are

3571

02:37:42,190 --> 02:37:39,170

talking about it have you considered

3572

02:37:44,469 --> 02:37:42,200

this oh sure Lena Val with the end of

3573

02:37:46,120 --> 02:37:44,479

time is of course every everything local

3574

02:37:47,170 --> 02:37:46,130

physicists as to throw themselves at

3575

02:37:48,370 --> 02:37:47,180

that problem but I think almost

3576

02:37:51,070 --> 02:37:48,380

everybody does because without

3577

02:37:53,469 --> 02:37:51,080

physicists what comes after the end of

3578

02:37:55,450 --> 02:37:53,479

eternity you know is there a finite

3579

02:37:56,890 --> 02:37:55,460

amount of time or not but we start

3580

02:37:58,330 --> 02:37:56,900

playing with infinity in any way you

3581

02:38:00,100 --> 02:37:58,340

always have to be little bit careful you

3582

02:38:02,230 --> 02:38:00,110

know it's not a real number as an

3583

02:38:02,620 --> 02:38:02,240

example let's say time was infant and

3584

02:38:03,940 --> 02:38:02,630

they

3585

02:38:07,780 --> 02:38:03,950

or just an infinite sequence of

3586

02:38:08,790 --> 02:38:07,790

BIGBANG's but then everything is going

3587

02:38:10,840 --> 02:38:08,800

to happen at some point in time

3588

02:38:13,330 --> 02:38:10,850

including this exact same conversation

3589

02:38:15,340 --> 02:38:13,340

not just once but a million times a

3590

02:38:17,469 --> 02:38:15,350

million times you know and effectively

3591

02:38:19,510 --> 02:38:17,479

infinite number of times

3592

02:38:21,040 --> 02:38:19,520

isn't that effectively the end of the

3593

02:38:22,480 --> 02:38:21,050

universe at that point anyway because

3594

02:38:23,830 --> 02:38:22,490

this is the same thing repeating

3595

02:38:27,219 --> 02:38:23,840

everything that could happen has

3596

02:38:29,830 --> 02:38:27,229

happened so whether it goes on for 10

3597

02:38:32,170 --> 02:38:29,840

more minutes or eternally it's already

3598

02:38:33,760 --> 02:38:32,180

happened every sequence has already been

3599

02:38:37,510 --> 02:38:33,770

played every game of tic-tac-toe

3600

02:38:39,580 --> 02:38:37,520

you know has been played it's done and

3601
02:38:42,070 --> 02:38:39,590
so in that point you don't even need an

3602
02:38:45,060 --> 02:38:42,080
infinite you know space when at that

3603
02:38:48,280 --> 02:38:45,070
time if the universe is infinite in size

3604
02:38:50,170 --> 02:38:48,290
and you could travel you know fashion

3605
02:38:52,360 --> 02:38:50,180
like to get to those other bits you

3606
02:38:54,010 --> 02:38:52,370
never know if it was infinite or curved

3607
02:38:55,660 --> 02:38:54,020
around back on itself like a so-called

3608
02:38:57,490 --> 02:38:55,670
because you'd start encountering bits

3609
02:39:00,250 --> 02:38:57,500
that will exactly identical a bit you'd

3610
02:39:02,380 --> 02:39:00,260
already gone to now the numbers involved

3611
02:39:04,300 --> 02:39:02,390
that also huge that they need exponents

3612
02:39:06,639 --> 02:39:04,310
of exponents to actually be you know

3613
02:39:07,870 --> 02:39:06,649

recognized some of them also big that if

3614

02:39:08,980 --> 02:39:07,880

you actually tried to write that number

3615

02:39:10,810 --> 02:39:08,990

out on paper it would undergo

3616

02:39:14,070 --> 02:39:10,820

gravitational collapse into being a bit

3617

02:39:19,710 --> 02:39:16,719

but you know there are so many ways we

3618

02:39:22,630 --> 02:39:19,720

could say is there a limit to infinity

3619

02:39:25,000 --> 02:39:22,640

and in that kind of context to degree

3620

02:39:26,679 --> 02:39:25,010

yeah if there's an infinite number of

3621

02:39:28,480 --> 02:39:26,689

things that can happen but you have a

3622

02:39:29,920 --> 02:39:28,490

finite value for them to Co and then

3623

02:39:31,840 --> 02:39:29,930

they will just start repeating and if

3624

02:39:33,280 --> 02:39:31,850

something repeats what's the difference

3625

02:39:34,750 --> 02:39:33,290

between suddenly of a pizza over again

3626

02:39:36,340 --> 02:39:34,760

and something that's just cyclical like

3627

02:39:39,250 --> 02:39:36,350

you know time you know we all that

3628

02:39:40,510 --> 02:39:39,260

endlessly repeats but as to whether or

3629

02:39:42,820 --> 02:39:40,520

not all universe will eventually run

3630

02:39:45,219 --> 02:39:42,830

down well based on corn - we'd say yes

3631

02:39:47,020 --> 02:39:45,229

but we get outside of the you know this

3632

02:39:49,690 --> 02:39:47,030

absorber universe in this known set of

3633

02:39:52,630 --> 02:39:49,700

physics we just don't have any events

3634

02:39:54,010 --> 02:39:52,640

not one jot of evidence to to the

3635

02:39:55,630 --> 02:39:54,020

universe being bigger than we think it

3636

02:39:57,490 --> 02:39:55,640

is although it we can probably deduce

3637

02:39:59,290 --> 02:39:57,500

that there's since we'd be in the center

3638

02:40:02,650 --> 02:39:59,300

otherwise or there are other universes

3639

02:40:05,350 --> 02:40:02,660

parallel reality is multi voices

3640

02:40:07,000 --> 02:40:05,360

four dimensional universes 10

3641

02:40:08,650 --> 02:40:07,010

dimensional ones take your pick

3642

02:40:10,360 --> 02:40:08,660

if they are an infinite number of these

3643

02:40:12,370 --> 02:40:10,370

possible places that could exist we

3644

02:40:13,660 --> 02:40:12,380

might call the entrance omble the whole

3645

02:40:16,510 --> 02:40:13,670

grand shebang

3646

02:40:19,060 --> 02:40:16,520

then you know you'd have in infinite

3647

02:40:20,950 --> 02:40:19,070

places where the rules of things like

3648

02:40:22,690 --> 02:40:20,960

gravity didn't function the same or

3649

02:40:25,090 --> 02:40:22,700

there wasn't even something like gravity

3650

02:40:27,040 --> 02:40:25,100

there you know there's inevitable

3651
02:40:28,929 --> 02:40:27,050
possibilities but unless you can

3652
02:40:30,370 --> 02:40:28,939
actually have a go reach them in some

3653
02:40:32,560 --> 02:40:30,380
fashion to tech them and communicate

3654
02:40:34,780 --> 02:40:32,570
with them or travel to them you can kind

3655
02:40:36,280 --> 02:40:34,790
of argue that it's not just semantics to

3656
02:40:38,320 --> 02:40:36,290
all of you that they don't even exist

3657
02:40:41,140 --> 02:40:38,330
because you can never go to them well

3658
02:40:44,469 --> 02:40:41,150
okay so let's flip it over for a second

3659
02:40:46,570 --> 02:40:44,479
let's let's go to the other side all of

3660
02:40:49,000 --> 02:40:46,580
the protons the neutrons electrons

3661
02:40:50,920 --> 02:40:49,010
everything that the constituents of all

3662
02:40:54,190 --> 02:40:50,930
atoms have now broken down there's no

3663
02:40:57,060 --> 02:40:54,200

energy binding them together and the

3664

02:41:03,390 --> 02:40:57,070

existence of everything even the charred

3665

02:41:06,700 --> 02:41:03,400

charcoal dwarf brown dwarf stars are now

3666

02:41:10,450 --> 02:41:06,710

dissolved right and even the black holes

3667

02:41:13,570 --> 02:41:10,460

of decay the iron stoves installs away

3668

02:41:16,660 --> 02:41:13,580

lately everything is gone except now on

3669

02:41:19,240 --> 02:41:16,670

the outside of our universe where there

3670

02:41:22,600 --> 02:41:19,250

is a younger universe that has been

3671

02:41:27,130 --> 02:41:22,610

created and now those civilizations are

3672

02:41:29,440 --> 02:41:27,140

traveling the stars they are still a 10

3673

02:41:30,820 --> 02:41:29,450

trillion years away from dissolving into

3674

02:41:34,120 --> 02:41:30,830

nothingness but they're out there in

3675

02:41:40,390 --> 02:41:34,130

their Isaac Arthur star cruiser and they

3676

02:41:43,600 --> 02:41:40,400

drive through our old part of space but

3677

02:41:45,700 --> 02:41:43,610

there's nothing left here to tell them

3678

02:41:46,960 --> 02:41:45,710

that we ever existed right everybody

3679

02:41:49,960 --> 02:41:46,970

assumes there's going to be some

3680

02:41:52,570 --> 02:41:49,970

remnants of humans but they're gonna

3681

02:41:55,600 --> 02:41:52,580

cruise through here and there will be no

3682

02:41:58,300 --> 02:41:55,610

evidence that we were ever here because

3683

02:41:59,920 --> 02:41:58,310

just like that I mean if they can cruise

3684

02:42:03,250 --> 02:41:59,930

here what couldn't we cruise they don't

3685

02:42:05,560 --> 02:42:03,260

know we existed but that's what I'm

3686

02:42:08,950 --> 02:42:05,570

saying our star cruisers eventually

3687

02:42:10,600 --> 02:42:08,960

dissolve into cosmic dust only if we

3688

02:42:12,730 --> 02:42:10,610

don't got a new source of metal to build

3689

02:42:14,469 --> 02:42:12,740

them off if they can cruise here then we

3690

02:42:16,240 --> 02:42:14,479

could presume leave travels to them if

3691

02:42:17,950 --> 02:42:16,250

there's some universe that would exist

3692

02:42:19,630 --> 02:42:17,960

that could even come here at Ward's then

3693

02:42:22,000 --> 02:42:19,640

why couldn't we travel they oh and get

3694

02:42:24,171 --> 02:42:22,010

some new line orgy material right well

3695

02:42:27,770 --> 02:42:24,181

see that and that's what Brian green

3696

02:42:32,421 --> 02:42:27,780

is is suggesting here that that

3697

02:42:35,930 --> 02:42:32,431

everything around us everything will

3698

02:42:38,961 --> 02:42:35,940

break apart and not exist anymore so we

3699

02:42:40,310 --> 02:42:38,971

wouldn't even have the ships to go

3700

02:42:42,890 --> 02:42:40,320

somewhere else

3701

02:42:45,770 --> 02:42:42,900

into another universe into one of our

3702

02:42:47,751 --> 02:42:45,780

galactic neighbors because those ships

3703

02:42:49,850 --> 02:42:47,761

that were driving on and our BOTS

3704

02:42:51,381 --> 02:42:49,860

everything would just dissolve into

3705

02:42:53,930 --> 02:42:51,391

nothing mm-hmm

3706

02:42:55,850 --> 02:42:53,940

is that depressing is that is that too

3707

02:42:59,121 --> 02:42:55,860

dark of a future even though it's a

3708

02:43:01,430 --> 02:42:59,131

septillion years in the future well in a

3709

02:43:04,220 --> 02:43:01,440

way it's it's easy to picture chaos

3710

02:43:05,390 --> 02:43:04,230

running things down but with the example

3711

02:43:08,421 --> 02:43:05,400

of like black hole based civilizations

3712

02:43:10,071 --> 02:43:08,431

once nobody on Hawking radiation those

3713

02:43:11,631 --> 02:43:10,081

get bright Oh as they get older so

3714

02:43:13,581 --> 02:43:11,641

they're not you know trailing off in

3715

02:43:15,980 --> 02:43:13,591

this universe of cannibalism and fading

3716

02:43:17,841 --> 02:43:15,990

out those but basically they blow up you

3717

02:43:19,881 --> 02:43:17,851

know civilization speeds up as that time

3718

02:43:23,781 --> 02:43:19,891

goes on so they're going out with a bang

3719

02:43:25,611 --> 02:43:23,791

rather than decane out but in the end

3720

02:43:27,890 --> 02:43:25,621

yes in entropy base universe everything

3721

02:43:30,560 --> 02:43:27,900

runs down eventually but you know

3722

02:43:31,881 --> 02:43:30,570

everything already runs down in a local

3723

02:43:34,251 --> 02:43:31,891

sense that's that's more of a

3724

02:43:36,651 --> 02:43:34,261

philosophical issue of nihilism you know

3725

02:43:39,111 --> 02:43:36,661

of doesn't actually matter if the book

3726
02:43:41,511 --> 02:43:39,121
has an end well every book has an end

3727
02:43:43,640 --> 02:43:41,521
and yeah we'd be liked in theory to be

3728
02:43:46,011 --> 02:43:43,650
able to go on forever but if we could go

3729
02:43:47,600 --> 02:43:46,021
on forever no matter what we try to look

3730
02:43:50,211 --> 02:43:47,610
at it from if time goes on infinitely

3731
02:43:52,551 --> 02:43:50,221
then everything repeats anyway if

3732
02:43:54,531 --> 02:43:52,561
everything is just runs infinitely long

3733
02:43:57,621 --> 02:43:54,541
then everything that could happen will

3734
02:44:00,171 --> 02:43:57,631
happen over and over and over again in

3735
02:44:02,511 --> 02:44:00,181
which case again how is that any better

3736
02:44:03,651 --> 02:44:02,521
of a fate you know if the book runs out

3737
02:44:05,661 --> 02:44:03,661
because there's a chapter at the end

3738
02:44:08,151 --> 02:44:05,671

it's polio in the epilogue the book is

3739

02:44:10,850 --> 02:44:08,161

closed last chapter or one that just

3740

02:44:12,381 --> 02:44:10,860

keeps repeating over again um I don't

3741

02:44:14,571 --> 02:44:12,391

know which of those is the more ideal

3742

02:44:16,190 --> 02:44:14,581

universe but if you have an infinite

3743

02:44:18,861 --> 02:44:16,200

amount of time you all just keep

3744

02:44:20,480 --> 02:44:18,871

repeating I don't totally a set amount

3745

02:44:23,121 --> 02:44:20,490

of time the book closes and you know

3746

02:44:23,511 --> 02:44:23,131

right right and I totally agree with

3747

02:44:31,401 --> 02:44:23,521

that

3748

02:44:32,900 --> 02:44:31,411

about it were my excitement kind of

3749

02:44:36,080 --> 02:44:32,910

fades

3750

02:44:39,500 --> 02:44:36,090

is memory and this is where energy gets

3751
02:44:40,930 --> 02:44:39,510
into a play here and consciousness and

3752
02:44:44,511 --> 02:44:40,940
beginning to that whole philosophical

3753
02:44:47,810 --> 02:44:44,521
discussion but in Brian Greene's

3754
02:44:50,060 --> 02:44:47,820
presentation it sounds to me that he is

3755
02:44:52,370 --> 02:44:50,070
implying that even memory and

3756
02:44:55,930 --> 02:44:52,380
consciousness if it's out there existing

3757
02:44:58,250 --> 02:44:55,940
in in clouds of energetic you know

3758
02:45:01,280 --> 02:44:58,260
masses out there in the universe that

3759
02:45:04,640 --> 02:45:01,290
even that will cease to exist that even

3760
02:45:09,591 --> 02:45:04,650
our memory of the past will be no longer

3761
02:45:13,490 --> 02:45:09,601
so in in the repeating of time I don't

3762
02:45:15,920 --> 02:45:13,500
get to enjoy that right you don't get to

3763
02:45:20,000 --> 02:45:15,930

enjoy that we don't even know that the

3764

02:45:22,341 --> 02:45:20,010

repeat is happening we have no idea but

3765

02:45:24,500 --> 02:45:22,351

if you enjoy time opinion anyway if you

3766

02:45:26,420 --> 02:45:24,510

are just going for the computer model

3767

02:45:28,490 --> 02:45:26,430

that you're storing your brain on a big

3768

02:45:31,131 --> 02:45:28,500

computer that takes space and energy to

3769

02:45:32,570 --> 02:45:31,141

run you start cannibalizing old memory

3770

02:45:33,890 --> 02:45:32,580

compressing things that you no longer

3771

02:45:36,980 --> 02:45:33,900

need to remember everything that

3772

02:45:39,320 --> 02:45:36,990

happened and in 2120 you start going to

3773

02:45:40,700 --> 02:45:39,330

the major events you can't oblige your

3774

02:45:42,950 --> 02:45:40,710

whole Drive as matter you can throw it

3775

02:45:45,680 --> 02:45:42,960

at a black hole for more energy and the

3776

02:45:47,210 --> 02:45:45,690

end your last conscious mind in that

3777

02:45:49,160 --> 02:45:47,220

kind of context would be something that

3778

02:45:50,600 --> 02:45:49,170

was just barely conscious enough to be

3779

02:45:53,900 --> 02:45:50,610

aware of the fact that had no memory

3780

02:45:57,470 --> 02:45:53,910

that sounds horrible they effectively a

3781

02:45:58,850 --> 02:45:57,480

type of you know senility that lasts

3782

02:46:02,690 --> 02:45:58,860

minds would be cannibalizing themselves

3783

02:46:03,950 --> 02:46:02,700

into you know the Neo unawareness of the

3784

02:46:06,470 --> 02:46:03,960

own existence since they can't maintain

3785

02:46:08,810 --> 02:46:06,480

a system anymore but the upside is that

3786

02:46:11,270 --> 02:46:08,820

again if it's a Hawking black hole based

3787

02:46:13,850 --> 02:46:11,280

system the power actually goes up at the

3788

02:46:15,080 --> 02:46:13,860

end so you you actually would have the

3789

02:46:16,610 --> 02:46:15,090

energy off to run yourself and just

3790

02:46:18,770 --> 02:46:16,620

choose to go out with a bang as opposed

3791

02:46:19,940 --> 02:46:18,780

to because black holes evaporate they

3792

02:46:21,261 --> 02:46:19,950

get brighter and brighter with time they

3793

02:46:23,360 --> 02:46:21,271

give off more energy until they explode

3794

02:46:25,400 --> 02:46:23,370

if you're running your things that way

3795

02:46:27,261 --> 02:46:25,410

you don't have to go that way you can

3796

02:46:32,480 --> 02:46:27,271

just instead choose to lie that out and

3797

02:46:35,051 --> 02:46:32,490

go you know boom and if so if we go down

3798

02:46:39,591 --> 02:46:35,061

that scenario our artificial

3799

02:46:43,330 --> 02:46:39,601

intelligence memory mine existence over

3800

02:46:45,529 --> 02:46:43,340

time is nothing but error correction

3801
02:46:47,269 --> 02:46:45,539
to some degree and there's the other

3802
02:46:50,479 --> 02:46:47,279
thing is a cast you know it costs energy

3803
02:46:51,920 --> 02:46:50,489
it costs material to maintain yourself

3804
02:46:53,479 --> 02:46:51,930
so that's the biggest part trying you

3805
02:46:56,210 --> 02:46:53,489
something like a hockey radiation based

3806
02:46:58,099 --> 02:46:56,220
computer is how would you manage to

3807
02:46:59,899 --> 02:46:58,109
maintain something that long but you

3808
02:47:01,880 --> 02:46:59,909
could see we be doing our first AG board

3809
02:47:06,139 --> 02:47:01,890
ones where each one was a bit less mass

3810
02:47:08,179 --> 02:47:06,149
than the others but um you are going to

3811
02:47:10,429 --> 02:47:08,189
always with any system eventually run

3812
02:47:12,170 --> 02:47:10,439
down that's not just eat if you could

3813
02:47:13,910 --> 02:47:12,180

find a way around entropy right that's

3814

02:47:15,500 --> 02:47:13,920

what happens is because again we as

3815

02:47:17,750 --> 02:47:15,510

we're saying you would otherwise end up

3816

02:47:19,399 --> 02:47:17,760

with a cyclic model and what's the

3817

02:47:21,469 --> 02:47:19,409

difference between a book that ends and

3818

02:47:23,870 --> 02:47:21,479

one way it's just 100 copies of the

3819

02:47:25,939 --> 02:47:23,880

exact same book with error is is

3820

02:47:27,410 --> 02:47:25,949

Shakespeare going on are we learning

3821

02:47:29,000 --> 02:47:27,420

more about this or that book series

3822

02:47:32,450 --> 02:47:29,010

because someone's reprinted that same

3823

02:47:38,870 --> 02:47:32,460

book a million times and with with

3824

02:47:41,029 --> 02:47:38,880

misspelled words yeah it is the infant

3825

02:47:43,099 --> 02:47:41,039

monkeys type item solution you get every

3826

02:47:44,540 --> 02:47:43,109

last snow possible that way right you

3827

02:47:46,189 --> 02:47:44,550

have every possible book that's written

3828

02:47:48,200 --> 02:47:46,199

and it gets written millions of times

3829

02:47:50,330 --> 02:47:48,210

and rather than just be a complete book

3830

02:47:51,740 --> 02:47:50,340

you know it's not a sequel to make a

3831

02:47:53,689 --> 02:47:51,750

copy of the same book you know it's got

3832

02:47:55,519 --> 02:47:53,699

a minor flaw to it then mine or to

3833

02:47:57,710 --> 02:47:55,529

change to it especially when all those

3834

02:48:00,559 --> 02:47:57,720

books have been written so even without

3835

02:48:02,929 --> 02:48:00,569

entropy you do have an effective end to

3836

02:48:05,660 --> 02:48:02,939

eternity just because it just repeats

3837

02:48:07,899 --> 02:48:05,670

man I love entropy it's like the best

3838

02:48:09,080 --> 02:48:07,909

word ever it's like the best or whatever

3839

02:48:11,899 --> 02:48:09,090

okay

3840

02:48:13,160 --> 02:48:11,909

now let's let's let's quote again I'm

3841

02:48:15,620 --> 02:48:13,170

gonna thank you for taking the time

3842

02:48:17,990 --> 02:48:15,630

you're getting married this week man and

3843

02:48:20,840 --> 02:48:18,000

thank you for this now let's let's get

3844

02:48:22,399 --> 02:48:20,850

let's get into a heavier philosophical

3845

02:48:28,670 --> 02:48:22,409

issue here you brought this up earlier

3846

02:48:33,229 --> 02:48:28,680

about the duplicate you being on a hard

3847

02:48:36,769 --> 02:48:33,239

drive or on a [h__h] whatever the example

3848

02:48:39,889 --> 02:48:36,779

of that when I hear very intelligent

3849

02:48:44,540 --> 02:48:39,899

people out there discuss this they leave

3850

02:48:47,899 --> 02:48:44,550

out one core component which is let's

3851
02:48:51,229 --> 02:48:47,909
just say you Isaac or Bill Gates or

3852
02:48:55,341 --> 02:48:51,239
whoever has put themselves into an

3853
02:48:58,940 --> 02:48:55,351
android right to live forever

3854
02:49:06,440 --> 02:48:58,950
we're gonna be immortal but you Isaac

3855
02:49:09,051 --> 02:49:06,450
Arthur don't enjoy that the new you is

3856
02:49:12,741 --> 02:49:09,061
often running creating new memories and

3857
02:49:16,161 --> 02:49:12,751
a new life you still exist in your brain

3858
02:49:19,730 --> 02:49:16,171
it's not like you are now

3859
02:49:21,741 --> 02:49:19,740
immortal it's a copy it's a copy right

3860
02:49:24,591 --> 02:49:21,751
there's puppies legitimating me as I am

3861
02:49:27,131 --> 02:49:24,601
but it's still a copy I'm still you

3862
02:49:30,261 --> 02:49:27,141
don't get to enjoy the world of Tron

3863
02:49:32,360 --> 02:49:30,271

mm-hmm right you-you-you have to live in

3864

02:49:35,121 --> 02:49:32,370

your existing meat soup

3865

02:49:36,890 --> 02:49:35,131

yep the copy of me is again it's as

3866

02:49:38,690 --> 02:49:36,900

validly me as I am but we've got a

3867

02:49:40,341 --> 02:49:38,700

divorce rate quickly and I'm still they

3868

02:49:42,261 --> 02:49:40,351

are you might use copies to back

3869

02:49:43,671 --> 02:49:42,271

yourself up and it is basically a life

3870

02:49:45,591 --> 02:49:43,681

insurance policy because we don't just

3871

02:49:46,911 --> 02:49:45,601

live for so you might make a copy so

3872

02:49:47,930 --> 02:49:46,921

that someone could raise your kids or

3873

02:49:50,451 --> 02:49:47,940

something happened to you

3874

02:49:51,770 --> 02:49:50,461

right but yeah you all finite in that

3875

02:49:54,261 --> 02:49:51,780

sense you can't just copy your brain

3876
02:49:56,390 --> 02:49:54,271
over and then leave a copy and yeah you

3877
02:49:57,711 --> 02:49:56,400
could maybe born your brain up as y-you

3878
02:49:59,331 --> 02:49:57,721
were you know you vaporize or while

3879
02:50:00,531 --> 02:49:59,341
you're making the copy but that just

3880
02:50:02,470 --> 02:50:00,541
means you destroy the original copy

3881
02:50:04,881 --> 02:50:02,480
while you're making the new one our

3882
02:50:06,350 --> 02:50:04,891
brains do replace themselves you know

3883
02:50:08,810 --> 02:50:06,360
the neurons change with time there was

3884
02:50:10,281 --> 02:50:08,820
that gradual placement so that might be

3885
02:50:12,560 --> 02:50:10,291
an approach that people found more

3886
02:50:15,171 --> 02:50:12,570
palatable was to just replace one neuron

3887
02:50:16,520 --> 02:50:15,181
at a time with somebody artificial and

3888
02:50:18,321 --> 02:50:16,530

if you can upload your mind to a

3889

02:50:19,821 --> 02:50:18,331

computer there's always you can't upload

3890

02:50:21,890 --> 02:50:19,831

your mind to a computer in your own head

3891

02:50:24,201 --> 02:50:21,900

it could even be using regular neurons

3892

02:50:25,491 --> 02:50:24,211

I mean we have cellular pay off if we

3893

02:50:26,930 --> 02:50:25,501

just give that a little bit of help we

3894

02:50:28,970 --> 02:50:26,940

might not need to upload our brains on

3895

02:50:30,860 --> 02:50:28,980

to eat or chip B it on a distant

3896

02:50:33,890 --> 02:50:30,870

computer network or inside our own brain

3897

02:50:35,600 --> 02:50:33,900

then just replace those neurons but

3898

02:50:37,581 --> 02:50:35,610

that's probably the only way you can

3899

02:50:40,341 --> 02:50:37,591

really achieve immortality for the self

3900

02:50:42,921 --> 02:50:40,351

but again that copy of you if it's if

3901

02:50:46,161 --> 02:50:42,931

it's if it's a proper copy it is still

3902

02:50:47,751 --> 02:50:46,171

you it's just you know you know you

3903

02:50:49,251 --> 02:50:47,761

don't get to see but you can copy

3904

02:50:53,091 --> 02:50:49,261

anymore right you don't get to

3905

02:50:56,211 --> 02:50:53,101

experience that e ticket at Disneyland

3906

02:50:59,421 --> 02:50:56,221

it does that voice you're using a way

3907

02:51:01,041 --> 02:50:59,431

could be like wow I'm immortal now as I

3908

02:51:01,970 --> 02:51:01,051

see it walked and it's gonna turn around

3909

02:51:05,421 --> 02:51:01,980

look at you in the chair and be like Oh

3910

02:51:07,190 --> 02:51:05,431

what do we decide we're gonna do on that

3911

02:51:08,190 --> 02:51:07,200

one and in my own case I actually have a

3912

02:51:10,650 --> 02:51:08,200

set protocol for

3913

02:51:15,390 --> 02:51:10,660

we just changed the bill name to a be a

3914

02:51:18,261 --> 02:51:15,400

CD etc and so we just write well see

3915

02:51:21,180 --> 02:51:18,271

when I hear this deep philosophical

3916

02:51:22,950 --> 02:51:21,190

question I coming from an interviewer

3917

02:51:25,341 --> 02:51:22,960

which I've done it myself

3918

02:51:28,381 --> 02:51:25,351

okay I'm guilty of it but would you

3919

02:51:30,720 --> 02:51:28,391

upload yourself onto a hard drive my

3920

02:51:33,480 --> 02:51:30,730

answer today is not what it was before

3921

02:51:37,110 --> 02:51:33,490

well I had to sit and think about these

3922

02:51:41,341 --> 02:51:37,120

deep write these deep questions it's a

3923

02:51:45,560 --> 02:51:41,351

who cares who gives a crap sure I will

3924

02:51:49,261 --> 02:51:45,570

I'm not being uploaded a copy of me is

3925

02:51:52,080 --> 02:51:49,271

but I'm still here in my physical self

3926

02:51:54,360 --> 02:51:52,090

in this 3d reality that I call Burbank

3927

02:51:56,341 --> 02:51:54,370

California I'm not only do it as a

3928

02:51:57,450 --> 02:51:56,351

frozen copy right the biggest thing is

3929

02:51:59,490 --> 02:51:57,460

people tend to overlook something

3930

02:52:00,631 --> 02:51:59,500

downsize this for instance it sounds

3931

02:52:01,980 --> 02:52:00,641

neat to have somebody who's gonna help

3932

02:52:03,600 --> 02:52:01,990

you out with your walk especially for

3933

02:52:05,730 --> 02:52:03,610

those who are so mostly computerized or

3934

02:52:07,650 --> 02:52:05,740

you know thought based walk right but

3935

02:52:09,600 --> 02:52:07,660

they also gonna want to spend time with

3936

02:52:12,301 --> 02:52:09,610

your friends spend time your spouse or

3937

02:52:13,500 --> 02:52:12,311

your loved ones and after a little while

3938

02:52:15,091 --> 02:52:13,510

and that might get to be a little bit

3939

02:52:16,350 --> 02:52:15,101

aggravating especially as you devolve

3940

02:52:17,881 --> 02:52:16,360

it's your very different lives to that

3941

02:52:19,680 --> 02:52:17,891

point in time you know it's like two

3942

02:52:21,450 --> 02:52:19,690

twins they're not really the same person

3943

02:52:23,580 --> 02:52:21,460

again I'm not after that for a few

3944

02:52:25,500 --> 02:52:23,590

minutes even because that's pretty life

3945

02:52:28,080 --> 02:52:25,510

shocky event is only beyond a computer -

3946

02:52:29,640 --> 02:52:28,090

so you're gonna divorce very quickly but

3947

02:52:31,410 --> 02:52:29,650

they're kind of in the way a bit yeah

3948

02:52:33,660 --> 02:52:31,420

you know you want to have a cop yourself

3949

02:52:36,330 --> 02:52:33,670

that way you have a kid yeah yeah

3950

02:52:39,240 --> 02:52:36,340

exactly have at it and you bring up such

3951
02:52:43,200 --> 02:52:39,250
a great point you would divert the

3952
02:52:46,710 --> 02:52:43,210
divergence would be so quick and you

3953
02:52:49,470 --> 02:52:46,720
would your new version of yourself would

3954
02:52:52,591 --> 02:52:49,480
be so far removed from your personality

3955
02:52:54,120 --> 02:52:52,601
like instantaneous right right now which

3956
02:52:56,131 --> 02:52:54,130
one of you is the real one the question

3957
02:52:57,600 --> 02:52:56,141
is doesn't even matter what and what do

3958
02:53:00,060 --> 02:52:57,610
they make a copy of themselves is that

3959
02:53:02,820 --> 02:53:00,070
copy another copy of you or a copy of

3960
02:53:04,381 --> 02:53:02,830
them or it just gets confusing but we

3961
02:53:06,030 --> 02:53:04,391
actually didn't Episode on that and me

3962
02:53:07,140 --> 02:53:06,040
myself and I cloning and duplication

3963
02:53:09,390 --> 02:53:07,150

just try to look of all the crazy

3964

02:53:11,220 --> 02:53:09,400

scenarios that would believe it but the

3965

02:53:13,140 --> 02:53:11,230

only time I can see people doing it I

3966

02:53:15,540 --> 02:53:13,150

mean I'm sure some folks would do it

3967

02:53:18,091 --> 02:53:15,550

just because like let's say you met two

3968

02:53:19,350 --> 02:53:18,101

people and you really wanted to oh you

3969

02:53:20,580 --> 02:53:19,360

really want to go into business as an

3970

02:53:21,389 --> 02:53:20,590

artist but you also want to keep your

3971

02:53:23,670 --> 02:53:21,399

day job you might

3972

02:53:26,010 --> 02:53:23,680

copy yourself to see what that was like

3973

02:53:27,779 --> 02:53:26,020

but that's a lot like raising your kids

3974

02:53:29,670 --> 02:53:27,789

vicariously to do the thing you never

3975

02:53:31,409 --> 02:53:29,680

did and but whether or not that's

3976

02:53:33,779 --> 02:53:31,419

ethical some people would still do that

3977

02:53:36,359 --> 02:53:33,789

they might do it for colonizing planets

3978

02:53:37,859 --> 02:53:36,369

too because they're so so devotion at

3979

02:53:39,899 --> 02:53:37,869

that point in time those personalities

3980

02:53:41,639 --> 02:53:39,909

separated by like Leo's that who cares

3981

02:53:43,439 --> 02:53:41,649

you could send the same team of a

3982

02:53:45,659 --> 02:53:43,449

thousand people to a million different

3983

02:53:46,649 --> 02:53:45,669

solar systems and their copies and it'd

3984

02:53:48,359 --> 02:53:46,659

still be different

3985

02:53:50,580 --> 02:53:48,369

have you just modified the crew a little

3986

02:53:52,739 --> 02:53:50,590

bit you say you're not poor two thousand

3987

02:53:54,529 --> 02:53:52,749

volunteers and you send a thousand

3988

02:53:56,699 --> 02:53:54,539

randomly selected for the right jobs

3989

02:53:58,170 --> 02:53:56,709

there were no actions on that trip and

3990

02:54:00,659 --> 02:53:58,180

when they get that alien Ward are gonna

3991

02:54:02,849 --> 02:54:00,669

be so divulging that there are different

3992

02:54:07,800 --> 02:54:02,859

people yeah they would have a revolution

3993

02:54:11,969 --> 02:54:07,810

on they would have black markets mafia

3994

02:54:14,609 --> 02:54:11,979

and in the Illuminati all running in the

3995

02:54:17,279 --> 02:54:14,619

virtual world see this is the things the

3996

02:54:19,889 --> 02:54:17,289

divergent part of it running off into

3997

02:54:24,719 --> 02:54:19,899

another direction I could see you know

3998

02:54:27,599 --> 02:54:24,729

20 minutes later I email the virtual

3999

02:54:30,569 --> 02:54:27,609

Isaac Arthur right hey man what's going

4000

02:54:31,199 --> 02:54:30,579

on eh I'm too busy I'm taking over the

4001

02:54:33,029 --> 02:54:31,209

world

4002

02:54:35,880 --> 02:54:33,039

I'm plotting you know what I mean you

4003

02:54:37,469 --> 02:54:35,890

would just go off the next women about

4004

02:54:39,120 --> 02:54:37,479

the time thing being a bit we are too

4005

02:54:40,529 --> 02:54:39,130

though as a member we could it can speed

4006

02:54:42,960 --> 02:54:40,539

its brain up so the writing was apply to

4007

02:54:44,340 --> 02:54:42,970

that email anyway you know it's it's

4008

02:54:45,689 --> 02:54:44,350

gonna be busy doing a lot of things but

4009

02:54:47,639 --> 02:54:45,699

it presumably has time to answer my

4010

02:54:48,719 --> 02:54:47,649

emails those are the best kind to

4011

02:54:50,279 --> 02:54:48,729

because it doesn't have to listen to the

4012

02:54:53,040 --> 02:54:50,289

entire conversations but of a million

4013

02:54:54,630 --> 02:54:53,050

Ford you know you don't have a new your

4014

02:54:56,550 --> 02:54:54,640

time of being busy if you need a little

4015

02:54:57,779 --> 02:54:56,560

bit extra processing power especially

4016

02:54:59,309 --> 02:54:57,789

because it's always gonna cost you about

4017

02:55:01,439 --> 02:54:59,319

extra energy to run faster because it's

4018

02:55:03,269 --> 02:55:01,449

more heat here out of you know you're

4019

02:55:05,309 --> 02:55:03,279

never too busy you just speed up how

4020

02:55:06,510 --> 02:55:05,319

quickly you're clocking especially it's

4021

02:55:08,159 --> 02:55:06,520

kind of networked intelligence but

4022

02:55:09,960 --> 02:55:08,169

you're kind of buying computational time

4023

02:55:11,670 --> 02:55:09,970

you need a little extra time you buy it

4024

02:55:13,139 --> 02:55:11,680

so now you're running a million times

4025

02:55:15,029 --> 02:55:13,149

faster instead of half a million times

4026
02:55:17,219 --> 02:55:15,039
faster for a few minutes while you deal

4027
02:55:19,139 --> 02:55:17,229
with other problem is you know you don't

4028
02:55:20,519 --> 02:55:19,149
have a set of minutes how you just have

4029
02:55:22,319 --> 02:55:20,529
the amount of time you can pay for in

4030
02:55:24,809 --> 02:55:22,329
terms of our gene competition and the

4031
02:55:28,050 --> 02:55:24,819
other part about it that I find

4032
02:55:30,859 --> 02:55:28,060
fascinating is that all of the duplicate

4033
02:55:32,620 --> 02:55:30,869
versions the divergent versions of us

4034
02:55:37,720 --> 02:55:32,630
would

4035
02:55:41,230 --> 02:55:37,730
in their mind have a version of

4036
02:55:45,520 --> 02:55:41,240
themselves write an emoji they would

4037
02:55:49,751 --> 02:55:45,530
have an avatar and could you imagine the

4038
02:55:53,200 --> 02:55:49,761

Isaac Arthur part do what that avatar

4039

02:55:56,080 --> 02:55:53,210

would be how how it pictures itself I

4040

02:55:57,791 --> 02:55:56,090

would be terribly amiss if I didn't give

4041

02:56:00,490 --> 02:55:57,801

a quick plug to my friend Dennis he

4042

02:56:02,470 --> 02:56:00,500

Taylor was Bob of our series he

4043

02:56:04,211 --> 02:56:02,480

basically it's a it's an example their

4044

02:56:05,440 --> 02:56:04,221

way is uploaded mind that wakes up

4045

02:56:07,060 --> 02:56:05,450

centuries they don't have to have been

4046

02:56:08,770 --> 02:56:07,070

frozen and they made a copy of the brain

4047

02:56:10,870 --> 02:56:08,780

instead of you know a sign amount and

4048

02:56:13,330 --> 02:56:10,880

it's sent us topo

4049

02:56:15,490 --> 02:56:13,340

to colonize the galaxy and it has to

4050

02:56:16,990 --> 02:56:15,500

deal with all those you know iterations

4051

02:56:19,360 --> 02:56:17,000

of these people becoming their own

4052

02:56:21,400 --> 02:56:19,370

personality right and as each step gets

4053

02:56:22,690 --> 02:56:21,410

cloned more and more times the devotions

4054

02:56:25,450 --> 02:56:22,700

is so great that it barely even

4055

02:56:28,961 --> 02:56:25,460

resembles the original anymore and it's

4056

02:56:30,791 --> 02:56:28,971

a very great series but that's the

4057

02:56:32,801 --> 02:56:30,801

Constitution doing with there is I think

4058

02:56:35,381 --> 02:56:32,811

the cue mind is if you look at human DNA

4059

02:56:37,810 --> 02:56:35,391

our human brain it's basic form the

4060

02:56:40,930 --> 02:56:37,820

difference genetically between me and my

4061

02:56:43,480 --> 02:56:40,940

kid oh and any other human is so tiny in

4062

02:56:46,690 --> 02:56:43,490

terms of our DNA compared to say a tree

4063

02:56:48,700 --> 02:56:46,700

I we are so close together then if you

4064

02:56:50,650 --> 02:56:48,710

took our DNA code and ruled out as dots

4065

02:56:52,511 --> 02:56:50,660

on a book filling a library

4066

02:56:54,850 --> 02:56:52,521

you'd have to hunt through several

4067

02:56:55,570 --> 02:56:54,860

volumes to find one digit off between

4068

02:56:57,640 --> 02:56:55,580

two people

4069

02:57:00,131 --> 02:56:57,650

we already clones and duplicates of each

4070

02:57:01,660 --> 02:57:00,141

other that's what devotions is so we

4071

02:57:03,881 --> 02:57:01,670

talked about making a copy of a mind

4072

02:57:05,530 --> 02:57:03,891

and the mental aspect is yes a little

4073

02:57:07,381 --> 02:57:05,540

bit title then that is because you don't

4074

02:57:10,330 --> 02:57:07,391

have that for developmental time but

4075

02:57:11,740 --> 02:57:10,340

there's a huge divorce and people do

4076
02:57:13,780 --> 02:57:11,750
resemble each other a lot you know horse

4077
02:57:14,921 --> 02:57:13,790
face of psychology and sociology is I

4078
02:57:17,171 --> 02:57:14,931
mean a certain set patterns we go

4079
02:57:19,480 --> 02:57:17,181
through mm-hmm in copies of the same

4080
02:57:21,461 --> 02:57:19,490
basic mind like yours mile gotta keep a

4081
02:57:24,660 --> 02:57:21,471
lot of the same personality traits but

4082
02:57:27,461 --> 02:57:24,670
it is fundamentally that same kind of

4083
02:57:29,501 --> 02:57:27,471
divorce we already see inside humanity

4084
02:57:31,870 --> 02:57:29,511
or inside individual cultures there was

4085
02:57:35,110 --> 02:57:31,880
so much similar but so much different

4086
02:57:38,230 --> 02:57:35,120
now before I say goodnight one simple

4087
02:57:41,620 --> 02:57:38,240
question would you have your brain

4088
02:57:43,900 --> 02:57:41,630

frozen I actually probably would just

4089

02:57:44,849 --> 02:57:43,910

out of curiosity I was gonna die anyway

4090

02:57:49,229 --> 02:57:44,859

yeah

4091

02:57:51,090 --> 02:57:49,239

I would do it too now what okay so the

4092

02:57:53,969 --> 02:57:51,100

answer is yes the answer is yes for me

4093

02:57:57,300 --> 02:57:53,979

too when do you have it unfrozen when

4094

02:58:01,290 --> 02:57:57,310

the disease and things are cured or do

4095

02:58:01,679 --> 02:58:01,300

you have it done 5,000 years in the

4096

02:58:04,559 --> 02:58:01,689

future

4097

02:58:07,199 --> 02:58:04,569

Oh as soon as they felt that they could

4098

02:58:09,210 --> 02:58:07,209

there was a 99% chance that my

4099

02:58:11,779 --> 02:58:09,220

stipulation and I am somewhat chance of

4100

02:58:13,529 --> 02:58:11,789

a story me without any major damage and

4101
02:58:14,849 --> 02:58:13,539
if they reach the point where they said

4102
02:58:16,349 --> 02:58:14,859
they couldn't do better than that and

4103
02:58:18,779 --> 02:58:16,359
yes go ahead and waking up then or even

4104
02:58:20,130 --> 02:58:18,789
with the damage but I cuz I don't want

4105
02:58:22,139 --> 02:58:20,140
to see that I can't do myself foes and

4106
02:58:25,229 --> 02:58:22,149
again if I want to go take a big jump

4107
02:58:28,679 --> 02:58:25,239
for two time it's just got a leapfrog

4108
02:58:32,040 --> 02:58:28,689
through time hi yeah exactly

4109
02:58:33,569 --> 02:58:32,050
Ill would five hundred thousand years in

4110
02:58:35,909 --> 02:58:33,579
the future would that be cool just to

4111
02:58:37,939 --> 02:58:35,919
wake up for the shock of it Isaac thank

4112
02:58:40,139 --> 02:58:37,949
you so much was interesting for me he's

4113
02:58:42,960 --> 02:58:40,149

thank you so much for the conversation

4114

02:58:46,319 --> 02:58:42,970

tonight I have to ask you this is a

4115

02:58:49,409 --> 02:58:46,329

weird travel time what does that do for

4116

02:58:51,300 --> 02:58:49,419

your honeymoon well we are going to a

4117

02:58:53,099 --> 02:58:51,310

fairly remote place to begin with so we

4118

02:58:55,170 --> 02:58:53,109

had engaged in social isolation they oh

4119

02:58:56,849 --> 02:58:55,180

and just looking mostly to rest up any

4120

02:59:00,330 --> 02:58:56,859

wake has been so busy the last month or

4121

02:59:02,519 --> 02:59:00,340

two so hopefully with minimal problems

4122

02:59:04,769 --> 02:59:02,529

but we will see well not always

4123

02:59:06,630 --> 02:59:04,779

accommodates chaos even outside a case

4124

02:59:08,969 --> 02:59:06,640

like this there's always something that

4125

02:59:12,179 --> 02:59:08,979

comes off yeah so are you're gonna fly

4126
02:59:13,739 --> 02:59:12,189
are you staying close enough in case we

4127
02:59:16,500 --> 02:59:13,749
had to respond to an emergency but we'll

4128
02:59:18,599 --> 02:59:16,510
be traveling a little bit just by call

4129
02:59:20,159 --> 02:59:18,609
that's what I'm talking about so you are

4130
02:59:22,679 --> 02:59:20,169
going to be able to have a little

4131
02:59:24,719 --> 02:59:22,689
honeymoon yeah at least we hope so and

4132
02:59:27,389 --> 02:59:24,729
we'll just accommodate whatever chaos

4133
02:59:28,619 --> 02:59:27,399
comes up with that congratulations man

4134
02:59:31,109 --> 02:59:28,629
and thank you for the conversation

4135
02:59:33,300 --> 02:59:31,119
tonight Isaac I look forward to doing it

4136
02:59:34,739 --> 02:59:33,310
again very soon now always glad to be on

4137
02:59:37,529 --> 02:59:34,749
Jimmy thanks for having me you're the

4138
02:59:38,069 --> 02:59:37,539

best Isaac Arthur one pole to pole Thank

4139

02:59:42,149 --> 02:59:38,079

You Isaac

4140

02:59:43,979 --> 02:59:42,159

and I am gonna run credits and get out

4141

02:59:45,899 --> 02:59:43,989

of here I want to remind everybody it's

4142

02:59:48,689 --> 02:59:45,909

very simple you need to go to Isaac's

4143

02:59:52,290 --> 02:59:48,699

YouTube channel and just head to Isaac

4144

02:59:55,229 --> 02:59:52,300

Arthur dotnet and right now you have

4145

02:59:57,710 --> 02:59:55,239

nothing to do the best thing for you to

4146

03:00:01,099 --> 02:59:57,720

do is get your learn on go

4147

03:00:03,620 --> 03:00:01,109

Isaac Arthur dotnet and his YouTube

4148

03:00:06,710 --> 03:00:03,630

channel which is one of the best it is

4149

03:00:08,540 --> 03:00:06,720

the reason to have the Internet is right

4150

03:00:11,269 --> 03:00:08,550

there for you and if you need to go and

4151
03:00:13,760 --> 03:00:11,279
search for it it's called a science and

4152
03:00:15,860 --> 03:00:13,770
futurism with Isaac Arthur right there

4153
03:00:17,450 --> 03:00:15,870
on YouTube with that I'm gonna get out

4154
03:00:20,090 --> 03:00:17,460
of here I want to remind everybody

4155
03:00:23,630 --> 03:00:20,100
what's going on tomorrow right here

4156
03:00:25,910 --> 03:00:23,640
dr. Manu say is Vinay is here we're

4157
03:00:29,150 --> 03:00:25,920
gonna be talking about lost history and

4158
03:00:32,179 --> 03:00:29,160
the ancient technology of the Egyptians

4159
03:00:33,950 --> 03:00:32,189
the who what when where and why who

4160
03:00:36,769 --> 03:00:33,960
built the pyramids we're gonna do all of

4161
03:00:38,840 --> 03:00:36,779
that tomorrow night I am your host Jimmy

4162
03:00:41,059 --> 03:00:38,850
Church fade to black executive producer

4163
03:00:42,860 --> 03:00:41,069

is Riddick Murray on shows produced by

4164

03:00:44,719 --> 03:00:42,870

Hill J palm Renee Dennis and Kevin

4165

03:00:47,420 --> 03:00:44,729

announcers are Steve Carter Jean Patou

4166

03:00:50,510 --> 03:00:47,430

mrديو bar webmaster is drew the geek

4167

03:00:53,389 --> 03:00:50,520

music doug aldrich intro space voice

4168

03:00:55,420 --> 03:00:53,399

bass boy music calm fade to black is

4169

03:00:59,090 --> 03:00:55,430

produced by kjsurya productions

4170

03:01:01,610 --> 03:00:59,100

indication as kg ra the planet this

4171

03:01:03,440 --> 03:01:01,620

podcast on the copyright of 2020 by paid

4172

03:01:05,990 --> 03:01:03,450

to black in the game changer network inc

4173

03:01:07,460 --> 03:01:06,000

it cannot be rebroadcast downloaded

4174

03:01:09,559 --> 03:01:07,470

copied or used anywhere in the known

4175

03:01:11,360 --> 03:01:09,569

universe without written permission from

4176

03:01:13,370 --> 03:01:11,370

beta block of the game changing over

4177

03:01:15,229 --> 03:01:13,380

time use to be Church very special

4178

03:01:17,389 --> 03:01:15,239

thanks to Isaac Arthur I'll see

4179

03:01:18,400 --> 03:01:17,399

everybody tomorrow night until then be

4180

03:01:23,120 --> 03:01:18,410

safe