



1
00:00:27,339 --> 00:00:16,080

[Music]

2
00:00:29,170 --> 00:00:27,349

hi yes so what I'd like to talk about is

3
00:00:32,319 --> 00:00:29,180

something that I think is actually

4
00:00:36,130 --> 00:00:32,329

familiar to to all of us in this room in

5
00:00:39,100 --> 00:00:36,140

that all of us as many of the speakers

6
00:00:41,440 --> 00:00:39,110

have been saying so far our conscious

7
00:00:43,930 --> 00:00:41,450

and the question is what is that

8
00:00:46,450 --> 00:00:43,940

consciousness what does it mean how does

9
00:00:49,170 --> 00:00:46,460

it come to exist and how does it relate

10
00:00:54,160 --> 00:00:49,180

to the physical universe and how do we

11
00:00:57,010 --> 00:00:54,170

relate to each other now to look at the

12
00:00:59,680 --> 00:00:57,020

first question and say what actually is

13
00:01:02,830 --> 00:00:59,690

consciousness I think it's important to

14

00:01:04,800 --> 00:01:02,840

clarify that there's a distinction an

15

00:01:09,069 --> 00:01:04,810

important distinction between

16

00:01:10,929 --> 00:01:09,079

consciousness and information so we

17

00:01:14,910 --> 00:01:10,939

could be conscious of information but

18

00:01:18,399 --> 00:01:14,920

information of itself isn't conscious as

19

00:01:23,080 --> 00:01:18,409

demonstrated by the robot experiment

20

00:01:24,580 --> 00:01:23,090

that Dean Radin was was demonstrating so

21

00:01:26,319 --> 00:01:24,590

there's something more to it and that a

22

00:01:28,719 --> 00:01:26,329

lot of people will say that

23

00:01:31,120 --> 00:01:28,729

consciousness is just what happens when

24

00:01:33,959 --> 00:01:31,130

you have something that has self

25

00:01:38,349 --> 00:01:33,969

reference that is receiving information

26
00:01:41,050 --> 00:01:38,359
about itself but my analogy that I would

27
00:01:45,010 --> 00:01:41,060
use to in my mind at least refute that

28
00:01:49,169 --> 00:01:45,020
is just simply well if you remember I'm

29
00:01:51,730 --> 00:01:49,179
Stein's thought experiment was with the

30
00:01:55,419 --> 00:01:51,740
traveling along it on earth at the speed

31
00:01:57,849 --> 00:01:55,429
of light with a mirror and he's pointing

32
00:02:00,099 --> 00:01:57,859
the light at the mirror and can he see

33
00:02:01,870 --> 00:02:00,109
the light back again well just think of

34
00:02:05,099 --> 00:02:01,880
a slightly different version of it and

35
00:02:09,339 --> 00:02:05,109
it's a lot simpler have a camera

36
00:02:13,660 --> 00:02:09,349
pointing at a mirror okay the camera is

37
00:02:14,949 --> 00:02:13,670
receiving information about itself from

38
00:02:18,190 --> 00:02:14,959

the mirror it's recording that

39

00:02:20,210 --> 00:02:18,200

information - some people would say it's

40

00:02:22,580 --> 00:02:20,220

observing the information

41

00:02:25,310 --> 00:02:22,590

that make the camera conscious does that

42

00:02:27,860 --> 00:02:25,320

make it aware and if it doesn't what is

43

00:02:31,040 --> 00:02:27,870

it that's different about us as sentient

44

00:02:33,620 --> 00:02:31,050

beings that is actually different to

45

00:02:35,600 --> 00:02:33,630

that camera and what I would suggest in

46

00:02:37,280 --> 00:02:35,610

the people trying to understand through

47

00:02:39,230 --> 00:02:37,290

new consciousness through neurobiology

48

00:02:42,770 --> 00:02:39,240

how the brains become conscious

49

00:02:44,860 --> 00:02:42,780

I would suggest brains do not become

50

00:02:48,410 --> 00:02:44,870

conscious brains are not conscious

51
00:02:51,170 --> 00:02:48,420
anymore than when you turn your radio on

52
00:02:56,120 --> 00:02:51,180
and hear your favorite song the radio is

53
00:02:58,370 --> 00:02:56,130
singing to you okay the radio through

54
00:03:01,790 --> 00:02:58,380
its its structure and how its formed is

55
00:03:04,670 --> 00:03:01,800
able to detect that information that's

56
00:03:07,130 --> 00:03:04,680
in the song and you're able to hear it

57
00:03:09,620 --> 00:03:07,140
but the fact that and and you can say

58
00:03:12,440 --> 00:03:09,630
and neurobiologists will say but if you

59
00:03:14,300 --> 00:03:12,450
do things to the brain then you can you

60
00:03:16,160 --> 00:03:14,310
can do things that change consciousness

61
00:03:17,780 --> 00:03:16,170
so therefore it must have made it well

62
00:03:20,090 --> 00:03:17,790
you can detune the radio and you won't

63
00:03:23,840 --> 00:03:20,100

hear the song but it doesn't prove that

64

00:03:27,350 --> 00:03:23,850

the radio was singing now I would

65

00:03:29,540 --> 00:03:27,360

suggest that to truly understand the

66

00:03:31,580 --> 00:03:29,550

mind we have to understand it in the

67

00:03:37,460 --> 00:03:31,590

context that we perceive it in and we

68

00:03:40,220 --> 00:03:37,470

perceive it always here and now so here

69

00:03:42,259 --> 00:03:40,230

is where we are and now is is when we

70

00:03:44,780 --> 00:03:42,269

are it seems like a sort of obvious

71

00:03:49,190 --> 00:03:44,790

statement to make but there's a lot more

72

00:03:52,310 --> 00:03:49,200

to it than meets the eye initially what

73

00:03:55,850 --> 00:03:52,320

what do we actually mean by now now if

74

00:03:59,420 --> 00:03:55,860

you look at physics and the description

75

00:04:03,910 --> 00:03:59,430

of time in physics in in relativity for

76
00:04:07,850 --> 00:04:03,920
example or even in Newtonian physics

77
00:04:11,380 --> 00:04:07,860
there is nothing to define now there's

78
00:04:14,420 --> 00:04:11,390
nothing to define a present the whole of

79
00:04:16,159 --> 00:04:14,430
past present and future the Big Bang to

80
00:04:19,219 --> 00:04:16,169
the heat death of the universe might as

81
00:04:21,860 --> 00:04:19,229
well be one big global altogether with

82
00:04:24,969 --> 00:04:21,870
nowhere in there a cursor if you like

83
00:04:29,390 --> 00:04:24,979
pointing at a moment that we call now

84
00:04:31,940 --> 00:04:29,400
also the laws of physics don't say that

85
00:04:33,900 --> 00:04:31,950
time flows in fact what does it even

86
00:04:37,020 --> 00:04:33,910
mean for time to flow how can you have

87
00:04:41,130 --> 00:04:37,030
one second per second and yet somehow we

88
00:04:42,780 --> 00:04:41,140

seem to be aware of changing present

89

00:04:44,490 --> 00:04:42,790

we're always in the now as Schrodinger

90

00:04:47,690 --> 00:04:44,500

said the present is the only thing that

91

00:04:51,150 --> 00:04:47,700

has no end we're always in the now and

92

00:04:53,220 --> 00:04:51,160

the past exists within the now as the

93

00:04:55,770 --> 00:04:53,230

the definition of what how things have

94

00:04:59,220 --> 00:04:55,780

become through causes and conditions

95

00:05:01,080 --> 00:04:59,230

that our previous and the future is the

96

00:05:06,180 --> 00:05:01,090

future because it's not there yet so

97

00:05:08,400 --> 00:05:06,190

it's potential possibilities and this is

98

00:05:10,590 --> 00:05:08,410

I think absolutely crucial that we can't

99

00:05:12,840 --> 00:05:10,600

understand time I would argue unless we

100

00:05:16,290 --> 00:05:12,850

understand the mind and when we do

101
00:05:19,590 --> 00:05:16,300
perhaps we might see how the mind and

102
00:05:23,720 --> 00:05:19,600
matter are related now one important

103
00:05:26,220 --> 00:05:23,730
thing to say is that in terms of the

104
00:05:28,980 --> 00:05:26,230
experiments with the with the very

105
00:05:32,040 --> 00:05:28,990
important and experiments with the with

106
00:05:35,250 --> 00:05:32,050
the robot against the human how

107
00:05:37,440 --> 00:05:35,260
something artificial if you like isn't

108
00:05:42,180 --> 00:05:37,450
able to have the same effect in quantum

109
00:05:44,760 --> 00:05:42,190
terms as as a living mind I think it's

110
00:05:47,160 --> 00:05:44,770
it was a good idea for us to consider

111
00:05:50,750 --> 00:05:47,170
that in the context of where we are at

112
00:05:53,850 --> 00:05:50,760
present in our current technological

113
00:05:55,560 --> 00:05:53,860

post-industrial revolution world in fact

114

00:05:57,720 --> 00:05:55,570

I'm not sure about here in the States

115

00:06:01,670 --> 00:05:57,730

but I know both in Oxford and in

116

00:06:03,480 --> 00:06:01,680

Cambridge in in the UK there are

117

00:06:06,120 --> 00:06:03,490

organizations that have been set up by

118

00:06:08,580 --> 00:06:06,130

the faculties of those institutions

119

00:06:11,790 --> 00:06:08,590

looking at what they call existential

120

00:06:13,860 --> 00:06:11,800

risk the risk - what are the biggest

121

00:06:15,990 --> 00:06:13,870

risks that could affect our survival as

122

00:06:18,659 --> 00:06:16,000

a species and both of those two

123

00:06:20,930 --> 00:06:18,669

institutions have said that one of the

124

00:06:24,540 --> 00:06:20,940

biggest risks may well not be natural

125

00:06:26,070 --> 00:06:24,550

through asteroids or whatever and it

126
00:06:29,730 --> 00:06:26,080
might not be that we will blow ourselves

127
00:06:32,400 --> 00:06:29,740
up although we could do but one of the

128
00:06:34,230 --> 00:06:32,410
biggest risks might be through the

129
00:06:37,290 --> 00:06:34,240
effects of technology that we haven't

130
00:06:39,300 --> 00:06:37,300
yet predicted so unless we understand

131
00:06:41,969 --> 00:06:39,310
what it is that distinguishes us as

132
00:06:44,340 --> 00:06:41,979
living sentient beings from those robots

133
00:06:46,140 --> 00:06:44,350
from those machines then there's always

134
00:06:47,390 --> 00:06:46,150
the danger that we'll fall into this

135
00:06:49,580 --> 00:06:47,400
trap

136
00:06:51,469 --> 00:06:49,590
of thinking that if we are just

137
00:06:53,749 --> 00:06:51,479
information then we might as well just

138
00:06:56,810 --> 00:06:53,759

upload that information into some kind

139

00:06:59,570 --> 00:06:56,820

of mechanical device and then that's us

140

00:07:01,520 --> 00:06:59,580

we've got eternal existence well I would

141

00:07:03,200 --> 00:07:01,530

put it to you that the experiment with

142

00:07:06,110 --> 00:07:03,210

the robots proves that there is a

143

00:07:11,150 --> 00:07:06,120

distinction between a collection of

144

00:07:16,159 --> 00:07:11,160

information and under sentient being so

145

00:07:19,010 --> 00:07:16,169

to consider then in time as the three

146

00:07:21,200 --> 00:07:19,020

things that were important to understand

147

00:07:23,150 --> 00:07:21,210

time as I say there's a now there's

148

00:07:25,870 --> 00:07:23,160

which is the the present moment so I've

149

00:07:29,180 --> 00:07:25,880

just look at that first now

150

00:07:33,670 --> 00:07:29,190

Evon Schrodinger had something very

151
00:07:40,810 --> 00:07:33,680
important to say about now and the mind

152
00:07:44,750 --> 00:07:40,820
he said that the mind is always now and

153
00:07:47,089 --> 00:07:44,760
that actually time itself is generated

154
00:07:49,430 --> 00:07:47,099
as a result of the mind this is in his

155
00:07:50,540 --> 00:07:49,440
book called what his life published by

156
00:07:54,920 --> 00:07:50,550
Cambridge University Press

157
00:07:58,339 --> 00:07:54,930
now he derived from this the notion that

158
00:08:01,029 --> 00:07:58,349
since time is a product and property of

159
00:08:06,589 --> 00:08:01,039
mind that the converse cannot be true

160
00:08:09,529 --> 00:08:06,599
that mind cannot begin or end in time it

161
00:08:12,469 --> 00:08:09,539
must be eternal and he said I therefore

162
00:08:15,290 --> 00:08:12,479
proposed the indestructibility of mind

163
00:08:17,930 --> 00:08:15,300

by time that which mind has created

164

00:08:21,950 --> 00:08:17,940

cannot bring mine to the fore nor can it

165

00:08:24,200 --> 00:08:21,960

destroy it and as I say the laws of

166

00:08:26,629 --> 00:08:24,210

physics in themselves don't account for

167

00:08:30,050 --> 00:08:26,639

that now and the other point about

168

00:08:31,850 --> 00:08:30,060

consciousness is that all of us are now

169

00:08:35,949 --> 00:08:31,860

whether we're in different reference

170

00:08:38,870 --> 00:08:35,959

frames experiencing different subjective

171

00:08:43,399 --> 00:08:38,880

space-like or the time like realities or

172

00:08:46,190 --> 00:08:43,409

whatever each of us is still now to

173

00:08:50,480 --> 00:08:46,200

ourselves and each of our consciousness

174

00:08:54,199 --> 00:08:50,490

is in a sense identical in the sense of

175

00:08:56,120 --> 00:08:54,209

being aware what differs is the content

176

00:08:59,420 --> 00:08:56,130

of our awareness what differs is our

177

00:09:00,980 --> 00:08:59,430

different memories and we're all the

178

00:09:03,500 --> 00:09:00,990

same arguably if we

179

00:09:05,329 --> 00:09:03,510

possess such a thing as freedom of

180

00:09:09,889 --> 00:09:05,339

choice and I'll argue later why I think

181

00:09:12,980 --> 00:09:09,899

we do then each of us is instrumental

182

00:09:15,410 --> 00:09:12,990

and influential in determining the act

183

00:09:17,780 --> 00:09:15,420

events and structure of existence and

184

00:09:19,610 --> 00:09:17,790

the universe through how we make our

185

00:09:22,670 --> 00:09:19,620

choices so but we differ from each other

186

00:09:26,530 --> 00:09:22,680

in what we're aware of and what memories

187

00:09:31,100 --> 00:09:26,540

we have and in in what choices we make

188

00:09:34,760 --> 00:09:31,110

now the next thing about time is the the

189

00:09:37,340 --> 00:09:34,770

flow of time what we perceive as the

190

00:09:40,370 --> 00:09:37,350

moving now if you like the the ticking

191

00:09:43,579 --> 00:09:40,380

clock now

192

00:09:47,030 --> 00:09:43,589

Professor Roger Penrose made the point

193

00:09:49,400 --> 00:09:47,040

that consciousness is the only thing

194

00:09:54,639 --> 00:09:49,410

that we know of for which time needs to

195

00:09:58,850 --> 00:09:54,649

flow at all see if you have for example

196

00:10:02,840 --> 00:09:58,860

a bouncing ball that moves in a parabola

197

00:10:05,750 --> 00:10:02,850

in a time-space diagram as it as it

198

00:10:08,360 --> 00:10:05,760

bounces that's according to Newton's

199

00:10:11,480 --> 00:10:08,370

laws well those laws have the whole of

200

00:10:13,819 --> 00:10:11,490

the parabola there all at once they

201
00:10:15,590 --> 00:10:13,829
don't account for how there's a moment

202
00:10:17,300 --> 00:10:15,600
when it's in a particular position or

203
00:10:19,639 --> 00:10:17,310
the fact that it's moving all of it

204
00:10:23,269 --> 00:10:19,649
exists together and and this is a point

205
00:10:25,670 --> 00:10:23,279
that Lee Smolin made in his book the

206
00:10:27,680 --> 00:10:25,680
trouble with physics is that he feels

207
00:10:29,900 --> 00:10:27,690
that you know if we're ever going to

208
00:10:33,680 --> 00:10:29,910
find how quantum mechanics and

209
00:10:35,569 --> 00:10:33,690
relativity marry together then we're

210
00:10:39,530 --> 00:10:35,579
going to have to unravel the this

211
00:10:42,980 --> 00:10:39,540
seeming mystery of time how it is that

212
00:10:46,250 --> 00:10:42,990
there can be and now how it is that that

213
00:10:49,819 --> 00:10:46,260

time seems to flow and Andrei Linde oh

214

00:10:52,360 --> 00:10:49,829

I'm not far away in the he's professor

215

00:10:54,889 --> 00:10:52,370

of physics at the University of Stanford

216

00:10:57,260 --> 00:10:54,899

made the point that if you look at the

217

00:10:58,810 --> 00:10:57,270

the Weiner to it equation for the

218

00:11:02,420 --> 00:10:58,820

quantum wave function of the universe

219

00:11:04,190 --> 00:11:02,430

okay as many of you know the total

220

00:11:06,110 --> 00:11:04,200

energy of the universe if you subtract

221

00:11:08,690 --> 00:11:06,120

the negative energy related to gravity

222

00:11:11,030 --> 00:11:08,700

is zero and it's always been zero from

223

00:11:12,230 --> 00:11:11,040

the Big Bang until now everything adds

224

00:11:13,590 --> 00:11:12,240

up to nothingness

225

00:11:16,319 --> 00:11:13,600

okay but

226

00:11:18,150 --> 00:11:16,329

then when you in the equation it which

227

00:11:20,340 --> 00:11:18,160

is the derivation of the Schrodinger

228

00:11:22,199 --> 00:11:20,350

equation if the energy is zero the rate

229

00:11:24,569 --> 00:11:22,209

of change is zero nothing should change

230

00:11:27,150 --> 00:11:24,579

so he said that from the equations we

231

00:11:32,550 --> 00:11:27,160

have a dead universe nothing happens and

232

00:11:34,379 --> 00:11:32,560

it never began but it all makes sense to

233

00:11:37,650 --> 00:11:34,389

some extent if you remember that there's

234

00:11:39,840 --> 00:11:37,660

an observer so then when you're

235

00:11:43,230 --> 00:11:39,850

observing the rest of the universe if

236

00:11:45,360 --> 00:11:43,240

you have 70 kilos oh sorry that's a

237

00:11:49,230 --> 00:11:45,370

hundred and something pounds here of

238

00:11:51,540 --> 00:11:49,240

weight then the the rest of the universe

239

00:11:54,480 --> 00:11:51,550

has minus that amount of weight if you

240

00:11:57,329 --> 00:11:54,490

like and so because it has mass it has

241

00:11:59,430 --> 00:11:57,339

energy and therefore therefore it can

242

00:12:01,590 --> 00:11:59,440

change with that and and and he actually

243

00:12:04,110 --> 00:12:01,600

put it in his in his textbook on

244

00:12:06,569 --> 00:12:04,120

inflationary cosmology the consciousness

245

00:12:10,189 --> 00:12:06,579

must be fundamental to to the the

246

00:12:12,720 --> 00:12:10,199

physical universe and apparently his

247

00:12:14,430 --> 00:12:12,730

publisher said please don't include that

248

00:12:15,809 --> 00:12:14,440

if you do you'll lose the respect of all

249

00:12:17,999 --> 00:12:15,819

your friends and colleagues and he said

250

00:12:19,790 --> 00:12:18,009

if I don't include it I'll lose my own

251
00:12:23,220 --> 00:12:19,800
self-respect

252
00:12:25,590 --> 00:12:23,230
okay so the fact that time flows or

253
00:12:27,540 --> 00:12:25,600
anything can change is only possible

254
00:12:32,150 --> 00:12:27,550
because of consciousness then the other

255
00:12:37,800 --> 00:12:32,160
point about time is origins if you like

256
00:12:43,139 --> 00:12:37,810
so what is the boundary condition of the

257
00:12:45,329 --> 00:12:43,149
of the physical universe now the second

258
00:12:47,970 --> 00:12:45,339
law of thermodynamics tells us that it

259
00:12:50,639 --> 00:12:47,980
had to come from there must have been

260
00:12:53,370 --> 00:12:50,649
order in the distant past otherwise we

261
00:12:58,050 --> 00:12:53,380
can't account for how there can be an

262
00:12:59,790 --> 00:12:58,060
arrow of time now and so there's always

263
00:13:04,829 --> 00:12:59,800

the question of you know where did that

264

00:13:08,550 --> 00:13:04,839

or to come from and so then the question

265

00:13:12,780 --> 00:13:08,560

also remains if consciousness is a

266

00:13:14,189 --> 00:13:12,790

Schrodinger argued is eternal has no

267

00:13:18,840 --> 00:13:14,199

beginning and has no end

268

00:13:22,019 --> 00:13:18,850

then we exist or rather better way of

269

00:13:25,590 --> 00:13:22,029

putting it is sentience exists even

270

00:13:26,670 --> 00:13:25,600

without universe is needing to needing

271

00:13:29,250 --> 00:13:26,680

to exist

272

00:13:32,519 --> 00:13:29,260

now how are the two related then how is

273

00:13:37,230 --> 00:13:32,529

sentience and physicality and the

274

00:13:42,180 --> 00:13:37,240

physical universe related well there's a

275

00:13:47,940 --> 00:13:42,190

point that was made by David Bohm about

276
00:13:50,250 --> 00:13:47,950
mutter actually being frozen light okay

277
00:13:52,050 --> 00:13:50,260
so at the speed of light or anything

278
00:13:55,250 --> 00:13:52,060
that moves at the speed of light in

279
00:14:00,480 --> 00:13:55,260
other words has no mass no rest mass

280
00:14:02,579 --> 00:14:00,490
then you have no space and no time

281
00:14:04,590 --> 00:14:02,589
intervals you get to where you're going

282
00:14:07,579 --> 00:14:04,600
instantly as you're leaving it and

283
00:14:10,530 --> 00:14:07,589
you're you're in all places at once and

284
00:14:13,290 --> 00:14:10,540
it's only when you come away from that

285
00:14:15,210 --> 00:14:13,300
that it's frozen into location and

286
00:14:17,910 --> 00:14:15,220
matter and he said that in there is

287
00:14:21,389 --> 00:14:17,920
answer to why does he think that light

288
00:14:25,230 --> 00:14:21,399

is such a common metaphor that's used to

289

00:14:27,269 --> 00:14:25,240

describe the spiritual experience and

290

00:14:30,570 --> 00:14:27,279

now if we're talking about sentient

291

00:14:33,540 --> 00:14:30,580

being being eternal and the mind not

292

00:14:36,750 --> 00:14:33,550

being made by the brain then that's

293

00:14:38,820 --> 00:14:36,760

quite interesting because if you look at

294

00:14:41,340 --> 00:14:38,830

some of the evidence for the

295

00:14:44,490 --> 00:14:41,350

continuation of the of the mind beyond

296

00:14:46,410 --> 00:14:44,500

the the death of the brain in for

297

00:14:49,970 --> 00:14:46,420

example in near-death experiences where

298

00:14:52,470 --> 00:14:49,980

the brain waves are actually flat and as

299

00:14:54,750 --> 00:14:52,480

research by fennec and others has shown

300

00:14:56,699 --> 00:14:54,760

the mind is still taking on new

301
00:15:00,630 --> 00:14:56,709
information and laying down new memories

302
00:15:02,340 --> 00:15:00,640
during that time there seems like quite

303
00:15:07,860 --> 00:15:02,350
a common experience that people have

304
00:15:09,660 --> 00:15:07,870
this sense of a light and the common

305
00:15:13,140 --> 00:15:09,670
descriptions of that light that they

306
00:15:17,519 --> 00:15:13,150
perceive is that it contains all

307
00:15:19,110 --> 00:15:17,529
knowledge and and all compassion that

308
00:15:22,050 --> 00:15:19,120
they find it feels as though the

309
00:15:24,240 --> 00:15:22,060
lightest is caring for them but they and

310
00:15:28,050 --> 00:15:24,250
all the people that they know and care

311
00:15:31,949 --> 00:15:28,060
about are in some sense one with them in

312
00:15:33,810 --> 00:15:31,959
that light now that's quite interesting

313
00:15:36,960 --> 00:15:33,820

in terms of a question of how do

314

00:15:38,620 --> 00:15:36,970

physical universes happen and why does

315

00:15:41,560 --> 00:15:38,630

consciousness exist

316

00:15:44,590 --> 00:15:41,570

in separate locations that we call you

317

00:15:47,140 --> 00:15:44,600

and me because if you try an experiment

318

00:15:50,200 --> 00:15:47,150

and you try to for a moment just be

319

00:15:52,660 --> 00:15:50,210

aware of the fact that not what you're

320

00:15:57,610 --> 00:15:52,670

aware of but the fact that you're aware

321

00:15:59,860 --> 00:15:57,620

that as the this is a point that seems

322

00:16:02,890 --> 00:15:59,870

to have been lost on on neuroscience and

323

00:16:06,160 --> 00:16:02,900

it's still in many senses in there in

324

00:16:08,170 --> 00:16:06,170

the in the Dark Ages but actually this

325

00:16:11,650 --> 00:16:08,180

notion of awareness being deeper than

326

00:16:13,360 --> 00:16:11,660

sensory perceptions exists in text many

327

00:16:15,730 --> 00:16:13,370

thousands of years ago I think it was in

328

00:16:18,460 --> 00:16:15,740

the in the upon assured that that

329

00:16:22,270 --> 00:16:18,470

somebody referred to the the eye of the

330

00:16:24,010 --> 00:16:22,280

eye and the ear of the ear so we're

331

00:16:25,720 --> 00:16:24,020

we're we always want to study

332

00:16:27,730 --> 00:16:25,730

consciousness by looking at what we

333

00:16:30,070 --> 00:16:27,740

perceive but the the most fascinating

334

00:16:32,710 --> 00:16:30,080

thing of all as I says I think is not

335

00:16:38,080 --> 00:16:32,720

the information but the fact that that

336

00:16:40,660 --> 00:16:38,090

we can perceive that information now the

337

00:16:44,200 --> 00:16:40,670

the point how this I think this ties in

338

00:16:46,540 --> 00:16:44,210

to to time and to enter consciousness is

339

00:16:49,480 --> 00:16:46,550

that the fundamental ingredients of that

340

00:16:55,690 --> 00:16:49,490

consciousness I think many people would

341

00:16:57,700 --> 00:16:55,700

agree our awareness and will so you that

342

00:16:59,710 --> 00:16:57,710

you perceive that's the you receive

343

00:17:01,180 --> 00:16:59,720

information and you're aware of that

344

00:17:03,820 --> 00:17:01,190

information and being aware of those

345

00:17:07,059 --> 00:17:03,830

options empowers you to be able to make

346

00:17:08,650 --> 00:17:07,069

choices between those options and in

347

00:17:11,679 --> 00:17:08,660

making choices between those options

348

00:17:14,829 --> 00:17:11,689

you're exercising freedom of will and so

349

00:17:16,420 --> 00:17:14,839

mind is therefore perhaps collapsing the

350

00:17:21,100 --> 00:17:16,430

wave equation and that's potential

351

00:17:25,510 --> 00:17:21,110

becoming actual mind is also making the

352

00:17:27,579 --> 00:17:25,520

the now real and are therefore accessing

353

00:17:29,350 --> 00:17:27,589

the potentiality of the of the future

354

00:17:32,650 --> 00:17:29,360

and choosing between those

355

00:17:38,680 --> 00:17:32,660

potentialities by by the exercise of

356

00:17:41,020 --> 00:17:38,690

free will and that perhaps this state of

357

00:17:45,460 --> 00:17:41,030

existence that we're in rather than

358

00:17:49,000 --> 00:17:45,470

necessarily being a virtual creation may

359

00:17:51,039 --> 00:17:49,010

actually be real and that what we have

360

00:17:53,409 --> 00:17:51,049

actually perhaps done

361

00:17:55,749 --> 00:17:53,419

remember that space is just another word

362

00:17:57,850 --> 00:17:55,759

for separation without space there's no

363

00:17:59,769 --> 00:17:57,860

separation without separation there's no

364

00:18:02,259 --> 00:17:59,779

space it's just the separation of points

365

00:18:04,629 --> 00:18:02,269

basically and separation it defines our

366

00:18:06,879 --> 00:18:04,639

points our locations of consciousness

367

00:18:08,379 --> 00:18:06,889

and so it's interesting to look at

368

00:18:11,169 --> 00:18:08,389

consciousness from the point of view of

369

00:18:12,999 --> 00:18:11,179

separation against Union so on the one

370

00:18:14,680 --> 00:18:13,009

hand the most separate form you can

371

00:18:16,899 --> 00:18:14,690

imagine would be and the extreme would

372

00:18:18,549 --> 00:18:16,909

be a psychopath someone who has has no

373

00:18:19,930 --> 00:18:18,559

empathy when they look at other people

374

00:18:21,519 --> 00:18:19,940

they don't know they're not aware that

375

00:18:23,109 --> 00:18:21,529

there's someone viewing from behind

376

00:18:26,470 --> 00:18:23,119

those eyes they just see a lump of flesh

377

00:18:28,330 --> 00:18:26,480

that they can you know cause to have

378

00:18:31,180 --> 00:18:28,340

great suffering and it doesn't matter to

379

00:18:34,229 --> 00:18:31,190

them and then on the other extreme you

380

00:18:38,229 --> 00:18:34,239

have people that actually are aware that

381

00:18:40,659 --> 00:18:38,239

all sentient beings perceive just like

382

00:18:44,739 --> 00:18:40,669

they perceive and have have compassion

383

00:18:46,359 --> 00:18:44,749

towards those and perhaps that might be

384

00:18:48,399 --> 00:18:46,369

their antidote to the second law of

385

00:18:51,159 --> 00:18:48,409

thermodynamics that breaks everything

386

00:18:53,470 --> 00:18:51,169

apart and perhaps will will break us

387

00:18:57,039 --> 00:18:53,480

apart if we if we let it either through

388

00:19:00,450 --> 00:18:57,049

developing technology that Loui lose

389

00:19:04,060 --> 00:19:00,460

sight of our of our humanity perhaps and

390

00:19:06,940 --> 00:19:04,070

so I would suggest that that that that

391

00:19:10,239 --> 00:19:06,950

light that people see in the near death

392

00:19:13,419 --> 00:19:10,249

experiences best testament to the the

393

00:19:16,629 --> 00:19:13,429

fact that our perhaps our origins lie in

394

00:19:18,909 --> 00:19:16,639

a state that was once altogether that

395

00:19:22,060 --> 00:19:18,919

perhaps it was a choice to be separate

396

00:19:24,729 --> 00:19:22,070

that actually is responsible for making

397

00:19:26,859 --> 00:19:24,739

physical universes and that we enhance

398

00:19:29,109 --> 00:19:26,869

our potential and we've become greater

399

00:19:30,849 --> 00:19:29,119

in terms of what we can perceive and

400

00:19:33,519 --> 00:19:30,859

that options available to us and freer

401
00:19:36,729 --> 00:19:33,529
when we become more inclusive and and

402
00:19:39,399 --> 00:19:36,739
have respect and value towards towards

403
00:19:41,859 --> 00:19:39,409
all sentient life you know whatever

404
00:19:45,789 --> 00:19:41,869
people's background and so on that we

405
00:19:49,859 --> 00:19:45,799
see that all humanity is basically of

406
00:19:55,389 --> 00:19:49,869
the same origin as us and has the same

407
00:20:07,449 --> 00:19:55,399
fundamentally limitless potential okay

408
00:20:21,090 --> 00:20:10,429
thank you very much Andrew some

409
00:20:30,180 --> 00:20:24,590
so we don't have a definition of time

410
00:20:34,490 --> 00:20:30,190
those vibration of cesium atoms are

411
00:20:40,020 --> 00:20:34,500
measuring just something that dilates or

412
00:20:43,770 --> 00:20:40,030
shrinks according to our disposition if

413
00:20:46,680 --> 00:20:43,780

we were bored it dilates if we're in

414

00:20:49,260 --> 00:20:46,690

love or we do something that we really

415

00:20:56,250 --> 00:20:49,270

like and we're in the flow like

416

00:21:01,230 --> 00:20:56,260

mahalakshmi highly defined the flow how

417

00:21:04,039 --> 00:21:01,240

you integrate this expansion or

418

00:21:08,820 --> 00:21:04,049

shrinking of time according to our

419

00:21:11,070 --> 00:21:08,830

disposition in your theory of time sure

420

00:21:14,370 --> 00:21:11,080

well what I'm what I'm actually talking

421

00:21:17,010 --> 00:21:14,380

about isn't the sort of how we the units

422

00:21:19,620 --> 00:21:17,020

of time that we measure in in terms of

423

00:21:22,440 --> 00:21:19,630

the the ticks of a clock so much I'm

424

00:21:24,630 --> 00:21:22,450

talking about the fact that the time is

425

00:21:27,029 --> 00:21:24,640

there at all the fact that there is a

426

00:21:30,779 --> 00:21:27,039

now the fact that the the direction of

427

00:21:34,860 --> 00:21:30,789

the apparent flow of time from from

428

00:21:37,620 --> 00:21:34,870

order into chaos and also the origins of

429

00:21:41,130 --> 00:21:37,630

where it might have come from so I think

430

00:21:43,350 --> 00:21:41,140

it's always difficult to to measure a

431

00:21:45,750 --> 00:21:43,360

rate of a flow of something against

432

00:21:48,060 --> 00:21:45,760

itself because to say one second per

433

00:21:49,680 --> 00:21:48,070

second doesn't doesn't really doesn't

434

00:21:53,159 --> 00:21:49,690

really mean very much a lot it wasn't

435

00:21:55,560 --> 00:21:53,169

really addressing that sort of

436

00:21:58,080 --> 00:21:55,570

subjective right but clearly when some

437

00:22:01,740 --> 00:21:58,090

when you're paying more attention to

438

00:22:04,770 --> 00:22:01,750

something then it seems to because

439

00:22:07,500 --> 00:22:04,780

there's more points of notice then it

440

00:22:09,330 --> 00:22:07,510

seems that more happens in that time so

441

00:22:11,190 --> 00:22:09,340

in a car crash everything seems to go in

442

00:22:13,200 --> 00:22:11,200

slow motion so so there are those

443

00:22:16,440 --> 00:22:13,210

psychological effects in terms of the

444

00:22:18,539 --> 00:22:16,450

the meter age of the the rate of flow of

445

00:22:21,029 --> 00:22:18,549

time but but I thought what I find more

446

00:22:22,980 --> 00:22:21,039

fascinating is the fact that we're there

447

00:22:24,930 --> 00:22:22,990

at all that we exist what the conscious

448

00:22:28,529 --> 00:22:24,940

within within that that there is a now

449

00:22:30,539 --> 00:22:28,539

and that change happens at all and what

450

00:22:32,880 --> 00:22:30,549

overall direction that is and whether we

451
00:22:34,360 --> 00:22:32,890
have any say over that direction which

452
00:22:38,410 --> 00:22:34,370
perhaps might be

453
00:22:40,450 --> 00:22:38,420
whether it's union or separation that

454
00:22:43,540 --> 00:22:40,460
perhaps that the second law of

455
00:22:50,590 --> 00:22:43,550
thermodynamics is simply that initial

456
00:22:54,070 --> 00:22:50,600
choice to separate followed to it thank

457
00:22:59,400 --> 00:22:54,080
you for your insight a couple of years

458
00:23:05,610 --> 00:22:59,410
ago Tononi a psychiatrist made the point

459
00:23:08,680 --> 00:23:05,620
that any system consisting of a body of

460
00:23:13,930 --> 00:23:08,690
information and a central processing

461
00:23:16,960 --> 00:23:13,940
facility is conscious it's regarding

462
00:23:22,210 --> 00:23:16,970
your statement that information is not

463
00:23:25,470 --> 00:23:22,220

consciousness his interpretation stands

464

00:23:29,740 --> 00:23:25,480

alongside that I'm suggesting that

465

00:23:33,180 --> 00:23:29,750

consciousness may be self-aware or may

466

00:23:38,530 --> 00:23:33,190

not be self-aware any thoughts on that

467

00:23:39,970 --> 00:23:38,540

well I would say that the if we really

468

00:23:42,310 --> 00:23:39,980

think the test for whether we really

469

00:23:44,110 --> 00:23:42,320

think that and something that processes

470

00:23:47,169 --> 00:23:44,120

information is conscious and aware in

471

00:23:48,700 --> 00:23:47,179

the same sense as we are is do we hold

472

00:23:50,799 --> 00:23:48,710

that view strongly enough that we would

473

00:23:53,860 --> 00:23:50,809

consider it an act of murder to unplug

474

00:23:56,200 --> 00:23:53,870

the computer that's doing that for me

475

00:23:59,380 --> 00:23:56,210

and the computer that processing

476
00:24:04,030 --> 00:23:59,390
information is no less a machine than a

477
00:24:06,190 --> 00:24:04,040
lever is a machine that it's however

478
00:24:09,250 --> 00:24:06,200
complicated we make it it's still a

479
00:24:11,169 --> 00:24:09,260
still a machine and we can have a

480
00:24:13,210 --> 00:24:11,179
sophisticated information gathering

481
00:24:15,820 --> 00:24:13,220
mechanism as we want for example in a

482
00:24:17,770 --> 00:24:15,830
very high resolution high-tech camera

483
00:24:20,410 --> 00:24:17,780
and pointed at the mirror so that it's

484
00:24:24,070 --> 00:24:20,420
receiving information about itself but

485
00:24:26,110 --> 00:24:24,080
but for me that would not mean that you

486
00:24:28,360 --> 00:24:26,120
know I would consider anyone switching

487
00:24:28,960 --> 00:24:28,370
the camera off to be killing it or the

488
00:24:34,180 --> 00:24:28,970

other

489

00:24:35,980 --> 00:24:34,190

that's there and I think you know it's

490

00:24:37,510 --> 00:24:35,990

it's fascinating to see that there may

491

00:24:39,430 --> 00:24:37,520

be actually be some experimental

492

00:24:41,350 --> 00:24:39,440

evidence for that in what in what Dean

493

00:24:44,560 --> 00:24:41,360

Radin presented earlier and

494

00:24:46,850 --> 00:24:44,570

interestingly I was reading one of the

495

00:24:49,160 --> 00:24:46,860

ins books earlier and

496

00:24:51,350 --> 00:24:49,170

he did a very helpful meta-analysis of

497

00:24:53,240 --> 00:24:51,360

all the research on outside that showed

498

00:24:56,330 --> 00:24:53,250

that the chance of it happening by

499

00:24:59,660 --> 00:24:56,340

chance was something like 10 to the

500

00:25:03,530 --> 00:24:59,670

power of 104 to 1 against which is like

501
00:25:05,450 --> 00:25:03,540
if we choose a lottery number at random

502
00:25:07,280 --> 00:25:05,460
a set of lottery numbers and we win the

503
00:25:09,289 --> 00:25:07,290
jackpot and then we do the same next

504
00:25:10,640 --> 00:25:09,299
week with another random set and the

505
00:25:12,470 --> 00:25:10,650
same the following week and then for the

506
00:25:14,510 --> 00:25:12,480
fourth week for an encore what we do is

507
00:25:16,190 --> 00:25:14,520
we say right out of all the hundreds of

508
00:25:18,350 --> 00:25:16,200
billions of galaxies all the hundreds of

509
00:25:20,659 --> 00:25:18,360
billions of stars in there in each of

510
00:25:22,970 --> 00:25:20,669
them the the hundreds of gazillion - or

511
00:25:25,159 --> 00:25:22,980
whatever of atoms in each star I'm going

512
00:25:27,169 --> 00:25:25,169
to choose an atom at random and see and

513
00:25:29,570 --> 00:25:27,179

then you get that right as well so I

514

00:25:31,880 --> 00:25:29,580

think perhaps enough is enough for

515

00:25:35,150 --> 00:25:31,890

whether we need to prove it to ourselves

516

00:25:38,240 --> 00:25:35,160

whether this phenomenon exists or not

517

00:25:39,710 --> 00:25:38,250

and maybe ultimately that the fact that

518

00:25:41,960 --> 00:25:39,720

it that we can see that it does that we

519

00:25:44,030 --> 00:25:41,970

know that it does or we experience it

520

00:25:47,539 --> 00:25:44,040

self-evidently through awareness and and

521

00:25:50,360 --> 00:25:47,549

choice and and consider perhaps a bit

522

00:25:51,710 --> 00:25:50,370

more the the implications of what that

523

00:25:53,630 --> 00:25:51,720

means but I still think you know

524

00:25:56,960 --> 00:25:53,640

empirical experiments definitely have

525

00:26:05,049 --> 00:25:56,970

their place and and you know it's it's

526

00:26:07,549 --> 00:26:05,059

great that there are people doing them I

527

00:26:09,919 --> 00:26:07,559

existed without a body heart or mind

528

00:26:13,220 --> 00:26:09,929

when I was 4 years old as this

529

00:26:16,669 --> 00:26:13,230

nothingness which is this is constant

530

00:26:18,500 --> 00:26:16,679

now and you spoke about how the

531

00:26:21,140 --> 00:26:18,510

potential and kinetic energy of the

532

00:26:23,810 --> 00:26:21,150

universe could be would be equal to 0

533

00:26:25,940 --> 00:26:23,820

and how the frame of reference of the

534

00:26:31,970 --> 00:26:25,950

speed of light is a spaceless timeless

535

00:26:34,789 --> 00:26:31,980

reference frame and what my own model is

536

00:26:36,830 --> 00:26:34,799

that the space-time and quantum

537

00:26:40,400 --> 00:26:36,840

mechanics seems to be gravitating around

538

00:26:43,940 --> 00:26:40,410

this observer or consciousness which is

539

00:26:47,390 --> 00:26:43,950

constant and now why why would it not be

540

00:26:49,900 --> 00:26:47,400

that nothingness would be what

541

00:26:53,900 --> 00:26:49,910

everything is gravitating and

542

00:26:56,510 --> 00:26:53,910

electromagnetically orchestrating around

543

00:26:58,240 --> 00:26:56,520

that then now is that nothingness which

544

00:27:01,990 --> 00:26:58,250

is constant and endless

545

00:27:04,270 --> 00:27:02,000

well I agreed that the the origin of

546

00:27:08,230 --> 00:27:04,280

everything is from it's from nothingness

547

00:27:10,450 --> 00:27:08,240

but the problem is we've made I would

548

00:27:13,750 --> 00:27:10,460

argue we've made a somethingness out of

549

00:27:16,810 --> 00:27:13,760

it in which there's very real pain and

550

00:27:20,560 --> 00:27:16,820

suffering in the world and and so on and

551
00:27:23,290 --> 00:27:20,570
and we're not sort of gravitating back

552
00:27:25,180 --> 00:27:23,300
to the original state of a service all

553
00:27:29,110 --> 00:27:25,190
being one instead we're sort of fighting

554
00:27:31,600 --> 00:27:29,120
wars and and so on the harming the

555
00:27:33,610 --> 00:27:31,610
experience of other conscious sentient

556
00:27:35,200 --> 00:27:33,620
beings so I'm not sure if I'm

557
00:27:42,820 --> 00:27:35,210
understand Tsering your question correct

558
00:27:45,340 --> 00:27:42,830
me or if I misunderstood it well let's

559
00:27:49,030 --> 00:27:45,350
say if we are that nothingness which is

560
00:27:51,850 --> 00:27:49,040
orchestrating all of somethingness in

561
00:27:55,020 --> 00:27:51,860
all these infinite ways and evolving and

562
00:27:58,750 --> 00:27:55,030
causing the universe as consciousness

563
00:28:02,370 --> 00:27:58,760

then we are as that nothingness is

564

00:28:05,470 --> 00:28:02,380

currently very unconscious originally

565

00:28:10,660 --> 00:28:05,480

and we are discovering by the self

566

00:28:14,320 --> 00:28:10,670

reflection to mature and become more

567

00:28:16,950 --> 00:28:14,330

conscious as Carl Jung said in the

568

00:28:19,510 --> 00:28:16,960

process of maturation the individual

569

00:28:21,340 --> 00:28:19,520

ultimately realizes they're indivisible

570

00:28:23,770 --> 00:28:21,350

from everyone and everything and when we

571

00:28:28,720 --> 00:28:23,780

more of us realize that then we can have

572

00:28:29,680 --> 00:28:28,730

a civilization Gandhi said about when he

573

00:28:31,570 --> 00:28:29,690

was asked what do you think about

574

00:28:32,830 --> 00:28:31,580

Western civilization he said I think

575

00:28:35,170 --> 00:28:32,840

that's an excellent idea

576

00:28:36,760 --> 00:28:35,180

I think I think the problem is that

577

00:28:38,710 --> 00:28:36,770

we're not actually if you look at

578

00:28:41,170 --> 00:28:38,720

history we're not evolving we've had

579

00:28:43,090 --> 00:28:41,180

several times in the past century to

580

00:28:44,950 --> 00:28:43,100

destroying ourselves as a species and

581

00:28:47,620 --> 00:28:44,960

and through the developments in

582

00:28:50,500 --> 00:28:47,630

technology as we as we as we sort of

583

00:28:52,840 --> 00:28:50,510

Lord and praised the artificial and the

584

00:28:54,970 --> 00:28:52,850

dead above the living in the sentient

585

00:28:56,920 --> 00:28:54,980

that the the danger is that we're

586

00:28:58,510 --> 00:28:56,930

actually becoming more and more ignorant

587

00:28:59,800 --> 00:28:58,520

as we forget consciousness I was given

588

00:29:02,050 --> 00:28:59,810

the example of how and they're punished

589

00:29:04,090 --> 00:29:02,060

odds thousands of years ago people then

590

00:29:06,040 --> 00:29:04,100

took it for granted that sentence

591

00:29:07,870 --> 00:29:06,050

wasn't just about information that there

592

00:29:10,960 --> 00:29:07,880

was something behind that and yet if you

593

00:29:12,010 --> 00:29:10,970

if you talk to the average person in the

594

00:29:14,380 --> 00:29:12,020

street now about what

595

00:29:17,380 --> 00:29:14,390

consciousnesses I think you've probably

596

00:29:21,270 --> 00:29:17,390

heard about the the content of what they

597

00:29:23,560 --> 00:29:21,280

see and and not perhaps recognize or

598

00:29:25,450 --> 00:29:23,570

respect and value that that

599

00:29:28,180 --> 00:29:25,460

consciousness exists in all beings you

600

00:29:32,380 --> 00:29:28,190

have to be given equal equal value and

601

00:29:34,020 --> 00:29:32,390

right that's just my opinion but thank

602

00:29:37,740 --> 00:29:34,030

you very much