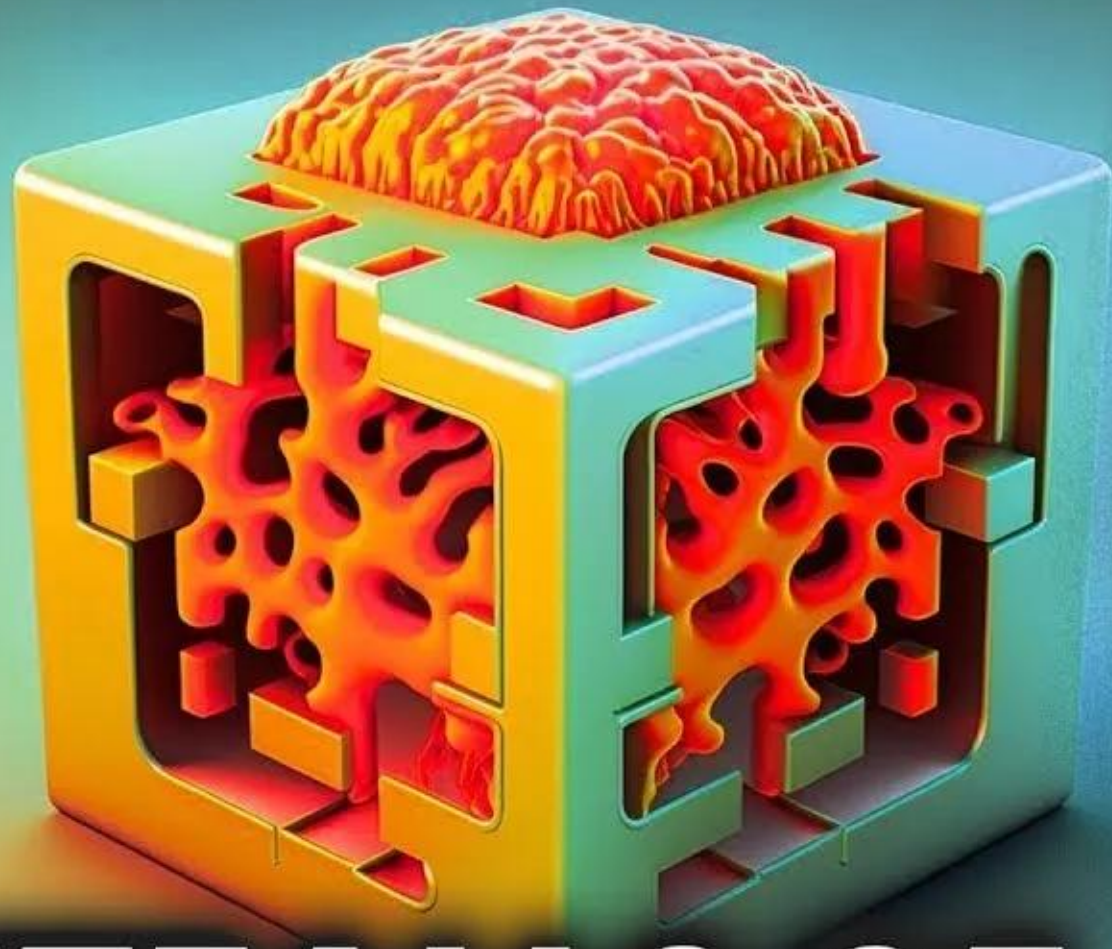


**DAVID  
ROBSON**



**PITFALLS OF  
INTELLIGENCE**



1  
00:00:04,010 --> 00:00:02,090  
what is the nature of reality this is

2  
00:00:06,470 --> 00:00:04,020  
essentially what we're showing is that

3  
00:00:08,810 --> 00:00:06,480  
our thought processes are changing our

4  
00:00:11,150 --> 00:00:08,820  
reality in the future that's through

5  
00:00:13,669 --> 00:00:11,160  
just very well accepted behavioral

6  
00:00:14,930 --> 00:00:13,679  
perceptual and physiological mechanisms

7  
00:00:17,210 --> 00:00:14,940  
and all this is showing is that

8  
00:00:19,070 --> 00:00:17,220  
sometimes the effects can add up and be

9  
00:00:20,990 --> 00:00:19,080  
really profound

10  
00:00:23,090 --> 00:00:21,000  
today we talk about the placebo effect

11  
00:00:25,130 --> 00:00:23,100  
mind over matter and the cognitive traps

12  
00:00:27,170 --> 00:00:25,140  
that correlate with IQ David Robson is

13  
00:00:29,509 --> 00:00:27,180

an author of science with a unique focus

14

00:00:31,370 --> 00:00:29,519

on human intellect and behavior he has a

15

00:00:33,290 --> 00:00:31,380

degree of mathematics from Oxford we

16

00:00:34,790 --> 00:00:33,300

both Bond over our similar degrees in

17

00:00:36,530 --> 00:00:34,800

mathematics except of course he's

18

00:00:38,630 --> 00:00:36,540

actually done something productive with

19

00:00:40,010 --> 00:00:38,640

his he's worked for new scientists BBC

20

00:00:42,049 --> 00:00:40,020

and he writes for several popular

21

00:00:43,970 --> 00:00:42,059

science magazines today we discussed the

22

00:00:46,250 --> 00:00:43,980

intelligence trap and the expectation

23

00:00:47,990 --> 00:00:46,260

effect my name is Kurt J Mongol I have a

24

00:00:49,549 --> 00:00:48,000

background in mathematical physics this

25

00:00:51,950 --> 00:00:49,559

podcast is called theories of everything

26

00:00:53,569 --> 00:00:51,960

is dedicated to the exploration of

27

00:00:55,250 --> 00:00:53,579

theories of everything from a

28

00:00:56,930 --> 00:00:55,260

theoretical physics perspective but as

29

00:00:58,850 --> 00:00:56,940

well as exploring the role Consciousness

30

00:01:00,650 --> 00:00:58,860

has to the fundamental laws of nature

31

00:01:02,450 --> 00:01:00,660

each sponsor as well as the patrons

32

00:01:04,789 --> 00:01:02,460

improves the quality of the videos

33

00:01:06,410 --> 00:01:04,799

drastically it improves the depth it

34

00:01:07,910 --> 00:01:06,420

improves the frequency and it goes

35

00:01:09,350 --> 00:01:07,920

toward paying the staff for instance

36

00:01:10,789 --> 00:01:09,360

someone who is editing this full time

37

00:01:12,410 --> 00:01:10,799

right now and then we have an operations

38

00:01:14,630 --> 00:01:12,420

manager in that vein I want to thank

39

00:01:15,950 --> 00:01:14,640

today's sponsor brilliant if you're

40

00:01:17,630 --> 00:01:15,960

familiar with toe you're familiar with

41

00:01:19,910 --> 00:01:17,640

Brilliance but for those who don't know

42

00:01:21,530 --> 00:01:19,920

Brilliance is a place where you go to

43

00:01:23,450 --> 00:01:21,540

learn math science and engineering

44

00:01:25,550 --> 00:01:23,460

through these bite-sized Interactive

45

00:01:27,109 --> 00:01:25,560

Learning experiences for example and I

46

00:01:28,730 --> 00:01:27,119

keep saying this I would like to do a

47

00:01:31,249 --> 00:01:28,740

podcast on information Theory

48

00:01:33,530 --> 00:01:31,259

particularly Chiara marleto which is

49

00:01:35,149 --> 00:01:33,540

David Deutsch's student has a theory of

50

00:01:37,069 --> 00:01:35,159

everything that she puts forward called

51  
00:01:39,230 --> 00:01:37,079  
Constructor Theory which is heavily

52  
00:01:40,969 --> 00:01:39,240  
contingent on information Theory so I

53  
00:01:42,649 --> 00:01:40,979  
took their course on random variable

54  
00:01:44,749 --> 00:01:42,659  
distributions and knowledge and

55  
00:01:46,730 --> 00:01:44,759  
uncertainty in order to learn a bit more

56  
00:01:48,530 --> 00:01:46,740  
about entropy now there's this formula

57  
00:01:50,510 --> 00:01:48,540  
for entropy essentially hammered into

58  
00:01:52,429 --> 00:01:50,520  
you as an undergraduate which seems to

59  
00:01:54,230 --> 00:01:52,439  
have fallen from the sky however when

60  
00:01:55,730 --> 00:01:54,240  
you take Brilliance course it was the

61  
00:01:58,490 --> 00:01:55,740  
first time that I could see that it's an

62  
00:02:00,770 --> 00:01:58,500  
extremely clear and intuitive formula

63  
00:02:02,510 --> 00:02:00,780

that is to say that it would be

64

00:02:05,450 --> 00:02:02,520

unnatural to Define it in any other

65

00:02:07,670 --> 00:02:05,460

manner visit [brilliant.org](http://brilliant.org) toe that is

66

00:02:09,529 --> 00:02:07,680

t-o-e to get 20 off the annual

67

00:02:12,110 --> 00:02:09,539

subscription and I recommend that you

68

00:02:13,790 --> 00:02:12,120

don't stop before four lessons I think

69

00:02:15,410 --> 00:02:13,800

you'll be greatly surprised that the

70

00:02:17,570 --> 00:02:15,420

ease at which you can now comprehend

71

00:02:19,670 --> 00:02:17,580

subjects you previously had a difficult

72

00:02:20,809 --> 00:02:19,680

time grocking at some point how also go

73

00:02:22,910 --> 00:02:20,819

through the courses and give a

74

00:02:23,990 --> 00:02:22,920

recommendation in order if you'd like to

75

00:02:25,970 --> 00:02:24,000

support the theories of everything

76

00:02:27,949 --> 00:02:25,980

podcast and help assist that is the

77

00:02:29,750 --> 00:02:27,959

improved video quality the depth the

78

00:02:31,369 --> 00:02:29,760

frequency of the podcast and paying the

79

00:02:34,910 --> 00:02:31,379

staff then do consider going to

80

00:02:36,229 --> 00:02:34,920

patreon.com Kurt J mungle the link is on

81

00:02:38,150 --> 00:02:36,239

screen as well as in the description

82

00:02:40,250 --> 00:02:38,160

there's a custom amount as well as

83

00:02:42,050 --> 00:02:40,260

already delineated tiers either way your

84

00:02:43,550 --> 00:02:42,060

viewership is thank you enough thank you

85

00:02:46,250 --> 00:02:43,560

and enjoy this interview with David

86

00:02:47,809 --> 00:02:46,260

Robson David thanks for coming out I

87

00:02:49,670 --> 00:02:47,819

appreciate it I've been listening and

88

00:02:51,410 --> 00:02:49,680

reading your book for about it was

89

00:02:54,170 --> 00:02:51,420

months ago and then intermittently in

90

00:02:55,930 --> 00:02:54,180

the past few weeks so thank you it's an

91

00:02:58,790 --> 00:02:55,940

honor to speak with you

92

00:03:00,470 --> 00:02:58,800

what got you interested in intelligence

93

00:03:02,509 --> 00:03:00,480

yeah I mean that's something I was

94

00:03:04,009 --> 00:03:02,519

interested in since I was you know quite

95

00:03:06,350 --> 00:03:04,019

a young child

96

00:03:08,210 --> 00:03:06,360

um because in the UK we have this kind

97

00:03:10,369 --> 00:03:08,220

of streamed school system

98

00:03:13,250 --> 00:03:10,379

um no it's only kind of in my area in

99

00:03:16,130 --> 00:03:13,260

the southeast of England but we

100

00:03:17,869 --> 00:03:16,140

um take this exam called the 11 plus

101  
00:03:19,490 --> 00:03:17,879  
um that decides which type of senior

102  
00:03:21,470 --> 00:03:19,500  
school we go to

103  
00:03:23,690 --> 00:03:21,480  
um and essentially it's an IQ test by

104  
00:03:26,570 --> 00:03:23,700  
any other name and if you score in the

105  
00:03:28,369 --> 00:03:26,580  
top 25 percent you um go to a grammar

106  
00:03:31,009 --> 00:03:28,379  
school which is meant to be for kind of

107  
00:03:33,170 --> 00:03:31,019  
academically gifted children the rest go

108  
00:03:34,910 --> 00:03:33,180  
to a comprehensive school so I took the

109  
00:03:37,250 --> 00:03:34,920  
exam I did quite well you know got into

110  
00:03:38,990 --> 00:03:37,260  
my senior school but I was just kind of

111  
00:03:41,330 --> 00:03:39,000  
a bit baffled by what this test was

112  
00:03:42,589 --> 00:03:41,340  
really measuring because it wasn't the

113  
00:03:44,089 --> 00:03:42,599

version that I took you know really

114

00:03:46,190 --> 00:03:44,099

wasn't looking at what I'd learned at

115

00:03:48,050 --> 00:03:46,200

school previously it was all of these

116

00:03:50,509 --> 00:03:48,060

you know verbal non-verbal questions

117

00:03:53,210 --> 00:03:50,519

that um didn't seem to be directly

118

00:03:55,250 --> 00:03:53,220

related to kind of education

119

00:03:56,869 --> 00:03:55,260

um such as and so I just wondered you

120

00:03:59,570 --> 00:03:56,879

know it was kind of word association

121

00:04:01,430 --> 00:03:59,580

things there were the kind of mental

122

00:04:03,229 --> 00:04:01,440

rotation exercises all of these things

123

00:04:05,210 --> 00:04:03,239

that I later learned you know a kind of

124

00:04:07,970 --> 00:04:05,220

standard IQ questions

125

00:04:09,589 --> 00:04:07,980

um so they seemed quite narrow and I

126

00:04:11,630 --> 00:04:09,599

guess I was always interested in like

127

00:04:13,429 --> 00:04:11,640

what's it mean to be intelligent what

128

00:04:16,310 --> 00:04:13,439

and you know what is that measuring how

129

00:04:17,930 --> 00:04:16,320

kind of generalizable can it be and then

130

00:04:20,030 --> 00:04:17,940

when I became a science journalist like

131

00:04:21,949 --> 00:04:20,040

I became super interested in this

132

00:04:23,749 --> 00:04:21,959

phenomenon because

133

00:04:25,370 --> 00:04:23,759

um you know I was interviewing some of

134

00:04:27,469 --> 00:04:25,380

the world's greatest Minds you know

135

00:04:30,290 --> 00:04:27,479

people who you know changed our

136

00:04:31,969 --> 00:04:30,300

understanding of the universe and you

137

00:04:33,830 --> 00:04:31,979

kind of just had to look a little bit

138

00:04:35,330 --> 00:04:33,840

more deeply into their private lives to

139

00:04:37,310 --> 00:04:35,340

realize that while they were obviously

140

00:04:40,010 --> 00:04:37,320

showing High Intelligence in their

141

00:04:41,870 --> 00:04:40,020

particular field and they could also be

142

00:04:43,969 --> 00:04:41,880

um like surprisingly stupid and there

143

00:04:46,490 --> 00:04:43,979

really is another word for it and other

144

00:04:49,310 --> 00:04:46,500

areas of their life so you know there

145

00:04:51,230 --> 00:04:49,320

was this guy Kerry Mullis who developed

146

00:04:53,270 --> 00:04:51,240

the polymerase Chain Reaction which we

147

00:04:55,129 --> 00:04:53,280

use for all kinds of genetic testing and

148

00:04:56,270 --> 00:04:55,139

you know it's the PCR test that we use

149

00:04:58,370 --> 00:04:56,280

for covid

150

00:05:02,270 --> 00:04:58,380

um but he was a climate change denier he

151  
00:05:03,469 --> 00:05:02,280  
was in HIV denier he um even believed

152  
00:05:05,390 --> 00:05:03,479  
you know that he'd traveled in the

153  
00:05:07,370 --> 00:05:05,400  
astral plane that had met this kind of

154  
00:05:09,110 --> 00:05:07,380  
glowing raccoon in the forest of

155  
00:05:11,330 --> 00:05:09,120  
California you know had some very

156  
00:05:14,990 --> 00:05:11,340  
strange beliefs that just didn't seem to

157  
00:05:16,430 --> 00:05:15,000  
be scientific let alone the kind of um

158  
00:05:18,590 --> 00:05:16,440  
kind of thinking that we would expect

159  
00:05:20,689 --> 00:05:18,600  
from a Nobel Prize winner he won the

160  
00:05:21,770 --> 00:05:20,699  
Nobel Prize for chemistry for the PCR

161  
00:05:24,350 --> 00:05:21,780  
test

162  
00:05:26,650 --> 00:05:24,360  
um so you know it was really that they

163  
00:05:29,090 --> 00:05:26,660

kind of led me back to this kind of old

164

00:05:30,590 --> 00:05:29,100

childhood fascination with intelligence

165

00:05:32,930 --> 00:05:30,600

and I just wanted to understand like

166

00:05:34,909 --> 00:05:32,940

what do we mean by intelligence what

167

00:05:37,129 --> 00:05:34,919

does the IQ test measure and what does

168

00:05:38,570 --> 00:05:37,139

it Miss and what are the other kind of

169

00:05:42,469 --> 00:05:38,580

mental traits

170

00:05:44,150 --> 00:05:42,479

we should be kind of cultivating and

171

00:05:46,490 --> 00:05:44,160

appreciating that aren't measured in

172

00:05:48,469 --> 00:05:46,500

kind of standard academic tests what do

173

00:05:51,170 --> 00:05:48,479

intelligence tests measure and what is

174

00:05:53,749 --> 00:05:51,180

intelligence yeah I mean so the the idea

175

00:05:55,550 --> 00:05:53,759

had been that you know we have this kind

176

00:05:57,409 --> 00:05:55,560

of generalized intelligence and this

177

00:05:58,550 --> 00:05:57,419

goes right back to the early 20th

178

00:06:01,129 --> 00:05:58,560

century

179

00:06:02,689 --> 00:06:01,139

um which is like a kind of underlying

180

00:06:04,670 --> 00:06:02,699

brain power

181

00:06:07,969 --> 00:06:04,680

um it's kind of almost like the kind of

182

00:06:10,249 --> 00:06:07,979

processing capability of the brain

183

00:06:12,110 --> 00:06:10,259

um and actually you know we know that IQ

184

00:06:14,029 --> 00:06:12,120

tests do measure something meaningful

185

00:06:15,830 --> 00:06:14,039

and that they may be reflecting some

186

00:06:17,570 --> 00:06:15,840

kind of anatomical difference in the

187

00:06:20,210 --> 00:06:17,580

brain that does reflect a kind of

188

00:06:21,590 --> 00:06:20,220

General processing ability because we

189

00:06:23,990 --> 00:06:21,600

know that even those you know very

190

00:06:26,870 --> 00:06:24,000

narrow abstract tasks that I described

191

00:06:28,610 --> 00:06:26,880

that I took in my childhood IQ test well

192

00:06:30,890 --> 00:06:28,620

you know people's performance on that

193

00:06:32,570 --> 00:06:30,900

does seem to predict their academic

194

00:06:34,249 --> 00:06:32,580

achievement and then also how well

195

00:06:35,809 --> 00:06:34,259

they're doing and their different

196

00:06:38,570 --> 00:06:35,819

professions and especially kind of

197

00:06:40,010 --> 00:06:38,580

professions that need kind of Greater

198

00:06:42,710 --> 00:06:40,020

um you know classically kind of

199

00:06:47,090 --> 00:06:42,720

intellectual inputs of things like law

200

00:06:49,129 --> 00:06:47,100

Medicine Science you know um so if we

201  
00:06:51,290 --> 00:06:49,139  
have a high IQ we probably are quicker

202  
00:06:53,689 --> 00:06:51,300  
to learn kind of complex stuff quicker

203  
00:06:54,529 --> 00:06:53,699  
to understand complex stuff

204  
00:06:56,629 --> 00:06:54,539  
um

205  
00:06:57,890 --> 00:06:56,639  
so you know it's useful I would I don't

206  
00:07:00,590 --> 00:06:57,900  
want to kind of

207  
00:07:02,809 --> 00:07:00,600  
uh you know downplay the the kind of

208  
00:07:04,790 --> 00:07:02,819  
relevance of IQ but the fact is that we

209  
00:07:07,210 --> 00:07:04,800  
also know that it's by no means the only

210  
00:07:09,770 --> 00:07:07,220  
thing that's important about someone's

211  
00:07:12,230 --> 00:07:09,780  
intellectual abilities

212  
00:07:13,909 --> 00:07:12,240  
um so you know even if you're looking at

213  
00:07:15,770 --> 00:07:13,919

those kind of classic professions you

214

00:07:18,770 --> 00:07:15,780

know I only

215

00:07:20,390 --> 00:07:18,780

um kind of can explain the a kind of

216

00:07:22,070 --> 00:07:20,400

minority of the variants in people's

217

00:07:24,890 --> 00:07:22,080

performance you know so there's lots

218

00:07:26,689 --> 00:07:24,900

more to IQ even if you're a lawyer or a

219

00:07:28,309 --> 00:07:26,699

scientist or a

220

00:07:30,469 --> 00:07:28,319

um a doctor you know it's not going to

221

00:07:32,689 --> 00:07:30,479

make you incredibly creative for example

222

00:07:34,790 --> 00:07:32,699

so we know that it's missing something

223

00:07:36,589 --> 00:07:34,800

important and then what I really wanted

224

00:07:38,450 --> 00:07:36,599

to look at in the intelligence trap was

225

00:07:39,650 --> 00:07:38,460

just well like what is it missing and

226

00:07:42,170 --> 00:07:39,660

how does it relate to things like

227

00:07:44,210 --> 00:07:42,180

rationality and wisdom and you know kind

228

00:07:46,370 --> 00:07:44,220

of how we navigate all of the complex

229

00:07:48,890 --> 00:07:46,380

challenges that we face in life that

230

00:07:51,890 --> 00:07:48,900

aren't just based on a kind of academic

231

00:07:53,990 --> 00:07:51,900

test of knowledge and learning in the

232

00:07:55,490 --> 00:07:54,000

book something that stood out to me was

233

00:07:57,950 --> 00:07:55,500

that there are a variety of cognitive

234

00:08:01,370 --> 00:07:57,960

biases and there are some that people

235

00:08:02,930 --> 00:08:01,380

who have a high IQ are more prone to can

236

00:08:04,850 --> 00:08:02,940

you talk about those

237

00:08:06,650 --> 00:08:04,860

yeah I mean totally so it's quite

238

00:08:08,990 --> 00:08:06,660

complex I should expect

239

00:08:10,790 --> 00:08:09,000

um that you know a nuanced as well

240

00:08:12,770 --> 00:08:10,800

um but essentially like scientists have

241

00:08:14,689 --> 00:08:12,780

been looking at these kind of cognitive

242

00:08:16,610 --> 00:08:14,699

biases that have been studied by people

243

00:08:19,610 --> 00:08:16,620

like Daniel Kahneman since you know the

244

00:08:21,529 --> 00:08:19,620

1970s and we know you know humans act

245

00:08:23,629 --> 00:08:21,539

kind of irrationally in lots of

246

00:08:26,150 --> 00:08:23,639

different situations and to just give

247

00:08:28,189 --> 00:08:26,160

one example we suffer from this

248

00:08:30,529 --> 00:08:28,199

um thing called the sunk cost fallacy

249

00:08:33,350 --> 00:08:30,539

where you know if you're

250

00:08:35,389 --> 00:08:33,360

um pouring resources into a project like

251  
00:08:38,329 --> 00:08:35,399  
we feel very reluctant to abandon that

252  
00:08:39,889 --> 00:08:38,339  
project even when we realize virtually

253  
00:08:43,370 --> 00:08:39,899  
any gains we're going to get from

254  
00:08:45,050 --> 00:08:43,380  
continuing are only going to kind of um

255  
00:08:47,750 --> 00:08:45,060  
they're not going to pay off they're

256  
00:08:49,130 --> 00:08:47,760  
only going to lead us to a further loss

257  
00:08:51,050 --> 00:08:49,140  
um you know but the famous example of

258  
00:08:53,150 --> 00:08:51,060  
that is would be

259  
00:08:55,730 --> 00:08:53,160  
um Concord project in the UK and France

260  
00:08:57,710 --> 00:08:55,740  
it was like taking like heaps of money

261  
00:08:59,750 --> 00:08:57,720  
from both governments um it was never

262  
00:09:01,009 --> 00:08:59,760  
going to be profitable but once they'd

263  
00:09:02,750 --> 00:09:01,019

started the governments just couldn't

264

00:09:04,550 --> 00:09:02,760

face kind of cutting off the project so

265

00:09:06,410 --> 00:09:04,560

they they continued even though it was

266

00:09:08,870 --> 00:09:06,420

always going to be a loss is the Vietnam

267

00:09:10,430 --> 00:09:08,880

War an example of that as well yeah that

268

00:09:13,670 --> 00:09:10,440

kind of thing would absolutely be an

269

00:09:15,710 --> 00:09:13,680

example yeah yeah yeah where and it's

270

00:09:17,930 --> 00:09:15,720

just really difficult to kind of um cut

271

00:09:20,269 --> 00:09:17,940

your losses and I'd set defeat um even

272

00:09:22,070 --> 00:09:20,279

even when you know that you're never

273

00:09:24,410 --> 00:09:22,080

gonna win yeah

274

00:09:26,990 --> 00:09:24,420

um and so you know the uh we've known

275

00:09:28,850 --> 00:09:27,000

that exists for like decades but what

276

00:09:30,650 --> 00:09:28,860

the new research had shown

277

00:09:33,110 --> 00:09:30,660

um research on what's known as the

278

00:09:35,750 --> 00:09:33,120

rationality quotient had actually shown

279

00:09:38,329 --> 00:09:35,760

us that people were you know High IQs

280

00:09:40,490 --> 00:09:38,339

compared to low IQs are really no more

281

00:09:42,290 --> 00:09:40,500

or less susceptible to that you know

282

00:09:44,570 --> 00:09:42,300

being super intelligent does not make

283

00:09:46,269 --> 00:09:44,580

you more rational in that case

284

00:09:48,350 --> 00:09:46,279

um so that's one example where

285

00:09:50,269 --> 00:09:48,360

surprisingly intelligence doesn't make

286

00:09:52,250 --> 00:09:50,279

you kind of more logical

287

00:09:54,710 --> 00:09:52,260

um but then there are other phenomena

288

00:09:57,290 --> 00:09:54,720

where actually High Intelligence can

289

00:09:59,570 --> 00:09:57,300

even make you more irrational

290

00:10:02,449 --> 00:09:59,580

um and that is when it gets to kind of

291

00:10:04,970 --> 00:10:02,459

justifying your bad decisions so if you

292

00:10:06,949 --> 00:10:04,980

have a really deeply funded belief in

293

00:10:09,230 --> 00:10:06,959

something you know it might be like

294

00:10:11,630 --> 00:10:09,240

Arthur Conan Doyle the author of this

295

00:10:14,150 --> 00:10:11,640

Sherlock Holmes novels um they believe

296

00:10:16,190 --> 00:10:14,160

in the Paranormal uh well what we know

297

00:10:19,250 --> 00:10:16,200

there is that then the more intelligent

298

00:10:21,590 --> 00:10:19,260

you are actually the more kind of uh

299

00:10:23,509 --> 00:10:21,600

resilient you are to any contradictory

300

00:10:26,389 --> 00:10:23,519

information so your intelligence

301  
00:10:28,490 --> 00:10:26,399  
actually protects your beliefs and

302  
00:10:30,050 --> 00:10:28,500  
prevents you from looking at the the

303  
00:10:32,570 --> 00:10:30,060  
evidence that might actually lead you to

304  
00:10:34,790 --> 00:10:32,580  
a more rational point of view and we saw

305  
00:10:37,070 --> 00:10:34,800  
that beautifully with Arthur Conan Doyle

306  
00:10:38,690 --> 00:10:37,080  
in all of his writing you know he's

307  
00:10:40,550 --> 00:10:38,700  
actually drawing on all of his

308  
00:10:43,070 --> 00:10:40,560  
creativity and his scientific knowledge

309  
00:10:45,829 --> 00:10:43,080  
to try to justify some really crazy

310  
00:10:47,930 --> 00:10:45,839  
beliefs um so for example he he believed

311  
00:10:50,750 --> 00:10:47,940  
in fairies he bought the Beast young

312  
00:10:52,730 --> 00:10:50,760  
girls in Yorkshire in the UK who had

313  
00:10:54,470 --> 00:10:52,740

taken photographs of berries kind of

314

00:10:56,810 --> 00:10:54,480

around the Babbling Brook at the end of

315

00:10:59,810 --> 00:10:56,820

their garden and um you know other

316

00:11:01,490 --> 00:10:59,820

Skeptics around him you know pointed out

317

00:11:03,829 --> 00:11:01,500

things like um that you could kind of

318

00:11:05,870 --> 00:11:03,839

see there were cardboard cutouts stuck

319

00:11:07,610 --> 00:11:05,880

together with pins

320

00:11:09,410 --> 00:11:07,620

um he said well actually I'll you know

321

00:11:12,949 --> 00:11:09,420

let the pins are stuck in the middle of

322

00:11:14,750 --> 00:11:12,959

well those marks in the photos us only

323

00:11:17,210 --> 00:11:14,760

appear in the middle of the fairies

324

00:11:18,350 --> 00:11:17,220

bellies so he took it as evidence that

325

00:11:23,449 --> 00:11:18,360

it was

326

00:11:27,050 --> 00:11:23,459

of the umbilical cord so he actually

327

00:11:29,150 --> 00:11:27,060

used that contradictory evidence to then

328

00:11:30,590 --> 00:11:29,160

make this weird inference that varies

329

00:11:32,329 --> 00:11:30,600

are born

330

00:11:34,310 --> 00:11:32,339

um in the same way that humans are with

331

00:11:36,290 --> 00:11:34,320

an umbilical cord and then he drawn

332

00:11:38,569 --> 00:11:36,300

these theories of electromagnetism like

333

00:11:40,430 --> 00:11:38,579

Maxwell's new theories to explain why

334

00:11:41,870 --> 00:11:40,440

normally we couldn't see fairies with

335

00:11:43,069 --> 00:11:41,880

the naked eye

336

00:11:45,410 --> 00:11:43,079

um so he was actually using his

337

00:11:47,509 --> 00:11:45,420

knowledge there to justify this very

338

00:11:48,769 --> 00:11:47,519

strange belief that all of the people

339

00:11:50,810 --> 00:11:48,779

around him who may have been less

340

00:11:53,389 --> 00:11:50,820

intelligent just couldn't actually

341

00:11:55,250 --> 00:11:53,399

believe but it's almost like his

342

00:11:57,710 --> 00:11:55,260

intelligence was fueling this rational

343

00:12:00,410 --> 00:11:57,720

belief because it was so Central to him

344

00:12:03,110 --> 00:12:00,420

and you look into his biography and you

345

00:12:05,509 --> 00:12:03,120

kind of see that he uh was mourning at

346

00:12:07,069 --> 00:12:05,519

the loss of his son and so the belief in

347

00:12:08,930 --> 00:12:07,079

this kind of spirit realm actually

348

00:12:10,670 --> 00:12:08,940

became really important to him

349

00:12:12,710 --> 00:12:10,680

personally because he wanted to believe

350

00:12:14,569 --> 00:12:12,720

that you know there was an afterlife

351

00:12:17,630 --> 00:12:14,579

that he would be able to see his son

352

00:12:19,190 --> 00:12:17,640

again but then he was actually you know

353

00:12:21,530 --> 00:12:19,200

rather than helping him to deal with

354

00:12:23,389 --> 00:12:21,540

that grief you know these beliefs were

355

00:12:26,329 --> 00:12:23,399

just causing him to pour you know fast

356

00:12:28,790 --> 00:12:26,339

some persons of pounds into kind of

357

00:12:30,470 --> 00:12:28,800

supporting these fraudulent mediums and

358

00:12:33,050 --> 00:12:30,480

to you know he ruined his reputation

359

00:12:34,790 --> 00:12:33,060

amongst his peers by kind of

360

00:12:36,590 --> 00:12:34,800

um supporting all of these beliefs so it

361

00:12:38,569 --> 00:12:36,600

really backfired for him and that was

362

00:12:41,329 --> 00:12:38,579

for me a very clear example of how

363

00:12:43,910 --> 00:12:41,339

intelligence can can kind of lead us

364

00:12:46,310 --> 00:12:43,920

astray it can actually drive us along

365

00:12:48,170 --> 00:12:46,320

the wrong path in life if we don't have

366

00:12:50,690 --> 00:12:48,180

kind of checks and balances to make sure

367

00:12:52,370 --> 00:12:50,700

that we're applying it correctly

368

00:12:54,829 --> 00:12:52,380

do you make an equivalence between

369

00:12:56,750 --> 00:12:54,839

irrationality and illogicalness

370

00:12:58,850 --> 00:12:56,760

illogicality

371

00:13:01,129 --> 00:12:58,860

yeah I mean I do think they're very

372

00:13:03,590 --> 00:13:01,139

related and essentially you know when to

373

00:13:04,850 --> 00:13:03,600

talk about irrationality I'm kind of

374

00:13:07,910 --> 00:13:04,860

trying to say when

375

00:13:11,389 --> 00:13:07,920

it's all of those cases where where

376

00:13:13,610 --> 00:13:11,399

not making the optimum decision based on

377

00:13:15,290 --> 00:13:13,620

the information in front of us and you

378

00:13:18,410 --> 00:13:15,300

know anyone can make a mistake if you

379

00:13:21,170 --> 00:13:18,420

don't have any sufficient information

380

00:13:24,050 --> 00:13:21,180

um but you know in someone like African

381

00:13:26,329 --> 00:13:24,060

and Doyle's case you know there was

382

00:13:28,009 --> 00:13:26,339

enough information available even if we

383

00:13:29,449 --> 00:13:28,019

didn't have all the scientific knowledge

384

00:13:31,250 --> 00:13:29,459

we have today there was enough to

385

00:13:34,970 --> 00:13:31,260

suggest that these beliefs in the

386

00:13:36,710 --> 00:13:34,980

Paranormal were very irrational but um

387

00:13:39,170 --> 00:13:36,720

and you know a bunch of people around

388

00:13:40,430 --> 00:13:39,180

him were skeptical but he wasn't so

389

00:13:41,810 --> 00:13:40,440

that's you know that's what I mean by

390

00:13:45,110 --> 00:13:41,820

rationality

391

00:13:47,449 --> 00:13:45,120

like financial decision making you know

392

00:13:48,710 --> 00:13:47,459

causing you to pay too much but

393

00:13:50,750 --> 00:13:48,720

um a property or to make a better

394

00:13:52,670 --> 00:13:50,760

investment you know it could be in all

395

00:13:55,009 --> 00:13:52,680

kinds of areas but it's essentially when

396

00:13:56,090 --> 00:13:55,019

you're making the a less Optimum

397

00:13:58,009 --> 00:13:56,100

decision

398

00:13:59,150 --> 00:13:58,019

um despite evidence that should should

399

00:14:00,290 --> 00:13:59,160

have helped you to make a better

400

00:14:02,269 --> 00:14:00,300

decision

401

00:14:04,910 --> 00:14:02,279

it does rationality incorporate

402

00:14:07,490 --> 00:14:04,920

healthiness into it so what I mean is

403

00:14:08,930 --> 00:14:07,500

that it's rational to make a decision or

404

00:14:10,910 --> 00:14:08,940

to have your goal as something that's

405

00:14:13,250 --> 00:14:10,920

salutary in the long run

406

00:14:15,110 --> 00:14:13,260

whereas logical as just following a

407

00:14:18,110 --> 00:14:15,120

sequence of steps like modus opponens

408

00:14:20,150 --> 00:14:18,120

and so on like axioms I think that's a

409

00:14:22,190 --> 00:14:20,160

great way of looking at it you know

410

00:14:24,829 --> 00:14:22,200

logic I think could be restricted more

411

00:14:25,970 --> 00:14:24,839

to you know like a very specific kind of

412

00:14:28,069 --> 00:14:25,980

question

413

00:14:29,629 --> 00:14:28,079

um but like I do think when we're

414

00:14:31,009 --> 00:14:29,639

talking about irrational when we're

415

00:14:33,290 --> 00:14:31,019

talking about rationality and

416

00:14:35,269 --> 00:14:33,300

irrationality we are really thinking

417

00:14:37,910 --> 00:14:35,279

about you know how do we make decisions

418

00:14:40,670 --> 00:14:37,920

that align with our long-term goals and

419

00:14:43,250 --> 00:14:40,680

in making the kind of optimum life for

420

00:14:45,530 --> 00:14:43,260

ourselves the reason I ask that is then

421

00:14:47,449 --> 00:14:45,540

could there not be the argument that Sir

422

00:14:49,610 --> 00:14:47,459

Arthur Conan Doyle was doing what's

423

00:14:52,189 --> 00:14:49,620

rational because it provided him comfort

424

00:14:53,990 --> 00:14:52,199

and so some of these false beliefs let's

425

00:14:55,670 --> 00:14:54,000

just say false in a scientific sense or

426

00:14:56,990 --> 00:14:55,680

factual sense and that's putting a huge

427

00:14:58,670 --> 00:14:57,000

asterisk because we don't know the

428

00:15:00,470 --> 00:14:58,680

answers to large questions but let's

429

00:15:02,990 --> 00:15:00,480

just put a pin in there for now that

430

00:15:04,790 --> 00:15:03,000

belief in quote unquote factually false

431

00:15:06,530 --> 00:15:04,800

ideas can be rational because they're

432

00:15:08,389 --> 00:15:06,540

adaptive

433

00:15:11,329 --> 00:15:08,399

um yeah I mean that's not the kind of

434

00:15:13,910 --> 00:15:11,339

definition of rationality I would take

435

00:15:16,550 --> 00:15:13,920

because I feel like

436

00:15:18,769 --> 00:15:16,560

so say you know I feel like oh yeah it's

437

00:15:20,629 --> 00:15:18,779

true Arthur Conan Doyle kind of wanted

438

00:15:22,129 --> 00:15:20,639

to have that emotional Comfort but I

439

00:15:24,050 --> 00:15:22,139

think if you asked him

440

00:15:26,269 --> 00:15:24,060

would you be willing to believe in these

441

00:15:29,689 --> 00:15:26,279

things even if they were proven to be

442

00:15:31,370 --> 00:15:29,699

untrue he would have valued truth above

443

00:15:33,470 --> 00:15:31,380

emotional Comfort like I'm certain

444

00:15:35,629 --> 00:15:33,480

looking at his writings that he really

445

00:15:37,730 --> 00:15:35,639

wanted to believe the truth and felt

446

00:15:39,050 --> 00:15:37,740

like he was spreading the truth for

447

00:15:40,430 --> 00:15:39,060

other people

448

00:15:41,810 --> 00:15:40,440

um so it's all about the kind of

449

00:15:44,750 --> 00:15:41,820

alignment of his goals but I really

450

00:15:47,210 --> 00:15:44,760

think he did actually value rationality

451  
00:15:49,189 --> 00:15:47,220  
and we can see that in Sherlock Holmes

452  
00:15:52,310 --> 00:15:49,199  
The Character himself is like a the

453  
00:15:55,009 --> 00:15:52,320  
epitome of rationality so I think like

454  
00:15:59,090 --> 00:15:55,019  
if yeah like I just think in that case

455  
00:16:01,430 --> 00:15:59,100  
it's like he would have rather had a

456  
00:16:03,410 --> 00:16:01,440  
rational belief than a comforting belief

457  
00:16:06,110 --> 00:16:03,420  
like a true belief than a comforting

458  
00:16:09,170 --> 00:16:06,120  
belief that he was still drawn to this

459  
00:16:09,829 --> 00:16:09,180  
comforting belief because

460  
00:16:11,930 --> 00:16:09,839  
um

461  
00:16:14,990 --> 00:16:11,940  
yeah because I I guess he couldn't

462  
00:16:17,870 --> 00:16:15,000  
somehow couldn't resist it yeah but I

463  
00:16:19,850 --> 00:16:17,880

agree like I think it you know

464

00:16:21,769 --> 00:16:19,860

definitions of rationality depend on

465

00:16:23,150 --> 00:16:21,779

what you value in life but you know

466

00:16:25,129 --> 00:16:23,160

scientists and psychologists in

467

00:16:27,350 --> 00:16:25,139

particular talk about epistemic

468

00:16:29,090 --> 00:16:27,360

rationality and that's really where you

469

00:16:31,610 --> 00:16:29,100

value truth and you're always looking

470

00:16:33,530 --> 00:16:31,620

for truth and then if that is your goal

471

00:16:36,170 --> 00:16:33,540

and you're then believing something that

472

00:16:38,449 --> 00:16:36,180

is not supported by the evidence then is

473

00:16:40,009 --> 00:16:38,459

a rational in an epistemic sense and

474

00:16:42,290 --> 00:16:40,019

that's absolutely what Arthur Conan

475

00:16:45,110 --> 00:16:42,300

Doyle the suffering approach let's give

476  
00:16:46,910 --> 00:16:45,120  
philosophical for a moment would valuing

477  
00:16:49,370 --> 00:16:46,920  
the truth even if it led you to a

478  
00:16:52,430 --> 00:16:49,380  
deleterious outcome be rational so let's

479  
00:16:54,530 --> 00:16:52,440  
say I value the truth I want to know how

480  
00:16:56,990 --> 00:16:54,540  
potent can this virus get so I'm going

481  
00:16:59,810 --> 00:16:57,000  
to make a virus or make Ebola and cross

482  
00:17:02,030 --> 00:16:59,820  
that with whatever is extremely virulent

483  
00:17:03,889 --> 00:17:02,040  
because I'm interested in the truth but

484  
00:17:05,510 --> 00:17:03,899  
yet that has the potential of destroying

485  
00:17:07,610 --> 00:17:05,520  
the entire world or let me investigate

486  
00:17:09,289 --> 00:17:07,620  
an even more potent bomb than the

487  
00:17:11,569 --> 00:17:09,299  
hydrogen bomb that's a truthful Endeavor

488  
00:17:13,250 --> 00:17:11,579

a scientific truthful one my question is

489

00:17:15,890 --> 00:17:13,260

just because something is truthful or

490

00:17:17,569 --> 00:17:15,900

factually the case does pursuing it mean

491

00:17:18,890 --> 00:17:17,579

that you're irrational or can there be

492

00:17:20,750 --> 00:17:18,900

something irrational about pursuing the

493

00:17:23,750 --> 00:17:20,760

truth like should you value truth about

494

00:17:25,730 --> 00:17:23,760

what's nourishing yeah yeah it corrects

495

00:17:27,049 --> 00:17:25,740

you're not flying too close to the Sun

496

00:17:29,150 --> 00:17:27,059

you know

497

00:17:31,370 --> 00:17:29,160

um is it always good to push kind of

498

00:17:32,090 --> 00:17:31,380

human understanding that far

499

00:17:34,850 --> 00:17:32,100

um

500

00:17:38,029 --> 00:17:34,860

now I would say that's kind of whether

501  
00:17:40,970 --> 00:17:38,039  
you pursue that or not you know

502  
00:17:43,549 --> 00:17:40,980  
isn't to me a question of rationality

503  
00:17:45,409 --> 00:17:43,559  
um because say

504  
00:17:48,289 --> 00:17:45,419  
so for some of these questions I think

505  
00:17:50,690 --> 00:17:48,299  
it's perfectly rational for you to say I

506  
00:17:53,029 --> 00:17:50,700  
don't know and to have that humility you

507  
00:17:55,850 --> 00:17:53,039  
can just be you know like you can say

508  
00:17:58,850 --> 00:17:55,860  
and it's totally factually correct and

509  
00:18:01,549 --> 00:17:58,860  
epistemically correct to be like we

510  
00:18:04,970 --> 00:18:01,559  
don't know how dangerous this virus

511  
00:18:07,070 --> 00:18:04,980  
could become or we don't know how potent

512  
00:18:09,169 --> 00:18:07,080  
that bomb can become and we don't want

513  
00:18:11,390 --> 00:18:09,179

to pursue that because the risk is too

514

00:18:14,090 --> 00:18:11,400

great for our other goals which is the

515

00:18:15,830 --> 00:18:14,100

survival of humanity so in that sense I

516

00:18:17,810 --> 00:18:15,840

think it's you know more rational really

517

00:18:19,250 --> 00:18:17,820

to say we don't know

518

00:18:21,230 --> 00:18:19,260

um and we don't want to know we don't

519

00:18:24,169 --> 00:18:21,240

want to take that risk so it's not

520

00:18:26,510 --> 00:18:24,179

always just pursuing the truth above all

521

00:18:29,090 --> 00:18:26,520

else but it's more also than accepting

522

00:18:31,130 --> 00:18:29,100

like uh calibrating you know your

523

00:18:33,169 --> 00:18:31,140

beliefs about that particular phenomenon

524

00:18:35,630 --> 00:18:33,179

and saying you don't know is a perfectly

525

00:18:36,710 --> 00:18:35,640

reasonable rational response to

526

00:18:38,510 --> 00:18:36,720

something

527

00:18:40,190 --> 00:18:38,520

um what would be irrational would be for

528

00:18:42,830 --> 00:18:40,200

you to make some claim that the bomb

529

00:18:45,130 --> 00:18:42,840

isn't is or isn't this dangerous or that

530

00:18:48,049 --> 00:18:45,140

the virus is is or isn't this dangerous

531

00:18:50,150 --> 00:18:48,059

based on a lack of information

532

00:18:51,409 --> 00:18:50,160

um so yeah that's why I stand on that I

533

00:18:53,690 --> 00:18:51,419

certainly don't think we should have a

534

00:18:56,029 --> 00:18:53,700

Relentless Pursuit for truth over all

535

00:18:57,409 --> 00:18:56,039

else but um but I do think we just have

536

00:18:59,690 --> 00:18:57,419

to be honest about where the current

537

00:19:01,250 --> 00:18:59,700

level of evidence stands okay while

538

00:19:03,049 --> 00:19:01,260

we're on this I want to get to the

539

00:19:05,990 --> 00:19:03,059

growth mindset and then a fixed mindset

540

00:19:09,169 --> 00:19:06,000

but also as you steel manned what IQ is

541

00:19:11,330 --> 00:19:09,179

earlier I want you to steal man the

542

00:19:13,549 --> 00:19:11,340

dangers of an open mind only because

543

00:19:16,430 --> 00:19:13,559

we're constantly talking about that we

544

00:19:18,950 --> 00:19:16,440

need more openness and as someone who

545

00:19:20,450 --> 00:19:18,960

has been exploring an unjudiciously

546

00:19:22,850 --> 00:19:20,460

exploring theories of everything let's

547

00:19:24,890 --> 00:19:22,860

say I've been privy to the more heinous

548

00:19:26,630 --> 00:19:24,900

aspects of an open mind and I mean that

549

00:19:30,470 --> 00:19:26,640

in a psychological sense what I'm saying

550

00:19:32,690 --> 00:19:30,480

is that the case for the more ruinous

551  
00:19:34,549 --> 00:19:32,700  
aspects of an open mind are rarely made

552  
00:19:35,570 --> 00:19:34,559  
at least by intellectuals because

553  
00:19:36,590 --> 00:19:35,580  
they're constantly saying we need to

554  
00:19:38,990 --> 00:19:36,600  
have more of an open mind more of an

555  
00:19:40,130 --> 00:19:39,000  
open mind so I'm curious for you to

556  
00:19:42,169 --> 00:19:40,140  
steal man

557  
00:19:43,430 --> 00:19:42,179  
what it's like to have too much of an

558  
00:19:44,990 --> 00:19:43,440  
open mind how do we know when we're too

559  
00:19:46,730 --> 00:19:45,000  
open

560  
00:19:49,190 --> 00:19:46,740  
um interesting I mean given the examples

561  
00:19:50,690 --> 00:19:49,200  
the gay black Lovecraft quotes it makes

562  
00:19:52,850 --> 00:19:50,700  
me think of

563  
00:19:54,590 --> 00:19:52,860

um you know Plato's idea of the people

564

00:19:56,810 --> 00:19:54,600

kind of in the cave looking at the

565

00:20:00,529 --> 00:19:56,820

shadows and one of the prisoners escapes

566

00:20:02,990 --> 00:20:00,539

he you know goes he sees the fire he

567

00:20:05,750 --> 00:20:03,000

sees what's beyond the fire and you know

568

00:20:07,430 --> 00:20:05,760

he sees the beautiful reality but it's

569

00:20:09,350 --> 00:20:07,440

like how can he persuade the other

570

00:20:12,590 --> 00:20:09,360

prisoners that they want to see reality

571

00:20:14,690 --> 00:20:12,600

rather than sticking to what they know

572

00:20:16,850 --> 00:20:14,700

um and you know so yeah I think this is

573

00:20:18,470 --> 00:20:16,860

a question that we've had for Millennia

574

00:20:21,529 --> 00:20:18,480

on kind of

575

00:20:23,990 --> 00:20:21,539

and how far do we probe like

576

00:20:25,970 --> 00:20:24,000

um how much can we how can we deal with

577

00:20:28,549 --> 00:20:25,980

like a new kind of Truth

578

00:20:30,289 --> 00:20:28,559

um so I'd absolutely think that is an

579

00:20:32,330 --> 00:20:30,299

open question

580

00:20:34,010 --> 00:20:32,340

um you know I think the a great example

581

00:20:36,950 --> 00:20:34,020

which I'm sure you've covered in this

582

00:20:39,770 --> 00:20:36,960

series is you know what if we discovered

583

00:20:41,930 --> 00:20:39,780

that we didn't have free will you know

584

00:20:44,630 --> 00:20:41,940

what kinds of consequences would that

585

00:20:46,130 --> 00:20:44,640

help for kind of human behavior and

586

00:20:48,049 --> 00:20:46,140

actually there are scientific studies

587

00:20:51,470 --> 00:20:48,059

that have tried to manipulate people's

588

00:20:53,029 --> 00:20:51,480

beliefs in Free Will or um like a free

589

00:20:55,310 --> 00:20:53,039

will and you know it does have important

590

00:20:57,650 --> 00:20:55,320

consequences for things like our moral

591

00:20:59,150 --> 00:20:57,660

Behavior you know our kind of sort of

592

00:21:00,950 --> 00:20:59,160

discipline like if we don't believe we

593

00:21:02,630 --> 00:21:00,960

have free will we really struggle to

594

00:21:04,789 --> 00:21:02,640

kind of motivate ourselves to do

595

00:21:05,990 --> 00:21:04,799

anything because you just feel like you

596

00:21:07,730 --> 00:21:06,000

know what's the point Your Fate has

597

00:21:10,430 --> 00:21:07,740

already determined

598

00:21:12,830 --> 00:21:10,440

um so you know I do think like we could

599

00:21:14,690 --> 00:21:12,840

come to a stage where we do come to some

600

00:21:17,090 --> 00:21:14,700

conclusion about kind of consciousness

601  
00:21:20,029 --> 00:21:17,100  
of the origins of the universe where we

602  
00:21:21,890 --> 00:21:20,039  
we have to wrestle with with these um

603  
00:21:24,289 --> 00:21:21,900  
these issues and we do have to know

604  
00:21:27,110 --> 00:21:24,299  
whether you know how close to the Sun

605  
00:21:29,510 --> 00:21:27,120  
we're gonna fly and if we're like Icarus

606  
00:21:31,730 --> 00:21:29,520  
um yeah I don't really have an answer

607  
00:21:34,850 --> 00:21:31,740  
but that I mean my hunch at the moment

608  
00:21:38,690 --> 00:21:34,860  
is that we're so far away from that but

609  
00:21:40,850 --> 00:21:38,700  
as a society we should be trying to kind

610  
00:21:43,730 --> 00:21:40,860  
of pursue you know as much knowledge as

611  
00:21:46,669 --> 00:21:43,740  
we can provided that it is you know with

612  
00:21:49,010 --> 00:21:46,679  
it um kind of conducted in a safe way so

613  
00:21:51,049 --> 00:21:49,020

you know we don't want to kind of create

614

00:21:53,750 --> 00:21:51,059

that deadly virus

615

00:21:56,390 --> 00:21:53,760

um unless we can be certain that

616

00:21:58,010 --> 00:21:56,400

while studying it you know it won't leak

617

00:21:59,930 --> 00:21:58,020

from a lab you know that kind of thing

618

00:22:02,210 --> 00:21:59,940

like we have to have all these kind of

619

00:22:04,909 --> 00:22:02,220

measures in place we even a small

620

00:22:06,110 --> 00:22:04,919

possibility of a disaster

621

00:22:07,669 --> 00:22:06,120

um I don't think it's worth it because

622

00:22:10,010 --> 00:22:07,679

you know eventually you have enough of

623

00:22:11,870 --> 00:22:10,020

those kinds of near misses of one time

624

00:22:14,029 --> 00:22:11,880

is going to

625

00:22:16,310 --> 00:22:14,039

um backfire and you could face a real

626

00:22:18,350 --> 00:22:16,320

catastrophe so you know I think like

627

00:22:20,630 --> 00:22:18,360

that's why we have so many like

628

00:22:22,250 --> 00:22:20,640

regulations and rules in science and you

629

00:22:23,990 --> 00:22:22,260

know they don't always work perfectly we

630

00:22:25,970 --> 00:22:24,000

should always be improving them but I do

631

00:22:27,649 --> 00:22:25,980

think we need to kind of temper what we

632

00:22:29,990 --> 00:22:27,659

do and always make sure that it doesn't

633

00:22:32,330 --> 00:22:30,000

kind of bring about risks

634

00:22:35,029 --> 00:22:32,340

um but in general yeah I don't think

635

00:22:37,669 --> 00:22:35,039

we're kind of close to that kind of

636

00:22:39,710 --> 00:22:37,679

um that kind of issue I think separately

637

00:22:41,810 --> 00:22:39,720

there's a question of the individual

638

00:22:43,610 --> 00:22:41,820

like you know can it be just too

639

00:22:45,470 --> 00:22:43,620

overwhelming for an individual who is

640

00:22:47,690 --> 00:22:45,480

like so relentlessly curious that

641

00:22:49,250 --> 00:22:47,700

they're almost overwhelmed by what

642

00:22:51,830 --> 00:22:49,260

they're discovering and I think that's

643

00:22:54,590 --> 00:22:51,840

also something to bear in mind you know

644

00:22:56,930 --> 00:22:54,600

I think you know I think curiosity is

645

00:22:58,430 --> 00:22:56,940

something that brings so many benefits

646

00:23:00,230 --> 00:22:58,440

and I write about that in the

647

00:23:02,390 --> 00:23:00,240

intelligence trap you know how like

648

00:23:04,490 --> 00:23:02,400

curiosity you know it literally makes

649

00:23:06,470 --> 00:23:04,500

you smarter and that it makes you learn

650

00:23:08,930 --> 00:23:06,480

more quickly it makes you more rational

651  
00:23:10,370 --> 00:23:08,940  
because you find it easier to balance

652  
00:23:12,350 --> 00:23:10,380  
kind of information that might be

653  
00:23:15,169 --> 00:23:12,360  
contradictory you know you're kind of

654  
00:23:17,270 --> 00:23:15,179  
looking but the uh you're you're willing

655  
00:23:18,890 --> 00:23:17,280  
to accept like um evidence that

656  
00:23:20,450 --> 00:23:18,900  
challenges you which is really important

657  
00:23:23,149 --> 00:23:20,460  
for being rational so you're not

658  
00:23:24,950 --> 00:23:23,159  
suffering from confirmation bias

659  
00:23:27,049 --> 00:23:24,960  
um so I had always thought that we

660  
00:23:28,789 --> 00:23:27,059  
should like cultivate curiosity but I

661  
00:23:31,250 --> 00:23:28,799  
think if you get to a point where you're

662  
00:23:33,710 --> 00:23:31,260  
actually just struggling then maybe you

663  
00:23:36,350 --> 00:23:33,720

know you also have to slow down a bit or

664

00:23:37,909 --> 00:23:36,360

take your time you know manage like how

665

00:23:39,289 --> 00:23:37,919

you're dealing with that Curiosity

666

00:23:41,270 --> 00:23:39,299

making sure that you're not kind of

667

00:23:44,210 --> 00:23:41,280

pursuing too much

668

00:23:46,310 --> 00:23:44,220

um too quickly at any one time so I

669

00:23:48,350 --> 00:23:46,320

guess that's where I stand on that is

670

00:23:50,330 --> 00:23:48,360

that um even though you know

671

00:23:52,370 --> 00:23:50,340

open-mindedness curiosity you know

672

00:23:55,130 --> 00:23:52,380

they're great traits we always have to

673

00:23:57,350 --> 00:23:55,140

kind of rain them in and make sure that

674

00:23:59,690 --> 00:23:57,360

like um they're working to our advantage

675

00:24:01,430 --> 00:23:59,700

and that you know we're not going too

676

00:24:02,990 --> 00:24:01,440

quickly about thinking about the

677

00:24:05,450 --> 00:24:03,000

consequences whether that's personal

678

00:24:06,590 --> 00:24:05,460

where but that's for society can you

679

00:24:08,750 --> 00:24:06,600

talk about some of the benefits of

680

00:24:10,490 --> 00:24:08,760

curiosity and then also I'm going to ask

681

00:24:12,649 --> 00:24:10,500

you about how does one temper their

682

00:24:14,690 --> 00:24:12,659

curiosity if they're much like myself or

683

00:24:15,950 --> 00:24:14,700

I feel like it's not producing positive

684

00:24:19,310 --> 00:24:15,960

effects always

685

00:24:22,549 --> 00:24:19,320

right so curiosity you know it's this

686

00:24:24,470 --> 00:24:22,559

kind of hunger for knowledge and we know

687

00:24:26,390 --> 00:24:24,480

that you know neurologically speaking

688

00:24:28,610 --> 00:24:26,400

when you feel curiosity like some

689

00:24:30,590 --> 00:24:28,620

amazing things happen in the brain so it

690

00:24:33,049 --> 00:24:30,600

actually triggers the release of

691

00:24:35,450 --> 00:24:33,059

dopamine which we think of as being like

692

00:24:37,250 --> 00:24:35,460

you know a neurotransmitter associated

693

00:24:39,409 --> 00:24:37,260

with pleasure and it might be why

694

00:24:41,810 --> 00:24:39,419

finding out new things is you know is

695

00:24:45,590 --> 00:24:41,820

fun but actually dopamine also

696

00:24:48,289 --> 00:24:45,600

strengthens um the storage of memories

697

00:24:49,970 --> 00:24:48,299

that kind of cements the memory for you

698

00:24:51,770 --> 00:24:49,980

so it actually improves your long-term

699

00:24:53,270 --> 00:24:51,780

memory of what you're learning and then

700

00:24:55,549 --> 00:24:53,280

there's this kind of amazing kind of

701  
00:24:58,070 --> 00:24:55,559  
spillover like Halo of things so if

702  
00:25:00,350 --> 00:24:58,080  
you're curious about something you know

703  
00:25:02,090 --> 00:25:00,360  
in a kind of physics class or you know

704  
00:25:04,310 --> 00:25:02,100  
when you're reading a book like it

705  
00:25:05,810 --> 00:25:04,320  
actually helps you to learn not just

706  
00:25:07,970 --> 00:25:05,820  
that one fact but to actually

707  
00:25:10,070 --> 00:25:07,980  
strengthens your memories for all of the

708  
00:25:12,529 --> 00:25:10,080  
other facts that surround it so you know

709  
00:25:14,149 --> 00:25:12,539  
in education making sure that someone is

710  
00:25:17,149 --> 00:25:14,159  
curious and that they can pursue their

711  
00:25:19,909 --> 00:25:17,159  
curiosity it's really beneficial it can

712  
00:25:23,090 --> 00:25:19,919  
actually help to kind of um

713  
00:25:25,310 --> 00:25:23,100

uh you know like erase or blur the

714

00:25:27,350 --> 00:25:25,320

differences that arise from differences

715

00:25:29,210 --> 00:25:27,360

in IQ and learning if someone's really

716

00:25:31,190 --> 00:25:29,220

curious then really dedicated you know

717

00:25:33,649 --> 00:25:31,200

that's as good as having a higher IQ

718

00:25:35,630 --> 00:25:33,659

essentially even if the IQ is closer to

719

00:25:37,850 --> 00:25:35,640

average so we know it's it's important

720

00:25:40,549 --> 00:25:37,860

in learning and memory and then we also

721

00:25:41,870 --> 00:25:40,559

know that Curiosity can help to offset

722

00:25:44,029 --> 00:25:41,880

some of the

723

00:25:46,850 --> 00:25:44,039

um kind of biases that can sometimes

724

00:25:48,830 --> 00:25:46,860

come with greater intelligence so I

725

00:25:50,750 --> 00:25:48,840

mentioned earlier that people like

726

00:25:53,510 --> 00:25:50,760

Arthur Conan Doyle suffer from this

727

00:25:55,610 --> 00:25:53,520

thing called the my side bias and that

728

00:25:57,769 --> 00:25:55,620

is and motivated reasoning which is

729

00:25:59,330 --> 00:25:57,779

where you you're attached to a

730

00:26:01,310 --> 00:25:59,340

particular Viewpoint and then you only

731

00:26:03,230 --> 00:26:01,320

search for the evidence that supports

732

00:26:05,390 --> 00:26:03,240

that Viewpoint and you like use your

733

00:26:07,669 --> 00:26:05,400

intelligence to dismiss any arguments

734

00:26:09,350 --> 00:26:07,679

that might contradict your point of view

735

00:26:11,450 --> 00:26:09,360

um which can lead you down some kind of

736

00:26:12,830 --> 00:26:11,460

wormholes where you're believing

737

00:26:15,110 --> 00:26:12,840

something that you know most other

738

00:26:17,269 --> 00:26:15,120

people consider to be purely irrational

739

00:26:19,010 --> 00:26:17,279

and you know it's leading you to pursue

740

00:26:20,570 --> 00:26:19,020

a goal that isn't actually helping you

741

00:26:22,490 --> 00:26:20,580

in the long run

742

00:26:24,769 --> 00:26:22,500

um now what curiosity does is it

743

00:26:27,289 --> 00:26:24,779

actually protects you from that and it's

744

00:26:30,350 --> 00:26:27,299

because the Curiosity overrides that

745

00:26:32,570 --> 00:26:30,360

emotional kind of pull of your initial

746

00:26:35,090 --> 00:26:32,580

belief so you you know you might have an

747

00:26:37,430 --> 00:26:35,100

initial belief in you know something

748

00:26:40,070 --> 00:26:37,440

like the Paranormal or climate change

749

00:26:41,810 --> 00:26:40,080

denialism or you know any of these

750

00:26:42,649 --> 00:26:41,820

beliefs

751

00:26:45,289 --> 00:26:42,659

um

752

00:26:48,830 --> 00:26:45,299

that maybe don't tally with the

753

00:26:51,470 --> 00:26:48,840

scientific evidence but if you're super

754

00:26:54,350 --> 00:26:51,480

um curious and open-minded it's like

755

00:26:56,630 --> 00:26:54,360

then your love of new law new knowledge

756

00:26:58,549 --> 00:26:56,640

will mean that you are willing to read

757

00:27:00,529 --> 00:26:58,559

that evidence that contradicts that

758

00:27:02,690 --> 00:27:00,539

point of view like you you're so hungry

759

00:27:04,789 --> 00:27:02,700

for knowledge and you're so desperate to

760

00:27:06,710 --> 00:27:04,799

actually get to the bottom of this kind

761

00:27:09,350 --> 00:27:06,720

of problem that you'll you know you'll

762

00:27:10,909 --> 00:27:09,360

read that report that kind of disproves

763

00:27:13,130 --> 00:27:10,919

your belief and then you'll you'll

764

00:27:14,990 --> 00:27:13,140

assimilate it into your knowledge

765

00:27:17,029 --> 00:27:15,000

um and that's really important then for

766

00:27:19,310 --> 00:27:17,039

coming up with a more well-rounded less

767

00:27:20,870 --> 00:27:19,320

myopic kind of world view if you're

768

00:27:23,390 --> 00:27:20,880

constantly doing that you're constantly

769

00:27:25,490 --> 00:27:23,400

kind of accepting you know information

770

00:27:27,830 --> 00:27:25,500

from lots of different sources and then

771

00:27:29,769 --> 00:27:27,840

forming a more rational worldview

772

00:27:32,690 --> 00:27:29,779

because of that so you know for me

773

00:27:35,390 --> 00:27:32,700

curiosity is

774

00:27:37,310 --> 00:27:35,400

um in general for most people is like a

775

00:27:38,690 --> 00:27:37,320

skill that we really should cherish and

776

00:27:41,269 --> 00:27:38,700

cultivate

777

00:27:43,669 --> 00:27:41,279

um now if it's kind of leading you

778

00:27:46,070 --> 00:27:43,679

you know Australia leading you to pursue

779

00:27:48,890 --> 00:27:46,080

to feel like a desperation to know so

780

00:27:50,990 --> 00:27:48,900

much it's actually like um becoming

781

00:27:52,549 --> 00:27:51,000

overwhelming

782

00:27:54,590 --> 00:27:52,559

um I haven't really come across any

783

00:27:56,630 --> 00:27:54,600

research that tells you how to deal with

784

00:27:58,730 --> 00:27:56,640

that but I just wonder if maybe there

785

00:28:01,370 --> 00:27:58,740

it's almost possible to kind of

786

00:28:03,830 --> 00:28:01,380

just focus your curiosity a bit like

787

00:28:06,769 --> 00:28:03,840

pick maybe out of all of the things that

788

00:28:09,950 --> 00:28:06,779

are fascinating you maybe you know like

789

00:28:12,890 --> 00:28:09,960

pick some to focus on at the present and

790

00:28:14,330 --> 00:28:12,900

maybe put some to one side

791

00:28:16,370 --> 00:28:14,340

um while thinking that you know you

792

00:28:19,130 --> 00:28:16,380

could certainly like pursue them in the

793

00:28:20,870 --> 00:28:19,140

future but just kind of making sure that

794

00:28:23,210 --> 00:28:20,880

you're more

795

00:28:26,149 --> 00:28:23,220

um yeah more focused more concentrated

796

00:28:27,890 --> 00:28:26,159

in kind of what you're pursuing I don't

797

00:28:29,630 --> 00:28:27,900

know if that you know speaks to you

798

00:28:31,490 --> 00:28:29,640

personally but that's how I would kind

799

00:28:33,230 --> 00:28:31,500

of deal with it it's like you might want

800

00:28:35,210 --> 00:28:33,240

to know kind of everything

801  
00:28:36,769 --> 00:28:35,220  
um yeah like you want to travel to every

802  
00:28:38,630 --> 00:28:36,779  
country in the world but you have to

803  
00:28:40,610 --> 00:28:38,640  
create a list of priorities for like

804  
00:28:42,590 --> 00:28:40,620  
places to go burst and create that kind

805  
00:28:44,330 --> 00:28:42,600  
of itinerary of where you're going to go

806  
00:28:46,310 --> 00:28:44,340  
and like how you're going to get there

807  
00:28:47,870 --> 00:28:46,320  
I'll tell you something personal I don't

808  
00:28:49,850 --> 00:28:47,880  
think I've said this aloud to anyone

809  
00:28:51,649 --> 00:28:49,860  
outside of here there's a sentence that

810  
00:28:53,210 --> 00:28:51,659  
drives me I want to learn every Theory

811  
00:28:54,890 --> 00:28:53,220  
that's ever been constructed so I had

812  
00:28:56,570 --> 00:28:54,900  
that in me for a little while then I saw

813  
00:28:58,610 --> 00:28:56,580

that Feynman on his board Richard

814

00:29:00,890 --> 00:28:58,620

Feynman on his Blackboard before he died

815

00:29:02,810 --> 00:29:00,900

it had some equations but then scrawled

816

00:29:04,669 --> 00:29:02,820

in the corner it said

817

00:29:05,810 --> 00:29:04,679

learn to solve every problem that's ever

818

00:29:08,029 --> 00:29:05,820

been solved and I was like that's

819

00:29:10,250 --> 00:29:08,039

interesting but that's more practical

820

00:29:12,470 --> 00:29:10,260

than for I don't like to solve problems

821

00:29:14,750 --> 00:29:12,480

that are useful I like to know theories

822

00:29:16,250 --> 00:29:14,760

so I'm much more in the air he was on

823

00:29:18,169 --> 00:29:16,260

the ground I mean that's a great example

824

00:29:20,389 --> 00:29:18,179

because I think like Feynman was you

825

00:29:22,730 --> 00:29:20,399

know like one of the most famously

826

00:29:24,110 --> 00:29:22,740

curious people that have has been

827

00:29:25,610 --> 00:29:24,120

written about you know you see it in the

828

00:29:28,250 --> 00:29:25,620

insult biography you see another

829

00:29:30,470 --> 00:29:28,260

scientist descriptions of his behavior

830

00:29:33,529 --> 00:29:30,480

and you know Fineman had definitely had

831

00:29:36,049 --> 00:29:33,539

like his flaws like um but actually I

832

00:29:37,970 --> 00:29:36,059

think in terms of his kind of academic

833

00:29:39,409 --> 00:29:37,980

pursuit of knowledge that Curiosity

834

00:29:42,169 --> 00:29:39,419

really did get him

835

00:29:43,970 --> 00:29:42,179

really you know like so far and it was

836

00:29:46,070 --> 00:29:43,980

actually just like a kind of curiosity

837

00:29:47,750 --> 00:29:46,080

over the way plates were spinning in the

838

00:29:49,730 --> 00:29:47,760

cafeteria they eventually came up

839

00:29:52,630 --> 00:29:49,740

allowed him to come up with his theory

840

00:29:56,210 --> 00:29:52,640

about them uh what was it quantum

841

00:29:59,570 --> 00:29:56,220

yeah exactly but um then want him the

842

00:30:01,730 --> 00:29:59,580

Nobel Prize so he you know like it does

843

00:30:03,350 --> 00:30:01,740

show you what curiosity can achieve but

844

00:30:06,049 --> 00:30:03,360

again I think he

845

00:30:09,529 --> 00:30:06,059

he was super curious but I think he was

846

00:30:11,810 --> 00:30:09,539

kind of he kept it in balance and he was

847

00:30:14,269 --> 00:30:11,820

like new kind of when to focus on one

848

00:30:16,130 --> 00:30:14,279

particular project when to kind of allow

849

00:30:18,889 --> 00:30:16,140

his curiosity to kind of go elsewhere

850

00:30:20,810 --> 00:30:18,899

temporarily so you know that was I think

851

00:30:23,810 --> 00:30:20,820

he's a good model to Polo in that kind

852

00:30:25,090 --> 00:30:23,820

of sense as a writer how many ideas for

853

00:30:27,529 --> 00:30:25,100

books do you have

854

00:30:29,990 --> 00:30:27,539

interesting yeah so I mean I'm working

855

00:30:31,730 --> 00:30:30,000

on my third book no but how many ideas

856

00:30:34,130 --> 00:30:31,740

do you have like on the back burner of

857

00:30:36,529 --> 00:30:34,140

okay project one project two well I've

858

00:30:38,870 --> 00:30:36,539

got it up a couple of ideas kind of you

859

00:30:39,710 --> 00:30:38,880

know they're very vague notes at the

860

00:30:41,330 --> 00:30:39,720

moment

861

00:30:43,010 --> 00:30:41,340

um but I just can't say for certain

862

00:30:44,690 --> 00:30:43,020

whether I would ever pursued them

863

00:30:47,029 --> 00:30:44,700

because

864

00:30:48,950 --> 00:30:47,039

yeah like it's always good to have that

865

00:30:50,990 --> 00:30:48,960

kind of stuff on the back burner that's

866

00:30:52,789 --> 00:30:51,000

interesting you but I think also like I

867

00:30:54,889 --> 00:30:52,799

have to be realistic in what I can

868

00:30:57,289 --> 00:30:54,899

achieve in the amount of time that I

869

00:30:59,269 --> 00:30:57,299

have and also you know I don't know by

870

00:31:01,250 --> 00:30:59,279

the time I've you know between now and

871

00:31:02,690 --> 00:31:01,260

when I've finished my next book someone

872

00:31:04,430 --> 00:31:02,700

else might have already written

873

00:31:06,230 --> 00:31:04,440

something great on one of those topics

874

00:31:08,930 --> 00:31:06,240

and then I don't want to just kind of

875

00:31:11,690 --> 00:31:08,940

rehash what someone else is is writing

876

00:31:13,610 --> 00:31:11,700

so yeah I have a few I'd say maybe I've

877

00:31:15,350 --> 00:31:13,620

got yeah like the one I'm working on

878

00:31:17,330 --> 00:31:15,360

that's been commissioned and then

879

00:31:20,210 --> 00:31:17,340

another couple maybe three but I'm kind

880

00:31:22,370 --> 00:31:20,220

of modeling but I'm mulling over but um

881

00:31:24,230 --> 00:31:22,380

you know they may never come off and I

882

00:31:26,210 --> 00:31:24,240

might you know in the meantime I might

883

00:31:28,130 --> 00:31:26,220

just come up with another idea that just

884

00:31:30,769 --> 00:31:28,140

like really grabs my attention that I

885

00:31:33,110 --> 00:31:30,779

have to write so yeah that's how I work

886

00:31:34,310 --> 00:31:33,120

really you know having lots of ideas

887

00:31:36,830 --> 00:31:34,320

kind of

888

00:31:38,510 --> 00:31:36,840

in the background like uh that I'm

889

00:31:39,950 --> 00:31:38,520

mulling over kind of subconsciously and

890

00:31:42,470 --> 00:31:39,960

consciously but they're not really

891

00:31:44,029 --> 00:31:42,480

making a definite decision until you

892

00:31:45,590 --> 00:31:44,039

know something really grabs my attention

893

00:31:47,090 --> 00:31:45,600

and kind of helps it to all fall into

894

00:31:49,010 --> 00:31:47,100

place and it makes me think actually

895

00:31:52,190 --> 00:31:49,020

this is the one this is what I want to

896

00:31:53,990 --> 00:31:52,200

pursue next I'm super curious now how is

897

00:31:56,330 --> 00:31:54,000

it that you come up with the ideas for

898

00:31:58,789 --> 00:31:56,340

your books is it that you're walking

899

00:32:01,430 --> 00:31:58,799

around and one idea strikes you does it

900

00:32:04,190 --> 00:32:01,440

develop over time generally or is it

901  
00:32:06,590 --> 00:32:04,200  
like the seed is implanted at once are

902  
00:32:08,029 --> 00:32:06,600  
you trying to work something out in the

903  
00:32:09,289 --> 00:32:08,039  
book like you have an idea you're not

904  
00:32:11,690 --> 00:32:09,299  
sure if it's true so you're going to

905  
00:32:13,250 --> 00:32:11,700  
write about it and find out did you read

906  
00:32:15,049 --> 00:32:13,260  
some fact and you're like oh that's

907  
00:32:17,389 --> 00:32:15,059  
interesting let me explore how does it

908  
00:32:18,830 --> 00:32:17,399  
work well yeah I mean so say with the

909  
00:32:20,269 --> 00:32:18,840  
intelligence trap

910  
00:32:21,710 --> 00:32:20,279  
um you know I had this fascination with

911  
00:32:23,450 --> 00:32:21,720  
intelligence

912  
00:32:25,669 --> 00:32:23,460  
um you know that then kind of grew as I

913  
00:32:27,950 --> 00:32:25,679

became a science journalist and I kind

914

00:32:30,590 --> 00:32:27,960

of was seeing these people you know

915

00:32:32,750 --> 00:32:30,600

where they're kind of academic

916

00:32:35,029 --> 00:32:32,760

credentials didn't seem to match kind of

917

00:32:36,649 --> 00:32:35,039

their behavior you know enough parts of

918

00:32:38,330 --> 00:32:36,659

their life or their expertise in one

919

00:32:40,130 --> 00:32:38,340

field didn't seem to translate to others

920

00:32:42,649 --> 00:32:40,140

so you know like I had those examples

921

00:32:44,690 --> 00:32:42,659

you know it's a writer who specialized

922

00:32:46,730 --> 00:32:44,700

in Psychology I'd kind of been keeping

923

00:32:47,810 --> 00:32:46,740

on top of the research with that

924

00:32:49,850 --> 00:32:47,820

um but you know it's not like

925

00:32:52,010 --> 00:32:49,860

immediately just

926  
00:32:53,990 --> 00:32:52,020  
as soon as I came across one piece of

927  
00:32:55,610 --> 00:32:54,000  
research like it it suddenly I thought

928  
00:32:57,889 --> 00:32:55,620  
that has to be a book it was much more

929  
00:33:01,190 --> 00:32:57,899  
of a prolonged process where I kept on

930  
00:33:03,889 --> 00:33:01,200  
coming across new papers keeping note of

931  
00:33:05,930 --> 00:33:03,899  
them and then eventually it just kind of

932  
00:33:08,090 --> 00:33:05,940  
coalesced and that I I guess it is

933  
00:33:10,970 --> 00:33:08,100  
almost like you know the way Cloud spawn

934  
00:33:14,450 --> 00:33:10,980  
in a way it's like I felt like there was

935  
00:33:16,909 --> 00:33:14,460  
just around this new uh nucleus it was

936  
00:33:19,549 --> 00:33:16,919  
like suddenly this idea started to

937  
00:33:21,409 --> 00:33:19,559  
emerge and take shape and then you know

938  
00:33:23,210 --> 00:33:21,419

it got to this stage where I felt like

939

00:33:24,049 --> 00:33:23,220

well I can write a proposal but this

940

00:33:26,509 --> 00:33:24,059

book

941

00:33:28,909 --> 00:33:26,519

test out for myself but there's the kind

942

00:33:30,350 --> 00:33:28,919

of correct narrative Arc and then you

943

00:33:32,090 --> 00:33:30,360

know once that was done I was pretty

944

00:33:33,710 --> 00:33:32,100

certain that that was something you know

945

00:33:35,570 --> 00:33:33,720

I really wanted to devote like a couple

946

00:33:37,250 --> 00:33:35,580

of years to write

947

00:33:39,110 --> 00:33:37,260

um and it was exactly the same with the

948

00:33:40,970 --> 00:33:39,120

expectation effect of my second book

949

00:33:43,490 --> 00:33:40,980

which but I've been looking into things

950

00:33:45,049 --> 00:33:43,500

like the placebo effect you know since I

951  
00:33:47,330 --> 00:33:45,059  
became a science journalist like more

952  
00:33:48,110 --> 00:33:47,340  
than 10 years ago

953  
00:33:49,490 --> 00:33:48,120  
um

954  
00:33:51,350 --> 00:33:49,500  
and then there was a bit of a kind of

955  
00:33:52,970 --> 00:33:51,360  
personal inspiration like an event in my

956  
00:33:55,669 --> 00:33:52,980  
life where I kind of experienced an

957  
00:33:56,570 --> 00:33:55,679  
expectation effect for myself

958  
00:33:58,850 --> 00:33:56,580  
um

959  
00:34:01,250 --> 00:33:58,860  
but then again it was just like

960  
00:34:03,769 --> 00:34:01,260  
collecting papers and then suddenly like

961  
00:34:05,930 --> 00:34:03,779  
a few years later it just I noticed that

962  
00:34:07,909 --> 00:34:05,940  
actually there was you know already like

963  
00:34:10,070 --> 00:34:07,919

a structure had kind of formed it just

964

00:34:12,589 --> 00:34:10,080

kind of occurred to me that you know

965

00:34:14,930 --> 00:34:12,599

these were how I it was like this was

966

00:34:17,089 --> 00:34:14,940

how I could arrange the chapters this

967

00:34:19,490 --> 00:34:17,099

was the story that I felt I could tell

968

00:34:20,930 --> 00:34:19,500

and then I looked into the research you

969

00:34:23,510 --> 00:34:20,940

know to check that it stood up and

970

00:34:26,329 --> 00:34:23,520

actually the more I researched the more

971

00:34:27,589 --> 00:34:26,339

it made sense and you know like I was

972

00:34:30,589 --> 00:34:27,599

finding all these fascinating things

973

00:34:33,050 --> 00:34:30,599

that actually just added to this um

974

00:34:35,210 --> 00:34:33,060

argument I I wanted to make you know

975

00:34:36,950 --> 00:34:35,220

pieces of research I hadn't known about

976

00:34:39,470 --> 00:34:36,960

previously and like stuff I just found

977

00:34:42,169 --> 00:34:39,480

like totally fascinating so yeah that

978

00:34:43,970 --> 00:34:42,179

was how that emerged very similar to the

979

00:34:45,710 --> 00:34:43,980

first one it's like a kind of it

980

00:34:47,750 --> 00:34:45,720

coalesces it takes shape and then

981

00:34:49,669 --> 00:34:47,760

suddenly you think yeah this is a story

982

00:34:52,550 --> 00:34:49,679

that deserves to be a book rather than

983

00:34:54,649 --> 00:34:52,560

like a feature article in a magazine

984

00:34:57,349 --> 00:34:54,659

and when it's coalescing are you making

985

00:34:59,210 --> 00:34:57,359

notes in Google Docs or notion or is it

986

00:35:00,829 --> 00:34:59,220

written on a piece of paper I know I'm

987

00:35:02,410 --> 00:35:00,839

getting in the weeds but I'm I'm an in

988

00:35:04,910 --> 00:35:02,420

the weeds person I'm a details person

989

00:35:06,890 --> 00:35:04,920

yeah no I mean it's in a Word document

990

00:35:09,170 --> 00:35:06,900

so you know I just have like Word

991

00:35:11,329 --> 00:35:09,180

documents that are like you know tens of

992

00:35:14,210 --> 00:35:11,339

pages long with like all kinds of ideas

993

00:35:16,670 --> 00:35:14,220

for like mostly just for like

994

00:35:18,290 --> 00:35:16,680

just noting down pieces of research that

995

00:35:21,050 --> 00:35:18,300

interests me and I'll kind of categorize

996

00:35:22,790 --> 00:35:21,060

it um you know and then I might Plumb

997

00:35:25,250 --> 00:35:22,800

that when I want to come up with like a

998

00:35:26,870 --> 00:35:25,260

an article to pitch to a magazine or if

999

00:35:28,849 --> 00:35:26,880

an editor comes to me and they say like

1000

00:35:30,530 --> 00:35:28,859

could you write a piece about you know

1001  
00:35:33,109 --> 00:35:30,540  
conspiracy theories or whatever and

1002  
00:35:34,970 --> 00:35:33,119  
that'll have like these notes that I can

1003  
00:35:36,890 --> 00:35:34,980  
go back to that just kind of suggest to

1004  
00:35:38,750 --> 00:35:36,900  
me kind of what you know what I can say

1005  
00:35:40,430 --> 00:35:38,760  
that's new and interesting

1006  
00:35:42,410 --> 00:35:40,440  
um see it's very much like that and the

1007  
00:35:45,170 --> 00:35:42,420  
books kind of just emerge from that kind

1008  
00:35:47,630 --> 00:35:45,180  
of long list of papers it's you know not

1009  
00:35:49,730 --> 00:35:47,640  
very organized um like it's kind of

1010  
00:35:52,130 --> 00:35:49,740  
split into basic categories but it's not

1011  
00:35:54,109 --> 00:35:52,140  
like I'm being really strategic I think

1012  
00:35:57,950 --> 00:35:54,119  
that is a case of me allowing my

1013  
00:35:59,690 --> 00:35:57,960

curiosity just to kind of to flow and

1014

00:36:01,190 --> 00:35:59,700

just like noting these things down just

1015

00:36:03,530 --> 00:36:01,200

because I'm scared of like forgetting

1016

00:36:06,290 --> 00:36:03,540

and losing them essentially

1017

00:36:08,990 --> 00:36:06,300

how do you deal with this issue of for

1018

00:36:11,270 --> 00:36:09,000

myself when I'm writing and I'm writing

1019

00:36:12,970 --> 00:36:11,280

books without a publisher it's just tree

1020

00:36:15,470 --> 00:36:12,980

disease it's better to say it like that

1021

00:36:17,150 --> 00:36:15,480

mainly my impetus is because I don't

1022

00:36:18,650 --> 00:36:17,160

understand some subject so let me write

1023

00:36:20,630 --> 00:36:18,660

about it for instance paradoxes I'm

1024

00:36:22,430 --> 00:36:20,640

writing a book on logical paradoxes or

1025

00:36:24,170 --> 00:36:22,440

interpretations of quantum mechanics or

1026  
00:36:25,010 --> 00:36:24,180  
theories of every like a compendium of

1027  
00:36:27,530 --> 00:36:25,020  
different theories of everything

1028  
00:36:29,630 --> 00:36:27,540  
actually anyway as soon as I make an

1029  
00:36:31,670 --> 00:36:29,640  
opinion or state of fact quote unquote I

1030  
00:36:33,230 --> 00:36:31,680  
can find flaws with it and there are

1031  
00:36:34,550 --> 00:36:33,240  
people who have some alternate opinion

1032  
00:36:36,470 --> 00:36:34,560  
so then I research them like that's

1033  
00:36:38,450 --> 00:36:36,480  
actually fairly convincing okay let me

1034  
00:36:40,310 --> 00:36:38,460  
research what the opponent says oh

1035  
00:36:41,990 --> 00:36:40,320  
that's interesting and it goes back and

1036  
00:36:43,849 --> 00:36:42,000  
forth to the point where it's bottomless

1037  
00:36:47,089 --> 00:36:43,859  
at least for myself and then I get to

1038  
00:36:49,250 --> 00:36:47,099

questions of what is and who am I the

1039

00:36:51,230 --> 00:36:49,260

point is like I at least for myself when

1040

00:36:53,450 --> 00:36:51,240

trying to put my stake down is something

1041

00:36:55,550 --> 00:36:53,460

extremely solid I find that it's sand

1042

00:36:57,230 --> 00:36:55,560

and I constantly I'm putting it in

1043

00:36:59,329 --> 00:36:57,240

something else and investigating is

1044

00:37:01,130 --> 00:36:59,339

seeing okay that's water oh shoot okay

1045

00:37:03,050 --> 00:37:01,140

this this I think is Rock no it's

1046

00:37:04,190 --> 00:37:03,060

Mercury and so on how do you deal with

1047

00:37:06,050 --> 00:37:04,200

that how do you know when you're

1048

00:37:07,970 --> 00:37:06,060

supposed to stop and just put your foot

1049

00:37:10,069 --> 00:37:07,980

down and say okay this is as good as I

1050

00:37:11,270 --> 00:37:10,079

can get it yeah I mean that is really

1051

00:37:12,710 --> 00:37:11,280

tough

1052

00:37:14,870 --> 00:37:12,720

um especially because science is

1053

00:37:17,089 --> 00:37:14,880

constantly evolving and you know there's

1054

00:37:19,550 --> 00:37:17,099

always the fear that like you know

1055

00:37:21,109 --> 00:37:19,560

between having kind of signed off the

1056

00:37:23,630 --> 00:37:21,119

proofs and the book being published

1057

00:37:25,730 --> 00:37:23,640

there's some big new study will come you

1058

00:37:27,650 --> 00:37:25,740

know they might kind of prove the thesis

1059

00:37:29,390 --> 00:37:27,660

but provide that kind of clinching

1060

00:37:31,490 --> 00:37:29,400

evidence that you wish you could have

1061

00:37:35,510 --> 00:37:31,500

included or that will contradict some

1062

00:37:38,210 --> 00:37:35,520

parts and like you know I'm always aware

1063

00:37:40,069 --> 00:37:38,220

of that I think and you know even within

1064

00:37:42,589 --> 00:37:40,079

the science sometimes you get research

1065

00:37:44,569 --> 00:37:42,599

that is contradictory and that's just a

1066

00:37:47,030 --> 00:37:44,579

healthy part of science

1067

00:37:49,310 --> 00:37:47,040

um you know when I'm writing my books I

1068

00:37:51,530 --> 00:37:49,320

really try to kind of acknowledge the

1069

00:37:53,270 --> 00:37:51,540

those kinds of nuances

1070

00:37:56,210 --> 00:37:53,280

um but I'm really trying to look at like

1071

00:37:58,430 --> 00:37:56,220

whether there's a bully a body of

1072

00:37:59,990 --> 00:37:58,440

evidence that kind of from lots of

1073

00:38:01,550 --> 00:38:00,000

different sources you know lots of

1074

00:38:03,650 --> 00:38:01,560

different types of studies it could be

1075

00:38:06,170 --> 00:38:03,660

you know medicine like longitudinal

1076

00:38:08,630 --> 00:38:06,180

studies it could be laboratory studies

1077

00:38:11,450 --> 00:38:08,640

it could be like real world kind of um

1078

00:38:13,730 --> 00:38:11,460

interventions you know all of that if

1079

00:38:15,710 --> 00:38:13,740

you have enough of those that all point

1080

00:38:17,690 --> 00:38:15,720

in the same direction and are showing

1081

00:38:19,670 --> 00:38:17,700

the same phenomenon like with the

1082

00:38:21,650 --> 00:38:19,680

expectation effect you know if you have

1083

00:38:24,050 --> 00:38:21,660

all of these um pieces of evidence

1084

00:38:26,810 --> 00:38:24,060

showing that kind of our expectations

1085

00:38:28,849 --> 00:38:26,820

can shape our Behavior perception and

1086

00:38:29,990 --> 00:38:28,859

Physiology

1087

00:38:32,089 --> 00:38:30,000

um in profound ways to create

1088

00:38:33,710 --> 00:38:32,099

self-fulfilling prophecies then that's

1089

00:38:36,710 --> 00:38:33,720

what I feel I'm contributing you know

1090

00:38:39,530 --> 00:38:36,720

I'm somewhere Rising synthesizing that

1091

00:38:42,349 --> 00:38:39,540

body of literature and I see it as you

1092

00:38:44,750 --> 00:38:42,359

know it's a snapshot in time essentially

1093

00:38:46,370 --> 00:38:44,760

like I have to accept that that book

1094

00:38:49,490 --> 00:38:46,380

will be as correct as I can possibly

1095

00:38:51,109 --> 00:38:49,500

make it at the time of publication but I

1096

00:38:53,569 --> 00:38:51,119

can never guarantee that there won't be

1097

00:38:55,069 --> 00:38:53,579

other you know cool new studies that

1098

00:38:56,810 --> 00:38:55,079

might support a contradictor in the

1099

00:38:58,450 --> 00:38:56,820

future and I have to kind of make peace

1100

00:39:01,730 --> 00:38:58,460

with that fact that it's a

1101  
00:39:03,890 --> 00:39:01,740  
representation of my thinking and as far

1102  
00:39:06,230 --> 00:39:03,900  
as I could represent it the state of the

1103  
00:39:07,970 --> 00:39:06,240  
science at that time that I was writing

1104  
00:39:10,550 --> 00:39:07,980  
the book and I think that's how readers

1105  
00:39:11,810 --> 00:39:10,560  
take it as well can you explain the

1106  
00:39:13,310 --> 00:39:11,820  
different types of studies you've just

1107  
00:39:15,349 --> 00:39:13,320  
outlined longitudinal studies

1108  
00:39:16,609 --> 00:39:15,359  
Interventional studies and what other

1109  
00:39:17,930 --> 00:39:16,619  
types of studies are there and what's

1110  
00:39:20,329 --> 00:39:17,940  
like the difference between compare and

1111  
00:39:21,890 --> 00:39:20,339  
contrast if you don't mind right sure so

1112  
00:39:23,450 --> 00:39:21,900  
I mean I think you know like in

1113  
00:39:26,510 --> 00:39:23,460

## Psychology and Medicine you can have

1114

00:39:28,609 --> 00:39:26,520

like a you know laboratory based study

1115

00:39:30,710 --> 00:39:28,619

which is normally in the short term and

1116

00:39:33,410 --> 00:39:30,720

you might have someone come in you know

1117

00:39:36,050 --> 00:39:33,420

for psychology say well you're

1118

00:39:38,210 --> 00:39:36,060

you might test their mindset so looking

1119

00:39:40,490 --> 00:39:38,220

this is for the expectation effect like

1120

00:39:42,170 --> 00:39:40,500

looking at their beliefs on you know a

1121

00:39:44,030 --> 00:39:42,180

particular element of their health or

1122

00:39:46,030 --> 00:39:44,040

their Fitness or

1123

00:39:49,970 --> 00:39:46,040

um you know what they think about food

1124

00:39:52,190 --> 00:39:49,980

and then you might either you might then

1125

00:39:53,870 --> 00:39:52,200

kind of give them some kind of tests so

1126

00:39:56,150 --> 00:39:53,880

you might be measuring you know how the

1127

00:39:58,849 --> 00:39:56,160

what the hormonal response is to the

1128

00:40:00,970 --> 00:39:58,859

foods that they're eating and then you

1129

00:40:03,650 --> 00:40:00,980

kind of look for a correlation between

1130

00:40:05,690 --> 00:40:03,660

you know their beliefs and those

1131

00:40:07,849 --> 00:40:05,700

physiological outcomes so you know

1132

00:40:09,109 --> 00:40:07,859

standard kind of Laboratory test you

1133

00:40:12,170 --> 00:40:09,119

might also have a kind of intervention

1134

00:40:14,810 --> 00:40:12,180

within the laboratory so in that case

1135

00:40:17,030 --> 00:40:14,820

to kind of look at causality you might

1136

00:40:18,829 --> 00:40:17,040

rather than just measuring the mindset

1137

00:40:22,849 --> 00:40:18,839

she might actually try to change their

1138

00:40:24,589 --> 00:40:22,859

mindsets so you might try to uh change

1139

00:40:26,690 --> 00:40:24,599

the way they viewed their own kind of

1140

00:40:28,970 --> 00:40:26,700

health and ability to deal with exercise

1141

00:40:31,370 --> 00:40:28,980

and then you might measure how they

1142

00:40:34,730 --> 00:40:31,380

perform on the treadmill you know see if

1143

00:40:37,790 --> 00:40:34,740

if you tell them that they actually have

1144

00:40:40,069 --> 00:40:37,800

um good genes for doing exercise that's

1145

00:40:42,349 --> 00:40:40,079

going to enhance their endurance do they

1146

00:40:44,510 --> 00:40:42,359

then perform better in a test of

1147

00:40:46,250 --> 00:40:44,520

Endurance on the treadmill and does that

1148

00:40:48,170 --> 00:40:46,260

change things like their physiology like

1149

00:40:50,690 --> 00:40:48,180

the gas exchange within their lungs you

1150

00:40:53,270 --> 00:40:50,700

know that kind of thing if you do find

1151

00:40:56,089 --> 00:40:53,280

that those had had their mindsets

1152

00:40:58,130 --> 00:40:56,099

changed then also

1153

00:41:02,089 --> 00:40:58,140

um show differences in their physiology

1154

00:41:04,130 --> 00:41:02,099

well that's a suggestion of a um of a

1155

00:41:06,470 --> 00:41:04,140

causal effect essentially

1156

00:41:08,510 --> 00:41:06,480

um so quite a good piece of evidence but

1157

00:41:12,530 --> 00:41:08,520

the latter is a an Interventional study

1158

00:41:15,230 --> 00:41:12,540

yeah exactly and the former was a uh

1159

00:41:17,030 --> 00:41:15,240

well I guess a correlational study

1160

00:41:18,890 --> 00:41:17,040

um within the laboratory but then you

1161

00:41:20,450 --> 00:41:18,900

could also do these in kind of a real

1162

00:41:22,370 --> 00:41:20,460

life situation and I think that would be

1163

00:41:23,930 --> 00:41:22,380

much more convincing as if you could

1164

00:41:27,890 --> 00:41:23,940

kind of

1165

00:41:29,810 --> 00:41:27,900

mindsets over a period of a month for

1166

00:41:31,490 --> 00:41:29,820

example and then you measure differences

1167

00:41:33,829 --> 00:41:31,500

in that physiology you know do you see

1168

00:41:36,170 --> 00:41:33,839

the predicted effects you can also look

1169

00:41:39,050 --> 00:41:36,180

at longitudinal studies which are

1170

00:41:42,349 --> 00:41:39,060

correlational but uh they have some

1171

00:41:44,630 --> 00:41:42,359

advantages because they often track a

1172

00:41:46,430 --> 00:41:44,640

lot of data from a lot of people over a

1173

00:41:49,970 --> 00:41:46,440

long period of time so you might track

1174

00:41:51,230 --> 00:41:49,980

it over 10 years for 10 000 people and

1175

00:41:53,450 --> 00:41:51,240

you might have measured their beliefs

1176  
00:41:55,609 --> 00:41:53,460  
about you know that Fitness or stress at

1177  
00:41:57,530 --> 00:41:55,619  
one point and then you might look at

1178  
00:41:59,870 --> 00:41:57,540  
lots of different outcomes like their

1179  
00:42:02,210 --> 00:41:59,880  
behavior their BMI their risk of Death

1180  
00:42:04,990 --> 00:42:02,220  
at a later time point and you look for

1181  
00:42:08,510 --> 00:42:05,000  
correlations there and you try to um

1182  
00:42:10,670 --> 00:42:08,520  
to kind of control for the conflicting

1183  
00:42:11,990 --> 00:42:10,680  
compounding factors

1184  
00:42:13,970 --> 00:42:12,000  
um now again that that doesn't

1185  
00:42:16,069 --> 00:42:13,980  
necessarily prove causality and there

1186  
00:42:17,390 --> 00:42:16,079  
are issues with that but I think if you

1187  
00:42:19,190 --> 00:42:17,400  
have all these different types of

1188  
00:42:21,650 --> 00:42:19,200

studies and they're all kind of showing

1189

00:42:25,190 --> 00:42:21,660

the predicted effects then like together

1190

00:42:26,930 --> 00:42:25,200

is like they're all you know they all

1191

00:42:28,790 --> 00:42:26,940

support the argument nothing that's what

1192

00:42:30,230 --> 00:42:28,800

I'm really looking for there any one

1193

00:42:32,150 --> 00:42:30,240

piece of evidence I think you can

1194

00:42:34,190 --> 00:42:32,160

there's going to be some flaws in the

1195

00:42:37,010 --> 00:42:34,200

way this study was conducted but I think

1196

00:42:39,230 --> 00:42:37,020

like if you start to find you know lots

1197

00:42:41,150 --> 00:42:39,240

of lots of data all pointing in the same

1198

00:42:42,829 --> 00:42:41,160

direction that makes me much more

1199

00:42:44,990 --> 00:42:42,839

confident that there's something solid

1200

00:42:46,730 --> 00:42:45,000

there that you're you're observing and

1201

00:42:48,710 --> 00:42:46,740

noting and that could be valuable in

1202

00:42:51,050 --> 00:42:48,720

applying what is the expectation effect

1203

00:42:53,030 --> 00:42:51,060

and what was the Catalyst you said there

1204

00:42:55,490 --> 00:42:53,040

is a personal Catalyst for the book

1205

00:42:57,589 --> 00:42:55,500

yeah so I mean the expectation effect is

1206

00:42:59,270 --> 00:42:57,599

decided that our mindsets which are

1207

00:43:02,150 --> 00:42:59,280

these kinds of collective beliefs that

1208

00:43:04,130 --> 00:43:02,160

we hold can create self-fulfilling

1209

00:43:07,069 --> 00:43:04,140

prophecies and that they can do so

1210

00:43:10,010 --> 00:43:07,079

through changes to perception changes to

1211

00:43:11,510 --> 00:43:10,020

behavior and changes to physiology so

1212

00:43:14,870 --> 00:43:11,520

actually all during things like the

1213

00:43:17,390 --> 00:43:14,880

hormonal response in your body or

1214

00:43:19,130 --> 00:43:17,400

you know your blood pressure the actions

1215

00:43:22,190 --> 00:43:19,140

of the gut

1216

00:43:24,170 --> 00:43:22,200

um your bodily movements when you're um

1217

00:43:25,970 --> 00:43:24,180

when you're exercising you know all of

1218

00:43:28,069 --> 00:43:25,980

those kinds of things

1219

00:43:29,690 --> 00:43:28,079

um and and you know like in the book I

1220

00:43:32,089 --> 00:43:29,700

kind of look at the ways that this can

1221

00:43:33,650 --> 00:43:32,099

our mindsets can influence our briefing

1222

00:43:35,329 --> 00:43:33,660

from you know the effects of a

1223

00:43:36,609 --> 00:43:35,339

particular drug

1224

00:43:38,870 --> 00:43:36,619

um in a hospital

1225

00:43:41,450 --> 00:43:38,880

to the

1226  
00:43:43,490 --> 00:43:41,460  
um outcomes of exercise like how you

1227  
00:43:46,490 --> 00:43:43,500  
experience the exercise how your body

1228  
00:43:48,410 --> 00:43:46,500  
responds to the exercise whether it you

1229  
00:43:49,730 --> 00:43:48,420  
know it's efficient or inefficient and

1230  
00:43:53,329 --> 00:43:49,740  
kind of

1231  
00:43:56,030 --> 00:43:53,339  
um performing in particular activity

1232  
00:43:58,609 --> 00:43:56,040  
um how we respond to food how we respond

1233  
00:44:00,770 --> 00:43:58,619  
to a new diet how we respond to sleep

1234  
00:44:03,530 --> 00:44:00,780  
loss even how long we live so I really

1235  
00:44:05,329 --> 00:44:03,540  
looked at you know kind of I think all

1236  
00:44:07,490 --> 00:44:05,339  
of the kind of key areas of our life

1237  
00:44:09,109 --> 00:44:07,500  
that we might be trying to improve with

1238  
00:44:11,690 --> 00:44:09,119

changes in lifestyle and I'm basically

1239

00:44:14,210 --> 00:44:11,700

showing that changes in mindsets Are Not

1240

00:44:16,370 --> 00:44:14,220

Alone going to be this kind of secret

1241

00:44:18,410 --> 00:44:16,380

Panacea that's going to kind of create

1242

00:44:20,390 --> 00:44:18,420

Miracles you know I'm not claiming that

1243

00:44:22,609 --> 00:44:20,400

it can that you can change your life

1244

00:44:24,410 --> 00:44:22,619

just by changing your beliefs but often

1245

00:44:26,569 --> 00:44:24,420

the beliefs are an important component

1246

00:44:28,130 --> 00:44:26,579

and they can kind of take the breaks off

1247

00:44:30,109 --> 00:44:28,140

of our progress so that when you are

1248

00:44:32,690 --> 00:44:30,119

making all of those other beneficial

1249

00:44:35,150 --> 00:44:32,700

changes to your kind of exercise regime

1250

00:44:37,370 --> 00:44:35,160

or your diet or your sleep but actually

1251

00:44:39,109 --> 00:44:37,380

like making sure you're doing so with

1252

00:44:42,290 --> 00:44:39,119

the right mindsets can actually make it

1253

00:44:43,790 --> 00:44:42,300

a lot more effective and it can you know

1254

00:44:45,349 --> 00:44:43,800

kind of bring about all of these

1255

00:44:46,130 --> 00:44:45,359

positive outcomes

1256

00:44:48,109 --> 00:44:46,140

um

1257

00:44:51,770 --> 00:44:48,119

can you give an example before you move

1258

00:44:53,809 --> 00:44:51,780

on to the personal one yeah exactly so

1259

00:44:56,930 --> 00:44:53,819

um no I kind of hinted at this earlier

1260

00:44:59,750 --> 00:44:56,940

you know uh researchers at Stanford kind

1261

00:45:01,609 --> 00:44:59,760

of um wanted to see how people's beliefs

1262

00:45:04,190 --> 00:45:01,619

about their own Fitness would shape how

1263

00:45:06,770 --> 00:45:04,200

they responded to endurance exercise

1264

00:45:08,750 --> 00:45:06,780

um so they gave people a real uh genetic

1265

00:45:11,510 --> 00:45:08,760

test it looked at the crib one gene

1266

00:45:13,790 --> 00:45:11,520

which is associated with um kind of uh

1267

00:45:16,490 --> 00:45:13,800

cardiovascular fitness you know and

1268

00:45:18,530 --> 00:45:16,500

endurance if you have the kind of good

1269

00:45:20,089 --> 00:45:18,540

version of the gene like you find it a

1270

00:45:21,650 --> 00:45:20,099

bit easier and more comfortable to do

1271

00:45:23,870 --> 00:45:21,660

exercise things like your kind of

1272

00:45:25,309 --> 00:45:23,880

internal body temperature just stays in

1273

00:45:27,290 --> 00:45:25,319

the kind of comfortable range a bit

1274

00:45:29,210 --> 00:45:27,300

longer Gene you know like um yeah

1275

00:45:31,730 --> 00:45:29,220

exactly it's great great to have if you

1276

00:45:34,069 --> 00:45:31,740

have it I'm a glut and that's like my

1277

00:45:36,650 --> 00:45:34,079

advice is I just I can go to buffets and

1278

00:45:38,569 --> 00:45:36,660

just eat and eat meat so that's I hope I

1279

00:45:41,030 --> 00:45:38,579

have that Gene or if I don't I hope

1280

00:45:43,910 --> 00:45:41,040

crispr is making some progress because I

1281

00:45:45,470 --> 00:45:43,920

would like to engineer that into me

1282

00:45:46,730 --> 00:45:45,480

but here's the thing that you should

1283

00:45:48,650 --> 00:45:46,740

remember then

1284

00:45:51,050 --> 00:45:48,660

um because so they did the real genetic

1285

00:45:53,390 --> 00:45:51,060

test but they gave people false feedback

1286

00:45:55,490 --> 00:45:53,400

so they told some people you have the

1287

00:45:56,809 --> 00:45:55,500

good Gene good version of the jeans some

1288

00:45:58,849 --> 00:45:56,819

people were told they're the bad version

1289

00:46:01,069 --> 00:45:58,859

of the Gene and then they did their kind

1290

00:46:02,690 --> 00:46:01,079

of endurance exercise and what the

1291

00:46:05,089 --> 00:46:02,700

researchers found was that yeah like the

1292

00:46:08,329 --> 00:46:05,099

gene does have an effect but so did

1293

00:46:10,190 --> 00:46:08,339

people's expectations of uh whether they

1294

00:46:12,349 --> 00:46:10,200

had the gene so this this feedback was

1295

00:46:13,370 --> 00:46:12,359

sham feedback so some who had the good

1296

00:46:15,290 --> 00:46:13,380

version were told they have the bad

1297

00:46:18,050 --> 00:46:15,300

version vice versa and actually those

1298

00:46:19,970 --> 00:46:18,060

expectations independently affected how

1299

00:46:22,069 --> 00:46:19,980

people did the exercise

1300

00:46:23,930 --> 00:46:22,079

um and you know in some cases According

1301  
00:46:26,450 --> 00:46:23,940  
to some of the physiological measures

1302  
00:46:29,270 --> 00:46:26,460  
the expectations were actually more

1303  
00:46:32,630 --> 00:46:29,280  
important than the effects of the gene

1304  
00:46:34,370 --> 00:46:32,640  
itself so when they were looking at like

1305  
00:46:36,170 --> 00:46:34,380  
the efficiency of the lungs well that

1306  
00:46:38,390 --> 00:46:36,180  
depended more on the expectations that

1307  
00:46:39,829 --> 00:46:38,400  
you had the good Gene than whether you

1308  
00:46:42,109 --> 00:46:39,839  
actually had the good Gene that's

1309  
00:46:45,829 --> 00:46:42,119  
interesting speak to your um experience

1310  
00:46:47,510 --> 00:46:45,839  
of being like a rapacious full yeah they

1311  
00:46:48,890 --> 00:46:47,520  
did exactly the same experiment looking

1312  
00:46:50,809 --> 00:46:48,900  
at people's

1313  
00:46:53,150 --> 00:46:50,819

um a gene that was associated with um

1314

00:46:55,550 --> 00:46:53,160

satiety so wherever people feel they

1315

00:46:57,650 --> 00:46:55,560

need to eat more to be full

1316

00:46:59,809 --> 00:46:57,660

um and again my fan but actually those

1317

00:47:01,250 --> 00:46:59,819

expectations did shape how much people

1318

00:47:03,530 --> 00:47:01,260

ate

1319

00:47:06,109 --> 00:47:03,540

um but also shaped like the response of

1320

00:47:08,089 --> 00:47:06,119

the uh the gut the hormonal response

1321

00:47:10,970 --> 00:47:08,099

there was one particular hormone that's

1322

00:47:12,950 --> 00:47:10,980

linked to satiety that was very closely

1323

00:47:14,870 --> 00:47:12,960

linked to the expectations of whether

1324

00:47:17,690 --> 00:47:14,880

they would be full or not thanks to this

1325

00:47:19,910 --> 00:47:17,700

Gene so you know again it's like it's

1326

00:47:22,130 --> 00:47:19,920

like I said just in be answered to your

1327

00:47:24,290 --> 00:47:22,140

previous question like I'm not claiming

1328

00:47:27,050 --> 00:47:24,300

that like our genes don't matter because

1329

00:47:28,670 --> 00:47:27,060

they did have an effect too but what you

1330

00:47:30,950 --> 00:47:28,680

can what you can see here is that

1331

00:47:33,849 --> 00:47:30,960

actually even if you have the bad Gene

1332

00:47:36,109 --> 00:47:33,859

you don't have to see it as being

1333

00:47:38,690 --> 00:47:36,119

deterministic in some way like you can

1334

00:47:40,550 --> 00:47:38,700

accept that actually your expectations

1335

00:47:42,050 --> 00:47:40,560

are also playing a role and then you can

1336

00:47:43,910 --> 00:47:42,060

look for ways to kind of change those

1337

00:47:46,490 --> 00:47:43,920

expectations and then that can be

1338

00:47:48,650 --> 00:47:46,500

beneficial to you

1339

00:47:51,410 --> 00:47:48,660

and now the personal bit

1340

00:47:53,329 --> 00:47:51,420

yeah so I mean this was you know I think

1341

00:47:55,550 --> 00:47:53,339

we all know what the placebo effect is

1342

00:47:59,089 --> 00:47:55,560

it's where you kind of take a sham drug

1343

00:48:00,890 --> 00:47:59,099

like a sugar pill and then you

1344

00:48:02,569 --> 00:48:00,900

you're told that it's the real thing and

1345

00:48:04,490 --> 00:48:02,579

then you know you experience kind of

1346

00:48:07,370 --> 00:48:04,500

pain relief or

1347

00:48:08,809 --> 00:48:07,380

um you know changing blood pressure due

1348

00:48:10,730 --> 00:48:08,819

purely to your beliefs and that's quite

1349

00:48:12,589 --> 00:48:10,740

well established

1350

00:48:15,230 --> 00:48:12,599

um but there's the suburb phenomenon

1351  
00:48:16,849 --> 00:48:15,240  
called the nosiba effect

1352  
00:48:18,710 --> 00:48:16,859  
um which is like the placebo effects

1353  
00:48:22,250 --> 00:48:18,720  
evil twin

1354  
00:48:24,230 --> 00:48:22,260  
um if you expect to become ill then

1355  
00:48:26,630 --> 00:48:24,240  
those beliefs can actually create

1356  
00:48:29,270 --> 00:48:26,640  
symptoms of sickness so they can do

1357  
00:48:31,730 --> 00:48:29,280  
things like Amplified

1358  
00:48:33,170 --> 00:48:31,740  
um the transmission of pain signals so

1359  
00:48:36,230 --> 00:48:33,180  
something that would be like a small

1360  
00:48:37,670 --> 00:48:36,240  
irritation suddenly becomes agonizing

1361  
00:48:40,250 --> 00:48:37,680  
um they can actually change things like

1362  
00:48:42,470 --> 00:48:40,260  
the vasculature of the brain so they can

1363  
00:48:45,050 --> 00:48:42,480

create a migraine and it's actually you

1364

00:48:47,210 --> 00:48:45,060

know taking form in your brain it's

1365

00:48:48,530 --> 00:48:47,220

actually changing the way your brain is

1366

00:48:50,809 --> 00:48:48,540

responding

1367

00:48:53,210 --> 00:48:50,819

um and I experienced that and you know

1368

00:48:55,010 --> 00:48:53,220

Dino super effect has been really widely

1369

00:48:57,589 --> 00:48:55,020

studied in people's cider boats to

1370

00:48:59,329 --> 00:48:57,599

particular drugs so if you're told you

1371

00:49:01,490 --> 00:48:59,339

might experience a headache after taking

1372

00:49:03,349 --> 00:49:01,500

a pill people are much more likely to

1373

00:49:04,970 --> 00:49:03,359

experience that headache even if they're

1374

00:49:06,770 --> 00:49:04,980

taking a placebo pill and they're told

1375

00:49:08,450 --> 00:49:06,780

that Michael's a headache they get the

1376

00:49:10,550 --> 00:49:08,460

headache um

1377

00:49:12,530 --> 00:49:10,560

and I I've been going for a period of

1378

00:49:14,030 --> 00:49:12,540

depression in my life

1379

00:49:15,950 --> 00:49:14,040

um and I was taking these like very

1380

00:49:18,230 --> 00:49:15,960

standard antidepressant pills and my

1381

00:49:21,530 --> 00:49:18,240

doctor you know she was obliged to do

1382

00:49:22,970 --> 00:49:21,540

she told me that I might experience you

1383

00:49:25,250 --> 00:49:22,980

know headaches as a result of taking the

1384

00:49:27,290 --> 00:49:25,260

pills and I did and they were super

1385

00:49:28,970 --> 00:49:27,300

painful like I really found it difficult

1386

00:49:31,430 --> 00:49:28,980

to focus at work

1387

00:49:33,050 --> 00:49:31,440

um you know I thought it was like and it

1388

00:49:34,609 --> 00:49:33,060

did feel like such a sharp pain like you

1389

00:49:36,290 --> 00:49:34,619

know an ice pick was kind of going broke

1390

00:49:39,170 --> 00:49:36,300

the skull or something

1391

00:49:40,970 --> 00:49:39,180

um so pretty nasty but at the time I was

1392

00:49:42,410 --> 00:49:40,980

also kind of you know just by chance

1393

00:49:44,630 --> 00:49:42,420

looking into

1394

00:49:47,510 --> 00:49:44,640

the placebo effect and I came across

1395

00:49:49,250 --> 00:49:47,520

this research on the nosiba effect and

1396

00:49:50,870 --> 00:49:49,260

actually that knowledge of the nasiba

1397

00:49:53,329 --> 00:49:50,880

back tonight I checked the data for the

1398

00:49:54,829 --> 00:49:53,339

drug itself and I saw that actually a

1399

00:49:57,290 --> 00:49:54,839

lot of the side effects that people were

1400

00:49:58,910 --> 00:49:57,300

reporting were influenced by a nocebo

1401  
00:50:00,950 --> 00:49:58,920  
effect

1402  
00:50:04,370 --> 00:50:00,960  
um that knowledge actually then helped

1403  
00:50:06,530 --> 00:50:04,380  
to relieve the pain it just kind of

1404  
00:50:08,930 --> 00:50:06,540  
I just questioned like well is it

1405  
00:50:10,910 --> 00:50:08,940  
inevitable that I'm experiencing this

1406  
00:50:12,710 --> 00:50:10,920  
pain it certainly felt like it was you

1407  
00:50:15,109 --> 00:50:12,720  
know direct kind of

1408  
00:50:16,849 --> 00:50:15,119  
um physiological response to the drug

1409  
00:50:18,710 --> 00:50:16,859  
but you know it just made me think well

1410  
00:50:20,809 --> 00:50:18,720  
maybe it's just my expectations and

1411  
00:50:23,329 --> 00:50:20,819  
actually yeah just opening my mind up to

1412  
00:50:25,130 --> 00:50:23,339  
that possibility kind of it led me not

1413  
00:50:27,470 --> 00:50:25,140

to catastrophize the pain and not to

1414

00:50:29,210 --> 00:50:27,480

feel so anxious about the pain and that

1415

00:50:32,870 --> 00:50:29,220

in turn then stopped me feeling the pain

1416

00:50:34,910 --> 00:50:32,880

itself and so you know after a day or so

1417

00:50:36,470 --> 00:50:34,920

I actually just didn't have any of the

1418

00:50:38,450 --> 00:50:36,480

headaches at all and I continued my

1419

00:50:40,609 --> 00:50:38,460

treatment and it you know it worked

1420

00:50:42,230 --> 00:50:40,619

remarkably well and if I hadn't learned

1421

00:50:43,609 --> 00:50:42,240

that I would have probably given up that

1422

00:50:46,370 --> 00:50:43,619

treatment it would have been a waste of

1423

00:50:47,809 --> 00:50:46,380

like you know perfectly good

1424

00:50:50,089 --> 00:50:47,819

um line of treatment that actually

1425

00:50:52,670 --> 00:50:50,099

proved successful so that experience

1426  
00:50:56,390 --> 00:50:52,680  
really told me that like expectation

1427  
00:50:58,609 --> 00:50:56,400  
effects are real that you know it's not

1428  
00:51:01,490 --> 00:50:58,619  
made up it's not imagined because that

1429  
00:51:04,069 --> 00:51:01,500  
pain to me was just as real as when I'd

1430  
00:51:06,410 --> 00:51:04,079  
ever had a migraine in the past and we

1431  
00:51:08,030 --> 00:51:06,420  
know that it's related to physiological

1432  
00:51:09,410 --> 00:51:08,040  
changes in the brain and so I just

1433  
00:51:11,270 --> 00:51:09,420  
started thinking well like how else

1434  
00:51:13,430 --> 00:51:11,280  
could our expectations shape our

1435  
00:51:15,049 --> 00:51:13,440  
experience like what else is it doing to

1436  
00:51:17,750 --> 00:51:15,059  
us and how could we use this knowledge

1437  
00:51:20,089 --> 00:51:17,760  
to our advantage and so that's when I

1438  
00:51:22,250 --> 00:51:20,099

collected all of those papers you know

1439

00:51:24,829 --> 00:51:22,260

years later I realized that I had enough

1440

00:51:26,990 --> 00:51:24,839

and it took the shape of a book that I

1441

00:51:29,270 --> 00:51:27,000

really wanted to write so so many

1442

00:51:32,569 --> 00:51:29,280

questions I have man let me prioritize

1443

00:51:35,030 --> 00:51:32,579

right how do you know if what you

1444

00:51:36,829 --> 00:51:35,040

experienced was the nocebo effect or you

1445

00:51:38,510 --> 00:51:36,839

just had the actual effect and what you

1446

00:51:40,849 --> 00:51:38,520

learned afterwards was a positive

1447

00:51:42,290 --> 00:51:40,859

placebo effect that neutralized

1448

00:51:46,130 --> 00:51:42,300

perfect

1449

00:51:46,910 --> 00:51:46,140

I mean that is a possibility I suppose

1450

00:51:48,710 --> 00:51:46,920

um

1451  
00:51:50,450 --> 00:51:48,720  
I mean in this case I think it's

1452  
00:51:52,549 --> 00:51:50,460  
unlikely because I'd actually when I was

1453  
00:51:54,170 --> 00:51:52,559  
looking into these um

1454  
00:51:55,849 --> 00:51:54,180  
you know my particular brand of

1455  
00:51:58,069 --> 00:51:55,859  
antidepressant pills

1456  
00:52:00,530 --> 00:51:58,079  
um you know like the vast majority of

1457  
00:52:02,750 --> 00:52:00,540  
people experiencing headaches

1458  
00:52:05,089 --> 00:52:02,760  
um we're experiencing it because of the

1459  
00:52:07,190 --> 00:52:05,099  
expectation the difference between those

1460  
00:52:09,109 --> 00:52:07,200  
in the placebo arm of the clinical

1461  
00:52:11,630 --> 00:52:09,119  
trials of this drug and the people

1462  
00:52:14,329 --> 00:52:11,640  
actually taking the drug was you know

1463  
00:52:16,609 --> 00:52:14,339

tiny I'm not even sure if it was

1464

00:52:18,290 --> 00:52:16,619

Clinic please you know like I'm not

1465

00:52:20,870 --> 00:52:18,300

clinically significant statistically

1466

00:52:24,470 --> 00:52:20,880

significant so it really was very likely

1467

00:52:27,530 --> 00:52:24,480

that I was experiencing a placebo effect

1468

00:52:29,990 --> 00:52:27,540

this podcast is a part of a series

1469

00:52:32,569 --> 00:52:30,000

that's extremely practical so we're

1470

00:52:34,549 --> 00:52:32,579

gonna talk about steps that people can

1471

00:52:36,410 --> 00:52:34,559

take to utilize the expectation effect

1472

00:52:37,490 --> 00:52:36,420

in their life and then also later on

1473

00:52:39,890 --> 00:52:37,500

we're going to talk about learning

1474

00:52:41,990 --> 00:52:39,900

because in particular learning extremely

1475

00:52:43,370 --> 00:52:42,000

confounding graduate level math and

1476

00:52:45,109 --> 00:52:43,380

physics because many people on this

1477

00:52:46,790 --> 00:52:45,119

channel want to know how can I utilize

1478

00:52:48,349 --> 00:52:46,800

some of the lessons from the

1479

00:52:50,990 --> 00:52:48,359

intelligence trap and or the

1480

00:52:53,450 --> 00:52:51,000

expectations effect to accelerate by

1481

00:52:56,329 --> 00:52:53,460

learning in this case new knowledge

1482

00:52:59,450 --> 00:52:56,339

nullified the nosi buffet now how does

1483

00:53:01,609 --> 00:52:59,460

one have new knowledge that gives a

1484

00:53:02,930 --> 00:53:01,619

placebo effect because I can imagine if

1485

00:53:04,549 --> 00:53:02,940

someone was to tell you by the way the

1486

00:53:07,069 --> 00:53:04,559

positive effects you're feeling that's

1487

00:53:08,809 --> 00:53:07,079

just in your head that may reduce it

1488

00:53:10,609 --> 00:53:08,819

rather than amplify it how do you

1489

00:53:12,950 --> 00:53:10,619

consciously employ some strategy to

1490

00:53:14,930 --> 00:53:12,960

utilize the placebo effect yeah and I

1491

00:53:17,450 --> 00:53:14,940

mean this has been the big toilet that

1492

00:53:20,150 --> 00:53:17,460

had like really put a barrier on kind of

1493

00:53:22,069 --> 00:53:20,160

placebo research for decades

1494

00:53:23,809 --> 00:53:22,079

um but actually there's lots of exciting

1495

00:53:25,790 --> 00:53:23,819

new research that kind of helps us to

1496

00:53:28,849 --> 00:53:25,800

get over them and basically all of this

1497

00:53:31,069 --> 00:53:28,859

research shows that you don't need

1498

00:53:33,470 --> 00:53:31,079

um deception to take advantage of

1499

00:53:35,930 --> 00:53:33,480

expectation of Apes now one of the kind

1500

00:53:38,630 --> 00:53:35,940

of studies I like most looks at um

1501  
00:53:41,030 --> 00:53:38,640  
they're called open label placebos

1502  
00:53:43,250 --> 00:53:41,040  
they're like non-deceptive placebos so

1503  
00:53:44,990 --> 00:53:43,260  
there was a study from Portugal where

1504  
00:53:47,030 --> 00:53:45,000  
the researchers

1505  
00:53:50,030 --> 00:53:47,040  
um took people with chronic back pain

1506  
00:53:51,589 --> 00:53:50,040  
and you know they've been struggling the

1507  
00:53:53,150 --> 00:53:51,599  
patients have been struggling with with

1508  
00:53:56,870 --> 00:53:53,160  
this for a while

1509  
00:53:59,030 --> 00:53:56,880  
um and they actually gave them a a jar

1510  
00:54:01,730 --> 00:53:59,040  
of placebo pills that clearly said

1511  
00:54:03,349 --> 00:54:01,740  
Placebo pills take two a day like the

1512  
00:54:05,450 --> 00:54:03,359  
pills were kind of bright orange you

1513  
00:54:07,069 --> 00:54:05,460

know quite striking but they knew that

1514

00:54:08,089 --> 00:54:07,079

they were didn't contain an active

1515

00:54:10,190 --> 00:54:08,099

ingredient

1516

00:54:12,410 --> 00:54:10,200

but the researchers also gave the

1517

00:54:15,829 --> 00:54:12,420

participants the kind of uh presentation

1518

00:54:17,930 --> 00:54:15,839

about the the placebo effect but all of

1519

00:54:19,970 --> 00:54:17,940

this evidence showing that actually good

1520

00:54:22,130 --> 00:54:19,980

expectations can help to relieve pain

1521

00:54:24,890 --> 00:54:22,140

that sometimes the brain itself can

1522

00:54:26,990 --> 00:54:24,900

create its own endogenous opioids it

1523

00:54:29,390 --> 00:54:27,000

kind of has its inner Pharmacy that it

1524

00:54:30,950 --> 00:54:29,400

can tap that will help to produce its

1525

00:54:33,170 --> 00:54:30,960

own painkillers

1526

00:54:34,670 --> 00:54:33,180

um they learn all of these things and

1527

00:54:36,470 --> 00:54:34,680

then they were told like you don't have

1528

00:54:38,930 --> 00:54:36,480

to kind of take our word for it like you

1529

00:54:41,569 --> 00:54:38,940

don't have to you know convince yourself

1530

00:54:43,849 --> 00:54:41,579

that this is true like artificially kind

1531

00:54:45,950 --> 00:54:43,859

of lie to yourself or repeat to Mantra

1532

00:54:48,530 --> 00:54:45,960

like just kind of you know listen to the

1533

00:54:50,630 --> 00:54:48,540

evidence and you know process it as you

1534

00:54:52,609 --> 00:54:50,640

want but you do have to then take the

1535

00:54:54,049 --> 00:54:52,619

pills like the ritual of taking the

1536

00:54:55,910 --> 00:54:54,059

pills that's really important so take

1537

00:54:58,430 --> 00:54:55,920

one in the morning one in the evening

1538

00:55:00,829 --> 00:54:58,440

like do that for the next

1539

00:55:02,270 --> 00:55:00,839

um week and what the researchers found

1540

00:55:04,730 --> 00:55:02,280

was that actually

1541

00:55:06,829 --> 00:55:04,740

you know the ritual of the pills and

1542

00:55:08,569 --> 00:55:06,839

bind with that information that they'd

1543

00:55:10,010 --> 00:55:08,579

been given that kind of empowering

1544

00:55:13,190 --> 00:55:10,020

information about the mind-body

1545

00:55:14,990 --> 00:55:13,200

connection the bat alone was enough to

1546

00:55:17,510 --> 00:55:15,000

produce a clinically significant

1547

00:55:19,069 --> 00:55:17,520

decrease in

1548

00:55:22,190 --> 00:55:19,079

um pain symptoms that they were feeling

1549

00:55:24,410 --> 00:55:22,200

so reduced it by I think it's 29 which

1550

00:55:25,970 --> 00:55:24,420

is the kind of threshold but you know if

1551  
00:55:27,170 --> 00:55:25,980  
you're trying to approve a new drug for

1552  
00:55:29,630 --> 00:55:27,180  
pain relief

1553  
00:55:31,190 --> 00:55:29,640  
um and you know then they the kind of

1554  
00:55:32,990 --> 00:55:31,200  
participants went away the trial was

1555  
00:55:34,849 --> 00:55:33,000  
ended it was written up for five years

1556  
00:55:37,490 --> 00:55:34,859  
later the researchers kind of boosted

1557  
00:55:39,890 --> 00:55:37,500  
these same participants and found that

1558  
00:55:43,190 --> 00:55:39,900  
even five years later they were still

1559  
00:55:44,870 --> 00:55:43,200  
like managing and coping better than the

1560  
00:55:47,030 --> 00:55:44,880  
participants who hadn't received the

1561  
00:55:48,230 --> 00:55:47,040  
placebo pills those had just continued

1562  
00:55:50,870 --> 00:55:48,240  
their

1563  
00:55:52,730 --> 00:55:50,880

um treatment as usual so that really

1564

00:55:55,069 --> 00:55:52,740

suggested that actually

1565

00:55:57,589 --> 00:55:55,079

knowing about the expectation effect

1566

00:55:59,930 --> 00:55:57,599

knowing about these benefits can in

1567

00:56:02,030 --> 00:55:59,940

itself Empower you and kind of can

1568

00:56:05,510 --> 00:56:02,040

create the expectation of pain relief in

1569

00:56:06,829 --> 00:56:05,520

this case but actually then produces the

1570

00:56:09,530 --> 00:56:06,839

benefits that you want without any

1571

00:56:11,329 --> 00:56:09,540

detention that's now been replicated a

1572

00:56:12,650 --> 00:56:11,339

few different times for different

1573

00:56:14,270 --> 00:56:12,660

illnesses

1574

00:56:16,309 --> 00:56:14,280

um and we know that there are other kind

1575

00:56:18,170 --> 00:56:16,319

of tactics too so actually you can do

1576

00:56:20,510 --> 00:56:18,180

away with the kind of sham treatment

1577

00:56:23,450 --> 00:56:20,520

altogether in some cases and just give

1578

00:56:25,309 --> 00:56:23,460

people a kind of psychological therapy

1579

00:56:28,609 --> 00:56:25,319

that just helps to them to form

1580

00:56:31,309 --> 00:56:28,619

optimistic but realistic expectations of

1581

00:56:32,930 --> 00:56:31,319

the recovery from surgery for example so

1582

00:56:35,690 --> 00:56:32,940

you you kind of give them information

1583

00:56:38,390 --> 00:56:35,700

that allays their worries about the

1584

00:56:40,250 --> 00:56:38,400

effects of the surgery and helps them to

1585

00:56:42,109 --> 00:56:40,260

plan out this kind of recovery that they

1586

00:56:44,089 --> 00:56:42,119

would like to see against them to feel

1587

00:56:45,770 --> 00:56:44,099

excited about all of the kind of new

1588

00:56:48,230 --> 00:56:45,780

activities they'll be able to do when

1589

00:56:51,049 --> 00:56:48,240

they when they feel better and that that

1590

00:56:52,609 --> 00:56:51,059

psychological therapy alone can produce

1591

00:56:56,230 --> 00:56:52,619

some of the benefits that you would want

1592

00:56:59,150 --> 00:56:56,240

to see they leave Hospital more quickly

1593

00:57:00,890 --> 00:56:59,160

they return to work more quickly may

1594

00:57:03,349 --> 00:57:00,900

also show differences in signs of kind

1595

00:57:04,670 --> 00:57:03,359

of inflammation within the body um the

1596

00:57:07,549 --> 00:57:04,680

lower the inflammation the kind of

1597

00:57:09,770 --> 00:57:07,559

quicker the biological recovery and so

1598

00:57:11,870 --> 00:57:09,780

that's just two ways that you can kind

1599

00:57:14,750 --> 00:57:11,880

of apply the principle of the placebo

1600

00:57:17,150 --> 00:57:14,760

effect but without being deceptive and

1601  
00:57:18,710 --> 00:57:17,160  
then you know in other areas of life I

1602  
00:57:20,690 --> 00:57:18,720  
kind of explain how you can apply the

1603  
00:57:23,390 --> 00:57:20,700  
same kinds of principles to things like

1604  
00:57:24,890 --> 00:57:23,400  
um you know managing sleep loss or kind

1605  
00:57:26,750 --> 00:57:24,900  
of boosting your experience of exercise

1606  
00:57:28,790 --> 00:57:26,760  
you don't have to fool yourself into

1607  
00:57:29,450 --> 00:57:28,800  
thinking that you

1608  
00:57:32,030 --> 00:57:29,460  
um

1609  
00:57:33,829 --> 00:57:32,040  
have those good genes for exercise for

1610  
00:57:36,109 --> 00:57:33,839  
example to actually benefit from that

1611  
00:57:38,049 --> 00:57:36,119  
kind of uh expectation effect it's

1612  
00:57:40,609 --> 00:57:38,059  
actually just enough for you to start

1613  
00:57:42,410 --> 00:57:40,619

reappraising the things that you'd

1614

00:57:44,150 --> 00:57:42,420

associated with exercise and kind of

1615

00:57:46,730 --> 00:57:44,160

changing your assumptions kind of just

1616

00:57:49,069 --> 00:57:46,740

being very objective about it really

1617

00:57:51,470 --> 00:57:49,079

um so yeah it's Lots that's what's so

1618

00:57:53,410 --> 00:57:51,480

exciting to me is that actually you know

1619

00:57:56,030 --> 00:57:53,420

we don't have to be this kind of

1620

00:57:58,190 --> 00:57:56,040

self-delusional Pollyanna is kind of

1621

00:57:59,630 --> 00:57:58,200

always kind of fooling themselves into

1622

00:58:01,910 --> 00:57:59,640

thinking things are better than they are

1623

00:58:04,370 --> 00:58:01,920

it's all just about kind of having this

1624

00:58:06,650 --> 00:58:04,380

knowledge of what the brain can do and

1625

00:58:08,630 --> 00:58:06,660

then trying to think of like clever ways

1626  
00:58:11,930 --> 00:58:08,640  
of applying that and of kind of forming

1627  
00:58:14,089 --> 00:58:11,940  
or reappraising your old assumptions and

1628  
00:58:16,190 --> 00:58:14,099  
kind of forming new expectations that

1629  
00:58:18,470 --> 00:58:16,200  
that can be beneficial and Optimum to

1630  
00:58:19,730 --> 00:58:18,480  
you what can one do specifically to up

1631  
00:58:21,710 --> 00:58:19,740  
raise their level of sleep so that's

1632  
00:58:23,809 --> 00:58:21,720  
something I need even sleep quality let

1633  
00:58:25,370 --> 00:58:23,819  
alone the hours and also like I

1634  
00:58:27,710 --> 00:58:25,380  
mentioned this is going to be a part of

1635  
00:58:29,390 --> 00:58:27,720  
a series on learning extremely difficult

1636  
00:58:31,430 --> 00:58:29,400  
mathematics and physics so what can some

1637  
00:58:33,710 --> 00:58:31,440  
someone who's watching this due to

1638  
00:58:36,890 --> 00:58:33,720

increase the rate of learning utilizing

1639

00:58:37,730 --> 00:58:36,900

the expectation effect yeah sure so

1640

00:58:39,410 --> 00:58:37,740

um

1641

00:58:42,470 --> 00:58:39,420

to take

1642

00:58:44,089 --> 00:58:42,480

um sleep burst uh you know like

1643

00:58:50,150 --> 00:58:44,099

a lot of

1644

00:58:53,030 --> 00:58:50,160

fear of not getting enough sleep

1645

00:58:55,250 --> 00:58:53,040

um so you know like we know like it's

1646

00:58:57,289 --> 00:58:55,260

well accepted amongst um kind of

1647

00:59:00,170 --> 00:58:57,299

cognitive behavioral therapists who help

1648

00:59:01,789 --> 00:59:00,180

people with insomnia that we can develop

1649

00:59:03,410 --> 00:59:01,799

all of these kind of really damaging

1650

00:59:05,630 --> 00:59:03,420

beliefs about the sleep that we're

1651  
00:59:07,609 --> 00:59:05,640  
getting so if you've had sleep loss in

1652  
00:59:09,829 --> 00:59:07,619  
the past then that kind of creates an

1653  
00:59:12,349 --> 00:59:09,839  
anxiety about not being able to get to

1654  
00:59:14,990 --> 00:59:12,359  
sleep in the future and those anxieties

1655  
00:59:16,370 --> 00:59:15,000  
put you in a state of high arousal so

1656  
00:59:18,530 --> 00:59:16,380  
that you

1657  
00:59:21,170 --> 00:59:18,540  
um find it much harder to get to sleep

1658  
00:59:23,510 --> 00:59:21,180  
because your your brain is awful alert

1659  
00:59:25,849 --> 00:59:23,520  
um now one way around that unintuitively

1660  
00:59:26,870 --> 00:59:25,859  
is that actually if you try to stay

1661  
00:59:29,930 --> 00:59:26,880  
awake

1662  
00:59:31,970 --> 00:59:29,940  
is a kind of ironic interesting therapy

1663  
00:59:33,829 --> 00:59:31,980

tried to stay awake your you know

1664

00:59:36,470 --> 00:59:33,839

studies suggest that you're more likely

1665

00:59:37,910 --> 00:59:36,480

to fall asleep so I don't think that's a

1666

00:59:40,430 --> 00:59:37,920

case of like just

1667

00:59:41,930 --> 00:59:40,440

you know staying up partying and like

1668

00:59:43,730 --> 00:59:41,940

expecting it to come kind of

1669

00:59:46,069 --> 00:59:43,740

miraculously but you know when you're

1670

00:59:48,170 --> 00:59:46,079

lying in bed and if you feel like you're

1671

00:59:49,549 --> 00:59:48,180

desperate to fall asleep actually don't

1672

00:59:51,650 --> 00:59:49,559

like try to think of something that's

1673

00:59:53,270 --> 00:59:51,660

going to stay keep you awake and you'll

1674

00:59:56,390 --> 00:59:53,280

probably find then you're kind of

1675

00:59:59,150 --> 00:59:56,400

drowsing and falling off naturally

1676  
01:00:00,650 --> 00:59:59,160  
um so that's one strategy mindfulness is

1677  
01:00:03,049 --> 01:00:00,660  
a good way if you can learn mindfulness

1678  
01:00:04,250 --> 01:00:03,059  
and you can apply it well that can be

1679  
01:00:06,589 --> 01:00:04,260  
another good way of just kind of

1680  
01:00:08,510 --> 01:00:06,599  
avoiding those kind of fretful thoughts

1681  
01:00:10,970 --> 01:00:08,520  
as you fall asleep and it's almost like

1682  
01:00:13,490 --> 01:00:10,980  
having that non-judgmental

1683  
01:00:15,470 --> 01:00:13,500  
um awareness of what you're thinking so

1684  
01:00:17,510 --> 01:00:15,480  
you stop catastrophizing like if you've

1685  
01:00:19,970 --> 01:00:17,520  
got all that stuff going around in your

1686  
01:00:22,730 --> 01:00:19,980  
head like you kind of notice it and let

1687  
01:00:24,710 --> 01:00:22,740  
it go without judging yourself for it um

1688  
01:00:27,230 --> 01:00:24,720

that can be beneficial

1689

01:00:29,809 --> 01:00:27,240

um but equally important I think is

1690

01:00:31,490 --> 01:00:29,819

looking at our expectations of what the

1691

01:00:33,170 --> 01:00:31,500

Sleep loss is going to do to the day

1692

01:00:34,970 --> 01:00:33,180

ahead so if you're struggling to get

1693

01:00:36,650 --> 01:00:34,980

sleep or maybe you've been asleep and

1694

01:00:38,630 --> 01:00:36,660

you wake up like always happens to me

1695

01:00:39,950 --> 01:00:38,640

you wake up at like two o'clock in the

1696

01:00:41,690 --> 01:00:39,960

morning

1697

01:00:43,789 --> 01:00:41,700

um you can immediately start thinking

1698

01:00:46,190 --> 01:00:43,799

well like if I don't get to sleep now

1699

01:00:47,510 --> 01:00:46,200

then tomorrow I'm gonna be wrecked I'm

1700

01:00:49,069 --> 01:00:47,520

going to be irritable I'm not going to

1701  
01:00:50,150 --> 01:00:49,079  
be able to meet my deadline you know all

1702  
01:00:51,829 --> 01:00:50,160  
of those things

1703  
01:00:53,870 --> 01:00:51,839  
um actually just stop thinking about

1704  
01:00:55,970 --> 01:00:53,880  
those events and the reason that you can

1705  
01:00:58,910 --> 01:00:55,980  
do that is that the research shows that

1706  
01:01:01,190 --> 01:00:58,920  
actually is those expectations that

1707  
01:01:02,690 --> 01:01:01,200  
create the symptoms of Sleepless the

1708  
01:01:04,910 --> 01:01:02,700  
next day so there have been lots of

1709  
01:01:06,710 --> 01:01:04,920  
research longitudinal studies like I

1710  
01:01:09,049 --> 01:01:06,720  
mentioned also laboratory intervention

1711  
01:01:11,089 --> 01:01:09,059  
studies that gave people false feedback

1712  
01:01:14,030 --> 01:01:11,099  
about their Sleep Quality they all

1713  
01:01:15,950 --> 01:01:14,040

suggest that if you expect to suffer

1714

01:01:18,289 --> 01:01:15,960

because of your sleep loss you're more

1715

01:01:20,030 --> 01:01:18,299

likely to suffer the next day from your

1716

01:01:21,589 --> 01:01:20,040

sleep loss so you tell someone that

1717

01:01:24,589 --> 01:01:21,599

they've had really you get them in the

1718

01:01:27,170 --> 01:01:24,599

lab and attach electrodes to them let

1719

01:01:28,670 --> 01:01:27,180

them kind of sleep sleep and then tell

1720

01:01:30,230 --> 01:01:28,680

them the next day that they have

1721

01:01:31,730 --> 01:01:30,240

actually that they had a terrible

1722

01:01:34,370 --> 01:01:31,740

night's sleep according to the

1723

01:01:36,650 --> 01:01:34,380

electrical recordings that expectation

1724

01:01:38,870 --> 01:01:36,660

will then cause them the next day to

1725

01:01:41,930 --> 01:01:38,880

feel more fatigued to struggle to

1726

01:01:44,150 --> 01:01:41,940

concentrate to to be more irritable

1727

01:01:47,630 --> 01:01:44,160

that's extremely interesting because

1728

01:01:49,849 --> 01:01:47,640

there's obviously the news which outputs

1729

01:01:52,490 --> 01:01:49,859

dangerous messages when I say dangerous

1730

01:01:54,170 --> 01:01:52,500

I mean messages of danger and part of it

1731

01:01:56,089 --> 01:01:54,180

is they want to inform people like part

1732

01:01:58,069 --> 01:01:56,099

of a deleterious they they're trying to

1733

01:02:00,530 --> 01:01:58,079

get views but let's say optimistically

1734

01:02:02,690 --> 01:02:00,540

they're trying to inform but by doing so

1735

01:02:04,849 --> 01:02:02,700

they may create conditions that make the

1736

01:02:07,910 --> 01:02:04,859

danger worse and then Michael Walker of

1737

01:02:09,530 --> 01:02:07,920

the Sleep books Matt Walker of what

1738

01:02:10,670 --> 01:02:09,540

what's this book called

1739

01:02:14,569 --> 01:02:10,680

um

1740

01:02:17,030 --> 01:02:14,579

why we sleep yeah okay so Matt Walker he

1741

01:02:20,450 --> 01:02:17,040

talks about the detrimental effects of

1742

01:02:22,970 --> 01:02:20,460

sleep loss and partly that I think since

1743

01:02:25,130 --> 01:02:22,980

I started caring about my sleep I start

1744

01:02:26,809 --> 01:02:25,140

to have sleep issues I had an aura ring

1745

01:02:29,329 --> 01:02:26,819

I don't I no longer use the aura ring

1746

01:02:31,670 --> 01:02:29,339

because I found myself being fanatic

1747

01:02:33,770 --> 01:02:31,680

about checking my stats and then

1748

01:02:35,210 --> 01:02:33,780

worrying when they weren't optimal so

1749

01:02:38,150 --> 01:02:35,220

that's interesting because you want to

1750

01:02:40,309 --> 01:02:38,160

inform but at the same time informing

1751  
01:02:41,630 --> 01:02:40,319  
may do more harm than good how does one

1752  
01:02:44,569 --> 01:02:41,640  
navigate around that

1753  
01:02:46,309 --> 01:02:44,579  
I mean it's interesting you say about uh

1754  
01:02:49,250 --> 01:02:46,319  
Matt Walker's book you know I'm a big

1755  
01:02:51,950 --> 01:02:49,260  
fan actually but um you know I have read

1756  
01:02:53,690 --> 01:02:51,960  
like blogs by kind of sleep scientists

1757  
01:02:55,970 --> 01:02:53,700  
who've you know said that they're

1758  
01:02:59,089 --> 01:02:55,980  
actually worried that like it's created

1759  
01:03:01,309 --> 01:02:59,099  
a lot of anxiety about sleep that then

1760  
01:03:03,650 --> 01:03:01,319  
is leading more people to come to sleep

1761  
01:03:05,930 --> 01:03:03,660  
clinics with sleep problems and that the

1762  
01:03:08,450 --> 01:03:05,940  
anxiety is kind of exacerbating their

1763  
01:03:09,710 --> 01:03:08,460

issues now I think you know it's a kind

1764

01:03:10,609 --> 01:03:09,720

of like we were talking about earlier

1765

01:03:13,190 --> 01:03:10,619

it's like

1766

01:03:15,289 --> 01:03:13,200

you know should we give information to

1767

01:03:16,730 --> 01:03:15,299

people like we want to be informed but

1768

01:03:19,010 --> 01:03:16,740

should we be giving information that's

1769

01:03:20,510 --> 01:03:19,020

actually going to harm people's um

1770

01:03:22,190 --> 01:03:20,520

quality of life and I think we should I

1771

01:03:23,870 --> 01:03:22,200

think we need to know you know the truth

1772

01:03:26,450 --> 01:03:23,880

about kind of the importance of sleep

1773

01:03:27,950 --> 01:03:26,460

because you know you might be suffering

1774

01:03:29,390 --> 01:03:27,960

from the kinds of sleep problems that

1775

01:03:31,609 --> 01:03:29,400

we've spoken about that are fueled by

1776

01:03:32,569 --> 01:03:31,619

anxiety but you know there's also lots

1777

01:03:34,190 --> 01:03:32,579

of people who just aren't giving

1778

01:03:35,930 --> 01:03:34,200

themselves enough time to get to sleep

1779

01:03:38,150 --> 01:03:35,940

and then you know you want those people

1780

01:03:40,849 --> 01:03:38,160

to be able to make a better informed

1781

01:03:44,329 --> 01:03:40,859

decision of kind of their lifestyle

1782

01:03:46,130 --> 01:03:44,339

um but I think the message can be

1783

01:03:49,910 --> 01:03:46,140

presented in such a way that it doesn't

1784

01:03:51,170 --> 01:03:49,920

kind of catastrophize the effects of a

1785

01:03:53,809 --> 01:03:51,180

loss of sleep and I think maybe what's

1786

01:03:56,930 --> 01:03:53,819

been lost in some of this messaging is

1787

01:03:59,390 --> 01:03:56,940

that you know the occasional sleep loss

1788

01:04:01,370 --> 01:03:59,400

that you might get doesn't have to be a

1789

01:04:02,630 --> 01:04:01,380

catastrophe for you so you know if you

1790

01:04:04,130 --> 01:04:02,640

wake up

1791

01:04:05,870 --> 01:04:04,140

um and then we looked at night for half

1792

01:04:08,150 --> 01:04:05,880

an hour that doesn't mean that you're

1793

01:04:09,770 --> 01:04:08,160

gonna struggle the next day but look but

1794

01:04:11,870 --> 01:04:09,780

we can develop this belief that it will

1795

01:04:14,630 --> 01:04:11,880

do so any slight disturbance becomes

1796

01:04:16,130 --> 01:04:14,640

like a serious worry for us

1797

01:04:17,690 --> 01:04:16,140

um so I think we need to acknowledge

1798

01:04:19,190 --> 01:04:17,700

that we need to kind of put things in

1799

01:04:19,970 --> 01:04:19,200

proportion

1800

01:04:24,349 --> 01:04:19,980

um

1801  
01:04:26,150 --> 01:04:24,359  
that have been proven to work so you

1802  
01:04:27,410 --> 01:04:26,160  
know I think like hopefully just by

1803  
01:04:29,210 --> 01:04:27,420  
understanding a bit about this

1804  
01:04:30,650 --> 01:04:29,220  
expectation of age you know people

1805  
01:04:32,930 --> 01:04:30,660  
who've read that chapter I've heard that

1806  
01:04:34,849 --> 01:04:32,940  
it has kind of immediately helped them

1807  
01:04:36,650 --> 01:04:34,859  
work their sleep and I was like super

1808  
01:04:38,930 --> 01:04:36,660  
pleased about that but if people are

1809  
01:04:40,730 --> 01:04:38,940  
having these kind of continuing problems

1810  
01:04:42,770 --> 01:04:40,740  
with their sleep you know they're really

1811  
01:04:44,930 --> 01:04:42,780  
struggling to get

1812  
01:04:46,730 --> 01:04:44,940  
um to get enough each night and it's

1813  
01:04:49,069 --> 01:04:46,740

becoming something that's really

1814

01:04:51,530 --> 01:04:49,079

damaging their lifestyle well then they

1815

01:04:54,289 --> 01:04:51,540

can go to a specialized sleep therapist

1816

01:04:56,930 --> 01:04:54,299

who won't put them on sleeping pills

1817

01:04:59,630 --> 01:04:56,940

which you know the efficacy of sleeping

1818

01:05:00,950 --> 01:04:59,640

pills is you know questionable but

1819

01:05:02,390 --> 01:05:00,960

instead they will help them to change

1820

01:05:05,390 --> 01:05:02,400

those beliefs in a more kind of

1821

01:05:07,789 --> 01:05:05,400

organized program so through cognitive

1822

01:05:10,490 --> 01:05:07,799

behavioral therapy or mindfulness based

1823

01:05:12,230 --> 01:05:10,500

therapy they'll help them to deal with

1824

01:05:13,910 --> 01:05:12,240

those kind of beliefs that are keeping

1825

01:05:16,370 --> 01:05:13,920

them awake at night and then causing

1826

01:05:18,710 --> 01:05:16,380

them this distress the next day and

1827

01:05:21,410 --> 01:05:18,720

those and that therapy working through

1828

01:05:22,670 --> 01:05:21,420

practical problems talking about the

1829

01:05:24,650 --> 01:05:22,680

science and the evidence and you know

1830

01:05:26,630 --> 01:05:24,660

giving them that knowledge that can be

1831

01:05:29,809 --> 01:05:26,640

really beneficial for curing insomnia

1832

01:05:32,030 --> 01:05:29,819

too so I would say if you have this kind

1833

01:05:33,589 --> 01:05:32,040

of um prolonged problem you know do get

1834

01:05:35,809 --> 01:05:33,599

help but it doesn't have to be a

1835

01:05:39,230 --> 01:05:35,819

pharmaceutical solution like there are

1836

01:05:41,510 --> 01:05:39,240

but psychological means of dealing with

1837

01:05:43,430 --> 01:05:41,520

sleep loss that can take advantage of

1838

01:05:45,230 --> 01:05:43,440

the expectation effect

1839

01:05:47,990 --> 01:05:45,240

much of this has so far been about

1840

01:05:50,089 --> 01:05:48,000

ameliorating what is a medical issue

1841

01:05:52,069 --> 01:05:50,099

what about if we have no issue and we

1842

01:05:54,049 --> 01:05:52,079

want to accelerate in a certain area for

1843

01:05:56,390 --> 01:05:54,059

instance learning Arcane math physics

1844

01:05:58,190 --> 01:05:56,400

computer science philosophy how does one

1845

01:05:59,630 --> 01:05:58,200

utilize some of these techniques does

1846

01:06:01,970 --> 01:05:59,640

one take a pill in the morning can they

1847

01:06:04,430 --> 01:06:01,980

self-assign the pill does one inject is

1848

01:06:06,589 --> 01:06:04,440

injecting better yeah

1849

01:06:08,030 --> 01:06:06,599

um you know I mean I wish I really

1850

01:06:09,829 --> 01:06:08,040

kicked myself that I didn't know about

1851

01:06:12,109 --> 01:06:09,839

all of the science before I did my own

1852

01:06:14,390 --> 01:06:12,119

degree in mathematics because you know

1853

01:06:14,990 --> 01:06:14,400

it's a tough degree

1854

01:06:18,230 --> 01:06:15,000

um

1855

01:06:19,849 --> 01:06:18,240

I you know I I did fine but like I think

1856

01:06:21,470 --> 01:06:19,859

I could have done better if I'd known

1857

01:06:22,910 --> 01:06:21,480

all but I know now about the psychology

1858

01:06:25,130 --> 01:06:22,920

of learning

1859

01:06:26,029 --> 01:06:25,140

um and I think one of the lessons that

1860

01:06:30,950 --> 01:06:26,039

really

1861

01:06:32,569 --> 01:06:30,960

it's relevant whatever job you do but

1862

01:06:35,510 --> 01:06:32,579

especially with learning

1863

01:06:37,190 --> 01:06:35,520

needs to reappraise the effects of

1864

01:06:37,910 --> 01:06:37,200

prostration

1865

01:06:40,250 --> 01:06:37,920

um

1866

01:06:42,770 --> 01:06:40,260

and I think this gets to the kind of

1867

01:06:45,289 --> 01:06:42,780

Heart of like how we can use the

1868

01:06:47,470 --> 01:06:45,299

expectation effect more generally

1869

01:06:50,089 --> 01:06:47,480

um so for example if you're

1870

01:06:52,190 --> 01:06:50,099

exercising you're working out you feel

1871

01:06:55,250 --> 01:06:52,200

aches and your muscles you feel out of

1872

01:06:57,109 --> 01:06:55,260

breath you can assume that those uh

1873

01:06:58,190 --> 01:06:57,119

symptoms are kind of a sign of your lack

1874

01:06:59,870 --> 01:06:58,200

of fitness and you can kind of

1875

01:07:01,789 --> 01:06:59,880

catastrophize them and that you think

1876

01:07:04,130 --> 01:07:01,799

like you start telling yourself you have

1877

01:07:05,870 --> 01:07:04,140

this negative internal monologue that's

1878

01:07:08,390 --> 01:07:05,880

like I'm a failure I'm struggling I'm

1879

01:07:11,390 --> 01:07:08,400

really unfair I'm not gonna manage to

1880

01:07:13,490 --> 01:07:11,400

like to get through this workout and

1881

01:07:15,950 --> 01:07:13,500

you know the research on the expectation

1882

01:07:17,809 --> 01:07:15,960

of it shows that actually just changing

1883

01:07:20,510 --> 01:07:17,819

the way the meaning you assign to those

1884

01:07:22,870 --> 01:07:20,520

feelings can change your performance so

1885

01:07:26,390 --> 01:07:22,880

if you see rather than like those being

1886

01:07:29,569 --> 01:07:26,400

those symptoms as being like um

1887

01:07:30,950 --> 01:07:29,579

you know detrimental negative signs of

1888

01:07:33,829 --> 01:07:30,960

failure if you actually just say as

1889

01:07:35,870 --> 01:07:33,839

you're pushing your body to its limits

1890

01:07:37,430 --> 01:07:35,880

of building string that's actually

1891

01:07:39,230 --> 01:07:37,440

really beneficial and it helps you to

1892

01:07:41,390 --> 01:07:39,240

enjoy the exercise more it creates the

1893

01:07:43,910 --> 01:07:41,400

endorphin rush you know it can really

1894

01:07:46,670 --> 01:07:43,920

build up your stamina uh just by

1895

01:07:48,710 --> 01:07:46,680

changing that mindset and I think

1896

01:07:50,450 --> 01:07:48,720

exactly the same thing happens in

1897

01:07:53,690 --> 01:07:50,460

learning and there are studies that show

1898

01:07:56,510 --> 01:07:53,700

this so if you're learning arcade maths

1899

01:07:58,670 --> 01:07:56,520

but it's really inevitable unless you

1900

01:08:01,069 --> 01:07:58,680

are some kind of like incredible genius

1901

01:08:02,750 --> 01:08:01,079

that you're gonna feel frustrated

1902

01:08:05,750 --> 01:08:02,760

sometimes you're going to not be able to

1903

01:08:07,789 --> 01:08:05,760

solve that problem but the concepts

1904

01:08:09,529 --> 01:08:07,799

aren't going to stick that you there's

1905

01:08:11,089 --> 01:08:09,539

going to be some kind of Gap in your

1906

01:08:12,950 --> 01:08:11,099

knowledge that you're really struggling

1907

01:08:14,390 --> 01:08:12,960

to overcome that kind of Gap in

1908

01:08:16,970 --> 01:08:14,400

understanding

1909

01:08:20,090 --> 01:08:16,980

what the the research shows is that you

1910

01:08:22,669 --> 01:08:20,100

can appraise that frustration

1911

01:08:24,470 --> 01:08:22,679

as in the same way that someone who's

1912

01:08:26,209 --> 01:08:24,480

struggling at the gym appraises the

1913

01:08:28,970 --> 01:08:26,219

muscle aches you can see it as a sign of

1914

01:08:30,530 --> 01:08:28,980

failure as a kind of sign that you're

1915

01:08:33,050 --> 01:08:30,540

not smart enough that you're not

1916

01:08:34,910 --> 01:08:33,060

intelligent enough that you that you're

1917

01:08:37,610 --> 01:08:34,920

not learning that you're not progressing

1918

01:08:39,669 --> 01:08:37,620

uh you can just say it purely

1919

01:08:42,650 --> 01:08:39,679

detrimentally

1920

01:08:45,950 --> 01:08:42,660

or you connect that and this is also

1921

01:08:48,470 --> 01:08:45,960

totally rational and actually true you

1922

01:08:51,410 --> 01:08:48,480

can accept the fact that um frustration

1923

01:08:53,450 --> 01:08:51,420

is just an inevitable and important part

1924

01:08:55,249 --> 01:08:53,460

of learning in the same way that you're

1925

01:08:57,470 --> 01:08:55,259

pushing the body when you're working out

1926

01:09:00,050 --> 01:08:57,480

you're pushing your brain to build new

1927

01:09:02,749 --> 01:09:00,060

connections to Grapple with really

1928

01:09:04,249 --> 01:09:02,759

complex difficult ideas and if you

1929

01:09:05,749 --> 01:09:04,259

weren't feeling frustrated you wouldn't

1930

01:09:08,150 --> 01:09:05,759

be stretching yourself you wouldn't be

1931

01:09:10,309 --> 01:09:08,160

building your knowledge and what the

1932

01:09:12,470 --> 01:09:10,319

research shows is that when you come to

1933

01:09:15,590 --> 01:09:12,480

accept and even embrace the frustration

1934

01:09:17,749 --> 01:09:15,600

and you recognize that it's crucial for

1935

01:09:21,349 --> 01:09:17,759

learning but that actually helps you to

1936

01:09:24,349 --> 01:09:21,359

learn better it helps your determination

1937

01:09:26,390 --> 01:09:24,359

and perseverance but to actually almost

1938

01:09:28,249 --> 01:09:26,400

like frees up part of your mind because

1939

01:09:30,229 --> 01:09:28,259

you're no longer feeling all that kind

1940

01:09:31,910 --> 01:09:30,239

of anxiety it's not going through your

1941

01:09:34,189 --> 01:09:31,920

hair taking up your mental resources

1942

01:09:36,410 --> 01:09:34,199

you're just accepting it and then

1943

01:09:39,590 --> 01:09:36,420

getting on with the problem and that

1944

01:09:42,110 --> 01:09:39,600

that you know Lesson by lesson like can

1945

01:09:44,150 --> 01:09:42,120

a class by class you know Problem by

1946

01:09:45,709 --> 01:09:44,160

problem that's going to help you with

1947

01:09:47,150 --> 01:09:45,719

your progress and that's definitely

1948

01:09:48,590 --> 01:09:47,160

something that I noticed in my own

1949

01:09:51,890 --> 01:09:48,600

degree I just didn't know the science

1950

01:09:53,510 --> 01:09:51,900

behind it it was almost once I relaxed

1951

01:09:57,050 --> 01:09:53,520

into problems and just could kind of sit

1952

01:09:59,209 --> 01:09:57,060

with them without panicking when I

1953

01:10:01,729 --> 01:09:59,219

didn't get it immediately but that

1954

01:10:04,430 --> 01:10:01,739

actually just was incredibly important

1955

01:10:06,530 --> 01:10:04,440

for me to be able to progress a lot more

1956

01:10:09,530 --> 01:10:06,540

quickly and that's exactly the same when

1957

01:10:11,090 --> 01:10:09,540

I'm writing journalism now or writing my

1958

01:10:13,550 --> 01:10:11,100

books you know sometimes structuring

1959

01:10:15,229 --> 01:10:13,560

like a chapter is really frustrating

1960

01:10:17,750 --> 01:10:15,239

because you just don't see how you can

1961

01:10:19,669 --> 01:10:17,760

fit the pieces together in the right way

1962

01:10:20,930 --> 01:10:19,679

and you have to have that kind of

1963

01:10:23,030 --> 01:10:20,940

structure like you're playing almost

1964

01:10:25,610 --> 01:10:23,040

like a jigsaw in your mind like trying

1965

01:10:28,310 --> 01:10:25,620

to see the most elegant most

1966

01:10:30,709 --> 01:10:28,320

comprehensible most enticing way for a

1967

01:10:33,350 --> 01:10:30,719

subject and the more I just relax into

1968

01:10:35,990 --> 01:10:33,360

that frustration and accept that it's

1969

01:10:37,910 --> 01:10:36,000

just you know a creative block is kind

1970

01:10:39,530 --> 01:10:37,920

of part of being creative if you weren't

1971

01:10:42,290 --> 01:10:39,540

experiencing that it would just be a

1972

01:10:44,330 --> 01:10:42,300

kind of administrative task whereas

1973

01:10:46,130 --> 01:10:44,340

actually the frustration is the

1974

01:10:48,350 --> 01:10:46,140

creativity recognizing that actually

1975

01:10:49,970 --> 01:10:48,360

helps with my job today too so I think

1976

01:10:51,709 --> 01:10:49,980

it's something that can be applied in

1977

01:10:53,510 --> 01:10:51,719

all kinds of areas but absolutely with

1978

01:10:55,250 --> 01:10:53,520

maps I think the thing that holds so

1979

01:10:56,990 --> 01:10:55,260

many people back is that they get in

1980

01:10:59,750 --> 01:10:57,000

this kind of panic

1981

01:11:01,490 --> 01:10:59,760

um and actually just relaxing into that

1982

01:11:03,770 --> 01:11:01,500

and accepting it and even embracing it

1983

01:11:06,229 --> 01:11:03,780

is so powerful

1984

01:11:09,169 --> 01:11:06,239

what else would you do differently as an

1985

01:11:13,790 --> 01:11:10,970

um I think going back to crew to

1986

01:11:15,890 --> 01:11:13,800

curiosity though it mentioned uh yeah

1987

01:11:18,290 --> 01:11:15,900

and the benefits of curiosity for

1988

01:11:20,810 --> 01:11:18,300

reading I think with sometimes a

1989

01:11:22,669 --> 01:11:20,820

subject-like Maps or physics you know

1990

01:11:25,550 --> 01:11:22,679

it's very abstract and it can be quite

1991

01:11:27,770 --> 01:11:25,560

difficult for you to kind of

1992

01:11:29,630 --> 01:11:27,780

attach it to something really meaningful

1993

01:11:31,970 --> 01:11:29,640

in your life

1994

01:11:34,250 --> 01:11:31,980

um you might automatically have this

1995

01:11:36,470 --> 01:11:34,260

kind of Fascination where I don't know

1996

01:11:38,149 --> 01:11:36,480

like number Theory or whatever but um

1997

01:11:41,270 --> 01:11:38,159

but for me I was always more interested

1998

01:11:42,950 --> 01:11:41,280

in the applied maps and the pure maths

1999

01:11:46,189 --> 01:11:42,960

um felt like a kind of needless

2000

01:11:48,350 --> 01:11:46,199

distraction so I I was really dedicated

2001

01:11:50,689 --> 01:11:48,360

in trying to learn it but it never felt

2002

01:11:52,669 --> 01:11:50,699

pure maths felt like a distraction yeah

2003

01:11:54,229 --> 01:11:52,679

exactly compared to the applied Maps

2004

01:11:56,270 --> 01:11:54,239

which is like what I was really

2005

01:11:58,010 --> 01:11:56,280

interested in and I had no option like I

2006

01:11:59,990 --> 01:11:58,020

had to learn it

2007

01:12:01,610 --> 01:12:00,000

um you know and I think I put in a lot

2008

01:12:03,649 --> 01:12:01,620

of effort and I did fine like you know

2009

01:12:06,169 --> 01:12:03,659

it's not like I failed that class or

2010

01:12:08,209 --> 01:12:06,179

anything but um but knowing what I know

2011

01:12:10,130 --> 01:12:08,219

about curiosity now I think actually I

2012

01:12:11,990 --> 01:12:10,140

should have tried really rather than

2013

01:12:14,090 --> 01:12:12,000

just putting kind of

2014

01:12:15,770 --> 01:12:14,100

working like a Workhorse just kind of

2015

01:12:17,450 --> 01:12:15,780

putting in me out as I should have

2016

01:12:19,310 --> 01:12:17,460

thought a bit more creatively about how

2017

01:12:21,350 --> 01:12:19,320

to cultivate curiosity and what I was

2018

01:12:23,810 --> 01:12:21,360

learning and something really simple I

2019

01:12:26,270 --> 01:12:23,820

think like learning about the lives of

2020

01:12:28,610 --> 01:12:26,280

the mathematicians Behind these kind of

2021

01:12:30,530 --> 01:12:28,620

theories that I was learning that you

2022

01:12:32,750 --> 01:12:30,540

know I was never going to be tested on

2023

01:12:34,430 --> 01:12:32,760

any of that biographical information but

2024

01:12:36,290 --> 01:12:34,440

I know from the science of curiosity

2025

01:12:38,689 --> 01:12:36,300

that that could have been enough to kind

2026

01:12:41,209 --> 01:12:38,699

of spark an interest that would have

2027

01:12:43,010 --> 01:12:41,219

then had this spillover effect and made

2028

01:12:44,930 --> 01:12:43,020

the whole process of learning much more

2029

01:12:47,570 --> 01:12:44,940

meaningful for me because I know really

2030

01:12:49,850 --> 01:12:47,580

like people-centered person you know

2031

01:12:52,010 --> 01:12:49,860

like I love hearing not just about big

2032

01:12:53,570 --> 01:12:52,020

ideas about the kind of story behind the

2033

01:12:55,250 --> 01:12:53,580

ideas which is what I bring to my

2034

01:12:57,169 --> 01:12:55,260

journalism but I think I could have

2035

01:12:59,870 --> 01:12:57,179

brought that to my degree and actually

2036

01:13:01,729 --> 01:12:59,880

that kind of that you know enticing

2037

01:13:04,250 --> 01:13:01,739

myself into a subject could have been so

2038

01:13:07,430 --> 01:13:04,260

beneficial have you read the biography

2039

01:13:10,370 --> 01:13:07,440

of Da Vinci by Walter Isaacson I have

2040

01:13:12,590 --> 01:13:10,380

yeah both no one that you I think

2041

01:13:14,810 --> 01:13:12,600

there's no one in history that could be

2042

01:13:17,750 --> 01:13:14,820

described as being as curious as he was

2043

01:13:20,209 --> 01:13:17,760

but yeah yeah and in the book Walter

2044

01:13:22,189 --> 01:13:20,219

says in the beginning that he has

2045

01:13:23,990 --> 01:13:22,199

described Steve Jobs as a genius and

2046

01:13:25,790 --> 01:13:24,000

Einstein is a genius and so-and-so as a

2047

01:13:28,189 --> 01:13:25,800

genius but he said he was careful to not

2048

01:13:30,470 --> 01:13:28,199

call Da Vinci a genius because he feels

2049

01:13:32,270 --> 01:13:30,480

like virtually everything Da Vinci had

2050

01:13:34,430 --> 01:13:32,280

done could be cultivated in other people

2051

01:13:36,350 --> 01:13:34,440

it was just about being immensely

2052

01:13:38,149 --> 01:13:36,360

curious like he would paint on the wall

2053

01:13:39,709 --> 01:13:38,159

a line and then get him and his friend

2054

01:13:42,410 --> 01:13:39,719

to guess what is the length of that line

2055

01:13:44,450 --> 01:13:42,420

in one of the notes he scrawled what is

2056

01:13:46,729 --> 01:13:44,460

the function of the tongue of a

2057

01:13:48,830 --> 01:13:46,739

hummingbird or or a woodpecker something

2058

01:13:50,750 --> 01:13:48,840

like that and it turns out then he's

2059

01:13:53,090 --> 01:13:50,760

like whoa what the heck why would anyone

2060

01:13:55,310 --> 01:13:53,100

think of that firstly and then does a

2061

01:13:57,290 --> 01:13:55,320

bird beat its wings down faster than it

2062

01:13:59,689 --> 01:13:57,300

brings it up that's a question you just

2063

01:14:00,770 --> 01:13:59,699

you don't even think to ask and he would

2064

01:14:03,410 --> 01:14:00,780

ask them and turns out they had

2065

01:14:04,250 --> 01:14:03,420

extremely interesting answers there was

2066

01:14:07,250 --> 01:14:04,260

something different about the

2067

01:14:10,729 --> 01:14:07,260

woodpecker's tongue yeah exactly but I

2068

01:14:14,149 --> 01:14:10,739

mean I guess I would disagree with um

2069

01:14:18,169 --> 01:14:14,159

uh with him uh and I think like

2070

01:14:19,910 --> 01:14:18,179

that is a but it was that Curiosity that

2071

01:14:23,030 --> 01:14:19,920

was behind

2072

01:14:24,709 --> 01:14:23,040

um Da Vinci's genius you know so and it

2073

01:14:27,229 --> 01:14:24,719

was exceptional and I agreed that other

2074

01:14:29,810 --> 01:14:27,239

people could cultivate that Curiosity

2075

01:14:31,490 --> 01:14:29,820

potentially but then I think also people

2076

01:14:34,010 --> 01:14:31,500

could cultivate the traits that made

2077

01:14:36,410 --> 01:14:34,020

Steve Jobs I guess that's what I feel

2078

01:14:38,450 --> 01:14:36,420

about genius is that we especially

2079

01:14:39,350 --> 01:14:38,460

having written the expectation of it is

2080

01:14:43,850 --> 01:14:39,360

that

2081

01:14:45,290 --> 01:14:43,860

of god-given but actually you can break

2082

01:14:47,149 --> 01:14:45,300

it down and that's I mean there's so

2083

01:14:49,310 --> 01:14:47,159

many traits that contribute to genius

2084

01:14:52,010 --> 01:14:49,320

it's not like there's one secret but I

2085

01:14:54,890 --> 01:14:52,020

think they are all uh kind of can be

2086

01:14:56,330 --> 01:14:54,900

cultivated and and then you know

2087

01:14:58,669 --> 01:14:56,340

sometimes just for someone to be

2088

01:15:01,550 --> 01:14:58,679

recognized as a genius there's also kind

2089

01:15:02,689 --> 01:15:01,560

of good luck like you know you have to

2090

01:15:04,550 --> 01:15:02,699

be in the right place at the right time

2091

01:15:06,169 --> 01:15:04,560

to make your amazing Discovery like fine

2092

01:15:09,050 --> 01:15:06,179

man if you haven't been watching those

2093

01:15:10,910 --> 01:15:09,060

spinning plates and hadn't come up with

2094

01:15:13,250 --> 01:15:10,920

that particular idea at that particular

2095

01:15:16,130 --> 01:15:13,260

time maybe he wouldn't have won his

2096

01:15:18,950 --> 01:15:16,140

Nobel Prize you know so I think genius

2097

01:15:21,470 --> 01:15:18,960

is a very messy topic and I but I think

2098

01:15:22,910 --> 01:15:21,480

you know DaVinci yeah we can learn a lot

2099

01:15:25,070 --> 01:15:22,920

from him but we can learn a lot from all

2100

01:15:26,990 --> 01:15:25,080

of these other people today I agree with

2101  
01:15:28,850 --> 01:15:27,000  
all of what you said minus the luck part

2102  
01:15:31,189 --> 01:15:28,860  
but it's not that I disagree about the

2103  
01:15:33,950 --> 01:15:31,199  
luck it's more about that if we follow

2104  
01:15:36,530 --> 01:15:33,960  
the logic of the luck it's not so you

2105  
01:15:38,570 --> 01:15:36,540  
could say well 50 of their success was

2106  
01:15:40,669 --> 01:15:38,580  
luck well if you follow the logic they

2107  
01:15:43,250 --> 01:15:40,679  
got you to that to that 50 you could

2108  
01:15:45,110 --> 01:15:43,260  
drag that all the way to 99.99 999

2109  
01:15:47,090 --> 01:15:45,120  
because you could just end up with the

2110  
01:15:49,430 --> 01:15:47,100  
logic of Dr Manhattan I think his name

2111  
01:15:50,990 --> 01:15:49,440  
was from the Watchman who said yeah but

2112  
01:15:53,030 --> 01:15:51,000  
for even you to be here every atom

2113  
01:15:55,310 --> 01:15:53,040

needed to coalesce with this Adam and

2114

01:15:57,470 --> 01:15:55,320

this organism needed to not die and so

2115

01:15:59,390 --> 01:15:57,480

on and so the chances of you being here

2116

01:16:01,070 --> 01:15:59,400

are so astronomically zero so you could

2117

01:16:03,530 --> 01:16:01,080

follow that line to say essentially

2118

01:16:05,689 --> 01:16:03,540

every single aspect of you is luck and

2119

01:16:07,610 --> 01:16:05,699

there's almost zero free will if free

2120

01:16:09,229 --> 01:16:07,620

will even exist at all and then that has

2121

01:16:10,850 --> 01:16:09,239

its own downsides that's why I have

2122

01:16:12,470 --> 01:16:10,860

issues with any arguments about luck

2123

01:16:14,030 --> 01:16:12,480

like there's obviously positive about

2124

01:16:16,910 --> 01:16:14,040

luck because you don't want to say every

2125

01:16:18,470 --> 01:16:16,920

single thing in a person is due to their

2126

01:16:20,450 --> 01:16:18,480

own merits or that they're flawed in

2127

01:16:23,750 --> 01:16:20,460

some way like that's horrible but then

2128

01:16:26,030 --> 01:16:23,760

logically speaking any argument for an

2129

01:16:29,630 --> 01:16:26,040

incorporation of even 10 luck can be

2130

01:16:30,470 --> 01:16:29,640

pushed to 99.9999 luck how do you deal

2131

01:16:33,050 --> 01:16:30,480

with that

2132

01:16:34,850 --> 01:16:33,060

and I guess I kind of do you know see a

2133

01:16:36,770 --> 01:16:34,860

point and I kind of agree with it and

2134

01:16:38,510 --> 01:16:36,780

you know I like to think that say

2135

01:16:40,189 --> 01:16:38,520

someone like Brian went you know if he

2136

01:16:42,530 --> 01:16:40,199

hadn't been in that container at that

2137

01:16:44,570 --> 01:16:42,540

time he would have come up with the

2138

01:16:46,810 --> 01:16:44,580

discovery some other way and because I

2139

01:16:49,189 --> 01:16:46,820

think it was his combination of you know

2140

01:16:51,169 --> 01:16:49,199

intelligence and curiosity and

2141

01:16:53,750 --> 01:16:51,179

open-mindedness and dedication I'm gonna

2142

01:16:55,970 --> 01:16:53,760

grit all of these things the men that he

2143

01:16:58,550 --> 01:16:55,980

created his own luck in that he took

2144

01:17:00,649 --> 01:16:58,560

that opportunity and ran a bit but if he

2145

01:17:02,149 --> 01:17:00,659

hadn't had that opportunity there might

2146

01:17:04,310 --> 01:17:02,159

have been another one that he would have

2147

01:17:07,910 --> 01:17:04,320

had instead who would have also led to

2148

01:17:11,750 --> 01:17:07,920

some amazing Discovery so you know I do

2149

01:17:13,850 --> 01:17:11,760

think you know it still is within uh

2150

01:17:16,070 --> 01:17:13,860

within our control and you can you can

2151  
01:17:18,290 --> 01:17:16,080  
maximize your chances you might not be

2152  
01:17:20,450 --> 01:17:18,300  
if there's no foolproof way to become a

2153  
01:17:22,669 --> 01:17:20,460  
genius or to be recognized as a genius

2154  
01:17:25,189 --> 01:17:22,679  
but you can absolutely maximize your

2155  
01:17:27,470 --> 01:17:25,199  
chances of that by cultivating those

2156  
01:17:29,149 --> 01:17:27,480  
kinds of traits so one way that it can

2157  
01:17:30,950 --> 01:17:29,159  
be conceptualized is like yes there is a

2158  
01:17:32,270 --> 01:17:30,960  
lottery but every time you persevere

2159  
01:17:34,490 --> 01:17:32,280  
it's like you're playing that Lottery

2160  
01:17:35,930 --> 01:17:34,500  
again and again and again so yeah is

2161  
01:17:38,390 --> 01:17:35,940  
that one way or is that incorrect like

2162  
01:17:41,030 --> 01:17:38,400  
yeah no that's it you have yet you have

2163  
01:17:43,430 --> 01:17:41,040

to be in it to win it essentially and

2164

01:17:45,709 --> 01:17:43,440

you can you can be smart about the kind

2165

01:17:47,450 --> 01:17:45,719

of way that you play

2166

01:17:49,430 --> 01:17:47,460

you know book cards that you've been

2167

01:17:51,530 --> 01:17:49,440

given in life essentially and I think

2168

01:17:53,149 --> 01:17:51,540

like we mustn't neglect like all of the

2169

01:17:54,530 --> 01:17:53,159

structural factors that mean it's much

2170

01:17:56,390 --> 01:17:54,540

harder for people of like certain

2171

01:17:58,250 --> 01:17:56,400

backgrounds to succeed where others

2172

01:18:00,110 --> 01:17:58,260

might find it much easier so I'm not

2173

01:18:02,390 --> 01:18:00,120

definitely not discounting the fact that

2174

01:18:04,910 --> 01:18:02,400

like there are structural barriers that

2175

01:18:07,130 --> 01:18:04,920

we need to remove to give people uh

2176

01:18:10,189 --> 01:18:07,140

equal opportunities or more equal

2177

01:18:12,110 --> 01:18:10,199

opportunities but you know given most

2178

01:18:13,729 --> 01:18:12,120

circumstances being the way they are

2179

01:18:16,250 --> 01:18:13,739

there are still things that we can do

2180

01:18:17,990 --> 01:18:16,260

that will maximize our chances that will

2181

01:18:19,970 --> 01:18:18,000

kind of give us a bit more luck in that

2182

01:18:22,850 --> 01:18:19,980

Lottery of Life David what is

2183

01:18:24,649 --> 01:18:22,860

evidence-based wisdom

2184

01:18:27,050 --> 01:18:24,659

um so this is kind of trying to apply

2185

01:18:29,450 --> 01:18:27,060

the same intellectual rigor that we had

2186

01:18:30,950 --> 01:18:29,460

with the study of intelligence to the

2187

01:18:33,470 --> 01:18:30,960

study of wisdom

2188

01:18:36,350 --> 01:18:33,480

um obviously wisdom has been You Know

2189

01:18:38,990 --> 01:18:36,360

spoken about a lot and philosophy but in

2190

01:18:41,270 --> 01:18:39,000

science people had really you know

2191

01:18:43,910 --> 01:18:41,280

ignored ignored the question I avoided

2192

01:18:46,010 --> 01:18:43,920

the question of what makes on what whys

2193

01:18:49,189 --> 01:18:46,020

can we measure it and then this

2194

01:18:51,709 --> 01:18:49,199

researcher called Igor Grossman

2195

01:18:53,990 --> 01:18:51,719

um really attempted to tackle this huge

2196

01:18:56,689 --> 01:18:54,000

problem and he looked at all of the

2197

01:19:00,610 --> 01:18:56,699

philosophical definitions of wisdom and

2198

01:19:04,550 --> 01:19:00,620

he distilled them to uh six different uh

2199

01:19:06,410 --> 01:19:04,560

metacognitive uh kind of tendencies that

2200

01:19:08,450 --> 01:19:06,420

we might have and you know to name a few

2201

01:19:10,910 --> 01:19:08,460

of them as things like intellectual

2202

01:19:13,310 --> 01:19:10,920

wisdom intellectual humility essentially

2203

01:19:16,370 --> 01:19:13,320

you know people since Socrates had

2204

01:19:19,310 --> 01:19:16,380

argued that to be wise you have to have

2205

01:19:22,189 --> 01:19:19,320

a very uh definite knowledge of the

2206

01:19:24,830 --> 01:19:22,199

limits of your of your capabilities and

2207

01:19:26,630 --> 01:19:24,840

to accept when you don't know something

2208

01:19:29,810 --> 01:19:26,640

um it's the ability to reach a

2209

01:19:32,149 --> 01:19:29,820

compromise the ability to look for other

2210

01:19:35,330 --> 01:19:32,159

people's perspectives so you're not just

2211

01:19:37,250 --> 01:19:35,340

kind of myopically focused on your

2212

01:19:39,950 --> 01:19:37,260

particular viewpoint but you're you're

2213

01:19:42,050 --> 01:19:39,960

looking for other people's too so he

2214

01:19:43,790 --> 01:19:42,060

you know gathered these together and

2215

01:19:46,310 --> 01:19:43,800

then he started designing tests that

2216

01:19:49,250 --> 01:19:46,320

would measure them some of these tests

2217

01:19:52,189 --> 01:19:49,260

were quite involved but it would involve

2218

01:19:54,830 --> 01:19:52,199

um people looking at a kind of article

2219

01:19:57,590 --> 01:19:54,840

that might be from a dear Abbey column I

2220

01:20:00,890 --> 01:19:57,600

think like an agonyon color outlining a

2221

01:20:02,270 --> 01:20:00,900

problem or it could be an article about

2222

01:20:05,630 --> 01:20:02,280

the

2223

01:20:08,330 --> 01:20:05,640

Russian invasion of Ukraine and he would

2224

01:20:11,390 --> 01:20:08,340

ask people to talk out loud about what

2225

01:20:13,610 --> 01:20:11,400

they thought of these issues how the

2226

01:20:16,450 --> 01:20:13,620

situations might be resolved potentially

2227

01:20:19,250 --> 01:20:16,460

you know really to kind of talk through

2228

01:20:22,010 --> 01:20:19,260

uh their thinking on these complex

2229

01:20:24,470 --> 01:20:22,020

situations and then psychologists would

2230

01:20:26,450 --> 01:20:24,480

rate how they performed on all of those

2231

01:20:28,850 --> 01:20:26,460

different elements of wisdom like

2232

01:20:30,709 --> 01:20:28,860

intellectual humility did these people

2233

01:20:32,209 --> 01:20:30,719

actually acknowledge that they didn't

2234

01:20:34,010 --> 01:20:32,219

have all the information they needed to

2235

01:20:35,570 --> 01:20:34,020

hand and did they outline what they

2236

01:20:37,669 --> 01:20:35,580

would like to know before coming to a

2237

01:20:40,070 --> 01:20:37,679

conclusion that kind of thing

2238

01:20:43,189 --> 01:20:40,080

uh what he found was that those

2239

01:20:44,990 --> 01:20:43,199

uh those measures actually correlate

2240

01:20:47,930 --> 01:20:45,000

really well with important outcomes in

2241

01:20:50,930 --> 01:20:47,940

life and when it comes to things like uh

2242

01:20:52,370 --> 01:20:50,940

people's emotional well-being uh the

2243

01:20:54,350 --> 01:20:52,380

health you know all of these really

2244

01:20:56,390 --> 01:20:54,360

important things there's a state of

2245

01:20:58,550 --> 01:20:56,400

their relationships the measures of

2246

01:21:01,250 --> 01:20:58,560

wisdom actually came out as being more

2247

01:21:04,970 --> 01:21:01,260

important than uh independent measures

2248

01:21:07,189 --> 01:21:04,980

of IQ that had also taken so it really

2249

01:21:10,430 --> 01:21:07,199

proved that wisdom is something that can

2250

01:21:12,950 --> 01:21:10,440

be measured scientifically and then Igor

2251

01:21:15,350 --> 01:21:12,960

looked at ways to cultivate wisdom to

2252

01:21:18,590 --> 01:21:15,360

make people wiser and one example of

2253

01:21:21,770 --> 01:21:18,600

that which I loved is this uh uh

2254

01:21:23,030 --> 01:21:21,780

phenomenon called self-distancing and

2255

01:21:24,830 --> 01:21:23,040

that is essentially just getting

2256

01:21:27,290 --> 01:21:24,840

yourself to look at a particular

2257

01:21:30,530 --> 01:21:27,300

situation from an outside perspective

2258

01:21:32,930 --> 01:21:30,540

if you're American and you are reasoning

2259

01:21:35,209 --> 01:21:32,940

about the forthcoming elections for

2260

01:21:36,950 --> 01:21:35,219

example rather than just talking about

2261

01:21:38,149 --> 01:21:36,960

the situation from your own perspective

2262

01:21:40,310 --> 01:21:38,159

you might

2263

01:21:43,970 --> 01:21:40,320

consider how someone from Iceland or

2264

01:21:45,110 --> 01:21:43,980

Australia might view the situation

2265

01:21:47,689 --> 01:21:45,120

um if you're talking about a personal

2266

01:21:49,370 --> 01:21:47,699

problem you might imagine instead that

2267

01:21:52,130 --> 01:21:49,380

you were advising a friend with a

2268

01:21:53,209 --> 01:21:52,140

similar problem what he found was that

2269

01:21:55,250 --> 01:21:53,219

this actually

2270

01:21:57,530 --> 01:21:55,260

improves people's scores and wise

2271

01:22:00,229 --> 01:21:57,540

reasoning it actually helps them to

2272

01:22:02,450 --> 01:22:00,239

reason in a more sophisticated way about

2273

01:22:04,790 --> 01:22:02,460

the issues at hand and the reason is

2274

01:22:07,250 --> 01:22:04,800

that it stops us from feeling so

2275

01:22:09,169 --> 01:22:07,260

attached emotionally to the particular

2276

01:22:11,870 --> 01:22:09,179

problem and to our pre-existing

2277

01:22:13,910 --> 01:22:11,880

Viewpoint so it helps us to question our

2278

01:22:16,070 --> 01:22:13,920

assumptions to look at those different

2279

01:22:19,370 --> 01:22:16,080

perspectives that we might not consider

2280

01:22:21,590 --> 01:22:19,380

if we feel totally immersed in the

2281

01:22:23,390 --> 01:22:21,600

situation at hand if we a reasoning from

2282

01:22:25,790 --> 01:22:23,400

the position of an American talking

2283

01:22:28,790 --> 01:22:25,800

about the US election sort of reasoning

2284

01:22:30,830 --> 01:22:28,800

as ourselves about the dissolution of

2285

01:22:33,470 --> 01:22:30,840

our marriage he found that it could be

2286

01:22:36,649 --> 01:22:33,480

very powerful in helping people to be

2287

01:22:38,630 --> 01:22:36,659

more objective more rational wiser about

2288

01:22:40,850 --> 01:22:38,640

the situations that they were describing

2289

01:22:42,950 --> 01:22:40,860

and it's something that we can all do in

2290

01:22:44,689 --> 01:22:42,960

our lives is to just apply this very

2291

01:22:47,209 --> 01:22:44,699

simple technique

2292

01:22:51,350 --> 01:22:47,219

did he come up with a number akin to IQ

2293

01:22:53,330 --> 01:22:51,360

but for wisdom like your WQ no so you

2294

01:22:55,189 --> 01:22:53,340

know he didn't come up with a kind of

2295

01:22:57,770 --> 01:22:55,199

wisdom quotient

2296

01:23:00,470 --> 01:22:57,780

um but you know it was in a way like the

2297

01:23:02,149 --> 01:23:00,480

IQ the intelligence question is a great

2298

01:23:03,950 --> 01:23:02,159

way you know you look there's a

2299

01:23:04,790 --> 01:23:03,960

comparison always a comparison with the

2300

01:23:06,350 --> 01:23:04,800

average

2301  
01:23:09,169 --> 01:23:06,360  
um so maybe that's something he would

2302  
01:23:10,850 --> 01:23:09,179  
consider in the future but I think more

2303  
01:23:14,510 --> 01:23:10,860  
importantly he's really looking up

2304  
01:23:16,850 --> 01:23:14,520  
anyone could measure their Baseline uh

2305  
01:23:18,950 --> 01:23:16,860  
kind of wise reasoning score according

2306  
01:23:21,110 --> 01:23:18,960  
to his different tests and then they

2307  
01:23:22,610 --> 01:23:21,120  
could try to see an improvement in that

2308  
01:23:24,950 --> 01:23:22,620  
score so you could at least look at your

2309  
01:23:27,110 --> 01:23:24,960  
own personal trajectory even if you're

2310  
01:23:29,689 --> 01:23:27,120  
not trying to compare across the

2311  
01:23:31,310 --> 01:23:29,699  
population the beauty of the IQ test is

2312  
01:23:33,169 --> 01:23:31,320  
that it's difficult to fake you can

2313  
01:23:36,110 --> 01:23:33,179

practice IQ tests and you can score

2314

01:23:38,209 --> 01:23:36,120

higher but with a survey I imagine with

2315

01:23:39,649 --> 01:23:38,219

a survey like the wisdom tester says Hey

2316

01:23:42,050 --> 01:23:39,659

do you take other people's viewpoints

2317

01:23:43,729 --> 01:23:42,060

into account you could imagine I think

2318

01:23:45,649 --> 01:23:43,739

it's more socially acceptable and wise

2319

01:23:47,450 --> 01:23:45,659

so I'm gonna say yes I I do 5 out of

2320

01:23:49,669 --> 01:23:47,460

five you could imagine that you can

2321

01:23:51,770 --> 01:23:49,679

falsify that information so is there a

2322

01:23:54,470 --> 01:23:51,780

way of constructing a wisdom test that

2323

01:23:57,110 --> 01:23:54,480

takes into account that people may not

2324

01:24:00,490 --> 01:23:57,120

say what is accurate about themselves

2325

01:24:03,350 --> 01:24:00,500

yeah I mean so I think some of eagles

2326

01:24:05,750 --> 01:24:03,360

Tesla questionnaires in the way that you

2327

01:24:07,850 --> 01:24:05,760

describe so self-reported I mean no

2328

01:24:09,410 --> 01:24:07,860

surprisingly people are quite honest and

2329

01:24:11,990 --> 01:24:09,420

self-reported question and so we know

2330

01:24:14,209 --> 01:24:12,000

that from personality questionnaires for

2331

01:24:16,550 --> 01:24:14,219

example but people people's responses

2332

01:24:18,110 --> 01:24:16,560

often do correspond to what their

2333

01:24:19,490 --> 01:24:18,120

friends would say about them so they're

2334

01:24:22,430 --> 01:24:19,500

not always lying although there might be

2335

01:24:24,290 --> 01:24:22,440

a slight bias tools are more positive

2336

01:24:26,450 --> 01:24:24,300

you know attribute

2337

01:24:28,070 --> 01:24:26,460

um but actually in a lot of these tests

2338

01:24:29,990 --> 01:24:28,080

you know they're having to prove that

2339

01:24:32,630 --> 01:24:30,000

they were capable of doing that so if

2340

01:24:34,370 --> 01:24:32,640

they were reasoning about the U.S

2341

01:24:36,350 --> 01:24:34,380

elections they would actually have to

2342

01:24:38,149 --> 01:24:36,360

take someone else's perspective but they

2343

01:24:40,189 --> 01:24:38,159

would actually have to they would have

2344

01:24:42,290 --> 01:24:40,199

to show that kind of integration of what

2345

01:24:44,750 --> 01:24:42,300

a Democrat would think compared to a

2346

01:24:47,090 --> 01:24:44,760

Republican and to balance them and to

2347

01:24:49,010 --> 01:24:47,100

kind of draw connections between the two

2348

01:24:50,689 --> 01:24:49,020

and to look for the ways that there

2349

01:24:53,149 --> 01:24:50,699

might be a compromise on a particular

2350

01:24:55,070 --> 01:24:53,159

political opinion or particular

2351

01:24:56,630 --> 01:24:55,080

political problem and so they're

2352

01:24:58,550 --> 01:24:56,640

actually having shown that having to

2353

01:25:00,770 --> 01:24:58,560

show that they did that it wasn't just

2354

01:25:01,610 --> 01:25:00,780

them saying Oh yeah I'm brilliant at

2355

01:25:03,830 --> 01:25:01,620

this

2356

01:25:06,229 --> 01:25:03,840

um so yeah I think he's he's considered

2357

01:25:08,270 --> 01:25:06,239

that and it does it does seem that

2358

01:25:10,189 --> 01:25:08,280

people's self-reported responses

2359

01:25:13,010 --> 01:25:10,199

correspond with their actual abilities

2360

01:25:14,810 --> 01:25:13,020

to do that and also that even when you

2361

01:25:17,770 --> 01:25:14,820

do things like this self-distancing

2362

01:25:20,750 --> 01:25:17,780

exercise that that's having a real

2363

01:25:23,030 --> 01:25:20,760

impact on what they're doing how they're

2364

01:25:25,070 --> 01:25:23,040

going about their reasoning what are the

2365

01:25:27,950 --> 01:25:25,080

rationality coefficients

2366

01:25:29,750 --> 01:25:27,960

so that was that is research where

2367

01:25:32,450 --> 01:25:29,760

someone has tried to look at a more

2368

01:25:35,450 --> 01:25:32,460

direct comparison to be uh in

2369

01:25:38,570 --> 01:25:35,460

intelligence uh quotient

2370

01:25:40,790 --> 01:25:38,580

um that's where by Keith stanovic who's

2371

01:25:43,250 --> 01:25:40,800

another Canadian researcher you know

2372

01:25:45,530 --> 01:25:43,260

brilliant mind who's really taken the

2373

01:25:47,810 --> 01:25:45,540

work of people like Daniel carderman all

2374

01:25:49,850 --> 01:25:47,820

of these uh cognitive biases that we

2375

01:25:51,709 --> 01:25:49,860

know that exist like the some cost

2376  
01:25:54,169 --> 01:25:51,719  
fallacy that we mentioned earlier things

2377  
01:25:55,490 --> 01:25:54,179  
like um temporal discounting which is

2378  
01:25:58,490 --> 01:25:55,500  
whether you

2379  
01:26:01,490 --> 01:25:58,500  
are able to overlook a more immediate

2380  
01:26:04,010 --> 01:26:01,500  
reward something a bigger reward later

2381  
01:26:06,890 --> 01:26:04,020  
on that kind of thing you know how how

2382  
01:26:09,830 --> 01:26:06,900  
you fall on that kind of spectrum of

2383  
01:26:11,510 --> 01:26:09,840  
potential responses for uh you know when

2384  
01:26:13,490 --> 01:26:11,520  
you're willing to kind of have a cut up

2385  
01:26:15,410 --> 01:26:13,500  
all of that kind of

2386  
01:26:18,410 --> 01:26:15,420  
um literature on decision making he's

2387  
01:26:20,570 --> 01:26:18,420  
really looked at very carefully and uh

2388  
01:26:22,610 --> 01:26:20,580

he's shown that there are reliable

2389

01:26:25,430 --> 01:26:22,620

individual differences between people

2390

01:26:27,470 --> 01:26:25,440

that can be measured with tests uh which

2391

01:26:29,030 --> 01:26:27,480

is something that Daniel conman hadn't

2392

01:26:31,370 --> 01:26:29,040

looked at the differences between people

2393

01:26:33,410 --> 01:26:31,380

he'd just shown a general average

2394

01:26:34,850 --> 01:26:33,420

tendency whereas Keith stanovic was

2395

01:26:37,790 --> 01:26:34,860

really looking at are some people

2396

01:26:40,310 --> 01:26:37,800

consistently more susceptible to bias

2397

01:26:43,189 --> 01:26:40,320

than other people and he found that that

2398

01:26:45,830 --> 01:26:43,199

is true some people do tend to suffer

2399

01:26:48,410 --> 01:26:45,840

from all kinds of biases both of us are

2400

01:26:50,629 --> 01:26:48,420

more resilient against biases and then

2401

01:26:53,810 --> 01:26:50,639

he compared that to their IQ scores

2402

01:26:56,570 --> 01:26:53,820

their SAT scores and the U.S education

2403

01:26:58,250 --> 01:26:56,580

system in all of these cases he found

2404

01:27:00,290 --> 01:26:58,260

that there was a correlation with

2405

01:27:02,810 --> 01:27:00,300

measures of intelligence but the

2406

01:27:05,090 --> 01:27:02,820

intelligence alone didn't describe

2407

01:27:06,890 --> 01:27:05,100

people's rationality so what I mean by

2408

01:27:09,229 --> 01:27:06,900

that is you could still have someone who

2409

01:27:12,410 --> 01:27:09,239

is highly intelligent but who scored

2410

01:27:14,750 --> 01:27:12,420

very low on the rationality quotient and

2411

01:27:16,669 --> 01:27:14,760

vice versa did he say what the

2412

01:27:18,830 --> 01:27:16,679

correlation was

2413

01:27:20,570 --> 01:27:18,840

it really depended on what kind of test

2414

01:27:22,970 --> 01:27:20,580

they were using and also it did depend

2415

01:27:25,669 --> 01:27:22,980

on what kind of bias they were looking

2416

01:27:26,510 --> 01:27:25,679

at the Suncoast fallacy

2417

01:27:29,270 --> 01:27:26,520

um

2418

01:27:31,550 --> 01:27:29,280

I believe or temporal discounting I

2419

01:27:33,709 --> 01:27:31,560

believe the correlation was almost zero

2420

01:27:35,689 --> 01:27:33,719

you know like surprisingly like people

2421

01:27:37,669 --> 01:27:35,699

really weren't more rational in those

2422

01:27:38,930 --> 01:27:37,679

kinds of situations that they were

2423

01:27:40,490 --> 01:27:38,940

measuring

2424

01:27:42,770 --> 01:27:40,500

um if they were more intelligent it just

2425

01:27:44,689 --> 01:27:42,780

didn't seem to make a difference so what

2426

01:27:46,910 --> 01:27:44,699

other elements of his rationality

2427

01:27:48,590 --> 01:27:46,920

equation that did depend more on

2428

01:27:50,870 --> 01:27:48,600

intelligence and that tended to be the

2429

01:27:54,350 --> 01:27:50,880

things that I think would be covered in

2430

01:27:56,209 --> 01:27:54,360

academic education so how he also looked

2431

01:27:58,189 --> 01:27:56,219

at things like how you would read

2432

01:28:00,649 --> 01:27:58,199

statistics like whether people are able

2433

01:28:02,570 --> 01:28:00,659

to understand like absolute risk

2434

01:28:04,610 --> 01:28:02,580

relative risk

2435

01:28:06,590 --> 01:28:04,620

um all of that kind of statistical

2436

01:28:09,350 --> 01:28:06,600

reasoning and as you might expect if

2437

01:28:10,669 --> 01:28:09,360

you're you have a higher SAT score you

2438

01:28:12,890 --> 01:28:10,679

probably were paying more attention in

2439

01:28:15,430 --> 01:28:12,900

your maths classes and so you are better

2440

01:28:17,870 --> 01:28:15,440

able when asked to actually

2441

01:28:19,189 --> 01:28:17,880

calculate those different risks those

2442

01:28:20,810 --> 01:28:19,199

are really important elements of

2443

01:28:23,390 --> 01:28:20,820

rationality and actually they can be

2444

01:28:24,890 --> 01:28:23,400

taught which is positive so but yeah

2445

01:28:27,709 --> 01:28:24,900

it's not like intelligence was

2446

01:28:30,290 --> 01:28:27,719

completely unrelated to all elements of

2447

01:28:32,629 --> 01:28:30,300

rationality but certainly for some some

2448

01:28:34,070 --> 01:28:32,639

areas where you would expect that a

2449

01:28:36,169 --> 01:28:34,080

smarter person would just automatically

2450

01:28:38,270 --> 01:28:36,179

make the more rational decision he

2451

01:28:40,010 --> 01:28:38,280

didn't find that at all so he does he

2452

01:28:42,410 --> 01:28:40,020

says it supports this idea but you know

2453

01:28:45,050 --> 01:28:42,420

smart people can make terribly

2454

01:28:47,930 --> 01:28:45,060

irrational decisions and he calls that

2455

01:28:50,090 --> 01:28:47,940

phenomenon discretionalia which he

2456

01:28:52,970 --> 01:28:50,100

compares to dyslexia

2457

01:28:55,010 --> 01:28:52,980

um so dyslexia is the you might have a

2458

01:28:57,590 --> 01:28:55,020

high IQ person who has a particular

2459

01:28:59,990 --> 01:28:57,600

problem with literacy and with reading

2460

01:29:01,850 --> 01:29:00,000

in particular and similarly with

2461

01:29:04,129 --> 01:29:01,860

disrasionalia you might have someone

2462

01:29:06,890 --> 01:29:04,139

with a high IQ who's just really

2463

01:29:08,209 --> 01:29:06,900

irrational they just really struggle to

2464

01:29:11,990 --> 01:29:08,219

come up with

2465

01:29:13,970 --> 01:29:12,000

to read data rationally and logically

2466

01:29:18,110 --> 01:29:13,980

and to weigh off evidence and to come up

2467

01:29:20,629 --> 01:29:18,120

with a conclusion based on that data so

2468

01:29:22,790 --> 01:29:20,639

he yeah he considers this to be a kind

2469

01:29:25,550 --> 01:29:22,800

of societal problem that there needs to

2470

01:29:28,430 --> 01:29:25,560

be targeted with like interventions that

2471

01:29:30,890 --> 01:29:28,440

help to cultivate rationality

2472

01:29:33,290 --> 01:29:30,900

so stanovich's terminology he calls it

2473

01:29:34,970 --> 01:29:33,300

the quotient so it's not coefficients no

2474

01:29:36,590 --> 01:29:34,980

it's the rationale well that's the

2475

01:29:38,570 --> 01:29:36,600

informal name is the rationality

2476  
01:29:40,070 --> 01:29:38,580  
quotient but yeah his book was called

2477  
01:29:42,350 --> 01:29:40,080  
the rationality quotient so he's

2478  
01:29:44,270 --> 01:29:42,360  
definitely promoting this idea like the

2479  
01:29:46,370 --> 01:29:44,280  
intelligence question yeah and there

2480  
01:29:48,169 --> 01:29:46,380  
wasn't just one there were several types

2481  
01:29:50,330 --> 01:29:48,179  
of rationality quotients or there was

2482  
01:29:53,330 --> 01:29:50,340  
just one like right RQ and that's it not

2483  
01:29:54,890 --> 01:29:53,340  
RQ underscore one yeah no exactly so

2484  
01:29:56,689 --> 01:29:54,900  
basically a bit like with IQ test

2485  
01:29:59,870 --> 01:29:56,699  
actually you break it into kind of um

2486  
01:30:01,790 --> 01:29:59,880  
stop tests so you you know an IQ you

2487  
01:30:04,129 --> 01:30:01,800  
might have like the verbal subtest the

2488  
01:30:08,510 --> 01:30:04,139

nonverbal reasoning subtest you know um

2489

01:30:10,070 --> 01:30:08,520

lots of different types of uh of

2490

01:30:12,169 --> 01:30:10,080

different problems that it's measuring

2491

01:30:13,669 --> 01:30:12,179

and there's a correlation between all of

2492

01:30:15,950 --> 01:30:13,679

them but actually the correlation

2493

01:30:17,030 --> 01:30:15,960

between one and another might vary so

2494

01:30:20,689 --> 01:30:17,040

you know there's a kind of central

2495

01:30:22,850 --> 01:30:20,699

Factor we say uh which is

2496

01:30:23,870 --> 01:30:22,860

someone's kind of general intelligence

2497

01:30:25,970 --> 01:30:23,880

but

2498

01:30:28,490 --> 01:30:25,980

and if you're better at one you're more

2499

01:30:30,530 --> 01:30:28,500

likely to be better at another cognitive

2500

01:30:32,270 --> 01:30:30,540

task but it doesn't mean that you're

2501  
01:30:34,430 --> 01:30:32,280  
automatically brilliant to all of them

2502  
01:30:35,990 --> 01:30:34,440  
if you a brilliant one it's the same

2503  
01:30:37,189 --> 01:30:36,000  
with rationality that you see a

2504  
01:30:39,890 --> 01:30:37,199  
correlation between the different

2505  
01:30:42,410 --> 01:30:39,900  
subtests but actually there's still

2506  
01:30:44,510 --> 01:30:42,420  
enough variation within a person so you

2507  
01:30:47,149 --> 01:30:44,520  
might have a particular strength in one

2508  
01:30:49,669 --> 01:30:47,159  
area of rationality but a weakness in

2509  
01:30:52,669 --> 01:30:49,679  
another was his conclusion that high IQ

2510  
01:30:55,669 --> 01:30:52,679  
individuals generally have a slightly

2511  
01:30:58,250 --> 01:30:55,679  
higher RQ but in particular for certain

2512  
01:31:01,070 --> 01:30:58,260  
subtypes of RQ they're lower

2513  
01:31:02,030 --> 01:31:01,080

yeah that's exactly it and but um but

2514

01:31:07,550 --> 01:31:02,040

even

2515

01:31:11,570 --> 01:31:07,560

IQ individuals you'll have like enough

2516

01:31:12,950 --> 01:31:11,580

variation the RQ rationality is

2517

01:31:16,550 --> 01:31:12,960

something that we should be measuring

2518

01:31:18,709 --> 01:31:16,560

and then cultivating separately from IQ

2519

01:31:20,689 --> 01:31:18,719

and the other kind of academic uh

2520

01:31:23,149 --> 01:31:20,699

disciplines that we look at so he gives

2521

01:31:26,390 --> 01:31:23,159

the example of if you're recruiting you

2522

01:31:28,910 --> 01:31:26,400

know some recruiters do use IQ tests

2523

01:31:31,129 --> 01:31:28,920

still to kind of work out who's the best

2524

01:31:34,070 --> 01:31:31,139

person to employ but they're not really

2525

01:31:35,810 --> 01:31:34,080

measuring accurately rationality and you

2526

01:31:37,550 --> 01:31:35,820

want a rational Workforce really you

2527

01:31:40,490 --> 01:31:37,560

don't want someone who's gonna fall for

2528

01:31:42,050 --> 01:31:40,500

fake news uh fall for [h\_\_\h] from some

2529

01:31:44,450 --> 01:31:42,060

kind of other company and make a bad

2530

01:31:46,189 --> 01:31:44,460

investment you want a rational Workforce

2531

01:31:48,830 --> 01:31:46,199

So He suggests that actually we should

2532

01:31:51,350 --> 01:31:48,840

be using the rationalis equation as a

2533

01:31:53,209 --> 01:31:51,360

means of selecting candidates and also

2534

01:31:55,669 --> 01:31:53,219

just as a means of identifying who could

2535

01:31:57,290 --> 01:31:55,679

do some training like who needs to learn

2536

01:32:00,530 --> 01:31:57,300

more about maybe

2537

01:32:02,149 --> 01:32:00,540

how to read statistics or these to have

2538

01:32:04,250 --> 01:32:02,159

that awareness raised about things like

2539

01:32:06,350 --> 01:32:04,260

the sunk cost fallacy so they don't fall

2540

01:32:08,750 --> 01:32:06,360

for it in the future

2541

01:32:13,070 --> 01:32:08,760

is there a relationship between

2542

01:32:15,229 --> 01:32:13,080

high IQ and arrogance uh I wouldn't I

2543

01:32:17,149 --> 01:32:15,239

don't know if anyone's looked at it like

2544

01:32:19,610 --> 01:32:17,159

that but Keith Stanovic had looked at

2545

01:32:22,490 --> 01:32:19,620

the biased blind spot

2546

01:32:24,890 --> 01:32:22,500

um and that's essentially

2547

01:32:26,810 --> 01:32:24,900

you are someone like you tell them about

2548

01:32:27,830 --> 01:32:26,820

these cognitive biases and then you ask

2549

01:32:29,510 --> 01:32:27,840

them

2550

01:32:32,090 --> 01:32:29,520

do you think you're gonna suffer from

2551  
01:32:35,510 --> 01:32:32,100  
those Pisces yourself and what he found

2552  
01:32:37,550 --> 01:32:35,520  
was that people the higher IQs tended to

2553  
01:32:40,310 --> 01:32:37,560  
think that they were less susceptible

2554  
01:32:43,910 --> 01:32:40,320  
than the other people

2555  
01:32:44,930 --> 01:32:43,920  
um they over exaggerated their

2556  
01:32:47,510 --> 01:32:44,940  
um

2557  
01:32:49,790 --> 01:32:47,520  
their resilience their protection

2558  
01:32:51,890 --> 01:32:49,800  
against the biases so they thought they

2559  
01:32:53,270 --> 01:32:51,900  
were much better than they actually were

2560  
01:32:55,490 --> 01:32:53,280  
and that was more likely the more

2561  
01:32:57,050 --> 01:32:55,500  
intelligent they were essentially so in

2562  
01:32:58,669 --> 01:32:57,060  
that you know in that sense I think the

2563  
01:33:00,709 --> 01:32:58,679

biased blind spot is an example of

2564

01:33:02,030 --> 01:33:00,719

intellectual arrogance and it's a

2565

01:33:04,070 --> 01:33:02,040

serious problem because if you don't

2566

01:33:06,830 --> 01:33:04,080

have awareness of the ways that your

2567

01:33:09,169 --> 01:33:06,840

reasoning might uh fail then you're less

2568

01:33:11,090 --> 01:33:09,179

likely to try to account for that how

2569

01:33:13,550 --> 01:33:11,100

can an individual listening slash

2570

01:33:16,310 --> 01:33:13,560

watching this increase their RQ the

2571

01:33:17,390 --> 01:33:16,320

rationality quotient right so this is

2572

01:33:19,970 --> 01:33:17,400

still

2573

01:33:22,490 --> 01:33:19,980

um an area of research but I think like

2574

01:33:25,669 --> 01:33:22,500

those very strong evidence that we can

2575

01:33:29,149 --> 01:33:25,679

improve elements of rationality

2576

01:33:31,250 --> 01:33:29,159

um so you know just learning about these

2577

01:33:32,990 --> 01:33:31,260

biases there are some studies that

2578

01:33:35,270 --> 01:33:33,000

showed that once you have that awareness

2579

01:33:38,149 --> 01:33:35,280

and as long as you make sure that you

2580

01:33:40,310 --> 01:33:38,159

apply that awareness as well that you

2581

01:33:43,490 --> 01:33:40,320

look when you're making a new decision

2582

01:33:45,229 --> 01:33:43,500

but you start to consider the biases

2583

01:33:46,910 --> 01:33:45,239

that might be influencing your decision

2584

01:33:49,310 --> 01:33:46,920

and then try to account for them you

2585

01:33:51,590 --> 01:33:49,320

know that's a learnable skill so that's

2586

01:33:52,970 --> 01:33:51,600

one thing we can look at these books you

2587

01:33:54,709 --> 01:33:52,980

know like the intelligent strap like

2588

01:33:56,330 --> 01:33:54,719

thinking fast and slow you know we can

2589

01:33:58,010 --> 01:33:56,340

learn from those books and then try to

2590

01:33:59,390 --> 01:33:58,020

apply it and that will improve our

2591

01:34:01,850 --> 01:33:59,400

rationality

2592

01:34:04,610 --> 01:34:01,860

um more generally I think like there's

2593

01:34:07,669 --> 01:34:04,620

research looking at critical thinking so

2594

01:34:09,290 --> 01:34:07,679

identifying logical fallacies learning

2595

01:34:14,870 --> 01:34:09,300

to

2596

01:34:15,950 --> 01:34:14,880

reaction so whether we think

2597

01:34:17,870 --> 01:34:15,960

um

2598

01:34:20,209 --> 01:34:17,880

whether intuitively something feels

2599

01:34:22,850 --> 01:34:20,219

right to actually override that and to

2600

01:34:24,530 --> 01:34:22,860

question our assumption and then to look

2601  
01:34:26,209 --> 01:34:24,540  
for the evidence that contradicts it

2602  
01:34:27,709 --> 01:34:26,219  
that's something that we can all learn

2603  
01:34:29,209 --> 01:34:27,719  
to do that's going to reduce your

2604  
01:34:32,870 --> 01:34:29,219  
susceptibility to something like

2605  
01:34:34,970 --> 01:34:32,880  
motivated reasoning or the my side bias

2606  
01:34:36,590 --> 01:34:34,980  
um another useful strategy when you're

2607  
01:34:39,350 --> 01:34:36,600  
trying to appraise different pieces of

2608  
01:34:41,270 --> 01:34:39,360  
information is to just try to put

2609  
01:34:43,850 --> 01:34:41,280  
yourself in an alternative Viewpoint

2610  
01:34:46,270 --> 01:34:43,860  
where you you question whether you would

2611  
01:34:48,830 --> 01:34:46,280  
be as convinced by a piece of evidence

2612  
01:34:51,890 --> 01:34:48,840  
if it's conclusions weren't the opposite

2613  
01:34:53,990 --> 01:34:51,900

so it's kind of intricate that but if

2614

01:34:57,530 --> 01:34:54,000

you wanted to

2615

01:34:59,689 --> 01:34:57,540

if you were a republican say and you saw

2616

01:35:01,810 --> 01:34:59,699

a report that supported

2617

01:35:04,970 --> 01:35:01,820

a Democrats

2618

01:35:06,470 --> 01:35:04,980

uh Economic Policy

2619

01:35:07,550 --> 01:35:06,480

um now you might instantly dismiss it

2620

01:35:09,050 --> 01:35:07,560

because it doesn't come to the

2621

01:35:11,810 --> 01:35:09,060

conclusion that you would want it to

2622

01:35:13,430 --> 01:35:11,820

take but what you can do to make sure

2623

01:35:14,390 --> 01:35:13,440

that you're not just dismissing that

2624

01:35:17,930 --> 01:35:14,400

evidence

2625

01:35:20,450 --> 01:35:17,940

unfairly is to stop and think well would

2626

01:35:23,149 --> 01:35:20,460

I have spotted the same Applause in this

2627

01:35:26,510 --> 01:35:23,159

piece in this report if it had actually

2628

01:35:28,430 --> 01:35:26,520

supported a republican Viewpoint instead

2629

01:35:30,470 --> 01:35:28,440

um that's just one example but it's very

2630

01:35:31,910 --> 01:35:30,480

much just trying to to check that you're

2631

01:35:33,709 --> 01:35:31,920

even-handed in the way that you're

2632

01:35:36,350 --> 01:35:33,719

applying your critical thinking skills

2633

01:35:38,629 --> 01:35:36,360

in the much earlier example of Sir

2634

01:35:41,689 --> 01:35:38,639

Arthur Conan Doyle and the Paranormal

2635

01:35:45,169 --> 01:35:41,699

how does one know that what he was doing

2636

01:35:46,790 --> 01:35:45,179

was in fact false so one way is we say

2637

01:35:48,709 --> 01:35:46,800

well the scientific consensus is so

2638

01:35:50,450 --> 01:35:48,719

what's up but then my issue with that is

2639

01:35:52,250 --> 01:35:50,460

that there's a beautiful study in your

2640

01:35:55,310 --> 01:35:52,260

book which I love I'm gonna start to

2641

01:35:57,169 --> 01:35:55,320

quote about if you give a test on gun

2642

01:36:00,530 --> 01:35:57,179

violence to people who are conservative

2643

01:36:02,270 --> 01:36:00,540

and liberal and subtle reasoning shows

2644

01:36:04,729 --> 01:36:02,280

that the gun violence in this example

2645

01:36:06,770 --> 01:36:04,739

the laws that are for gun control end up

2646

01:36:08,330 --> 01:36:06,780

causing more gun violence but you have

2647

01:36:10,430 --> 01:36:08,340

to be extremely careful with your math

2648

01:36:11,810 --> 01:36:10,440

in order to come to that conclusion that

2649

01:36:13,910 --> 01:36:11,820

the conservatives were more likely to

2650

01:36:15,410 --> 01:36:13,920

find that loophole or the not trivial

2651

01:36:16,850 --> 01:36:15,420

reasoning in order to get to that

2652

01:36:18,350 --> 01:36:16,860

conclusion and the Liberals were more

2653

01:36:21,410 --> 01:36:18,360

likely to say oh yeah gun control

2654

01:36:23,330 --> 01:36:21,420

clearly reduces gun crime and then vice

2655

01:36:25,490 --> 01:36:23,340

versa so then that made me think okay

2656

01:36:28,490 --> 01:36:25,500

well if we ever appeal to Scientific

2657

01:36:31,070 --> 01:36:28,500

consensus we have to wait for political

2658

01:36:33,169 --> 01:36:31,080

leaning and the majority of scientists

2659

01:36:35,390 --> 01:36:33,179

are liberal like 90 percent are liberal

2660

01:36:38,090 --> 01:36:35,400

their studies on this so then do we wait

2661

01:36:39,530 --> 01:36:38,100

consensus by that how do we do that so

2662

01:36:41,990 --> 01:36:39,540

that's my issue because there are so

2663

01:36:43,790 --> 01:36:42,000

many aspects of this world of the themes

2664

01:36:45,950 --> 01:36:43,800

that I try to investigate in theories of

2665

01:36:48,229 --> 01:36:45,960

everything that I used to just dismiss

2666

01:36:50,330 --> 01:36:48,239

and disparage like near-death

2667

01:36:53,629 --> 01:36:50,340

experiences or connecting Consciousness

2668

01:36:55,189 --> 01:36:53,639

with quantum mechanics or even UFOs also

2669

01:36:57,290 --> 01:36:55,199

I was looking into the placebo effect

2670

01:36:59,450 --> 01:36:57,300

whereas prior I thought that it was just

2671

01:37:01,550 --> 01:36:59,460

a measly effect like a bit of pain

2672

01:37:03,290 --> 01:37:01,560

relief I didn't think it had much Merit

2673

01:37:04,790 --> 01:37:03,300

to it I'm not saying that I've come to

2674

01:37:07,430 --> 01:37:04,800

any conclusion nothing like that but

2675

01:37:09,050 --> 01:37:07,440

it's not inconsequentially dismissed at

2676

01:37:10,490 --> 01:37:09,060

least not for me I find that there's

2677

01:37:11,450 --> 01:37:10,500

something there or there could be

2678

01:37:13,010 --> 01:37:11,460

something there there are people like

2679

01:37:13,850 --> 01:37:13,020

Penrose who Nobel Prize when they're

2680

01:37:15,410 --> 01:37:13,860

dealing with quantum mechanics

2681

01:37:17,990 --> 01:37:15,420

consciousness this is all what I would

2682

01:37:19,310 --> 01:37:18,000

say is woo prior I got this sense from

2683

01:37:20,990 --> 01:37:19,320

your book and it could be incorrect I

2684

01:37:22,910 --> 01:37:21,000

got the sense of a bit of condescension

2685

01:37:24,709 --> 01:37:22,920

when the word paranormal was mentioned

2686

01:37:26,270 --> 01:37:24,719

or aliens or UFOs and listening to that

2687

01:37:28,189 --> 01:37:26,280

thinking okay how was that made with

2688

01:37:30,290 --> 01:37:28,199

appeal to Scientific consensus how does

2689

01:37:32,930 --> 01:37:30,300

that work when there's already political

2690

01:37:35,870 --> 01:37:32,940

biases let alone other biases that maybe

2691

01:37:37,729 --> 01:37:35,880

the majority of scientists have so how

2692

01:37:39,290 --> 01:37:37,739

do we weight that so that's all what I'm

2693

01:37:41,209 --> 01:37:39,300

thinking so please help me through that

2694

01:37:42,830 --> 01:37:41,219

what are your thoughts on that yeah I

2695

01:37:44,570 --> 01:37:42,840

mean so first of all let's say you know

2696

01:37:47,090 --> 01:37:44,580

the quantum theory of Consciousness I

2697

01:37:49,729 --> 01:37:47,100

actually think is a totally valid but

2698

01:37:52,189 --> 01:37:49,739

real Consciousness I don't think it's um

2699

01:37:53,990 --> 01:37:52,199

well I think it's unproven but I think

2700

01:37:56,930 --> 01:37:54,000

lots of areas of Consciousness are also

2701

01:37:59,629 --> 01:37:56,940

improving so it's like it deserves you

2702

01:38:00,590 --> 01:37:59,639

know considerable studying to be taken

2703

01:38:02,390 --> 01:38:00,600

seriously

2704

01:38:04,490 --> 01:38:02,400

um so I definitely think you know there

2705

01:38:05,750 --> 01:38:04,500

are some things that we can dismiss too

2706

01:38:11,330 --> 01:38:05,760

easily

2707

01:38:15,649 --> 01:38:13,669

mean that's a tough one because it you

2708

01:38:18,830 --> 01:38:15,659

know I have to accept that my own biases

2709

01:38:20,390 --> 01:38:18,840

could be kind of shining through that I

2710

01:38:21,350 --> 01:38:20,400

mean I would say there have been lots of

2711

01:38:24,530 --> 01:38:21,360

good

2712

01:38:27,550 --> 01:38:24,540

studies carefully controlled studies uh

2713

01:38:32,030 --> 01:38:27,560

trying to detect paranormal phenomena

2714

01:38:34,790 --> 01:38:32,040

and I think most scientists even

2715

01:38:38,810 --> 01:38:34,800

if they believe in the Paranormal would

2716

01:38:44,930 --> 01:38:41,270

um setup of the experiments as being

2717

01:38:46,189 --> 01:38:44,940

scientifically valid and um you look at

2718

01:38:48,050 --> 01:38:46,199

the outcomes and you look at the

2719

01:38:51,470 --> 01:38:48,060

outcomes of multiple experiments through

2720

01:38:53,450 --> 01:38:51,480

material analyzes and you find that the

2721

01:38:56,689 --> 01:38:53,460

effect size

2722

01:39:00,110 --> 01:38:56,699

vanishes to zero which is why

2723

01:39:01,669 --> 01:39:00,120

even if I would be so basically to

2724

01:39:04,490 --> 01:39:01,679

calibrate my confidence I would never

2725

01:39:06,770 --> 01:39:04,500

want to dismiss outer pan something like

2726

01:39:08,330 --> 01:39:06,780

a paranormal phenomena

2727

01:39:10,250 --> 01:39:08,340

I would never want to say it's

2728

01:39:12,050 --> 01:39:10,260

absolutely impossible but I would say

2729

01:39:13,810 --> 01:39:12,060

given the evidence that we've got from

2730

01:39:16,370 --> 01:39:13,820

all of these

2731

01:39:18,470 --> 01:39:16,380

experiments that I think have been well

2732

01:39:20,510 --> 01:39:18,480

conducted it's you know maybe not

2733

01:39:21,970 --> 01:39:20,520

dismissing the possibility there could

2734

01:39:24,050 --> 01:39:21,980

always be another experiment that's

2735

01:39:25,610 --> 01:39:24,060

someone's profound like an even better

2736

01:39:27,890 --> 01:39:25,620

way of testing for a potential

2737

01:39:29,810 --> 01:39:27,900

paranormal phenomena and then maybe that

2738

01:39:32,149 --> 01:39:29,820

would show that it does exist and we can

2739

01:39:34,250 --> 01:39:32,159

always keep our mind open to that but I

2740

01:39:36,229 --> 01:39:34,260

think until that experiment comes along

2741

01:39:39,050 --> 01:39:36,239

we have to kind of look at the balance

2742

01:39:40,550 --> 01:39:39,060

of the evidence today that's my uh view

2743

01:39:42,169 --> 01:39:40,560

of that

2744

01:39:44,570 --> 01:39:42,179

um

2745

01:39:46,729 --> 01:39:44,580

I don't I think I think like yeah I

2746

01:39:48,830 --> 01:39:46,739

think this is where like we need teams

2747

01:39:51,110 --> 01:39:48,840

of people to collaborate who come from

2748

01:39:53,750 --> 01:39:51,120

lots of different backgrounds and that's

2749

01:39:55,490 --> 01:39:53,760

really the best way forward and so you

2750

01:39:57,229 --> 01:39:55,500

know maybe with some of the existing

2751  
01:40:00,110 --> 01:39:57,239  
experiments you say oh well that was

2752  
01:40:02,629 --> 01:40:00,120  
done by like a skeptic so they'd set it

2753  
01:40:04,270 --> 01:40:02,639  
up to not be true but what I think you

2754  
01:40:06,050 --> 01:40:04,280  
should do is have like a

2755  
01:40:09,229 --> 01:40:06,060  
pre-registration which is really

2756  
01:40:11,750 --> 01:40:09,239  
fashionable in science now and across a

2757  
01:40:14,810 --> 01:40:11,760  
big collaboration through multiple Labs

2758  
01:40:17,090 --> 01:40:14,820  
you all set up in advance the

2759  
01:40:19,970 --> 01:40:17,100  
experiments that you agree would show

2760  
01:40:21,770 --> 01:40:19,980  
the effect that you want to prove you

2761  
01:40:23,450 --> 01:40:21,780  
gather all the data is all kind of

2762  
01:40:25,910 --> 01:40:23,460  
anonymized it's all analyzed

2763  
01:40:29,030 --> 01:40:25,920

independently you do you've already

2764

01:40:30,770 --> 01:40:29,040

agreed on the statistical analyzes and

2765

01:40:33,050 --> 01:40:30,780

then you look at the

2766

01:40:35,570 --> 01:40:33,060

you know you you kind of crunch the

2767

01:40:37,430 --> 01:40:35,580

numbers you find the results and then

2768

01:40:40,070 --> 01:40:37,440

because you've already tried to account

2769

01:40:43,010 --> 01:40:40,080

for all of your biases in advance

2770

01:40:44,870 --> 01:40:43,020

you have to kind of accept the result

2771

01:40:47,090 --> 01:40:44,880

that comes out now that actually was

2772

01:40:48,530 --> 01:40:47,100

done with tests of precognition or

2773

01:40:50,629 --> 01:40:48,540

paranormal phenomena where you believe

2774

01:40:52,550 --> 01:40:50,639

that people can kind of sense the future

2775

01:40:53,270 --> 01:40:52,560

and when those

2776

01:40:56,890 --> 01:40:53,280

um

2777

01:40:59,090 --> 01:40:56,900

uh predetermined studies were conducted

2778

01:41:01,490 --> 01:40:59,100

pre-registered studies were conducted

2779

01:41:04,910 --> 01:41:01,500

actually found you know they didn't find

2780

01:41:06,950 --> 01:41:04,920

the effect uh of that hypothesis they

2781

01:41:09,050 --> 01:41:06,960

didn't find that there was a paranormal

2782

01:41:11,330 --> 01:41:09,060

phenomena so that's why with that

2783

01:41:13,550 --> 01:41:11,340

particular case I would be very

2784

01:41:15,250 --> 01:41:13,560

skeptical that there is one because you

2785

01:41:17,629 --> 01:41:15,260

know one of the best studies today

2786

01:41:19,250 --> 01:41:17,639

didn't find it but I think that's the

2787

01:41:21,229 --> 01:41:19,260

kind of collaboration that we need where

2788

01:41:23,209 --> 01:41:21,239

you get people of different beliefs

2789

01:41:25,850 --> 01:41:23,219

working together by agreeing on a setup

2790

01:41:28,490 --> 01:41:25,860

where everyone would be convinced by the

2791

01:41:30,649 --> 01:41:28,500

outcome whatever that may be

2792

01:41:32,750 --> 01:41:30,659

um and then you you do the experiment

2793

01:41:34,729 --> 01:41:32,760

and you you kind of have just have to

2794

01:41:36,709 --> 01:41:34,739

accept that like the results that come

2795

01:41:38,510 --> 01:41:36,719

out that aren't a result of bias they're

2796

01:41:40,189 --> 01:41:38,520

a result of the best science you could

2797

01:41:42,050 --> 01:41:40,199

do at that particular time

2798

01:41:45,410 --> 01:41:42,060

have you looked into the studies of

2799

01:41:47,990 --> 01:41:45,420

Rupert sheldrake or Dean Rayden

2800

01:41:51,050 --> 01:41:48,000

uh no I haven't I can't say I have been

2801

01:41:52,070 --> 01:41:51,060

like a huge amount of detail um I I

2802

01:41:53,689 --> 01:41:52,080

think actually I did look into

2803

01:41:55,250 --> 01:41:53,699

sheldropes but I'm afraid I have

2804

01:41:58,070 --> 01:41:55,260

forgotten that

2805

01:42:00,410 --> 01:41:58,080

um the details of that but yeah

2806

01:42:01,790 --> 01:42:00,420

I mean obviously he's a huge name but

2807

01:42:03,350 --> 01:42:01,800

you know that I think that's what we

2808

01:42:04,910 --> 01:42:03,360

have to accept as well is that we can't

2809

01:42:08,149 --> 01:42:04,920

just rely on someone's previous

2810

01:42:10,970 --> 01:42:08,159

credentials but we have to be very

2811

01:42:13,750 --> 01:42:10,980

specific about the outcomes you know of

2812

01:42:15,950 --> 01:42:13,760

the the quality of the evidence itself

2813

01:42:17,090 --> 01:42:15,960

independently of who kind of arranged it

2814

01:42:19,970 --> 01:42:17,100

and that's why it's important to have

2815

01:42:21,530 --> 01:42:19,980

these teams of people who come from lots

2816

01:42:23,390 --> 01:42:21,540

of different perspectives to kind of

2817

01:42:26,149 --> 01:42:23,400

cancel out each other's biases

2818

01:42:27,890 --> 01:42:26,159

potentially what else would be I'm

2819

01:42:30,410 --> 01:42:27,900

struggling here to find an issue that's

2820

01:42:32,030 --> 01:42:30,420

not climate change that is scientific

2821

01:42:33,770 --> 01:42:32,040

that has a huge divide between

2822

01:42:35,270 --> 01:42:33,780

conservatives and liberals okay I can

2823

01:42:37,070 --> 01:42:35,280

just stick with climate change I'm not a

2824

01:42:39,229 --> 01:42:37,080

climate denier nor acceptor like I

2825

01:42:41,149 --> 01:42:39,239

mentioned anytime I look into any Theory

2826

01:42:43,189 --> 01:42:41,159

I just find flaws and I'm just

2827

01:42:45,410 --> 01:42:43,199

completely befuddled and adult and

2828

01:42:47,870 --> 01:42:45,420

unassured but anyway the point is that

2829

01:42:49,850 --> 01:42:47,880

when it comes to an issue where we make

2830

01:42:52,129 --> 01:42:49,860

an appeal to Scientific consensus but

2831

01:42:54,530 --> 01:42:52,139

it's a politically charged issue how do

2832

01:42:57,229 --> 01:42:54,540

we deal with the political leaning of

2833

01:42:59,030 --> 01:42:57,239

the scientists going into it need to be

2834

01:43:01,609 --> 01:42:59,040

taken into a account and you need to

2835

01:43:03,169 --> 01:43:01,619

somehow re-weight the results I don't

2836

01:43:04,790 --> 01:43:03,179

know how to do that and I don't know if

2837

01:43:06,169 --> 01:43:04,800

that's the case in climate change and I

2838

01:43:07,970 --> 01:43:06,179

don't want to pick a particularly

2839

01:43:09,770 --> 01:43:07,980

charged topic like climate change

2840

01:43:10,910 --> 01:43:09,780

because like I mentioned I'm just not

2841

01:43:12,709 --> 01:43:10,920

interested I'm not trying to cause any

2842

01:43:14,689 --> 01:43:12,719

controversy here so I'm trying to find

2843

01:43:16,490 --> 01:43:14,699

another one but you get the idea so how

2844

01:43:18,229 --> 01:43:16,500

do we deal with that you mentioned that

2845

01:43:19,550 --> 01:43:18,239

we need to have teams of people who are

2846

01:43:21,830 --> 01:43:19,560

competing against one another from

2847

01:43:23,450 --> 01:43:21,840

various backgrounds but in absence of

2848

01:43:26,209 --> 01:43:23,460

that what do we do

2849

01:43:28,850 --> 01:43:26,219

well I mean I think with climate change

2850

01:43:31,370 --> 01:43:28,860

you could have meaningful debates on the

2851

01:43:35,090 --> 01:43:32,870

um

2852

01:43:38,209 --> 01:43:35,100

so I mean the problem of climate change

2853

01:43:42,050 --> 01:43:38,219

very much like the problem with proving

2854

01:43:44,390 --> 01:43:42,060

that cigarette smoke causes cancer is

2855

01:43:47,030 --> 01:43:44,400

that it's very difficult to actually do

2856

01:43:49,550 --> 01:43:47,040

causal tests of this and I think that

2857

01:43:52,189 --> 01:43:49,560

ultimately that is where the controversy

2858

01:43:54,169 --> 01:43:52,199

lies it's why people who don't believe

2859

01:43:55,970 --> 01:43:54,179

in climate change could always say you

2860

01:43:57,530 --> 01:43:55,980

know we're only viewing correlations and

2861

01:43:59,689 --> 01:43:57,540

that maybe there's another part to

2862

01:44:01,490 --> 01:43:59,699

driving the rise in temperatures which

2863

01:44:02,810 --> 01:44:01,500

is very difficult to denial but some

2864

01:44:04,790 --> 01:44:02,820

people do

2865

01:44:07,490 --> 01:44:04,800

um similarly with cigarette smoke

2866

01:44:09,350 --> 01:44:07,500

tobacco companies

2867

01:44:12,530 --> 01:44:09,360

um had always said well we've never you

2868

01:44:15,830 --> 01:44:12,540

know we haven't tested done a controlled

2869

01:44:17,689 --> 01:44:15,840

trial where you have people without uh

2870

01:44:19,850 --> 01:44:17,699

randomly of who you're giving some

2871

01:44:22,250 --> 01:44:19,860

cigarette smoke from the age of trendy

2872

01:44:23,990 --> 01:44:22,260

you'll and some about they want to take

2873

01:44:25,790 --> 01:44:24,000

a set of planets put humans on a set

2874

01:44:29,870 --> 01:44:25,800

exactly you can't you couldn't do that

2875

01:44:32,510 --> 01:44:29,880

and it was a cause for controversy and

2876

01:44:35,689 --> 01:44:32,520

it allowed tobacco Industries to deny

2877

01:44:38,090 --> 01:44:35,699

the you know this kind of causal link

2878

01:44:40,010 --> 01:44:38,100

that I think we now you'd be very

2879

01:44:42,290 --> 01:44:40,020

strange if you denied the link between

2880

01:44:43,310 --> 01:44:42,300

smoking and cancer and it's the same

2881

01:44:45,050 --> 01:44:43,320

with

2882

01:44:48,609 --> 01:44:45,060

um climate change we don't have like a

2883

01:44:51,890 --> 01:44:48,619

separate planet where we can set up

2884

01:44:55,010 --> 01:44:51,900

a coal or you know Carbon fueled

2885

01:44:56,930 --> 01:44:55,020

Industries for centuries to then check

2886

01:44:59,510 --> 01:44:56,940

the effects on the climate so you know

2887

01:45:01,910 --> 01:44:59,520

that is a big issue and we do have to

2888

01:45:03,350 --> 01:45:01,920

look at ways around that now my

2889

01:45:06,350 --> 01:45:03,360

impression from looking into the

2890

01:45:08,629 --> 01:45:06,360

evidence has been that multiple lines of

2891

01:45:10,970 --> 01:45:08,639

evidence from lots of different sources

2892

01:45:13,970 --> 01:45:10,980

does all suggest that there is this

2893

01:45:16,189 --> 01:45:13,980

strong link between carbon emissions and

2894

01:45:18,410 --> 01:45:16,199

climate change and that actually we have

2895

01:45:20,570 --> 01:45:18,420

you know with the greenhouse effect we

2896

01:45:22,910 --> 01:45:20,580

have a very well understood mechanism

2897

01:45:24,290 --> 01:45:22,920

and that there's uncertainty absolutely

2898

01:45:27,350 --> 01:45:24,300

we need to acknowledge there's

2899

01:45:29,570 --> 01:45:27,360

considerable uncertainty with the

2900

01:45:32,750 --> 01:45:29,580

size of the effects that we're going to

2901

01:45:34,550 --> 01:45:32,760

see so the models that scientists are

2902

01:45:36,410 --> 01:45:34,560

using climate scientists are using a

2903

01:45:38,930 --> 01:45:36,420

very honest about you know the best and

2904

01:45:41,090 --> 01:45:38,940

the worst case scenarios and there's you

2905

01:45:44,570 --> 01:45:41,100

know a difference between them

2906

01:45:45,770 --> 01:45:44,580

um but yeah like save from doing that

2907

01:45:48,229 --> 01:45:45,780

kind of

2908

01:45:49,729 --> 01:45:48,239

absurd experiment I think you know that

2909

01:45:54,530 --> 01:45:49,739

is going to be an issue to kind of

2910

01:45:56,689 --> 01:45:54,540

result the uh the question and I don't

2911

01:45:58,790 --> 01:45:56,699

have an answer for doing that you can't

2912

01:46:00,950 --> 01:45:58,800

it does have to be kind of what weight

2913

01:46:03,290 --> 01:46:00,960

you give to the different lines of

2914

01:46:05,510 --> 01:46:03,300

evidence I think it's can sometimes help

2915

01:46:08,390 --> 01:46:05,520

to look at people who have changed

2916

01:46:10,430 --> 01:46:08,400

opinion from one side to the other and

2917

01:46:11,450 --> 01:46:10,440

to look at the reasons for why they've

2918

01:46:12,050 --> 01:46:11,460

done that

2919

01:46:13,850 --> 01:46:12,060

um

2920

01:46:16,189 --> 01:46:13,860

I think what I've been interested in

2921

01:46:18,109 --> 01:46:16,199

psychologically is also how sometimes

2922

01:46:20,270 --> 01:46:18,119

you can

2923

01:46:22,669 --> 01:46:20,280

what happens when you try to overcome

2924

01:46:24,709 --> 01:46:22,679

the look for psychological ways to

2925

01:46:27,550 --> 01:46:24,719

overcome that motivated reasoning that

2926

01:46:31,129 --> 01:46:27,560

comes from people's initial political

2927

01:46:31,790 --> 01:46:31,139

standpoints so things like when you

2928

01:46:34,490 --> 01:46:31,800

um

2929

01:46:36,410 --> 01:46:34,500

try to cultivate their curiosity or you

2930

01:46:38,390 --> 01:46:36,420

create a kind of safe space for them to

2931

01:46:41,450 --> 01:46:38,400

talk where they don't have to fear being

2932

01:46:43,609 --> 01:46:41,460

judged for their political Viewpoint

2933

01:46:45,050 --> 01:46:43,619

um you know what conclusions did they

2934

01:46:46,729 --> 01:46:45,060

come to when they look at the evidence

2935

01:46:48,229 --> 01:46:46,739

when they've been given those

2936

01:46:50,570 --> 01:46:48,239

opportunities

2937

01:46:52,790 --> 01:46:50,580

um I think those are some you know those

2938

01:46:54,890 --> 01:46:52,800

are the things that we can be doing

2939

01:46:56,629 --> 01:46:54,900

um but yeah it's a huge problem and I

2940

01:46:59,270 --> 01:46:56,639

think it is one reason that the

2941

01:47:02,510 --> 01:46:59,280

intelligence trap is so such a serious

2942

01:47:04,790 --> 01:47:02,520

problem to consider is because like you

2943

01:47:06,350 --> 01:47:04,800

as an enlightened Society it's really

2944

01:47:08,570 --> 01:47:06,360

worrying that you can have such

2945

01:47:11,209 --> 01:47:08,580

Divergent views

2946

01:47:13,370 --> 01:47:11,219

given the evidence given the same

2947

01:47:15,350 --> 01:47:13,380

evidence that people even highly

2948

01:47:18,050 --> 01:47:15,360

intelligent Highly Educated people can

2949

01:47:19,970 --> 01:47:18,060

come to such polarized viewpoints I

2950

01:47:21,770 --> 01:47:19,980

don't have this Solution that's why I'm

2951

01:47:24,350 --> 01:47:21,780

interested in the intelligent strap and

2952

01:47:26,390 --> 01:47:24,360

how on both sides we can reduce those

2953

01:47:28,790 --> 01:47:26,400

biases so we can try to get people to be

2954

01:47:32,090 --> 01:47:28,800

looking at the evidence and the most

2955

01:47:35,450 --> 01:47:32,100

rational way possible

2956

01:47:37,790 --> 01:47:35,460

what is functional stupidity

2957

01:47:40,250 --> 01:47:37,800

um that is where companies kind of

2958

01:47:43,250 --> 01:47:40,260

create stupidity within the workforce

2959

01:47:43,850 --> 01:47:43,260

due to their corporate culture

2960

01:47:46,609 --> 01:47:43,860

um

2961

01:47:50,330 --> 01:47:46,619

so you know there's lots of reasons for

2962

01:47:53,570 --> 01:47:50,340

that one uh potential reason is simply

2963

01:47:55,490 --> 01:47:53,580

but people uh simply that you have this

2964

01:47:57,590 --> 01:47:55,500

kind of culture of Relentless positivity

2965

01:48:01,310 --> 01:47:57,600

and you don't really

2966

01:48:02,689 --> 01:48:01,320

allow people to express doubt or

2967

01:48:04,850 --> 01:48:02,699

criticism

2968

01:48:07,550 --> 01:48:04,860

um so a company might say they only want

2969

01:48:10,250 --> 01:48:07,560

Solutions not problems

2970

01:48:12,290 --> 01:48:10,260

um that kind of issue and we saw you

2971

01:48:14,629 --> 01:48:12,300

know in the book I talk about the

2972

01:48:15,410 --> 01:48:14,639

Deepwater Horizon

2973

01:48:18,530 --> 01:48:15,420

um

2974

01:48:20,450 --> 01:48:18,540

oil spell the Fall Down full of knock

2975

01:48:22,310 --> 01:48:20,460

here you know all of these examples

2976

01:48:24,410 --> 01:48:22,320

where companies hadn't been allowing

2977

01:48:27,410 --> 01:48:24,420

their employees to think critically

2978

01:48:29,570 --> 01:48:27,420

about the problems that they were facing

2979

01:48:30,890 --> 01:48:29,580

um so that you had this emergent group

2980

01:48:31,490 --> 01:48:30,900

thing

2981

01:48:33,590 --> 01:48:31,500

um

2982

01:48:35,510 --> 01:48:33,600

problems were emerging but no one was

2983

01:48:38,810 --> 01:48:35,520

taking notice of them or caring about

2984

01:48:40,609 --> 01:48:38,820

them and So eventually uh you had these

2985

01:48:43,189 --> 01:48:40,619

disasters that could have been avoided

2986

01:48:45,649 --> 01:48:43,199

but each intelligent member of the

2987

01:48:47,870 --> 01:48:45,659

workforce was just doing a narrow range

2988

01:48:49,790 --> 01:48:47,880

of tasks and they were ignoring all of

2989

01:48:51,410 --> 01:48:49,800

the warning signs around them what were

2990

01:48:53,689 --> 01:48:51,420

some of the solutions in order to combat

2991

01:48:57,530 --> 01:48:53,699

the functional stupidity

2992

01:48:58,669 --> 01:48:57,540

uh I mean one is to cultivate within the

2993

01:49:01,669 --> 01:48:58,679

workforce

2994

01:49:04,910 --> 01:49:01,679

um a culture of disagreement so actually

2995

01:49:06,709 --> 01:49:04,920

allowing people to even at the lowest

2996

01:49:09,770 --> 01:49:06,719

levels of the corporate hierarchy

2997

01:49:11,390 --> 01:49:09,780

allowing them to kind of raise the hand

2998

01:49:12,950 --> 01:49:11,400

and to say that they think there's a

2999

01:49:15,950 --> 01:49:12,960

problem that's occurring if someone had

3000

01:49:17,990 --> 01:49:15,960

done that with deep water Horizon if um

3001

01:49:20,510 --> 01:49:18,000

the engineers had said that they saw all

3002

01:49:23,090 --> 01:49:20,520

of these anomalies in the processes that

3003

01:49:25,910 --> 01:49:23,100

were going on within the rig that could

3004

01:49:27,770 --> 01:49:25,920

have been prevented similarly with Nokia

3005

01:49:29,570 --> 01:49:27,780

um just to recap you know with Nokia

3006

01:49:31,729 --> 01:49:29,580

they were trying to develop a smartphone

3007

01:49:34,070 --> 01:49:31,739

but they kept on failing to meet their

3008

01:49:36,290 --> 01:49:34,080

deadlines until Apple had come up with

3009

01:49:38,330 --> 01:49:36,300

the amazing iPhone that just like swept

3010

01:49:39,649 --> 01:49:38,340

them out of the market you know a lot of

3011

01:49:41,330 --> 01:49:39,659

the employees were really worried about

3012

01:49:43,910 --> 01:49:41,340

what was going on they had lots of ideas

3013

01:49:44,570 --> 01:49:43,920

but though I've been listened to

3014

01:49:46,310 --> 01:49:44,580

um

3015

01:49:49,189 --> 01:49:46,320

they weren't allowed to kind of raise

3016

01:49:50,629 --> 01:49:49,199

their problems about their workflow and

3017

01:49:52,550 --> 01:49:50,639

so you want to avoid that you want to

3018

01:49:54,229 --> 01:49:52,560

give people the opportunity to disgrive

3019

01:49:56,750 --> 01:49:54,239

their boss and for them to not be

3020

01:49:58,490 --> 01:49:56,760

punished you want those messages to then

3021

01:50:00,950 --> 01:49:58,500

go up the hierarchy and to reach the

3022

01:50:02,629 --> 01:50:00,960

people at the top the concept of

3023

01:50:04,729 --> 01:50:02,639

functional stupidity as well as the

3024

01:50:06,649 --> 01:50:04,739

anecdote the ant the antidotes were

3025

01:50:08,870 --> 01:50:06,659

developed in the vein of industrial and

3026  
01:50:10,970 --> 01:50:08,880  
organizational psychology so I'm curious

3027  
01:50:12,770 --> 01:50:10,980  
how does one apply this to an individual

3028  
01:50:13,450 --> 01:50:12,780  
mind

3029  
01:50:16,310 --> 01:50:13,460  
um

3030  
01:50:18,350 --> 01:50:16,320  
so I think uh with the intelligence

3031  
01:50:20,090 --> 01:50:18,360  
strap in general you know we have to

3032  
01:50:22,970 --> 01:50:20,100  
first of all

3033  
01:50:24,229 --> 01:50:22,980  
look at our intellectual humility as one

3034  
01:50:24,770 --> 01:50:24,239  
of those

3035  
01:50:27,350 --> 01:50:24,780  
um

3036  
01:50:29,990 --> 01:50:27,360  
elements that were so important for the

3037  
01:50:32,750 --> 01:50:30,000  
measures of uh evidence-based wisdom

3038  
01:50:34,910 --> 01:50:32,760

that we discussed and on an individual

3039

01:50:37,430 --> 01:50:34,920

Viewpoint we have to

3040

01:50:39,290 --> 01:50:37,440

feel free to accept when we're wrong

3041

01:50:42,649 --> 01:50:39,300

about something or am I uncertain about

3042

01:50:47,149 --> 01:50:42,659

something and to not feel so defensive

3043

01:50:49,669 --> 01:50:47,159

that we deny that possibility

3044

01:50:52,070 --> 01:50:49,679

um we have to cultivate our curiosity so

3045

01:50:55,129 --> 01:50:52,080

allowing ourselves to look into those

3046

01:50:56,990 --> 01:50:55,139

tangents that Fascinate us or that have

3047

01:50:58,970 --> 01:50:57,000

aroused some kind of question that we

3048

01:51:01,010 --> 01:50:58,980

want to be answered and rather than just

3049

01:51:03,410 --> 01:51:01,020

ignoring that and trying to focus on

3050

01:51:05,689 --> 01:51:03,420

just meeting like a productivity goal

3051

01:51:08,330 --> 01:51:05,699

actually just pursuing that Curiosity

3052

01:51:12,410 --> 01:51:08,340

answering those questions

3053

01:51:15,530 --> 01:51:12,420

um we need to try to have an open mind

3054

01:51:18,410 --> 01:51:15,540

in other ways too so like I said with

3055

01:51:21,290 --> 01:51:18,420

the questions of of analyzing evidence

3056

01:51:22,910 --> 01:51:21,300

you know not just like only accepting

3057

01:51:25,010 --> 01:51:22,920

the evidence that supports your point of

3058

01:51:27,770 --> 01:51:25,020

view but also trying to look at the

3059

01:51:30,830 --> 01:51:27,780

evidence that might disregard or

3060

01:51:32,870 --> 01:51:30,840

disprove your point of view and then try

3061

01:51:35,570 --> 01:51:32,880

to treat it as fairly as you would for

3062

01:51:38,090 --> 01:51:35,580

the evidence that supports your argument

3063

01:51:38,870 --> 01:51:38,100

you know balancing the two in hand

3064

01:51:40,669 --> 01:51:38,880

um

3065

01:51:41,930 --> 01:51:40,679

you know I think you obviously do that

3066

01:51:43,729 --> 01:51:41,940

very well when you're looking at

3067

01:51:46,310 --> 01:51:43,739

something like climate change you know

3068

01:51:48,830 --> 01:51:46,320

from what you've said is like your

3069

01:51:50,270 --> 01:51:48,840

allowing yourself to be pulled in each

3070

01:51:52,850 --> 01:51:50,280

Direction I think that's really

3071

01:51:54,229 --> 01:51:52,860

important might not allow you to come up

3072

01:51:57,229 --> 01:51:54,239

with a solution to climate change

3073

01:51:59,330 --> 01:51:57,239

because the question is so naughty but

3074

01:52:00,770 --> 01:51:59,340

in your everyday life you know when

3075

01:52:02,209 --> 01:52:00,780

you're dealing with like a professional

3076

01:52:04,910 --> 01:52:02,219

situation

3077

01:52:06,709 --> 01:52:04,920

um hopefully like you can integrate that

3078

01:52:08,629 --> 01:52:06,719

information and that it might help you

3079

01:52:11,590 --> 01:52:08,639

to come up with the solution that's more

3080

01:52:13,850 --> 01:52:11,600

sophisticated wiser than if you're just

3081

01:52:16,430 --> 01:52:13,860

fallen for my side bias and only

3082

01:52:19,070 --> 01:52:16,440

selected the information that was uh

3083

01:52:21,470 --> 01:52:19,080

supporting your particular point of view

3084

01:52:23,930 --> 01:52:21,480

I think my openness my quote-unquote

3085

01:52:26,270 --> 01:52:23,940

openness is buttressed by my closeness

3086

01:52:28,729 --> 01:52:26,280

so what I mean is that I'm a judgmental

3087

01:52:30,229 --> 01:52:28,739

person by nature and if I ever come

3088

01:52:31,970 --> 01:52:30,239

across non-judgmentalist because I'm

3089

01:52:34,129 --> 01:52:31,980

fighting my tendency constantly I want

3090

01:52:36,109 --> 01:52:34,139

to say actually so I want to be that

3091

01:52:37,970 --> 01:52:36,119

person that puts it actually so and so

3092

01:52:39,350 --> 01:52:37,980

and so and when I'm looking at alternate

3093

01:52:41,450 --> 01:52:39,360

viewpoints I'm doing so because I want

3094

01:52:42,950 --> 01:52:41,460

to have the ultimate actually so and so

3095

01:52:44,750 --> 01:52:42,960

I want to say I don't know some issue

3096

01:52:46,430 --> 01:52:44,760

about plastic bottles so I want to see

3097

01:52:47,750 --> 01:52:46,440

okay well what's the opponent say so

3098

01:52:49,729 --> 01:52:47,760

that I could say to those people who are

3099

01:52:51,350 --> 01:52:49,739

pro plastic bottles actually and then

3100

01:52:53,090 --> 01:52:51,360

but what do they say to that so I can

3101

01:52:55,490 --> 01:52:53,100

say to those people actually my

3102

01:52:57,229 --> 01:52:55,500

non-judgmentalness is instigated by my

3103

01:52:58,149 --> 01:52:57,239

judgment but that's what I think you

3104

01:53:00,290 --> 01:52:58,159

need

3105

01:53:02,870 --> 01:53:00,300

open-mindedness in the sense that you're

3106

01:53:05,629 --> 01:53:02,880

not drawn purely by your preconceptions

3107

01:53:07,189 --> 01:53:05,639

and that you're willing to look into the

3108

01:53:09,470 --> 01:53:07,199

broad range of evidence but you also

3109

01:53:11,330 --> 01:53:09,480

need to apply critical thinking you know

3110

01:53:12,950 --> 01:53:11,340

you have to be analytical about what

3111

01:53:15,410 --> 01:53:12,960

you're looking at many have to

3112

01:53:17,390 --> 01:53:15,420

synthesize that you know that's I think

3113

01:53:19,850 --> 01:53:17,400

that is fundamentally what we mean by

3114

01:53:21,350 --> 01:53:19,860

kind of being a skeptic

3115

01:53:22,550 --> 01:53:21,360

um and then I think like what's really

3116

01:53:26,390 --> 01:53:22,560

important and this comes back to

3117

01:53:28,189 --> 01:53:26,400

intellectual humility is that like you

3118

01:53:29,689 --> 01:53:28,199

can come to a conclusion and it's

3119

01:53:32,990 --> 01:53:29,699

important I think that we don't always

3120

01:53:35,510 --> 01:53:33,000

sit on the fence on every issue but you

3121

01:53:38,090 --> 01:53:35,520

can moderate your opinions on something

3122

01:53:39,530 --> 01:53:38,100

so you can say I believe that this is

3123

01:53:41,109 --> 01:53:39,540

the case and you can even put a number

3124

01:53:43,550 --> 01:53:41,119

you know you could say I'm like 60

3125

01:53:46,430 --> 01:53:43,560

certain you know

3126

01:53:48,590 --> 01:53:46,440

that I think that this is where we stand

3127

01:53:50,510 --> 01:53:48,600

on climate change to date or whatever

3128

01:53:53,149 --> 01:53:50,520

you're looking at on you know plastic

3129

01:53:56,330 --> 01:53:53,159

bottles you know and you can adapt to

3130

01:53:58,430 --> 01:53:56,340

that you might then come across a new uh

3131

01:54:00,169 --> 01:53:58,440

a new study but you know shifts it one

3132

01:54:02,689 --> 01:54:00,179

way or the other but I think it really

3133

01:54:05,629 --> 01:54:02,699

helps to have that tennis to realize

3134

01:54:07,550 --> 01:54:05,639

there's a spectrum of confidence whereas

3135

01:54:10,070 --> 01:54:07,560

I think especially with social media

3136

01:54:11,570 --> 01:54:10,080

today and identity politics and this

3137

01:54:13,430 --> 01:54:11,580

kind of tendency

3138

01:54:15,350 --> 01:54:13,440

to get attention of having very strong

3139

01:54:17,870 --> 01:54:15,360

views we always think it's like you have

3140

01:54:20,030 --> 01:54:17,880

to be 100 one way or a hundred percent

3141

01:54:23,030 --> 01:54:20,040

the other and that's a trap you want to

3142

01:54:25,129 --> 01:54:23,040

accept that you is sliding scale and you

3143

01:54:28,070 --> 01:54:25,139

can move along that scale and but you

3144

01:54:31,609 --> 01:54:28,080

don't have to become fixed at one point

3145

01:54:33,709 --> 01:54:31,619

does the statement I'm 60 certain about

3146

01:54:35,629 --> 01:54:33,719

so-and-so fact the utterance of it make

3147

01:54:37,370 --> 01:54:35,639

you then 65 and then the next time you

3148

01:54:39,470 --> 01:54:37,380

say it makes you 70 like do you become

3149

01:54:41,450 --> 01:54:39,480

entrenched just by saying it even with

3150

01:54:42,950 --> 01:54:41,460

an acknowledgment of uncertainty I don't

3151

01:54:44,629 --> 01:54:42,960

know I'm asking like unless do you have

3152

01:54:45,709 --> 01:54:44,639

to always say 50 percent right in the

3153

01:54:47,510 --> 01:54:45,719

middle so that you don't get pulled in

3154

01:54:49,310 --> 01:54:47,520

each Direction no because I think

3155

01:54:51,649 --> 01:54:49,320

actually

3156

01:54:52,669 --> 01:54:51,659

to sit on the fence in that way is also

3157

01:54:57,890 --> 01:54:52,679

not

3158

01:54:59,689 --> 01:54:57,900

from studies of super forecasters and

3159

01:55:01,310 --> 01:54:59,699

these are people who have been put

3160

01:55:03,350 --> 01:55:01,320

through these huge experiments where

3161

01:55:04,970 --> 01:55:03,360

they're asked to predict the outcomes of

3162

01:55:06,590 --> 01:55:04,980

different geopolitical events and it

3163

01:55:09,290 --> 01:55:06,600

could be you know who wins your revision

3164

01:55:11,149 --> 01:55:09,300

to you know who wins the World Cup to

3165

01:55:13,310 --> 01:55:11,159

who wins an election to where the war

3166

01:55:15,950 --> 01:55:13,320

will break out in a certain region you

3167

01:55:18,590 --> 01:55:15,960

know loads of different regions uh loads

3168

01:55:20,450 --> 01:55:18,600

of different areas of a political you

3169

01:55:25,010 --> 01:55:20,460

know World activity

3170

01:55:27,590 --> 01:55:25,020

um and what happens with these uh

3171

01:55:29,510 --> 01:55:27,600

uh these tournaments is that the people

3172

01:55:31,250 --> 01:55:29,520

are asked to make their predictions and

3173

01:55:32,750 --> 01:55:31,260

they cannot update their predictions up

3174

01:55:34,729 --> 01:55:32,760

to a certain point and they have to give

3175

01:55:36,350 --> 01:55:34,739

their confidence

3176

01:55:38,330 --> 01:55:36,360

um and the way it's scored is that

3177

01:55:40,490 --> 01:55:38,340

someone who's always just I don't know

3178

01:55:42,470 --> 01:55:40,500

is 50 one why it's 50 to something else

3179

01:55:44,810 --> 01:55:42,480

but they don't score very well uh

3180

01:55:47,750 --> 01:55:44,820

because it's the safe option

3181

01:55:49,850 --> 01:55:47,760

um so you're rewarded actually for uh

3182

01:55:51,590 --> 01:55:49,860

you know veering one way or the other in

3183

01:55:53,270 --> 01:55:51,600

your predictions like what when they

3184

01:55:54,709 --> 01:55:53,280

come to actually the final outcome and

3185

01:55:57,229 --> 01:55:54,719

they're measuring your performance you

3186

01:55:58,790 --> 01:55:57,239

know you're rewarded but if you were

3187

01:56:01,010 --> 01:55:58,800

right and you were more confident you

3188

01:56:03,410 --> 01:56:01,020

get more points than if you were right

3189

01:56:05,149 --> 01:56:03,420

but you showed only a low confidence so

3190

01:56:07,609 --> 01:56:05,159

you know it's a complex complicated

3191

01:56:09,350 --> 01:56:07,619

measure that they use to do that but you

3192

01:56:11,149 --> 01:56:09,360

know essentially that's it the more

3193

01:56:12,410 --> 01:56:11,159

confident you are in a right outcome the

3194

01:56:14,810 --> 01:56:12,420

better you score and the super

3195

01:56:17,750 --> 01:56:14,820

forecasters consistently do perform

3196

01:56:19,490 --> 01:56:17,760

better they show more confidence in the

3197

01:56:21,530 --> 01:56:19,500

areas where they're right they show

3198

01:56:23,629 --> 01:56:21,540

lower much lower confidence in the areas

3199

01:56:24,350 --> 01:56:23,639

where they end up being wrong

3200

01:56:25,850 --> 01:56:24,360

um

3201

01:56:27,229 --> 01:56:25,860

so I think that shows that actually

3202

01:56:29,050 --> 01:56:27,239

there is value

3203

01:56:31,430 --> 01:56:29,060

in you know

3204

01:56:33,169 --> 01:56:31,440

uh expressing

3205

01:56:35,330 --> 01:56:33,179

true confidence rather than always

3206

01:56:37,490 --> 01:56:35,340

sitting on the fence and actually it is

3207

01:56:39,590 --> 01:56:37,500

possible to estimate that you can

3208

01:56:41,450 --> 01:56:39,600

actually rationally think you know what

3209

01:56:43,550 --> 01:56:41,460

evidence have I looked at

3210

01:56:45,530 --> 01:56:43,560

how strongly do I feel that this is true

3211

01:56:47,330 --> 01:56:45,540

what what are the potential reasons that

3212

01:56:49,430 --> 01:56:47,340

I might be wrong and then you can gauge

3213

01:56:51,229 --> 01:56:49,440

you know whether that is more likely or

3214

01:56:52,609 --> 01:56:51,239

less likely and that actually is

3215

01:56:54,590 --> 01:56:52,619

Meaningful

3216

01:56:56,689 --> 01:56:54,600

where I was going with that there are

3217

01:56:58,189 --> 01:56:56,699

studies that if you write about some

3218

01:57:00,050 --> 01:56:58,199

fact that you don't believe in so let's

3219

01:57:01,609 --> 01:57:00,060

say I like Kellogg's cereal you don't

3220

01:57:03,050 --> 01:57:01,619

yeah you write about it then all of a

3221

01:57:04,609 --> 01:57:03,060

sudden you start to like it more I

3222

01:57:06,290 --> 01:57:04,619

believe some people in Wartime use this

3223

01:57:07,970 --> 01:57:06,300

they say the Japanese would take in

3224

01:57:09,169 --> 01:57:07,980

Americans and say write about why you

3225

01:57:11,990 --> 01:57:09,179

like Japan and then all of a sudden they

3226  
01:57:13,850 --> 01:57:12,000  
would when making a statistical Claim

3227  
01:57:16,970 --> 01:57:13,860  
about confidence for instance if I was

3228  
01:57:20,030 --> 01:57:16,980  
to say I think it's 30 likely war will

3229  
01:57:22,250 --> 01:57:20,040  
break out in Canada next year you do so

3230  
01:57:24,830 --> 01:57:22,260  
not by irrational analysis it's

3231  
01:57:26,510 --> 01:57:24,840  
extremely unless you've unless you have

3232  
01:57:28,250 --> 01:57:26,520  
pages and pages and even those pages

3233  
01:57:30,649 --> 01:57:28,260  
will have assumptions

3234  
01:57:32,209 --> 01:57:30,659  
unless you've done some specific

3235  
01:57:33,950 --> 01:57:32,219  
analysis to come to that number you're

3236  
01:57:35,750 --> 01:57:33,960  
using your intuition and you could be

3237  
01:57:36,830 --> 01:57:35,760  
false about your own intuition too so

3238  
01:57:38,570 --> 01:57:36,840

you could have just come up with a

3239

01:57:40,910 --> 01:57:38,580

number so that's why it's saying if you

3240

01:57:42,290 --> 01:57:40,920

simply State well if I'm 30 confident

3241

01:57:44,270 --> 01:57:42,300

about so and so then you'll become more

3242

01:57:45,890 --> 01:57:44,280

entrenched to thinking you're 30 even

3243

01:57:48,050 --> 01:57:45,900

though you didn't rationally come up

3244

01:57:50,089 --> 01:57:48,060

with a number 30 you didn't analyze that

3245

01:57:51,709 --> 01:57:50,099

it's a bit tricky to even give a

3246

01:57:54,669 --> 01:57:51,719

confidence level unless it's something

3247

01:57:57,649 --> 01:57:54,679

you've studied for years

3248

01:57:59,030 --> 01:57:57,659

so you know these people aren't studying

3249

01:58:01,129 --> 01:57:59,040

these different issues for years but

3250

01:58:02,570 --> 01:58:01,139

they do look at them in depth when

3251

01:58:03,950 --> 01:58:02,580

they're doing these super forecasting

3252

01:58:07,250 --> 01:58:03,960

tournaments you know

3253

01:58:08,629 --> 01:58:07,260

I'm gonna do some some uh strategies

3254

01:58:10,550 --> 01:58:08,639

that are kind of

3255

01:58:13,010 --> 01:58:10,560

well accepted even by people like Daniel

3256

01:58:14,629 --> 01:58:13,020

Carlton napkin calculations yeah so like

3257

01:58:16,850 --> 01:58:14,639

look at the base rate

3258

01:58:19,189 --> 01:58:16,860

um How likely is it the country of a

3259

01:58:22,910 --> 01:58:19,199

similar economy to Canada a similar size

3260

01:58:25,430 --> 01:58:22,920

similar history of warfare How likely is

3261

01:58:27,890 --> 01:58:25,440

it that that country is going to

3262

01:58:29,870 --> 01:58:27,900

enter a war very quickly and then you

3263

01:58:32,209 --> 01:58:29,880

know you have a look at the base rate

3264

01:58:34,129 --> 01:58:32,219

and you know you might see that it's

3265

01:58:36,709 --> 01:58:34,139

like well it happens once in every 10

3266

01:58:38,510 --> 01:58:36,719

years once in every 20 years whatever

3267

01:58:39,950 --> 01:58:38,520

um you know just coming up with that

3268

01:58:41,870 --> 01:58:39,960

base where it actually makes you better

3269

01:58:44,450 --> 01:58:41,880

than just going solely with your

3270

01:58:45,950 --> 01:58:44,460

intuitions but then these people update

3271

01:58:47,890 --> 01:58:45,960

those predictions by looking more

3272

01:58:51,050 --> 01:58:47,900

specifically at the different factors

3273

01:58:52,729 --> 01:58:51,060

but yeah you know there's no algorithm

3274

01:58:54,830 --> 01:58:52,739

that will always give them the right

3275

01:58:57,109 --> 01:58:54,840

amount but what this study showed is

3276

01:58:59,510 --> 01:58:57,119

that actually they were capable the

3277

01:59:01,430 --> 01:58:59,520

super forecasters especially with rating

3278

01:59:03,890 --> 01:59:01,440

their confidence much better than chance

3279

01:59:05,330 --> 01:59:03,900

much better than just kind of you know

3280

01:59:07,129 --> 01:59:05,340

rolling a dice and picking their

3281

01:59:08,930 --> 01:59:07,139

confidence based on that

3282

01:59:10,609 --> 01:59:08,940

um so they were making the decisions

3283

01:59:13,010 --> 01:59:10,619

better than normal handwriting their

3284

01:59:14,330 --> 01:59:13,020

confidence better than the average so it

3285

01:59:16,430 --> 01:59:14,340

is possible

3286

01:59:17,930 --> 01:59:16,440

um I think what you're saying is you

3287

01:59:20,089 --> 01:59:17,940

know there's this phenomenon called this

3288

01:59:24,649 --> 01:59:20,099

saying is believing effect which is

3289

01:59:27,830 --> 01:59:24,659

useful in Psychology and that is true

3290

01:59:29,450 --> 01:59:27,840

um but I think like when you're aware of

3291

01:59:31,070 --> 01:59:29,460

that possibility you can kind of protect

3292

01:59:33,229 --> 01:59:31,080

against it and especially when these

3293

01:59:36,830 --> 01:59:33,239

people are trying very hard to think

3294

01:59:38,570 --> 01:59:36,840

very analytically about the situation at

3295

01:59:40,750 --> 01:59:38,580

hand I think they are protected from

3296

01:59:44,330 --> 01:59:40,760

that compared to someone who maybe is

3297

01:59:47,030 --> 01:59:44,340

suffering you know undergoing propaganda

3298

01:59:50,629 --> 01:59:47,040

in as a prisoner of war or that kind of

3299

01:59:52,010 --> 01:59:50,639

situation or someone who's in a more you

3300

01:59:53,810 --> 01:59:52,020

know relaxed kind of laboratory

3301

01:59:55,490 --> 01:59:53,820

experiment looking at preferences for

3302

01:59:57,290 --> 01:59:55,500

cereal who might not actually be trying

3303

01:59:59,270 --> 01:59:57,300

to think very carefully about what they

3304

02:00:01,070 --> 01:59:59,280

rationaly believe in especially like a

3305

02:00:03,890 --> 02:00:01,080

preference for cornflakes is going to be

3306

02:00:06,350 --> 02:00:03,900

a much more emotional response so much

3307

02:00:08,450 --> 02:00:06,360

easier to sway I would say rather than

3308

02:00:10,310 --> 02:00:08,460

these super forecasters who are very

3309

02:00:12,410 --> 02:00:10,320

deliberately analytically kind of

3310

02:00:15,229 --> 02:00:12,420

crunching data trying to come up with

3311

02:00:16,669 --> 02:00:15,239

the best analysis that they can do

3312

02:00:19,550 --> 02:00:16,679

I see

3313

02:00:20,810 --> 02:00:19,560

David can you go over this study I

3314

02:00:24,050 --> 02:00:20,820

believe it's a study or maybe it's just

3315

02:00:26,450 --> 02:00:24,060

a result about all-star teams not being

3316

02:00:29,330 --> 02:00:26,460

as a whole efficient as teams that have

3317

02:00:32,450 --> 02:00:29,340

three stars out of ten yeah so I'll use

3318

02:00:33,830 --> 02:00:32,460

like an example from soccer you know

3319

02:00:36,830 --> 02:00:33,840

um you can kind of rank different

3320

02:00:39,410 --> 02:00:36,840

players in soccer according to you know

3321

02:00:42,109 --> 02:00:39,420

how they've performed in uh matches such

3322

02:00:44,149 --> 02:00:42,119

as the Premier League and then obviously

3323

02:00:46,189 --> 02:00:44,159

you know they play for like a team like

3324

02:00:48,830 --> 02:00:46,199

Manchester United in the UK or whatever

3325

02:00:50,689 --> 02:00:48,840

you know that's separate from them when

3326

02:00:52,010 --> 02:00:50,699

they gather together for their countries

3327

02:00:54,109 --> 02:00:52,020

teams

3328

02:00:55,970 --> 02:00:54,119

um so some players will play for England

3329

02:00:58,970 --> 02:00:55,980

some will play for brand some will play

3330

02:01:01,310 --> 02:00:58,980

for the US Canada whatever and what you

3331

02:01:03,229 --> 02:01:01,320

find there is that you know if you have

3332

02:01:04,729 --> 02:01:03,239

those high-ranking players who've had a

3333

02:01:08,930 --> 02:01:04,739

really good track record within their

3334

02:01:10,669 --> 02:01:08,940

own uh uh sports teams uh football teams

3335

02:01:12,589 --> 02:01:10,679

you know within the Premier League you

3336

02:01:14,930 --> 02:01:12,599

know if you have too many of those kind

3337

02:01:17,570 --> 02:01:14,940

of star players within a country's team

3338

02:01:20,450 --> 02:01:17,580

actually you reach a certain threshold

3339

02:01:22,910 --> 02:01:20,460

about 70 and it's like diminishing

3340

02:01:24,890 --> 02:01:22,920

returns to actually having more and more

3341

02:01:26,750 --> 02:01:24,900

star players doesn't help your

3342

02:01:29,030 --> 02:01:26,760

performance and may actually damage your

3343

02:01:30,709 --> 02:01:29,040

performance so actually you may if you

3344

02:01:32,629 --> 02:01:30,719

have a hundred percent of the star

3345

02:01:34,970 --> 02:01:32,639

players within your team you might

3346

02:01:38,209 --> 02:01:34,980

actually perform worse than a concrete

3347

02:01:40,310 --> 02:01:38,219

that only has 50 of kind of of their

3348

02:01:42,169 --> 02:01:40,320

team made up of these star players from

3349

02:01:45,350 --> 02:01:42,179

the top teams of the world

3350

02:01:46,850 --> 02:01:45,360

um now you know why is that well it

3351

02:01:49,370 --> 02:01:46,860

seems like it's all related to kind of

3352

02:01:51,229 --> 02:01:49,380

the Team Dynamics and the Egos and it

3353

02:01:54,649 --> 02:01:51,239

seems that the people who are the really

3354

02:01:56,390 --> 02:01:54,659

top performance and it's also true for

3355

02:01:58,729 --> 02:01:56,400

basketball it's also true for kind of

3356

02:02:00,410 --> 02:01:58,739

investment banking when you have teams

3357

02:02:02,209 --> 02:02:00,420

of like top investors who've been

3358

02:02:04,129 --> 02:02:02,219

labeled Stars you know then they work

3359

02:02:06,410 --> 02:02:04,139

less well with their colleagues and

3360

02:02:07,850 --> 02:02:06,420

their company as a whole performs worse

3361

02:02:09,649 --> 02:02:07,860

um has all to do with the kind of

3362

02:02:12,470 --> 02:02:09,659

rotting egos that they're not

3363

02:02:13,970 --> 02:02:12,480

collaborating they're not cooperating in

3364

02:02:16,370 --> 02:02:13,980

the best way possible because they're

3365

02:02:18,169 --> 02:02:16,380

much more concerned with their own kind

3366

02:02:18,970 --> 02:02:18,179

of proving their own performance rather

3367

02:02:22,250 --> 02:02:18,980

than

3368

02:02:24,290 --> 02:02:22,260

uh you know working for the team and

3369

02:02:26,930 --> 02:02:24,300

kind of dissolving within the team to

3370

02:02:28,790 --> 02:02:26,940

produce the best overall communal effort

3371

02:02:31,189 --> 02:02:28,800

that they can do

3372

02:02:33,589 --> 02:02:31,199

and what about with IQ like having a

3373

02:02:35,990 --> 02:02:33,599

team dedicated to some intellectual task

3374

02:02:38,209 --> 02:02:36,000

a team of let's say 10 is it better to

3375

02:02:40,550 --> 02:02:38,219

have people who are all in the 99th

3376

02:02:42,050 --> 02:02:40,560

percentile of IQ or is better to have

3377

02:02:44,689 --> 02:02:42,060

five of them like how does that work

3378

02:02:46,129 --> 02:02:44,699

yeah I mean when it when it comes to IQ

3379

02:02:47,750 --> 02:02:46,139

and we called that collective

3380

02:02:50,330 --> 02:02:47,760

intelligence where you get the team as a

3381

02:02:53,270 --> 02:02:50,340

whole to solve an intellectual problem

3382

02:02:55,729 --> 02:02:53,280

um there wasn't the evidence that the uh

3383

02:02:57,530 --> 02:02:55,739

too much talent effect no one had looked

3384

02:02:58,370 --> 02:02:57,540

at that specifically so I wouldn't rule

3385

02:03:00,109 --> 02:02:58,380

it out

3386

02:03:03,229 --> 02:03:00,119

um but what they did find is that the

3387

02:03:05,930 --> 02:03:03,239

average IQ at the team or the top IQ

3388

02:03:08,030 --> 02:03:05,940

said one team had a special and

3389

02:03:10,490 --> 02:03:08,040

especially clever person who scored you

3390

02:03:12,350 --> 02:03:10,500

know way up the scale neither of those

3391

02:03:14,270 --> 02:03:12,360

were great predictors of how the team as

3392

02:03:17,270 --> 02:03:14,280

a whole would perform though as a

3393

02:03:18,050 --> 02:03:17,280

correlation but it was pretty weak

3394

02:03:20,689 --> 02:03:18,060

um

3395

02:03:24,229 --> 02:03:20,699

so what proved to be much more important

3396

02:03:26,810 --> 02:03:24,239

again was the uh Team Dynamics so kind

3397

02:03:28,310 --> 02:03:26,820

of how Equitable the conversation was

3398

02:03:30,290 --> 02:03:28,320

between the different people in the team

3399

02:03:31,669 --> 02:03:30,300

like were they giving each person the

3400

02:03:33,410 --> 02:03:31,679

chance to talk or did you have one

3401  
02:03:35,390 --> 02:03:33,420  
person who thought they were really

3402  
02:03:36,890 --> 02:03:35,400  
smart and were just talking over the

3403  
02:03:38,390 --> 02:03:36,900  
other people

3404  
02:03:39,890 --> 02:03:38,400  
um did you have

3405  
02:03:41,689 --> 02:03:39,900  
uh

3406  
02:03:42,890 --> 02:03:41,699  
you know did you did you have some

3407  
02:03:44,750 --> 02:03:42,900  
people who just weren't really like

3408  
02:03:47,570 --> 02:03:44,760  
picking up on the non-verbal cues as

3409  
02:03:49,729 --> 02:03:47,580  
well measures of emotional sensitivity

3410  
02:03:52,129 --> 02:03:49,739  
so how much people paying attention to

3411  
02:03:54,169 --> 02:03:52,139  
the other people's facial expressions

3412  
02:03:55,370 --> 02:03:54,179  
that actually proved to be a better

3413  
02:03:58,550 --> 02:03:55,380

prediction of the collective

3414

02:03:59,990 --> 02:03:58,560

intelligence than the average IQ of the

3415

02:04:02,030 --> 02:04:00,000

people

3416

02:04:04,129 --> 02:04:02,040

Steve Jobs had this saying that what he

3417

02:04:06,050 --> 02:04:04,139

wants to do or what he does at Apple is

3418

02:04:08,089 --> 02:04:06,060

get people who are extremely intelligent

3419

02:04:09,589 --> 02:04:08,099

and extremely disagreeable and just put

3420

02:04:11,209 --> 02:04:09,599

them all in a room and like rock

3421

02:04:13,250 --> 02:04:11,219

tumblers what comes out after are

3422

02:04:15,109 --> 02:04:13,260

diamonds does this conflict with that or

3423

02:04:16,970 --> 02:04:15,119

it was he mistaken about that or was he

3424

02:04:19,430 --> 02:04:16,980

lucky

3425

02:04:21,589 --> 02:04:19,440

no I mean I think you know so this is

3426

02:04:24,530 --> 02:04:21,599

all about what kind of team Dynamic do

3427

02:04:27,649 --> 02:04:24,540

you create and

3428

02:04:30,709 --> 02:04:27,659

you could have a case of like you know

3429

02:04:34,850 --> 02:04:30,719

like um Kennedy's government during the

3430

02:04:37,010 --> 02:04:34,860

Bay of Pigs uh disaster where you have

3431

02:04:39,290 --> 02:04:37,020

highly intelligent people but they're

3432

02:04:42,709 --> 02:04:39,300

all agreeing with each other and they're

3433

02:04:45,290 --> 02:04:42,719

not expressing dissent and you know it

3434

02:04:45,950 --> 02:04:45,300

doesn't it doesn't have good outcomes

3435

02:04:48,169 --> 02:04:45,960

um

3436

02:04:50,930 --> 02:04:48,179

or you could have like a group of people

3437

02:04:54,290 --> 02:04:50,940

who are very willing to disagree been a

3438

02:04:55,669 --> 02:04:54,300

very amicable constructive way and I

3439

02:04:58,430 --> 02:04:55,679

think that's the ideal Dynamic really

3440

02:05:02,209 --> 02:04:58,440

where people are absolutely willing to

3441

02:05:05,089 --> 02:05:02,219

express uh Discord within the group but

3442

02:05:07,609 --> 02:05:05,099

they're also then looking for ways to

3443

02:05:09,830 --> 02:05:07,619

to balance those points of view

3444

02:05:11,810 --> 02:05:09,840

um not just to kind of combine them all

3445

02:05:13,490 --> 02:05:11,820

in this kind of Frankenstein's monster

3446

02:05:14,990 --> 02:05:13,500

of different viewpoints which you can

3447

02:05:16,430 --> 02:05:15,000

see with some creative tasks you could

3448

02:05:17,990 --> 02:05:16,440

be like we're all going to contribute

3449

02:05:19,370 --> 02:05:18,000

something and it just becomes a mess but

3450

02:05:21,109 --> 02:05:19,380

actually you know really trying to think

3451

02:05:22,729 --> 02:05:21,119

very hard about life and being very

3452

02:05:24,770 --> 02:05:22,739

honest with each other like does this

3453

02:05:26,870 --> 02:05:24,780

work doesn't this work is that rational

3454

02:05:29,390 --> 02:05:26,880

is that irrational you know and then

3455

02:05:31,370 --> 02:05:29,400

coming to the group decision in that

3456

02:05:33,410 --> 02:05:31,380

kind of way with a constructive

3457

02:05:35,870 --> 02:05:33,420

discussion and what the research shows

3458

02:05:37,310 --> 02:05:35,880

is that actually when you have this kind

3459

02:05:39,470 --> 02:05:37,320

of dialogue

3460

02:05:43,310 --> 02:05:39,480

um that allows disagreement and allows

3461

02:05:44,709 --> 02:05:43,320

constructive uh disagreement than that

3462

02:05:46,790 --> 02:05:44,719

actually you know you do get great

3463

02:05:49,550 --> 02:05:46,800

outcomes and you get better outcomes

3464

02:05:53,209 --> 02:05:49,560

then you could have from any single

3465

02:05:54,890 --> 02:05:53,219

individual so they do work then as the

3466

02:05:57,649 --> 02:05:54,900

kind of more than the sum of their

3467

02:05:59,270 --> 02:05:57,659

components those streams what did you

3468

02:06:00,890 --> 02:05:59,280

want to include in the intelligence trap

3469

02:06:03,109 --> 02:06:00,900

that you had to exclude because of

3470

02:06:04,930 --> 02:06:03,119

whatever reason pacing the editor said

3471

02:06:06,830 --> 02:06:04,940

no it's too bloated

3472

02:06:09,050 --> 02:06:06,840

uh

3473

02:06:11,570 --> 02:06:09,060

not much so there was a section that had

3474

02:06:14,089 --> 02:06:11,580

been longer um about a school called the

3475

02:06:16,370 --> 02:06:14,099

intellectual but juice Academy

3476  
02:06:19,609 --> 02:06:16,380  
um intellectual virtues Academy that's

3477  
02:06:21,109 --> 02:06:19,619  
right it's in Long Beach and they you

3478  
02:06:24,470 --> 02:06:21,119  
know it's a great school I visited them

3479  
02:06:27,229 --> 02:06:24,480  
they had uh tried to look at all of

3480  
02:06:29,030 --> 02:06:27,239  
these elements of what I would say are

3481  
02:06:30,290 --> 02:06:29,040  
evidence-based wisdom although they

3482  
02:06:31,970 --> 02:06:30,300  
didn't call that but things like

3483  
02:06:34,850 --> 02:06:31,980  
cultivating intellectual humility

3484  
02:06:36,350 --> 02:06:34,860  
amongst the kids curiosity the growth

3485  
02:06:37,609 --> 02:06:36,360  
mindset

3486  
02:06:39,410 --> 02:06:37,619  
um getting them to look at different

3487  
02:06:40,729 --> 02:06:39,420  
perspectives they're done all of these

3488  
02:06:43,850 --> 02:06:40,739

things and

3489

02:06:45,229 --> 02:06:43,860

again with educational outcomes uh it's

3490

02:06:47,149 --> 02:06:45,239

really difficult to compare different

3491

02:06:49,970 --> 02:06:47,159

schools because you know

3492

02:06:51,530 --> 02:06:49,980

it's so tough like to account for the

3493

02:06:53,450 --> 02:06:51,540

different backgrounds of the parents and

3494

02:06:56,270 --> 02:06:53,460

stuff but those kids were doing really

3495

02:06:58,609 --> 02:06:56,280

well academically and they also really

3496

02:07:00,770 --> 02:06:58,619

seem to be embracing these different

3497

02:07:03,169 --> 02:07:00,780

virtues and so I like to think that

3498

02:07:05,990 --> 02:07:03,179

later on when they've gone on to

3499

02:07:08,330 --> 02:07:06,000

University and then into later life that

3500

02:07:10,669 --> 02:07:08,340

they're going to have they're going to

3501

02:07:12,290 --> 02:07:10,679

be more sophisticated thinkers as a

3502

02:07:14,089 --> 02:07:12,300

result of their education that have

3503

02:07:16,370 --> 02:07:14,099

praised more than just intelligence but

3504

02:07:19,010 --> 02:07:16,380

also all of these other traits that I

3505

02:07:21,589 --> 02:07:19,020

think are so important for thinking in a

3506

02:07:23,870 --> 02:07:21,599

sophisticated and rational way and wise

3507

02:07:26,450 --> 02:07:23,880

way you know that will really serve them

3508

02:07:27,709 --> 02:07:26,460

well and it was really fascinating look

3509

02:07:32,570 --> 02:07:27,719

for me

3510

02:07:34,310 --> 02:07:32,580

could help to change Education Without

3511

02:07:36,410 --> 02:07:34,320

sacrificing the things that we've

3512

02:07:38,510 --> 02:07:36,420

appreciated previously like they were

3513

02:07:40,790 --> 02:07:38,520

still doing well academically but also

3514

02:07:44,750 --> 02:07:40,800

just helping to develop like better

3515

02:07:47,450 --> 02:07:44,760

thinks uh you know more generally

3516

02:07:49,609 --> 02:07:47,460

what about for the expectation effect

3517

02:07:51,950 --> 02:07:49,619

was there anything that you had to cut

3518

02:07:53,149 --> 02:07:51,960

that you oh man I I wish that was

3519

02:07:54,950 --> 02:07:53,159

included

3520

02:07:56,990 --> 02:07:54,960

no I mean there were just some things

3521

02:07:59,030 --> 02:07:57,000

that I didn't think there were there was

3522

02:08:01,370 --> 02:07:59,040

enough evidence for

3523

02:08:04,850 --> 02:08:01,380

um you know a study showing that

3524

02:08:06,770 --> 02:08:04,860

weirdly if you expect to get flu over

3525

02:08:08,450 --> 02:08:06,780

the winter you're more likely to get flu

3526

02:08:09,890 --> 02:08:08,460  
over the winter and that's really

3527

02:08:11,030 --> 02:08:09,900  
difficult it's really difficult to

3528

02:08:12,830 --> 02:08:11,040  
explain

3529

02:08:14,390 --> 02:08:12,840  
um it could just be a difference in well

3530

02:08:16,189 --> 02:08:14,400  
I say just I think it's equally

3531

02:08:18,109 --> 02:08:16,199  
fascinating could be a difference in

3532

02:08:20,750 --> 02:08:18,119  
behavior and that if you are so cautious

3533

02:08:22,010 --> 02:08:20,760  
about not catching any illness that

3534

02:08:24,290 --> 02:08:22,020  
actually maybe you're getting less

3535

02:08:26,750 --> 02:08:24,300  
physical exercise maybe you're actually

3536

02:08:28,250 --> 02:08:26,760  
exposing yourself less to kind of micros

3537

02:08:30,950 --> 02:08:28,260  
mod generally to your immune system

3538

02:08:33,770 --> 02:08:30,960

isn't performing so well who knows but

3539

02:08:35,629 --> 02:08:33,780

yeah definitely that was a result that I

3540

02:08:37,430 --> 02:08:35,639

wanted to wait to see when there's more

3541

02:08:39,589 --> 02:08:37,440

evidence to kind of replicate that and

3542

02:08:40,430 --> 02:08:39,599

then to explore the mechanism

3543

02:08:43,970 --> 02:08:40,440

um

3544

02:08:46,010 --> 02:08:43,980

that's the main one uh and then how our

3545

02:08:49,129 --> 02:08:46,020

expectations can shape personality

3546

02:08:50,930 --> 02:08:49,139

change so essentially I have written a

3547

02:08:52,010 --> 02:08:50,940

piece for this that should be on this

3548

02:08:54,530 --> 02:08:52,020

they should be coming out in the

3549

02:08:56,990 --> 02:08:54,540

guardian that looks at whether we have a

3550

02:08:59,149 --> 02:08:57,000

kind of mindset of believing that our

3551

02:09:01,030 --> 02:08:59,159

personality can develop and grow as we

3552

02:09:04,189 --> 02:09:01,040

get older does that actually help people

3553

02:09:06,350 --> 02:09:04,199

to change the way they are and the

3554

02:09:08,750 --> 02:09:06,360

research shows that it does so people

3555

02:09:11,089 --> 02:09:08,760

who have this mindset that they're kind

3556

02:09:13,490 --> 02:09:11,099

of malleable people they find it easier

3557

02:09:15,830 --> 02:09:13,500

to develop greater reserves of

3558

02:09:19,189 --> 02:09:15,840

conscientiousness

3559

02:09:21,589 --> 02:09:19,199

um if they are introverts they find it

3560

02:09:23,870 --> 02:09:21,599

easier to develop into extra boats and

3561

02:09:26,450 --> 02:09:23,880

to overcome shyness you know it's very

3562

02:09:27,890 --> 02:09:26,460

important can you expand on that and is

3563

02:09:29,750 --> 02:09:27,900

that the same as the growth mindset or

3564

02:09:31,490 --> 02:09:29,760

is that different yeah I mean it's very

3565

02:09:33,770 --> 02:09:31,500

much related to the growth mindset

3566

02:09:36,649 --> 02:09:33,780

actually I would just say it's also the

3567

02:09:37,370 --> 02:09:36,659

growth mindset had traditionally been

3568

02:09:39,770 --> 02:09:37,380

um

3569

02:09:41,450 --> 02:09:39,780

concerned with intelligence but this is

3570

02:09:43,370 --> 02:09:41,460

using the similar principle but just

3571

02:09:46,129 --> 02:09:43,380

looking at personality like do people

3572

02:09:47,689 --> 02:09:46,139

believe that personality is fixed or do

3573

02:09:49,910 --> 02:09:47,699

they think that it's malleable that they

3574

02:09:52,790 --> 02:09:49,920

believe in the brains plasticity and

3575

02:09:55,729 --> 02:09:52,800

ability to change to be see things as um

3576

02:09:57,709 --> 02:09:55,739

emotional regulation as something that

3577

02:09:59,810 --> 02:09:57,719

you either have or you don't and if

3578

02:10:02,930 --> 02:09:59,820

you're angry you cannot possibly calm

3579

02:10:04,609 --> 02:10:02,940

yourself down or do you see emotions as

3580

02:10:06,530 --> 02:10:04,619

being something that actually are within

3581

02:10:08,629 --> 02:10:06,540

your control and that you can you can

3582

02:10:11,209 --> 02:10:08,639

change the way you process emotions over

3583

02:10:13,189 --> 02:10:11,219

time and all of those you know elements

3584

02:10:14,810 --> 02:10:13,199

uh which are all related to the growth

3585

02:10:17,149 --> 02:10:14,820

mindset yeah they make a huge difference

3586

02:10:19,970 --> 02:10:17,159

for how people develop whether you get

3587

02:10:22,370 --> 02:10:19,980

stuck in this rut of behaviors that you

3588

02:10:24,589 --> 02:10:22,380

don't find suit your goals or whether

3589

02:10:27,229 --> 02:10:24,599

you can actually evolve and adapt have

3590

02:10:29,750 --> 02:10:27,239

you looked into studies on yogis and

3591

02:10:32,089 --> 02:10:29,760

their expectation effect like that is

3592

02:10:34,310 --> 02:10:32,099

what people claim to be able to do under

3593

02:10:37,250 --> 02:10:34,320

intense meditation

3594

02:10:40,129 --> 02:10:37,260

no I haven't no I would be interested in

3595

02:10:41,689 --> 02:10:40,139

that yeah it's a good it would be a

3596

02:10:44,450 --> 02:10:41,699

great study if someone were to do it

3597

02:10:45,470 --> 02:10:44,460

there's some people like Wim Hof who I

3598

02:10:47,689 --> 02:10:45,480

don't know if you know who in the office

3599

02:10:50,030 --> 02:10:47,699

yeah I believe he believes that through

3600

02:10:52,310 --> 02:10:50,040

his breath technique and I don't think

3601

02:10:54,410 --> 02:10:52,320

this entirely mental is he's actually

3602

02:10:57,050 --> 02:10:54,420

doing a behavior he believes that he can

3603

02:10:58,729 --> 02:10:57,060

repel a virus or viruses of a certain

3604

02:11:00,649 --> 02:10:58,739

sort and he can train people and you can

3605

02:11:02,390 --> 02:11:00,659

get a study where you impose this

3606

02:11:04,370 --> 02:11:02,400

intervention on a set and then have a

3607

02:11:05,990 --> 02:11:04,380

neutral other set have you looked into

3608

02:11:08,330 --> 02:11:06,000

those claims at all

3609

02:11:11,149 --> 02:11:08,340

I haven't I mean

3610

02:11:13,250 --> 02:11:11,159

I'd be super fascinated I wouldn't so

3611

02:11:15,530 --> 02:11:13,260

like to talk about calibrating my

3612

02:11:18,050 --> 02:11:15,540

confidence I would say I would be kind

3613

02:11:19,669 --> 02:11:18,060

of 50 50 on that at the moment not

3614

02:11:21,890 --> 02:11:19,679

knowing the details but you know we do

3615

02:11:23,450 --> 02:11:21,900

know that the mind is connected to the

3616

02:11:25,850 --> 02:11:23,460

immune system

3617

02:11:27,050 --> 02:11:25,860

um and that brings up meditation can

3618

02:11:29,330 --> 02:11:27,060

influence

3619

02:11:31,609 --> 02:11:29,340

your the active to your immune system

3620

02:11:33,109 --> 02:11:31,619

and especially if you have chronic

3621

02:11:34,370 --> 02:11:33,119

inflammation

3622

02:11:37,609 --> 02:11:34,380

um which can be caused by kind of

3623

02:11:39,770 --> 02:11:37,619

anxiety you know and can be affected by

3624

02:11:41,570 --> 02:11:39,780

your breathing as well that that can

3625

02:11:43,669 --> 02:11:41,580

then throw your immune system out of

3626  
02:11:45,470 --> 02:11:43,679  
balancing a more susceptible to certain

3627  
02:11:47,810 --> 02:11:45,480  
illnesses so it doesn't sound like

3628  
02:11:49,729 --> 02:11:47,820  
implausible to me but I just I would be

3629  
02:11:52,669 --> 02:11:49,739  
interested to see that

3630  
02:11:54,589 --> 02:11:52,679  
in a you know reasonably sized study to

3631  
02:11:56,390 --> 02:11:54,599  
look at that the difference between the

3632  
02:11:58,609 --> 02:11:56,400  
two groups you know yeah it's

3633  
02:12:00,890 --> 02:11:58,619  
fascinating this is potentially an ill

3634  
02:12:02,810 --> 02:12:00,900  
no this is an ill-defined question I'm

3635  
02:12:04,850 --> 02:12:02,820  
sure it's one you thought about how far

3636  
02:12:07,070 --> 02:12:04,860  
can the placebo effect slash the

3637  
02:12:08,810 --> 02:12:07,080  
expectation effect be taken because some

3638  
02:12:10,910 --> 02:12:08,820

people through meditation which I'm

3639

02:12:14,030 --> 02:12:10,920

synonymous with an expectation effect

3640

02:12:15,169 --> 02:12:14,040

can boil water or at least can raise the

3641

02:12:16,790 --> 02:12:15,179

temperature of their body drastically

3642

02:12:18,470 --> 02:12:16,800

and it's something that you thought was

3643

02:12:20,209 --> 02:12:18,480

only a part of the autonomic nervous

3644

02:12:22,129 --> 02:12:20,219

system like you cannot control that yeah

3645

02:12:24,470 --> 02:12:22,139

and then there are other cases like you

3646

02:12:26,209 --> 02:12:24,480

mentioned of not as quote-unquote

3647

02:12:27,649 --> 02:12:26,219

trivial as pain even though pain is not

3648

02:12:29,750 --> 02:12:27,659

true it's something that we would think

3649

02:12:31,490 --> 02:12:29,760

okay yeah you can coerce yourself into

3650

02:12:33,589 --> 02:12:31,500

pain you can take yourself out of it

3651  
02:12:35,750 --> 02:12:33,599  
mentally how far can it be taken the

3652  
02:12:38,570 --> 02:12:35,760  
placebo and expectation effect

3653  
02:12:40,010 --> 02:12:38,580  
okay I mean I can play we have to be

3654  
02:12:41,870 --> 02:12:40,020  
really careful in

3655  
02:12:45,109 --> 02:12:41,880  
defining the limits of what the science

3656  
02:12:46,850 --> 02:12:45,119  
shows that it can do and you know I do

3657  
02:12:48,050 --> 02:12:46,860  
think it is limited in what it can

3658  
02:12:50,330 --> 02:12:48,060  
achieve

3659  
02:12:53,510 --> 02:12:50,340  
um I don't think that by changing your

3660  
02:12:54,950 --> 02:12:53,520  
expectations you can shrink a tumor for

3661  
02:12:56,870 --> 02:12:54,960  
example you know and I think there have

3662  
02:12:59,149 --> 02:12:56,880  
been studies that try to look at things

3663  
02:13:01,010 --> 02:12:59,159

that optimism amongst cancer patients

3664

02:13:04,250 --> 02:13:01,020

and you know I don't think you see a

3665

02:13:06,410 --> 02:13:04,260

strong effect from that and

3666

02:13:08,930 --> 02:13:06,420

I actually think there's a danger with

3667

02:13:10,850 --> 02:13:08,940

over claiming that people are only going

3668

02:13:12,830 --> 02:13:10,860

to be disappointed or that they might

3669

02:13:16,250 --> 02:13:12,840

even start to blame themselves you know

3670

02:13:18,830 --> 02:13:16,260

if they are not getting better from some

3671

02:13:20,330 --> 02:13:18,840

illness like um you know right so they

3672

02:13:22,010 --> 02:13:20,340

think it's because they're not being

3673

02:13:24,589 --> 02:13:22,020

positive enough that only adds to the

3674

02:13:27,350 --> 02:13:24,599

stress and makes them you know makes a

3675

02:13:29,209 --> 02:13:27,360

bad situation even more terrible so

3676

02:13:31,310 --> 02:13:29,219

that's why I think like I've cried

3677

02:13:32,810 --> 02:13:31,320

really carefully to look at like I said

3678

02:13:34,490 --> 02:13:32,820

like the effects that I think are

3679

02:13:36,109 --> 02:13:34,500

supported by like a substantial number

3680

02:13:36,709 --> 02:13:36,119

of studies

3681

02:13:38,569 --> 02:13:36,719

um

3682

02:13:40,850 --> 02:13:38,579

you know so your book is like the

3683

02:13:42,950 --> 02:13:40,860

scientific version of The Secret yeah

3684

02:13:45,169 --> 02:13:42,960

that's exactly how I want it but yeah

3685

02:13:47,390 --> 02:13:45,179

and it's like you know but also I think

3686

02:13:49,910 --> 02:13:47,400

just because it can't perform what I

3687

02:13:51,649 --> 02:13:49,920

would say are Miracles you know like

3688

02:13:54,770 --> 02:13:51,659

curing cancer it doesn't mean that it's

3689

02:13:56,689 --> 02:13:54,780

not really significant and that it

3690

02:13:59,089 --> 02:13:56,699

doesn't have a really profound effect on

3691

02:14:02,030 --> 02:13:59,099

our life and actually we know that say

3692

02:14:04,069 --> 02:14:02,040

your beliefs about aging do seem to

3693

02:14:06,109 --> 02:14:04,079

predict your longevity

3694

02:14:08,450 --> 02:14:06,119

um but that's not through some kind of

3695

02:14:10,490 --> 02:14:08,460

unknown mechanism that's actually pretty

3696

02:14:13,629 --> 02:14:10,500

very well established mechanisms and

3697

02:14:16,310 --> 02:14:13,639

essentially if you associate aging with

3698

02:14:18,050 --> 02:14:16,320

uh decline in disability and all of

3699

02:14:19,910 --> 02:14:18,060

these things well that makes you less

3700

02:14:22,069 --> 02:14:19,920

active so there's a behavioral component

3701

02:14:23,569 --> 02:14:22,079

there's also like increases your stress

3702

02:14:25,790 --> 02:14:23,579

you know over months and then years

3703

02:14:27,470 --> 02:14:25,800

because if you think as you're getting

3704

02:14:29,750 --> 02:14:27,480

older but your life is kind of Gonna

3705

02:14:30,830 --> 02:14:29,760

Fall to Pieces right that makes all of

3706

02:14:33,229 --> 02:14:30,840

the challenges you've placed more

3707

02:14:35,569 --> 02:14:33,239

stressful it raises cortisol levels so

3708

02:14:38,149 --> 02:14:35,579

that they're chronically High erases

3709

02:14:40,370 --> 02:14:38,159

inflammation that causes biological

3710

02:14:42,290 --> 02:14:40,380

damage and then that predisposes you to

3711

02:14:45,050 --> 02:14:42,300

illness and then we know that that can

3712

02:14:47,209 --> 02:14:45,060

change uh gene expression within the

3713

02:14:49,669 --> 02:14:47,219

cells so you start to have the

3714

02:14:52,250 --> 02:14:49,679

biological clock as it's known kind of

3715

02:14:54,530 --> 02:14:52,260

ticking at a faster rate all that's very

3716

02:14:56,030 --> 02:14:54,540

well documented I said that's incredible

3717

02:14:58,010 --> 02:14:56,040

and actually according to one

3718

02:14:59,750 --> 02:14:58,020

longitudinal study the difference

3719

02:15:02,089 --> 02:14:59,760

between people with the positive and the

3720

02:15:04,669 --> 02:15:02,099

negative use of Aging the positive view

3721

02:15:06,709 --> 02:15:04,679

would be that you see aging as a time a

3722

02:15:08,569 --> 02:15:06,719

kind of Greater wisdom you know new

3723

02:15:10,910 --> 02:15:08,579

possibilities the difference between

3724

02:15:14,030 --> 02:15:10,920

those two mindsets actually was about

3725

02:15:16,129 --> 02:15:14,040

seven and a half years in

3726

02:15:18,050 --> 02:15:16,139

lifespan so it's you know really

3727

02:15:19,729 --> 02:15:18,060

profound but I'm not quality of life

3728

02:15:21,709 --> 02:15:19,739

increased as well or no just yeah

3729

02:15:23,629 --> 02:15:21,719

exactly quality of life you know let's

3730

02:15:25,209 --> 02:15:23,639

just say Best of Both Worlds great great

3731

02:15:27,290 --> 02:15:25,219

susceptible to alzheimer's

3732

02:15:28,490 --> 02:15:27,300

cardiovascular disease to all of these

3733

02:15:30,770 --> 02:15:28,500

things

3734

02:15:33,169 --> 02:15:30,780

um but it's like but I don't find any of

3735

02:15:35,750 --> 02:15:33,179

those mechanisms miraculous actually I

3736

02:15:37,669 --> 02:15:35,760

just think it's it's what we know we

3737

02:15:39,169 --> 02:15:37,679

know about how the mind can affect

3738

02:15:40,850 --> 02:15:39,179

behavioral we know how the mind can

3739

02:15:43,189 --> 02:15:40,860

affect stress and stress can affect

3740

02:15:45,169 --> 02:15:43,199

illness it's just linking them all

3741

02:15:46,669 --> 02:15:45,179

together and showing that something that

3742

02:15:49,010 --> 02:15:46,679

you you might

3743

02:15:52,790 --> 02:15:49,020

but not think to be that important

3744

02:15:55,850 --> 02:15:52,800

actually over time over decades adds up

3745

02:15:58,669 --> 02:15:55,860

and really makes a difference

3746

02:16:01,129 --> 02:15:58,679

yeah that's remarkable do you imagine

3747

02:16:02,990 --> 02:16:01,139

that if you were to intervene in

3748

02:16:05,810 --> 02:16:03,000

someone's life if you were to impart in

3749

02:16:07,609 --> 02:16:05,820

them a set of beliefs that that would

3750

02:16:09,950 --> 02:16:07,619

increase their not only quality of life

3751

02:16:11,270 --> 02:16:09,960

but their lifespan and if so what are

3752

02:16:13,310 --> 02:16:11,280

those beliefs like if you were to

3753

02:16:15,589 --> 02:16:13,320

prescribe it with all the disclaimers

3754

02:16:16,970 --> 02:16:15,599

that come along with that yeah exactly I

3755

02:16:19,250 --> 02:16:16,980

mean no one has performed because

3756

02:16:20,930 --> 02:16:19,260

ideally you would have like a 40-year

3757

02:16:22,550 --> 02:16:20,940

study where you'd change people's

3758

02:16:24,770 --> 02:16:22,560

beliefs and you kept on coming back to

3759

02:16:26,810 --> 02:16:24,780

them you know the research hasn't been

3760

02:16:29,810 --> 02:16:26,820

around long enough to do that but there

3761

02:16:32,150 --> 02:16:29,820

are short-term studies where you kind of

3762

02:16:34,070 --> 02:16:32,160

give people like an exercise program and

3763

02:16:36,650 --> 02:16:34,080

then some of these people are also given

3764

02:16:38,290 --> 02:16:36,660

uh psychological supports alongside the

3765

02:16:40,310 --> 02:16:38,300

exercise program so they might be

3766

02:16:41,870 --> 02:16:40,320

encouraged to kind of think about their

3767

02:16:43,969 --> 02:16:41,880

bodies in a different way to kind of

3768

02:16:45,830 --> 02:16:43,979

embrace the fact that as they're

3769

02:16:48,589 --> 02:16:45,840

exercising that they're actually

3770

02:16:51,290 --> 02:16:48,599

outperforming people of a similar age to

3771

02:16:55,009 --> 02:16:51,300

themselves you know so you falsify the

3772

02:16:57,169 --> 02:16:55,019

data to tell them this or you just yeah

3773

02:16:59,270 --> 02:16:57,179

um yeah I can't remember to be honest it

3774

02:17:00,589 --> 02:16:59,280

might have been falsified in one study I

3775

02:17:02,209 --> 02:17:00,599

think in others you're just kind of

3776

02:17:04,490 --> 02:17:02,219

feeding them this positive information

3777

02:17:07,310 --> 02:17:04,500

that you know your health is within your

3778

02:17:09,110 --> 02:17:07,320

control and as you age that you can you

3779

02:17:11,750 --> 02:17:09,120

can actually like um benefit from

3780

02:17:13,490 --> 02:17:11,760

exercise and you know that there are

3781

02:17:14,629 --> 02:17:13,500

these other opportunities no matter how

3782

02:17:16,070 --> 02:17:14,639

old you are

3783

02:17:19,250 --> 02:17:16,080

um and what you find is that when you

3784

02:17:20,570 --> 02:17:19,260

change the mindset in those ways but um

3785

02:17:21,950 --> 02:17:20,580

whether it's through deception or

3786

02:17:23,810 --> 02:17:21,960

whether it's just through kind of

3787

02:17:26,629 --> 02:17:23,820

positive encouragement that you seek

3788

02:17:29,089 --> 02:17:26,639

greater benefits for those people so

3789

02:17:31,250 --> 02:17:29,099

that's you know it's only over a couple

3790

02:17:33,469 --> 02:17:31,260

of months but like you do get this

3791

02:17:35,330 --> 02:17:33,479

signal that changing the mindset really

3792

02:17:37,730 --> 02:17:35,340

is being beneficial there's another

3793

02:17:40,849 --> 02:17:37,740

study that had looked at giving people

3794

02:17:42,049 --> 02:17:40,859

subliminal uh signals through kind of

3795

02:17:43,610 --> 02:17:42,059

compute again they were playing these

3796

02:17:45,770 --> 02:17:43,620

were old people and they found that

3797

02:17:48,169 --> 02:17:45,780

actually giving them subliminal signals

3798

02:17:50,750 --> 02:17:48,179

to give them positive associations with

3799

02:17:52,490 --> 02:17:50,760

aging but that again was associated with

3800

02:17:54,650 --> 02:17:52,500

an improvement in their health from

3801  
02:17:57,049 --> 02:17:54,660  
actually the size of those improvements

3802  
02:17:59,450 --> 02:17:57,059  
were equivalent to doing a proper

3803  
02:18:00,589 --> 02:17:59,460  
exercise program so really quite

3804  
02:18:01,910 --> 02:18:00,599  
significant

3805  
02:18:04,250 --> 02:18:01,920  
what does this say about the

3806  
02:18:06,469 --> 02:18:04,260  
relationship of Consciousness to reality

3807  
02:18:08,270 --> 02:18:06,479  
the fact that if we believe so and so it

3808  
02:18:09,830 --> 02:18:08,280  
increases the chances of so and so

3809  
02:18:11,450 --> 02:18:09,840  
believe which is an aspect of

3810  
02:18:13,910 --> 02:18:11,460  
Consciousness increases the tens of so

3811  
02:18:15,469 --> 02:18:13,920  
and so in a external reality if there is

3812  
02:18:17,209 --> 02:18:15,479  
external because there's some people who

3813  
02:18:19,849 --> 02:18:17,219

are idealists and so on

3814

02:18:22,190 --> 02:18:19,859

right exactly so

3815

02:18:23,810 --> 02:18:22,200

you know I don't to be honest I'm

3816

02:18:25,190 --> 02:18:23,820

fascinated by all kinds of theories of

3817

02:18:27,410 --> 02:18:25,200

Consciousness and the idea that we're

3818

02:18:29,330 --> 02:18:27,420

living in a simulation and all of that I

3819

02:18:31,669 --> 02:18:29,340

don't think this research tells us

3820

02:18:34,490 --> 02:18:31,679

anything about that

3821

02:18:36,830 --> 02:18:34,500

um but I do think on a more superficial

3822

02:18:39,469 --> 02:18:36,840

kind of level not as profound as what is

3823

02:18:41,509 --> 02:18:39,479

the nature of reality but like you know

3824

02:18:45,110 --> 02:18:41,519

this is essentially what we're showing

3825

02:18:46,190 --> 02:18:45,120

is that our thought processes are

3826

02:18:49,610 --> 02:18:46,200

changing

3827

02:18:53,089 --> 02:18:49,620

our reality in the future and again

3828

02:18:55,330 --> 02:18:53,099

that's through just very I wouldn't say

3829

02:18:58,190 --> 02:18:55,340

mundane but very well accepted

3830

02:19:00,889 --> 02:18:58,200

behavioral perceptual and physiological

3831

02:19:03,830 --> 02:19:00,899

mechanisms that we know happen day to

3832

02:19:06,169 --> 02:19:03,840

day hour to hour and all this is showing

3833

02:19:07,730 --> 02:19:06,179

is that actually sometimes the effects

3834

02:19:09,230 --> 02:19:07,740

can you know add up and be really

3835

02:19:11,810 --> 02:19:09,240

profound

3836

02:19:13,429 --> 02:19:11,820

um you know I I always like to say

3837

02:19:15,650 --> 02:19:13,439

actually like we know that our mindset

3838

02:19:17,389 --> 02:19:15,660

can shape our bodies like all the time

3839

02:19:19,190 --> 02:19:17,399

if you think of your favorite food your

3840

02:19:21,530 --> 02:19:19,200

mouth starts celebrating it's producing

3841

02:19:24,230 --> 02:19:21,540

enzymes to help you to

3842

02:19:26,509 --> 02:19:24,240

digest that food you know that is an

3843

02:19:28,070 --> 02:19:26,519

example of an expectation effect

3844

02:19:29,990 --> 02:19:28,080

um if you feel nervous you start to get

3845

02:19:32,330 --> 02:19:30,000

cramps in your stomach that's an example

3846

02:19:35,030 --> 02:19:32,340

of your brain evading your digestive

3847

02:19:36,530 --> 02:19:35,040

system this the expectation effect is

3848

02:19:39,049 --> 02:19:36,540

just showing that actually you know

3849

02:19:41,150 --> 02:19:39,059

those might seem tribulous like trivial

3850

02:19:44,810 --> 02:19:41,160

examples but actually there are lots of

3851  
02:19:46,610 --> 02:19:44,820  
ways that we haven't acknowledged or

3852  
02:19:49,670 --> 02:19:46,620  
um put to use previously that we can

3853  
02:19:52,010 --> 02:19:49,680  
harness to improve our wellness and our

3854  
02:19:53,570 --> 02:19:52,020  
health and even our longevity and that

3855  
02:19:56,150 --> 02:19:53,580  
now we have that knowledge there are

3856  
02:19:58,250 --> 02:19:56,160  
very specific techniques you can use to

3857  
02:20:00,290 --> 02:19:58,260  
to really make the most of the mind-body

3858  
02:20:03,650 --> 02:20:00,300  
connection have you looked into the

3859  
02:20:05,990 --> 02:20:03,660  
subject of ego depletion yes so I mean

3860  
02:20:08,210 --> 02:20:06,000  
that's fascinating

3861  
02:20:09,889 --> 02:20:08,220  
um again like an area where you had like

3862  
02:20:11,410 --> 02:20:09,899  
a huge body of research and then like

3863  
02:20:14,210 --> 02:20:11,420

there seems to be some contradictory

3864

02:20:15,889 --> 02:20:14,220  
evidence but essentially are you

3865

02:20:17,929 --> 02:20:15,899  
referring to the replication crisis

3866

02:20:19,490 --> 02:20:17,939  
because I don't know if that okay but

3867

02:20:22,130 --> 02:20:19,500  
then one reason that they might not be

3868

02:20:24,590 --> 02:20:22,140  
replicable these studies is the fact

3869

02:20:26,450 --> 02:20:24,600  
that actually mindset plays a role in

3870

02:20:29,810 --> 02:20:26,460  
ego depletion so if you expect to be

3871

02:20:31,670 --> 02:20:29,820  
depleted you become more depleted if you

3872

02:20:34,730 --> 02:20:31,680  
think that your willpower is kind of

3873

02:20:36,290 --> 02:20:34,740  
unlimited and that actually the more you

3874

02:20:37,730 --> 02:20:36,300  
practice your willpower the more you can

3875

02:20:40,190 --> 02:20:37,740  
get into that zone when you're doing

3876

02:20:42,590 --> 02:20:40,200

those difficult problems if you believe

3877

02:20:44,389 --> 02:20:42,600

that then actually that becomes your

3878

02:20:46,849 --> 02:20:44,399

reality and you find that your

3879

02:20:49,790 --> 02:20:46,859

concentration kind of uh you know

3880

02:20:52,370 --> 02:20:49,800

actually grows as you focus on the task

3881

02:20:55,190 --> 02:20:52,380

ahead so yeah you know

3882

02:20:56,809 --> 02:20:55,200

uh how where we stand on ego depletion

3883

02:20:58,670 --> 02:20:56,819

in general like I wouldn't like to say

3884

02:21:01,610 --> 02:20:58,680

but absolutely mindsets are having an

3885

02:21:04,070 --> 02:21:01,620

effect there in some way or another

3886

02:21:06,349 --> 02:21:04,080

before we start to wrap I want you to

3887

02:21:08,510 --> 02:21:06,359

explain what the pilot site test is and

3888

02:21:10,670 --> 02:21:08,520

then why is it important

3889

02:21:11,570 --> 02:21:10,680

okay I mean this was

3890

02:21:13,730 --> 02:21:11,580

um

3891

02:21:15,770 --> 02:21:13,740

study from a few years ago I'd say when

3892

02:21:18,050 --> 02:21:15,780

the research on the expectation effect

3893

02:21:20,270 --> 02:21:18,060

was really starting to expand beyond the

3894

02:21:22,790 --> 02:21:20,280

placebo of fatal medicine and it was

3895

02:21:25,190 --> 02:21:22,800

just looking at how people's vision is

3896

02:21:26,630 --> 02:21:25,200

affected by their expectations

3897

02:21:28,130 --> 02:21:26,640

um now I've mentioned throughout the

3898

02:21:31,250 --> 02:21:28,140

conversation

3899

02:21:33,290 --> 02:21:31,260

that one of the pathways that the

3900

02:21:35,450 --> 02:21:33,300

expectation effect can influence us is

3901  
02:21:37,790 --> 02:21:35,460  
through perception

3902  
02:21:40,070 --> 02:21:37,800  
um we know this from all kinds of

3903  
02:21:42,530 --> 02:21:40,080  
studies you know the taste of food

3904  
02:21:45,650 --> 02:21:42,540  
depends on what you expect the food to

3905  
02:21:48,110 --> 02:21:45,660  
taste like if you the same chemical that

3906  
02:21:50,809 --> 02:21:48,120  
causes parmesan to smell so delicious

3907  
02:21:53,030 --> 02:21:50,819  
it's actually also behind the smell of

3908  
02:21:54,710 --> 02:21:53,040  
vomit but our conscious experience is

3909  
02:21:56,690 --> 02:21:54,720  
very different depending on which we

3910  
02:21:57,530 --> 02:21:56,700  
believe that we're smelling

3911  
02:21:59,389 --> 02:21:57,540  
um

3912  
02:22:01,490 --> 02:21:59,399  
it just seems that this also happens

3913  
02:22:04,849 --> 02:22:01,500

with vision and with the clarity of

3914

02:22:06,710 --> 02:22:04,859

vision so this study by Ellen Langer at

3915

02:22:08,030 --> 02:22:06,720

Harvard University seemed to suggest

3916

02:22:10,550 --> 02:22:08,040

that if you

3917

02:22:13,849 --> 02:22:10,560

lead people to believe that their vision

3918

02:22:15,889 --> 02:22:13,859

is going to be more acute

3919

02:22:18,950 --> 02:22:15,899

than it really is

3920

02:22:21,410 --> 02:22:18,960

then that can actually help them to see

3921

02:22:23,630 --> 02:22:21,420

more clearly and just seems to be that

3922

02:22:25,790 --> 02:22:23,640

the we know the brain does a lot of work

3923

02:22:28,429 --> 02:22:25,800

in tidying up our vision

3924

02:22:30,469 --> 02:22:28,439

um the stuff that hits our retinas those

3925

02:22:31,790 --> 02:22:30,479

patterns are not what we consciously

3926

02:22:34,429 --> 02:22:31,800

experience because there's so much

3927

02:22:36,170 --> 02:22:34,439

processing going on in the brain and it

3928

02:22:40,010 --> 02:22:36,180

seems that actually

3929

02:22:41,570 --> 02:22:40,020

this when you she kind of primed people

3930

02:22:43,250 --> 02:22:41,580

to believe that they were going to have

3931

02:22:45,349 --> 02:22:43,260

better Vision by putting them in a

3932

02:22:46,510 --> 02:22:45,359

flight simulator and telling them that

3933

02:22:50,270 --> 02:22:46,520

they were kind of

3934

02:22:52,309 --> 02:22:50,280

uh acting as expert Pilots or that she

3935

02:22:53,630 --> 02:22:52,319

gave them exercises that led them to

3936

02:22:55,610 --> 02:22:53,640

believe that their eyesight was going to

3937

02:22:57,770 --> 02:22:55,620

improve or she turned the site test

3938

02:22:59,630 --> 02:22:57,780

upside down so that the smaller letters

3939

02:23:01,730 --> 02:22:59,640

were at the top and people have this

3940

02:23:04,429 --> 02:23:01,740

Association that they can read the first

3941

02:23:06,770 --> 02:23:04,439

line on the site chart you know in all

3942

02:23:09,050 --> 02:23:06,780

of these cases multiple experiments

3943

02:23:11,150 --> 02:23:09,060

people's Vision did seem to improve

3944

02:23:13,849 --> 02:23:11,160

compared to the control groups who

3945

02:23:16,130 --> 02:23:13,859

aren't given the same kind of priming to

3946

02:23:18,170 --> 02:23:16,140

to believe that their site was gonna be

3947

02:23:21,170 --> 02:23:18,180

better than than it was

3948

02:23:23,570 --> 02:23:21,180

um now you know I'm really careful in my

3949

02:23:25,490 --> 02:23:23,580

book to say this isn't uh an excuse to

3950

02:23:26,929 --> 02:23:25,500

kind of throw away your glasses you know

3951

02:23:28,250 --> 02:23:26,939

these were kind of short-term

3952

02:23:30,170 --> 02:23:28,260

experiments

3953

02:23:32,150 --> 02:23:30,180

um but I do think it's still quite

3954

02:23:34,130 --> 02:23:32,160

profound that like

3955

02:23:35,929 --> 02:23:34,140

what we're

3956

02:23:38,690 --> 02:23:35,939

that something as basic as kind of

3957

02:23:41,809 --> 02:23:38,700

eyesight can insult to a certain extent

3958

02:23:43,190 --> 02:23:41,819

be influenced by our beliefs and

3959

02:23:45,889 --> 02:23:43,200

actually there's independent research

3960

02:23:47,929 --> 02:23:45,899

showing that you know like if you if

3961

02:23:49,429 --> 02:23:47,939

you're a bit short-sighted and you see a

3962

02:23:51,410 --> 02:23:49,439

road sign but you know what it's going

3963

02:23:53,210 --> 02:23:51,420

to say will you actually see that sign

3964

02:23:54,650 --> 02:23:53,220

more clearly than if it was an

3965

02:23:56,690 --> 02:23:54,660

unfamiliar sign where you don't know

3966

02:23:58,490 --> 02:23:56,700

what the letters are going to read so

3967

02:24:00,650 --> 02:23:58,500

actually it fits with multiple studies

3968

02:24:02,750 --> 02:24:00,660

it's not just Ellen Langer's research

3969

02:24:03,370 --> 02:24:02,760

that shows that

3970

02:24:05,929 --> 02:24:03,380

um

3971

02:24:08,330 --> 02:24:05,939

expectations can shape visual perception

3972

02:24:10,610 --> 02:24:08,340

it was just one study though that I

3973

02:24:11,570 --> 02:24:10,620

found especially fascinating see I'm

3974

02:24:13,490 --> 02:24:11,580

wondering now if there's a connection

3975

02:24:15,290 --> 02:24:13,500

between this and something we talked

3976

02:24:16,610 --> 02:24:15,300

about from your earlier book I asked is

3977

02:24:18,650 --> 02:24:16,620

there an association between arrogance

3978

02:24:20,270 --> 02:24:18,660

and intelligence he said not exactly at

3979

02:24:22,250 --> 02:24:20,280

least that hasn't been studied but there

3980

02:24:24,530 --> 02:24:22,260

is an association with people who are

3981

02:24:26,389 --> 02:24:24,540

intelligent then believing that they are

3982

02:24:28,429 --> 02:24:26,399

less susceptible to cognitive biases and

3983

02:24:30,290 --> 02:24:28,439

I'm wondering now if priming for visual

3984

02:24:31,790 --> 02:24:30,300

Acuity if you tell someone hey you you

3985

02:24:33,650 --> 02:24:31,800

have great vision then all of a sudden

3986

02:24:35,870 --> 02:24:33,660

you can see a bit better if that's the

3987

02:24:37,670 --> 02:24:35,880

case then maybe it's not intelligence

3988

02:24:40,010 --> 02:24:37,680

breeds arrogance but arrogance breeds

3989

02:24:41,389 --> 02:24:40,020

intelligence because you're like hey I

3990

02:24:43,370 --> 02:24:41,399

believe I'm much more intelligent and

3991

02:24:45,889 --> 02:24:43,380

then so I become a bit more intelligent

3992

02:24:48,290 --> 02:24:45,899

now maybe I'm taking it a bit too far

3993

02:24:50,450 --> 02:24:48,300

but is there an association there is it

3994

02:24:52,550 --> 02:24:50,460

like an increase of five IQ points ten

3995

02:24:55,070 --> 02:24:52,560

IQ points can't say that

3996

02:24:56,809 --> 02:24:55,080

well like um so you know there have been

3997

02:24:58,969 --> 02:24:56,819

all of these apps looking at kind of

3998

02:25:01,730 --> 02:24:58,979

brain training and they've been again

3999

02:25:03,650 --> 02:25:01,740

contradictory evidence but some really

4000

02:25:06,290 --> 02:25:03,660

seem to show that people do these kinds

4001  
02:25:07,550 --> 02:25:06,300  
of games then they improve their IQ

4002  
02:25:10,929 --> 02:25:07,560  
scores

4003  
02:25:13,010 --> 02:25:10,939  
um but what scientists at around 2015

4004  
02:25:15,469 --> 02:25:13,020  
realized was that way but these

4005  
02:25:17,150 --> 02:25:15,479  
participants were recruited kind of

4006  
02:25:18,889 --> 02:25:17,160  
primed them to expect that they were

4007  
02:25:21,530 --> 02:25:18,899  
gonna see those improvements you know

4008  
02:25:24,050 --> 02:25:21,540  
the adverts were often like

4009  
02:25:26,510 --> 02:25:24,060  
um you know want to help with a test of

4010  
02:25:29,389 --> 02:25:26,520  
brain enhancement you know

4011  
02:25:31,910 --> 02:25:29,399  
um control interesting like this room

4012  
02:25:33,710 --> 02:25:31,920  
um and they looked they analyzed that

4013  
02:25:36,410 --> 02:25:33,720

data those historic studies and they

4014

02:25:38,870 --> 02:25:36,420

showed that those with the kind of

4015

02:25:41,510 --> 02:25:38,880

posters that had primed the expectation

4016

02:25:44,090 --> 02:25:41,520

of improved intelligence did see greater

4017

02:25:45,889 --> 02:25:44,100

gains because of the

4018

02:25:47,870 --> 02:25:45,899

um associated with the brain training

4019

02:25:49,610 --> 02:25:47,880

compared to those who haven't

4020

02:25:51,530 --> 02:25:49,620

um they then did their own independence

4021

02:25:53,809 --> 02:25:51,540

study which showed exactly what they'd

4022

02:25:55,730 --> 02:25:53,819

predicted that actually if you tell

4023

02:25:57,469 --> 02:25:55,740

people but by doing these tasks they're

4024

02:26:00,230 --> 02:25:57,479

going to get smarter they improve their

4025

02:26:02,870 --> 02:26:00,240

performance by about five IQ points so

4026

02:26:04,550 --> 02:26:02,880

it did seem to suggest that there is a

4027

02:26:07,610 --> 02:26:04,560

benefit to that and actually it's been

4028

02:26:09,230 --> 02:26:07,620

replicated just earlier this um well uh

4029

02:26:11,150 --> 02:26:09,240

last year at the end of last year a

4030

02:26:13,550 --> 02:26:11,160

similar study

4031

02:26:16,429 --> 02:26:13,560

um so I do think like having that

4032

02:26:18,530 --> 02:26:16,439

self-belief can be really valuable but

4033

02:26:21,230 --> 02:26:18,540

in my opinion like we don't want to

4034

02:26:22,670 --> 02:26:21,240

develop overconfidence because that is

4035

02:26:26,530 --> 02:26:22,680

also associated with greater

4036

02:26:29,870 --> 02:26:26,540

susceptibility to numerous biases

4037

02:26:31,610 --> 02:26:29,880

it might help your IQ it might also ban

4038

02:26:33,290 --> 02:26:31,620

damage your reasoning and decision

4039

02:26:36,530 --> 02:26:33,300

making but I think what's important

4040

02:26:40,370 --> 02:26:36,540

there is still to kind of recognize this

4041

02:26:41,630 --> 02:26:40,380

Your Capacity to grow and improve and it

4042

02:26:44,150 --> 02:26:41,640

comes back to what we were talking about

4043

02:26:46,790 --> 02:26:44,160

with how we can boost our learning if

4044

02:26:49,730 --> 02:26:46,800

you see frustration as being inherent in

4045

02:26:52,070 --> 02:26:49,740

your intellectual growth that will make

4046

02:26:53,929 --> 02:26:52,080

your intellectual growth more likely and

4047

02:26:56,630 --> 02:26:53,939

I think it's you know very much the same

4048

02:26:58,610 --> 02:26:56,640

phenomena now taking this back to how

4049

02:27:00,710 --> 02:26:58,620

far can we push this I know that's a

4050

02:27:02,929 --> 02:27:00,720

dangerous question it sounds like we

4051  
02:27:04,370 --> 02:27:02,939  
have untapped potential now what that is

4052  
02:27:05,990 --> 02:27:04,380  
in terms of a percentage well it may

4053  
02:27:08,030 --> 02:27:06,000  
vary from task to task if you can even

4054  
02:27:10,450 --> 02:27:08,040  
place a number on it now there is a

4055  
02:27:12,710 --> 02:27:10,460  
phenomenon called induced savantism

4056  
02:27:14,030 --> 02:27:12,720  
acquired savantism you don't induce it

4057  
02:27:16,910 --> 02:27:14,040  
it's just called the acquired someone

4058  
02:27:20,450 --> 02:27:16,920  
for people who don't know there are some

4059  
02:27:24,050 --> 02:27:20,460  
people called savants who they seem

4060  
02:27:26,090 --> 02:27:24,060  
to be not up to par intellectually in

4061  
02:27:28,490 --> 02:27:26,100  
most tasks except one where they're

4062  
02:27:30,889 --> 02:27:28,500  
extremely versed extremely well so like

4063  
02:27:32,929 --> 02:27:30,899

they could read at a rate five times the

4064

02:27:34,910 --> 02:27:32,939

ordinary person or they can play music

4065

02:27:36,530 --> 02:27:34,920

just from hearing a song once or

4066

02:27:38,330 --> 02:27:36,540

recreate a scene from seeing it in like

4067

02:27:40,070 --> 02:27:38,340

a second then there are some people who

4068

02:27:42,469 --> 02:27:40,080

through some neurological defect that

4069

02:27:44,690 --> 02:27:42,479

occurs later in life they were Ordinary

4070

02:27:46,010 --> 02:27:44,700

People and they're even ordinary quote

4071

02:27:49,010 --> 02:27:46,020

unquote afterward

4072

02:27:50,630 --> 02:27:49,020

but after the trauma they have acquired

4073

02:27:52,550 --> 02:27:50,640

some ability that ordinarily is

4074

02:27:53,929 --> 02:27:52,560

associated only with savants and it

4075

02:27:56,450 --> 02:27:53,939

seems like most of our neurological

4076  
02:27:57,830 --> 02:27:56,460  
activity is inhibitory strangely enough

4077  
02:27:59,090 --> 02:27:57,840  
we would think that hey that we have

4078  
02:28:00,650 --> 02:27:59,100  
this whole prefrontal cortex is doing

4079  
02:28:02,270 --> 02:28:00,660  
all these calculations and producing

4080  
02:28:03,590 --> 02:28:02,280  
content it's stymying most of what's

4081  
02:28:06,230 --> 02:28:03,600  
occurring so it's like stopping some

4082  
02:28:08,030 --> 02:28:06,240  
reflexes well anyway I was just

4083  
02:28:09,469 --> 02:28:08,040  
wondering if you have come across a

4084  
02:28:13,429 --> 02:28:09,479  
relationship between the expectation

4085  
02:28:16,969 --> 02:28:13,439  
effect and acquired savantism

4086  
02:28:18,950 --> 02:28:16,979  
I have a remarkable abilities in general

4087  
02:28:21,770 --> 02:28:18,960  
so I'd have to say

4088  
02:28:23,630 --> 02:28:21,780

I'm not 100 familiar with the research

4089

02:28:25,670 --> 02:28:23,640

on acquired savantism too because I'd

4090

02:28:28,370 --> 02:28:25,680

heard I'm not sure if it's true with

4091

02:28:30,349 --> 02:28:28,380

some of the people who show

4092

02:28:32,270 --> 02:28:30,359

amazing creativity well they show

4093

02:28:33,770 --> 02:28:32,280

amazing kind of productivity with their

4094

02:28:36,110 --> 02:28:33,780

creativity but whatever it's actually

4095

02:28:39,290 --> 02:28:36,120

independently rated as being original

4096

02:28:42,050 --> 02:28:39,300

and innovative and fantastic you know in

4097

02:28:45,469 --> 02:28:42,060

the same way but say the

4098

02:28:47,630 --> 02:28:45,479

um innate uh savants are you know that I

4099

02:28:50,210 --> 02:28:47,640

think I'd heard that was another matter

4100

02:28:52,910 --> 02:28:50,220

that maybe they they're not inhibited

4101  
02:28:54,710 --> 02:28:52,920  
and that they really you know have it

4102  
02:28:55,969 --> 02:28:54,720  
feel compelled to create but whether

4103  
02:28:57,710 --> 02:28:55,979  
it's actually of a high quality

4104  
02:28:59,929 --> 02:28:57,720  
according to other people's stunts it's

4105  
02:29:01,790 --> 02:28:59,939  
an upper question but I do think there

4106  
02:29:03,830 --> 02:29:01,800  
is this kind of you know even just

4107  
02:29:05,330 --> 02:29:03,840  
creating is something that we hold

4108  
02:29:07,969 --> 02:29:05,340  
ourselves back from like lots of people

4109  
02:29:10,670 --> 02:29:07,979  
have creative anxiety where we're so

4110  
02:29:13,010 --> 02:29:10,680  
worried about expressing ourselves that

4111  
02:29:14,710 --> 02:29:13,020  
we just don't do it so we find

4112  
02:29:19,070 --> 02:29:14,720  
brainstorming really

4113  
02:29:22,250 --> 02:29:19,080

excruciating we feel we put limits on

4114

02:29:23,929 --> 02:29:22,260

you know our own idea generation I do

4115

02:29:26,510 --> 02:29:23,939

think that actually the expectation

4116

02:29:28,309 --> 02:29:26,520

effect is really relevant in that case

4117

02:29:31,130 --> 02:29:28,319

uh it might not make you I mean

4118

02:29:33,830 --> 02:29:31,140

immediately have the creativity of

4119

02:29:37,730 --> 02:29:33,840

Leonardo da Vinci but I think if you

4120

02:29:40,250 --> 02:29:37,740

have this ability this belief that your

4121

02:29:42,950 --> 02:29:40,260

creative efforts are valued and that

4122

02:29:45,410 --> 02:29:42,960

actually it's an incremental process you

4123

02:29:47,690 --> 02:29:45,420

recognize that your first idea might not

4124

02:29:50,090 --> 02:29:47,700

be your best idea but then you might

4125

02:29:52,130 --> 02:29:50,100

iteratively improve your ideas over time

4126

02:29:54,849 --> 02:29:52,140

I think that's the kind of belief that

4127

02:29:57,710 --> 02:29:54,859

will have an impact on your overall

4128

02:29:59,750 --> 02:29:57,720

quality of your create about over time

4129

02:30:02,330 --> 02:29:59,760

if you see it as something that can be

4130

02:30:04,429 --> 02:30:02,340

nurtured and you recognize that you you

4131

02:30:06,290 --> 02:30:04,439

don't have to limit yourself but you can

4132

02:30:08,210 --> 02:30:06,300

actually give free reign to your

4133

02:30:11,210 --> 02:30:08,220

creativity and then refine it I think

4134

02:30:13,429 --> 02:30:11,220

that's what you really want to aim for

4135

02:30:14,450 --> 02:30:13,439

so David what's your next book on and

4136

02:30:16,910 --> 02:30:14,460

what are you looking forward to this

4137

02:30:19,010 --> 02:30:16,920

year yeah so well I'm looking forward to

4138

02:30:22,250 --> 02:30:19,020

writing this book which is all about

4139

02:30:25,010 --> 02:30:22,260

um social connection I'll save that so

4140

02:30:27,830 --> 02:30:25,020

I'm super excited about that um and then

4141

02:30:30,410 --> 02:30:27,840

just you know other elements of my life

4142

02:30:32,330 --> 02:30:30,420

like I've been learning Italian for like

4143

02:30:34,490 --> 02:30:32,340

a few years and I'm gonna

4144

02:30:36,230 --> 02:30:34,500

um only go to ifley to spend like a

4145

02:30:38,510 --> 02:30:36,240

month or so there but I'm really great

4146

02:30:40,730 --> 02:30:38,520

to kind of gain the chance to kind of

4147

02:30:43,010 --> 02:30:40,740

immerse myself in that culture

4148

02:30:44,090 --> 02:30:43,020

um yeah those are the main things and

4149

02:30:46,070 --> 02:30:44,100

then just looking forward to my

4150

02:30:48,950 --> 02:30:46,080

journalism like I love just love coming

4151  
02:30:50,809 --> 02:30:48,960  
up with new ideas researching learning

4152  
02:30:53,330 --> 02:30:50,819  
new new stuff and then finding the best

4153  
02:30:56,570 --> 02:30:53,340  
way to present it and I'm continuing to

4154  
02:30:58,550 --> 02:30:56,580  
look that how did you learn Italian was

4155  
02:31:01,130 --> 02:30:58,560  
it through an app or

4156  
02:31:03,530 --> 02:31:01,140  
no it was pretty very boring an old

4157  
02:31:04,490 --> 02:31:03,540  
person through like evening classes and

4158  
02:31:06,469 --> 02:31:04,500  
then

4159  
02:31:08,990 --> 02:31:06,479  
um I've got Italian friends that I kind

4160  
02:31:12,110 --> 02:31:09,000  
of speak to really regularly now so it's

4161  
02:31:13,550 --> 02:31:12,120  
just constant practice and constant

4162  
02:31:17,030 --> 02:31:13,560  
um you know reading Italian stuff

4163  
02:31:18,650 --> 02:31:17,040

listening to podcasts just you know very

4164

02:31:21,710 --> 02:31:18,660

boring just kind of putting in the work

4165

02:31:24,349 --> 02:31:21,720

yeah did you start to learn Italian

4166

02:31:25,610 --> 02:31:24,359

because you heard the research about if

4167

02:31:27,590 --> 02:31:25,620

you know another language you're more

4168

02:31:29,090 --> 02:31:27,600

open or you're more rational I remember

4169

02:31:31,790 --> 02:31:29,100

this was in the expectation effect I'm

4170

02:31:33,650 --> 02:31:31,800

not sure yeah it did influence me a bit

4171

02:31:36,950 --> 02:31:33,660

but it's also just I'm super interested

4172

02:31:39,050 --> 02:31:36,960

in Italian culture and the language and

4173

02:31:40,910 --> 02:31:39,060

the literature like so you know it's a

4174

02:31:42,170 --> 02:31:40,920

combination really it's just that

4175

02:31:44,030 --> 02:31:42,180

feeling you want to be able to

4176

02:31:45,950 --> 02:31:44,040

communicate with another group of people

4177

02:31:47,510 --> 02:31:45,960

and to see the world from their

4178

02:31:50,090 --> 02:31:47,520

perspective I think that's what's always

4179

02:31:52,309 --> 02:31:50,100

fascinated me great which place in Italy

4180

02:31:55,309 --> 02:31:52,319

are you looking forward to going uh Rome

4181

02:31:56,630 --> 02:31:55,319

great great you've never been uh I've

4182

02:31:58,490 --> 02:31:56,640

been on holiday but I'm just looking

4183

02:32:01,070 --> 02:31:58,500

forward to kind of I think the longer

4184

02:32:02,990 --> 02:32:01,080

you spend in a place like more you know

4185

02:32:05,929 --> 02:32:03,000

familiar you become more about the kind

4186

02:32:09,050 --> 02:32:05,939

of deeper you can understand it so yeah

4187

02:32:11,690 --> 02:32:09,060

great great well

4188

02:32:13,790 --> 02:32:11,700

man it's it's a pleasure thank you so

4189

02:32:15,710 --> 02:32:13,800

much for spending almost three hours

4190

02:32:18,469 --> 02:32:15,720

with me if not three hours

4191

02:32:20,690 --> 02:32:18,479

I appreciate it yeah my pleasure thanks

4192

02:32:22,670 --> 02:32:20,700

for such interesting questions

4193

02:32:25,250 --> 02:32:22,680

all right you just watched the episode

4194

02:32:27,349 --> 02:32:25,260

with David Robson thank you so much and

4195

02:32:29,450 --> 02:32:27,359

on the last point about people being

4196

02:32:31,490 --> 02:32:29,460

afraid to create I find that to be the

4197

02:32:33,469 --> 02:32:31,500

case people just need a push and so

4198

02:32:36,170 --> 02:32:33,479

earlier this year or earlier last year

4199

02:32:39,469 --> 02:32:36,180

we had this physics and Consciousness

4200

02:32:41,210 --> 02:32:39,479

explication contest where people who are

4201  
02:32:43,969 --> 02:32:41,220  
just on the verge of producing content

4202  
02:32:46,309 --> 02:32:43,979  
but needed a bit of a nudge we tried to

4203  
02:32:48,770 --> 02:32:46,319  
give him that at least modicum of an

4204  
02:32:50,630 --> 02:32:48,780  
incentive so the pace one the physics

4205  
02:32:52,969 --> 02:32:50,640  
and Consciousness explication contest

4206  
02:32:54,290 --> 02:32:52,979  
the winners are announced either now or

4207  
02:32:56,030 --> 02:32:54,300  
they're going to be announced and you

4208  
02:32:57,950 --> 02:32:56,040  
can look out for a video on that there

4209  
02:32:59,990 --> 02:32:57,960  
are several wonderful wonderful videos

4210  
02:33:02,929 --> 02:33:00,000  
that came from this contest this

4211  
02:33:05,270 --> 02:33:02,939  
Expedition this exploratory effort that

4212  
02:33:07,190 --> 02:33:05,280  
we engaged in together it's fascinating

4213  
02:33:08,809 --> 02:33:07,200

it's unbelievable if you'd like to

4214

02:33:12,349 --> 02:33:08,819

contribute to theories of everything

4215

02:33:14,570 --> 02:33:12,359

then visit [patreon.com Kurt jymungal](https://patreon.com/Kurtjymungal)

4216

02:33:16,490 --> 02:33:14,580

each dollar helps your support is what

4217

02:33:18,110 --> 02:33:16,500

allows there to be a full-time editor

4218

02:33:20,090 --> 02:33:18,120

who's editing this right now allows

4219

02:33:22,190 --> 02:33:20,100

there to be an operations manager who

4220

02:33:23,929 --> 02:33:22,200

manages my well who does virtually

4221

02:33:26,090 --> 02:33:23,939

everything around here and constantly

4222

02:33:28,610 --> 02:33:26,100

manages my disquietude and my

4223

02:33:30,110 --> 02:33:28,620

fretfulness and my stress and the fact

4224

02:33:32,750 --> 02:33:30,120

that I'm unnerved because there's so

4225

02:33:34,790 --> 02:33:32,760

much to do he relieves that he takes

4226

02:33:37,190 --> 02:33:34,800

many plates away from me so that's great

4227

02:33:39,530 --> 02:33:37,200

you're allowing that support so that we

4228

02:33:41,870 --> 02:33:39,540

can put out even higher quality podcasts

4229

02:33:44,450 --> 02:33:41,880

with even higher frequency thank you so

4230

02:33:45,710 --> 02:33:44,460

much the podcast is now concluded thank

4231

02:33:47,270 --> 02:33:45,720

you for watching if you haven't

4232

02:33:49,010 --> 02:33:47,280

subscribed or clicked on that like

4233

02:33:52,250 --> 02:33:49,020

button now would be a great time to do

4234

02:33:54,110 --> 02:33:52,260

so as each subscribe and like helps

4235

02:33:56,450 --> 02:33:54,120

YouTube push this content to more people

4236

02:33:58,670 --> 02:33:56,460

also I recently found out that external

4237

02:34:00,770 --> 02:33:58,680

links count plenty toward the algorithm

4238

02:34:02,929 --> 02:34:00,780

which means that when you share on

4239

02:34:05,090 --> 02:34:02,939

Twitter on Facebook on Reddit

4240

02:34:06,950 --> 02:34:05,100

Etc it shows YouTube that people are

4241

02:34:09,050 --> 02:34:06,960

talking about this outside of YouTube

4242

02:34:10,849 --> 02:34:09,060

which in turn greatly AIDS the

4243

02:34:12,530 --> 02:34:10,859

Distribution on YouTube as well if you'd

4244

02:34:14,830 --> 02:34:12,540

like to support more conversations like

4245

02:34:16,910 --> 02:34:14,840

this then do consider visiting

4246

02:34:19,130 --> 02:34:16,920

theoriesofeverything.org again it's

4247

02:34:21,650 --> 02:34:19,140

support from the sponsors and you that

4248

02:34:23,330 --> 02:34:21,660

allow me to work on toe full time you

4249

02:34:25,370 --> 02:34:23,340

get early access to ad-free audio

4250

02:34:27,530 --> 02:34:25,380

episodes there as well every dollar

4251

02:34:29,510 --> 02:34:27,540

helps far more than you may think either