1
00:00:07,070 --> 00:00:04,340
controversial thank you get away

2
00:00:09,610 --> 00:00:07,080
so usually I when I present I present

3
00:00:13,340 --> 00:00:09,620
some experimental results on using

4
00:00:16,759 --> 00:00:13,350
remote viewing to predict the stock

5
00:00:19,849 --> 00:00:16,769
market or the cybot ecstatic about last

6
00:00:22,189 --> 00:00:19,859
time using psy for practical purposes

7
00:00:25,189 --> 00:00:22,199
this time I'm going to be talking about

8
00:00:26,870 --> 00:00:25,199
a pet peeve about quantum mechanics and

9
00:00:29,689 --> 00:00:26,880
this is something that isn't just my pet

10
00:00:31,819 --> 00:00:29,699
peeve because as soon as I put out the

11
00:00:33,410 --> 00:00:31,829
title of the talk quite a few people

12
00:00:35,510 --> 00:00:33,420
came and said yeah yeah yeah that needs

13
00:00:37,630 --> 00:00:35,520

to be said again so I'm not saying

14
00:00:40,400 --> 00:00:37,640
anything breakthrough or

15
00:00:41,720 --> 00:00:40,410
very dramatic but I'm just saying

16
00:00:44,120 --> 00:00:41,730
something that a lot of us have been

17
00:00:47,510 --> 00:00:44,130
thinking so quantum mechanics has been

18
00:00:50,930 --> 00:00:47,520
invoked for all sorts of things one

19
00:00:52,670 --> 00:00:50,940
thing is in my lab my lab is called the

20
00:00:56,150 --> 00:00:52,680
quantum engineering lab and we use

21
00:00:58,610 --> 00:00:56,160
quantum mechanics to produce little

22
00:01:00,680 --> 00:00:58,620
widgets that do things based on quantum

23
00:01:03,050 --> 00:01:00,690
principles but quantum mechanics has

24
00:01:05,749 --> 00:01:03,060
also been invoked for healing does it

25
00:01:08,330 --> 00:01:05,759
really involve healing and once your

26
00:01:10,060 --> 00:01:08,340
healing why not quantum sleep and once

27
00:01:11,959 --> 00:01:10,070
you're doing that why not toothpaste

28
00:01:16,399 --> 00:01:11,969
once you're doing that

29
00:01:19,849 --> 00:01:16,409
wait a minute a spa ice cream

30
00:01:21,770 --> 00:01:19,859
quantum real estate management quantum

31
00:01:23,179 --> 00:01:21,780
restaurant and bar these are all real

32
00:01:25,520 --> 00:01:23,189
things

33
00:01:30,379 --> 00:01:25,530
quantum auto sales there must be very

34
00:01:32,690 --> 00:01:30,389
little cars quantum construction now

35
00:01:34,999 --> 00:01:32,700
this is really getting silly quantum

36
00:01:37,099 --> 00:01:35,009
sealant can it get any lower than this

37
00:01:39,940 --> 00:01:37,109
yes it can

38
00:01:42,860 --> 00:01:39,950

quantum toilets

39
00:01:45,200 --> 00:01:42,870
so I'm not going to be talking about any

40
00:01:47,780 --> 00:01:45,210
of those what I want to talk about is

41
00:01:51,560 --> 00:01:47,790
quantum as applies as applied to psy and

42
00:01:53,930 --> 00:01:51,570
so psy has quantum has been vocht in psy

43
00:01:57,230 --> 00:01:53,940
for several different applications and

44
00:01:59,000 --> 00:01:57,240
several different approaches to dominant

45
00:02:01,370 --> 00:01:59,010
ways are one one is the observer effect

46
00:02:04,280 --> 00:02:01,380
which I'll talk about for psychokinesis

47
00:02:06,380 --> 00:02:04,290
and wavefunction collapse and the second

48
00:02:09,590 --> 00:02:06,390
is entanglement for non-local

49
00:02:11,720 --> 00:02:09,600
information transfer at the end I'll

50
00:02:14,870 --> 00:02:11,730
also talk about the inverse and that is

51
00:02:17,060 --> 00:02:14,880
how psy might be used in quantum

52
00:02:19,400 --> 00:02:17,070
mechanics so let's talk about

53
00:02:21,140 --> 00:02:19,410
psychokinesis we all know about that for

54
00:02:23,690 --> 00:02:21,150
you we have some sort of a random system

55
00:02:25,970 --> 00:02:23,700
that's fundamentally random it could be

56
00:02:28,490 --> 00:02:25,980
rolling dice flipping a coin an

57
00:02:30,860 --> 00:02:28,500
electronic random number generator we

58
00:02:33,199 --> 00:02:30,870
use intention and the intention gives

59
00:02:37,040 --> 00:02:33,209
rise to an effect that goes in the

60
00:02:40,699 --> 00:02:37,050
direction of intention so the question

61
00:02:43,520 --> 00:02:40,709
is is that a quantum effect and it has

62
00:02:45,680 --> 00:02:43,530
been interpreted as a quantum effect for

63
00:02:48,710 --> 00:02:45,690

quite a while and this is the observer

64
00:02:51,470 --> 00:02:48,720
effect where in quantum mechanics you

65
00:02:53,300 --> 00:02:51,480
have a wave function which is in a

66
00:02:55,520 --> 00:02:53,310
superposition of different States it

67
00:02:57,320 --> 00:02:55,530
collapses to a single state when its

68
00:02:59,770 --> 00:02:57,330
observed but traditional quantum

69
00:03:02,449 --> 00:02:59,780
mechanics calls that a detection

70
00:03:05,330 --> 00:03:02,459
perspective however there are some

71
00:03:08,900 --> 00:03:05,340
deviating views the ones that are known

72
00:03:10,130 --> 00:03:08,910
best are from Vannoy Minh and Wigner who

73
00:03:12,710 --> 00:03:10,140
interpreted it as being the

74
00:03:14,900 --> 00:03:12,720
consciousness collapses the wavefunction

75
00:03:17,479 --> 00:03:14,910
and gives you this specific state that

76
00:03:19,940 --> 00:03:17,489
essentially every system can be looked

77
00:03:21,500 --> 00:03:19,950
at a subsumed in another system until

78
00:03:23,479 --> 00:03:21,510
you get to consciousness and at that

79
00:03:29,270 --> 00:03:23,489
point consciousness collapses the

80
00:03:31,430 --> 00:03:29,280
wavefunction so Wigner wrote the quantum

81
00:03:33,319 --> 00:03:31,440
description of objects is influenced by

82
00:03:36,289 --> 00:03:33,329
impressions entering my consciousness

83
00:03:38,420 --> 00:03:36,299
and this has been applied by psy - psy

84
00:03:42,819 --> 00:03:38,430
research by a number of different people

85
00:03:45,830 --> 00:03:42,829
Helmut Schmidt did it Evan Harris Walker

86
00:03:50,390 --> 00:03:45,840
stop-out Cooper and a number of others

87
00:03:51,979 --> 00:03:50,400
and so the question is does the does

88
00:03:54,020 --> 00:03:51,989

this really work

89
00:03:58,070 --> 00:03:54,030
and so if you take a look here at an

90
00:03:59,000 --> 00:03:58,080
experiment by Schmidt so in this

91
00:04:01,610 --> 00:03:59,010
experiment

92
00:04:06,229 --> 00:04:01,620
Schmidt pre-recorded some random

93
00:04:09,259 --> 00:04:06,239
information and then afterwards had an

94
00:04:11,089 --> 00:04:09,269
observer observe the information with

95
00:04:13,339 --> 00:04:11,099
the intention of driving it in a certain

96
00:04:16,610 --> 00:04:13,349
certain direction and then he had

97
00:04:21,129 --> 00:04:16,620
another observer observe it again and so

98
00:04:23,870 --> 00:04:21,139
the data that goes up which shows

99
00:04:26,390 --> 00:04:23,880
essentially the cumulative deviation is

100
00:04:31,310 --> 00:04:26,400
the number of runs the data that goes up

101
00:04:33,980 --> 00:04:31,320
is where a strongly psy successful

102
00:04:36,890 --> 00:04:33,990
observer observed the data and intended

103
00:04:38,659 --> 00:04:36,900
to go up then later a non successful psy

104
00:04:40,940 --> 00:04:38,669
observer looked at it and it didn't it

105
00:04:42,890 --> 00:04:40,950
didn't affect it the curve that does not

106
00:04:45,200 --> 00:04:42,900
go up the bottom one is where the

107
00:04:47,690 --> 00:04:45,210
unsuccessful psy observer first observed

108
00:04:49,279 --> 00:04:47,700
it so inter Shem it interprets this as

109
00:04:52,790 --> 00:04:49,289
sort of a collapse of a wave function

110
00:04:55,040 --> 00:04:52,800
once it's in a particular state then it

111
00:04:58,040 --> 00:04:55,050
can no longer be affected even if

112
00:05:00,170 --> 00:04:58,050
somebody else looks at it again and this

113
00:05:04,029 --> 00:05:00,180

has been repeated in various sorts of

114
00:05:06,879 --> 00:05:04,039
forms one repetition was by Biermann in

115
00:05:09,230 --> 00:05:06,889
2006 and he found an unsuccessful

116
00:05:11,770 --> 00:05:09,240
replication others have found some

117
00:05:14,870 --> 00:05:11,780
successful replications in various forms

118
00:05:18,050 --> 00:05:14,880
the really the classic case is

119
00:05:21,200 --> 00:05:18,060
Schrodinger's cat Schrodinger proposed

120
00:05:23,150 --> 00:05:21,210
this to show how observe how absurd the

121
00:05:25,580 --> 00:05:23,160
observer effect was but it's actually

122
00:05:28,490 --> 00:05:25,590
been taken as the opposite as an example

123
00:05:31,700 --> 00:05:28,500
of how the observer effect could work

124
00:05:34,659 --> 00:05:31,710
where you've got a cap cat in a closed

125
00:05:37,100 --> 00:05:34,669
capsule with a vial and that vial

126
00:05:38,810 --> 00:05:37,110
releases a poisonous gas or not

127
00:05:42,529 --> 00:05:38,820
depending on a quantum were kind of

128
00:05:44,719 --> 00:05:42,539
mechanical random process and the idea

129
00:05:47,270 --> 00:05:44,729
is that the cat is in an indeterminate

130
00:05:49,580 --> 00:05:47,280
state until you open the vial look at it

131
00:05:51,350 --> 00:05:49,590
and at that point the cat will have been

132
00:05:54,230 --> 00:05:51,360
dead for a certain amount of time or

133
00:05:55,940 --> 00:05:54,240
will be alive or not so it's in it's in

134
00:05:59,360 --> 00:05:55,950
a cat state it's now actually called

135
00:06:04,280 --> 00:05:59,370
that and so this is this is an idea of

136
00:06:06,740 --> 00:06:04,290
again observation creating a

137
00:06:08,870 --> 00:06:06,750
collapse of a wavefunction another

138
00:06:11,420 --> 00:06:08,880

example that's commonly invoked as the

139
00:06:13,400 --> 00:06:11,430
Young's double-slit experiment so in the

140
00:06:16,250 --> 00:06:13,410
double it slid experiment we've got

141
00:06:18,650 --> 00:06:16,260
light going through two slits because of

142
00:06:20,720 --> 00:06:18,660
the path difference between these two

143
00:06:23,870 --> 00:06:20,730
slits you either get constructive or

144
00:06:26,180 --> 00:06:23,880
destructive interference of the waves on

145
00:06:30,230 --> 00:06:26,190
a screen behind it and so you end up

146
00:06:32,810 --> 00:06:30,240
with a set of fringes where this read

147
00:06:35,210 --> 00:06:32,820
this is the classic experiment where it

148
00:06:37,340 --> 00:06:35,220
becomes quantum mechanical is when you

149
00:06:39,800 --> 00:06:37,350
bring it down to an extremely low

150
00:06:42,620 --> 00:06:39,810
intensity where you just have one photon

151
00:06:45,470 --> 00:06:42,630
at a time coming through and at that

152
00:06:48,140 --> 00:06:45,480
point you still get the double slit

153
00:06:50,180 --> 00:06:48,150
experiment but you can't know which slit

154
00:06:53,060 --> 00:06:50,190
the photon went through if you put a

155
00:06:55,610 --> 00:06:53,070
detector there to measure which slit the

156
00:06:57,860 --> 00:06:55,620
photon went through the effect goes away

157
00:07:00,220 --> 00:06:57,870
so that's also interpreted as a

158
00:07:02,780 --> 00:07:00,230
measurement makes the effect go away

159
00:07:06,050 --> 00:07:02,790
makes the the indeterminacy the

160
00:07:09,440 --> 00:07:06,060
wave-like properties go away now this

161
00:07:12,080 --> 00:07:09,450
has been carried through to various AI

162
00:07:13,970 --> 00:07:12,090
experiments and Dean Radin talked about

163
00:07:16,400 --> 00:07:13,980

some of his experiments he's done the

164
00:07:18,050 --> 00:07:16,410
most extensive array of experiments but

165
00:07:20,540 --> 00:07:18,060
others have done some too at the pair

166
00:07:23,600 --> 00:07:20,550
lab his'n and Jeffers and others have

167
00:07:28,880 --> 00:07:23,610
done these experiments and so this is a

168
00:07:32,720 --> 00:07:28,890
I pulled some data from a 2012 paper and

169
00:07:36,530 --> 00:07:32,730
in this data what you see is the fringe

170
00:07:41,510 --> 00:07:36,540
visibility as a function of sample and

171
00:07:44,320 --> 00:07:41,520
so here there are some observers or some

172
00:07:47,480 --> 00:07:44,330
meditators and so they concentrate on

173
00:07:49,640 --> 00:07:47,490
the apparatus periodically

174
00:07:53,420 --> 00:07:49,650
when they concentrate on the apparatus

175
00:07:56,600 --> 00:07:53,430
the visibility goes down meaning that

176
00:07:59,180 --> 00:07:56,610
that this effect seems to disappear and

177
00:08:01,490 --> 00:07:59,190
so there seems to be this kind of

178
00:08:04,100 --> 00:08:01,500
observer effect because there they may

179
00:08:07,810 --> 00:08:04,110
not even be intending the visibility to

180
00:08:09,860 --> 00:08:07,820
go down all they're doing is essentially

181
00:08:13,430 --> 00:08:09,870
imposing their concentration and

182
00:08:17,170 --> 00:08:13,440
consciousness on this and the effect

183
00:08:22,180 --> 00:08:17,180
works and you see something now is this

184
00:08:24,670 --> 00:08:22,190
in fact a quantum observer effect so we

185
00:08:27,969 --> 00:08:24,680
see the collapse of the quantum wave

186
00:08:31,150 --> 00:08:27,979
function from conscious observation in

187
00:08:34,149 --> 00:08:31,160
the double slit experiment the observer

188
00:08:37,089 --> 00:08:34,159

or detector can cause only one direction

189
00:08:39,130 --> 00:08:37,099
of effect in other words if you observe

190
00:08:44,110 --> 00:08:39,140
it the you're going to see a reduction

191
00:08:48,310 --> 00:08:44,120
in Flynn in visibility of the fringes on

192
00:08:50,560 --> 00:08:48,320
the other hand we also see this sort of

193
00:08:53,829 --> 00:08:50,570
effect in other types of experiments

194
00:08:56,740 --> 00:08:53,839
such as dice coin flips random number

195
00:08:58,300 --> 00:08:56,750
generators where we can bias the output

196
00:09:00,940 --> 00:08:58,310
in one direction or another

197
00:09:03,130 --> 00:09:00,950
that's no longer possibly the the

198
00:09:04,960 --> 00:09:03,140
quantum observer effect that there

199
00:09:07,060 --> 00:09:04,970
you're actually applying an intention

200
00:09:10,810 --> 00:09:07,070
that pushes it in one direction or

201
00:09:12,250 --> 00:09:10,820
another so how do we know that the

202
00:09:15,220 --> 00:09:12,260
double slit is a conscious observer

203
00:09:17,860 --> 00:09:15,230
effect and that the dice aren't to me

204
00:09:20,200 --> 00:09:17,870
they look very much the same and the

205
00:09:22,329 --> 00:09:20,210
intention of the experimenter and the

206
00:09:25,269 --> 00:09:22,339
people looking at the effect is for the

207
00:09:27,820 --> 00:09:25,279
collapse of the wavefunction or for the

208
00:09:30,550 --> 00:09:27,830
double slit experiment to produce what

209
00:09:33,490 --> 00:09:30,560
you want it to produce and so it does so

210
00:09:38,650 --> 00:09:33,500
does this demonstrate the collapse and

211
00:09:42,579 --> 00:09:38,660
the quantum wave function so the is

212
00:09:46,060 --> 00:09:42,589
there some sort of a unique response

213
00:09:48,430 --> 00:09:46,070

that shows that it is uniquely a quantum

214
00:09:51,550 --> 00:09:48,440
mechanical behavior as opposed to just

215
00:09:55,000 --> 00:09:51,560
our usual as a quote-unquote

216
00:09:56,860 --> 00:09:55,010
psychokinetic behavior where we apply an

217
00:10:01,180 --> 00:09:56,870
intention to a random system and it

218
00:10:04,180 --> 00:10:01,190
manifests or are we simply acting on any

219
00:10:06,640 --> 00:10:04,190
random system the way that psy acts on

220
00:10:09,040 --> 00:10:06,650
any random system we carried out an

221
00:10:11,949 --> 00:10:09,050
experiment earlier in 2007 at the

222
00:10:14,800 --> 00:10:11,959
University of Colorado where we had an

223
00:10:18,040 --> 00:10:14,810
incandescent light source going through

224
00:10:19,900 --> 00:10:18,050
a piece of glass to two detectors and so

225
00:10:23,079 --> 00:10:19,910
part of the light was reflected part is

226
00:10:25,540 --> 00:10:23,089
transmitted and we had observers trying

227
00:10:28,319 --> 00:10:25,550
to either increase the amount of

228
00:10:31,360 --> 00:10:28,329
transmission or decrease the amount of

229
00:10:33,519 --> 00:10:31,370
using their and transmission using their

230
00:10:36,569 --> 00:10:33,529
intention and in fact it worked and we

231
00:10:39,939 --> 00:10:36,579
got depending on how you look at it some

232
00:10:42,100 --> 00:10:39,949
statistically-significant expects and

233
00:10:45,879 --> 00:10:42,110
it's been replicated but we never really

234
00:10:48,999 --> 00:10:45,889
did this in a deep way this is very much

235
00:10:51,009 --> 00:10:49,009
like the other sorts of experiments but

236
00:10:53,230 --> 00:10:51,019
here we're biasing it in a direction

237
00:10:57,939 --> 00:10:53,240
we're not just turning it on and off

238
00:11:02,019 --> 00:10:57,949

using our intention so I would say here

239
00:11:05,530 --> 00:11:02,029
is this do to conscious collapse of a

240
00:11:07,360 --> 00:11:05,540
wavefunction Elif I know I really can't

241
00:11:10,360 --> 00:11:07,370
tell and you can't there's there's no

242
00:11:13,329 --> 00:11:10,370
signature here yes you do something and

243
00:11:13,780 --> 00:11:13,339
it works but what is it you - I don't

244
00:11:17,019 --> 00:11:13,790
know

245
00:11:19,600 --> 00:11:17,029
so is consciousness collapse of the

246
00:11:21,879 --> 00:11:19,610
wavefunction accepted physics absolutely

247
00:11:24,550 --> 00:11:21,889
not the it's a it's a minority of

248
00:11:27,100 --> 00:11:24,560
physicists who would take the von

249
00:11:28,929 --> 00:11:27,110
Neumann Wigner approach and in fact

250
00:11:30,999 --> 00:11:28,939
there are other quantum mechanical

251
00:11:33,009 --> 00:11:31,009
formulations and other interpretations

252
00:11:34,960 --> 00:11:33,019
that don't even need a conscious

253
00:11:37,559 --> 00:11:34,970
observer effect that don't even need an

254
00:11:39,910 --> 00:11:37,569
observer effect at all stochastic

255
00:11:42,040 --> 00:11:39,920
electrodynamics which is a pet theory

256
00:11:44,920 --> 00:11:42,050
that I like quite a bit that's based on

257
00:11:47,550 --> 00:11:44,930
zero-point energy fluctuations doesn't

258
00:11:49,780 --> 00:11:47,560
need an observer effect Kramer's

259
00:11:54,129 --> 00:11:49,790
transactional interpretation which is a

260
00:11:56,199 --> 00:11:54,139
beautiful description of a much more

261
00:11:58,059 --> 00:11:56,209
intuitively acceptable description of

262
00:12:00,490 --> 00:11:58,069
the standard mathematics of quantum

263
00:12:02,410 --> 00:12:00,500

mechanics rather than the Copenhagen

264
00:12:04,240 --> 00:12:02,420
interpretation it doesn't have an

265
00:12:06,370 --> 00:12:04,250
observer you just have a forward going

266
00:12:09,790 --> 00:12:06,380
wave in a backward going wave they make

267
00:12:11,860 --> 00:12:09,800
a transaction and in fact in general

268
00:12:14,079 --> 00:12:11,870
other people have said this Biermann

269
00:12:16,090 --> 00:12:14,089
more recently said all you need is time

270
00:12:20,740 --> 00:12:16,100
reversal you don't need any sort of

271
00:12:23,170 --> 00:12:20,750
observer effect so let's take a look at

272
00:12:25,960 --> 00:12:23,180
another case here and that has to do

273
00:12:27,369 --> 00:12:25,970
with information transfer and so I said

274
00:12:30,220 --> 00:12:27,379
that I was going to talk about quantum

275
00:12:32,559 --> 00:12:30,230
entanglement is the second thing so we

276
00:12:34,569 --> 00:12:32,569
know that there's telepathy for a long

277
00:12:37,660 --> 00:12:34,579
long time I show here a picture of Upton

278
00:12:41,079 --> 00:12:37,670
Sinclair's book in which he describes

279
00:12:43,059 --> 00:12:41,089
transmission of images

280
00:12:45,249 --> 00:12:43,069
from himself to his wife who was in

281
00:12:47,199 --> 00:12:45,259
another room or another building and she

282
00:12:48,759 --> 00:12:47,209
drew them and he if you haven't looked

283
00:12:52,059 --> 00:12:48,769
at this book look at it it's just

284
00:12:54,730 --> 00:12:52,069
amazing then there's also remote viewing

285
00:12:58,090 --> 00:12:54,740
or clairvoyance here we have an example

286
00:12:59,769 --> 00:12:58,100
of a person who was in the Stargate

287
00:13:01,480 --> 00:12:59,779
project and he happens to be sitting in

288
00:13:04,150 --> 00:13:01,490

this room as well he doesn't look like

289
00:13:10,259 --> 00:13:04,160
that anymore he doesn't have any hair

290
00:13:13,389 --> 00:13:10,269
now or we have the example of Daryl BEM

291
00:13:17,079 --> 00:13:13,399
premonitions experiment which are very

292
00:13:19,809 --> 00:13:17,089
robustly show some sort of these effects

293
00:13:22,989 --> 00:13:19,819
so quantum entanglement has been invoked

294
00:13:25,150 --> 00:13:22,999
as a possible mechanism here let's talk

295
00:13:27,249 --> 00:13:25,160
about quantum entanglement the easiest

296
00:13:29,590 --> 00:13:27,259
way to talk about quantum entanglement

297
00:13:31,210 --> 00:13:29,600
is with the East EPR experiment so

298
00:13:34,299 --> 00:13:31,220
that's the einstein-podolsky-rosen

299
00:13:36,970 --> 00:13:34,309
experiment in which Einstein proposed

300
00:13:38,579 --> 00:13:36,980
the idea to show how silly it was a

301
00:13:41,590 --> 00:13:38,589
little bit like Schrodinger with his cat

302
00:13:43,449 --> 00:13:41,600
and so the basic idea here is we have a

303
00:13:45,610 --> 00:13:43,459
source shown as the red object in the

304
00:13:47,860 --> 00:13:45,620
middle and this is a random source that

305
00:13:51,059 --> 00:13:47,870
sends out two particles in opposite

306
00:13:54,669 --> 00:13:51,069
directions let's call them photons and

307
00:13:57,160 --> 00:13:54,679
these two photons are linked because by

308
00:14:01,110 --> 00:13:57,170
the conservation of momentum they have

309
00:14:04,079 --> 00:14:01,120
to have complementary that's not

310
00:14:07,929 --> 00:14:04,089
complementing let me put it that way

311
00:14:10,119 --> 00:14:07,939
polarizations to preserve momentum so if

312
00:14:12,549 --> 00:14:10,129
you on one side on the left side have a

313
00:14:15,669 --> 00:14:12,559

polarizer that's up down and you measure

314
00:14:18,400 --> 00:14:15,679
that the photon goes through then if on

315
00:14:23,139 --> 00:14:18,410
the other side you have a polarizer that

316
00:14:25,809 --> 00:14:23,149
would let the the allowed other particle

317
00:14:27,489 --> 00:14:25,819
to come through you also will find that

318
00:14:32,019 --> 00:14:27,499
it goes through a hundred percent of the

319
00:14:34,569 --> 00:14:32,029
time if you then rotate the left head

320
00:14:37,720 --> 00:14:34,579
the polarizer on the left to some other

321
00:14:40,030 --> 00:14:37,730
angle then you change the statistics of

322
00:14:42,100 --> 00:14:40,040
whether the light is going to come

323
00:14:45,660 --> 00:14:42,110
through the polarizer on the right-hand

324
00:14:48,069 --> 00:14:45,670
side and so there is this sort of effect

325
00:14:49,990 --> 00:14:48,079
where you've got action at a distance

326
00:14:52,360 --> 00:14:50,000
and it's instantaneous over as much

327
00:14:54,730 --> 00:14:52,370
distance as you want however its

328
00:14:56,130 --> 00:14:54,740
correlation it's not causation

329
00:14:59,639 --> 00:14:56,140
there's no communication of information

330
00:15:02,530 --> 00:14:59,649
how do we know because in each case

331
00:15:05,199 --> 00:15:02,540
since this is a random source that's

332
00:15:06,790 --> 00:15:05,209
producing these things there's a 50%

333
00:15:09,670 --> 00:15:06,800
chance that the light is going to go

334
00:15:13,300 --> 00:15:09,680
through each polarizer no matter which

335
00:15:16,150 --> 00:15:13,310
way you orient the polarisers and so

336
00:15:18,100 --> 00:15:16,160
it's only after the experiment is done

337
00:15:20,230 --> 00:15:18,110
and you go back go to the left-hand side

338
00:15:22,000 --> 00:15:20,240

and say did it go through here then you

339
00:15:23,440 --> 00:15:22,010
can correlate it with oh yes it went

340
00:15:25,840 --> 00:15:23,450
through here on the right hand side

341
00:15:27,970 --> 00:15:25,850
that's correlation it's not causation

342
00:15:35,410 --> 00:15:27,980
and it's due to the randomness of the

343
00:15:36,940 --> 00:15:35,420
source so then I would say that in in it

344
00:15:40,480 --> 00:15:36,950
actually should stay here for a second

345
00:15:42,220 --> 00:15:40,490
that this cannot be used in the case of

346
00:15:44,019 --> 00:15:42,230
for example a mother waking up in the

347
00:15:47,079 --> 00:15:44,029
night and saying oh no my son is in

348
00:15:49,630 --> 00:15:47,089
trouble when her son over in a distant

349
00:15:52,630 --> 00:15:49,640
City had a car accident there there's

350
00:15:54,280 --> 00:15:52,640
genuine information transfer now you can

351
00:15:56,050 --> 00:15:54,290
argue that there's a sort of a

352
00:15:58,449 --> 00:15:56,060
correlation global new global

353
00:15:59,920 --> 00:15:58,459
correlational effect and so on yeah yeah

354
00:16:01,930 --> 00:15:59,930
yeah you can do this but you're really

355
00:16:06,220 --> 00:16:01,940
making a pretty complex model at that

356
00:16:09,130 --> 00:16:06,230
point so if we take a look at the

357
00:16:11,079 --> 00:16:09,140
invocation of quantum mechanics to psy

358
00:16:14,410 --> 00:16:11,089
phenomena let's take a look at what the

359
00:16:17,079 --> 00:16:14,420
pair lab has done so they were have

360
00:16:19,829 --> 00:16:17,089
always been very careful to invoke

361
00:16:22,269 --> 00:16:19,839
quantum mechanics as an analogy not

362
00:16:25,120 --> 00:16:22,279
saying that this is due to quantum

363
00:16:27,490 --> 00:16:25,130

mechanics or you take Dean Raiden's book

364
00:16:30,610 --> 00:16:27,500
on entangled Minds which I still use as

365
00:16:33,940 --> 00:16:30,620
the textbook for my course on psy he's

366
00:16:35,949 --> 00:16:33,950
very careful to say that entanglement is

367
00:16:38,079 --> 00:16:35,959
not signal transfer that it's only

368
00:16:41,290 --> 00:16:38,089
correlations and you need some other

369
00:16:46,019 --> 00:16:41,300
ingredient if you're going to view this

370
00:16:50,380 --> 00:16:46,029
as a mechanism for teleport for

371
00:16:53,280 --> 00:16:50,390
information transfer so in fact what I'm

372
00:16:56,620 --> 00:16:53,290
arguing against is the loose use of

373
00:16:59,800 --> 00:16:56,630
quantum mechanics in the vernacular in

374
00:17:01,930 --> 00:16:59,810
with regard to syphon Amin ah now we can

375
00:17:04,270 --> 00:17:01,940
turn this around by the way and this is

376
00:17:05,030 --> 00:17:04,280
how psy concepts apply to quantum

377
00:17:08,300 --> 00:17:05,040
mechanics

378
00:17:11,900 --> 00:17:08,310
if we take randomness so random decay

379
00:17:13,880 --> 00:17:11,910
where you've got some some quantum

380
00:17:17,500 --> 00:17:13,890
mechanical thing decaying at a random

381
00:17:21,140 --> 00:17:17,510
time you say it's quantum mechanically

382
00:17:23,329 --> 00:17:21,150
fundamentally random but most of us in

383
00:17:26,210 --> 00:17:23,339
this room know that that ain't true

384
00:17:28,580 --> 00:17:26,220
that in fact we can use intention to

385
00:17:30,260 --> 00:17:28,590
affect the randomness of something and

386
00:17:31,760 --> 00:17:30,270
that it's not random essentially

387
00:17:33,290 --> 00:17:31,770
intention if you like is a hidden

388
00:17:34,580 --> 00:17:33,300

variable although I think there are

389
00:17:37,250 --> 00:17:34,590
other ways to describe it

390
00:17:42,020 --> 00:17:37,260
so in fact quanta a sigh phenomena

391
00:17:44,270 --> 00:17:42,030
definitely does show an issue and modify

392
00:17:47,150 --> 00:17:44,280
quantum mechanics another case is

393
00:17:49,160 --> 00:17:47,160
retrocausality and entanglement so this

394
00:17:54,250 --> 00:17:49,170
was described by a de student of

395
00:17:56,600 --> 00:17:54,260
debroglie Costa de Beauregard in the mid

396
00:17:58,100 --> 00:17:56,610
twentieth century and then Charles leer

397
00:18:00,830 --> 00:17:58,110
at the SS he has written a couple of

398
00:18:02,690 --> 00:18:00,840
papers on it as well basically the idea

399
00:18:05,810 --> 00:18:02,700
here's the famous slide again with

400
00:18:07,850 --> 00:18:05,820
quantum entanglement if you take a look

401
00:18:10,040 --> 00:18:07,860
at that source and say the source sends

402
00:18:13,190 --> 00:18:10,050
something out to the left you rotate

403
00:18:16,040 --> 00:18:13,200
that polarizer now if that rotation of

404
00:18:19,040 --> 00:18:16,050
the polarizer then is transmitted

405
00:18:21,500 --> 00:18:19,050
backwards in time to the source so that

406
00:18:24,680 --> 00:18:21,510
the source can now send out an encoded

407
00:18:27,230 --> 00:18:24,690
photon to the right hand side then

408
00:18:31,250 --> 00:18:27,240
you're using retro causation to have to

409
00:18:33,380 --> 00:18:31,260
get rid of action at a distance you're

410
00:18:37,130 --> 00:18:33,390
getting retro causation to get rid of

411
00:18:39,350 --> 00:18:37,140
this spooky effect and it makes so much

412
00:18:42,740 --> 00:18:39,360
sense everything all of a sudden falls

413
00:18:45,920 --> 00:18:42,750

into place with this explanation I came

414
00:18:48,200 --> 00:18:45,930
across a video of Costa de Beauregard

415
00:18:49,820 --> 00:18:48,210
and another physicist talking about this

416
00:18:53,420 --> 00:18:49,830
it was on YouTube and I just came across

417
00:18:56,840 --> 00:18:53,430
it a couple of months ago and the

418
00:18:59,390 --> 00:18:56,850
interviewer asked them why has this not

419
00:19:01,310 --> 00:18:59,400
entered the mainstream of quantum

420
00:19:05,660 --> 00:19:01,320
mechanics it's such it's it's a much

421
00:19:09,500 --> 00:19:05,670
more clean explanation than the muddy

422
00:19:13,100 --> 00:19:09,510
Copenhagen interpretation and de boracay

423
00:19:13,810 --> 00:19:13,110
and what they said is the reason it

424
00:19:16,120 --> 00:19:13,820
hasn't

425
00:19:18,900 --> 00:19:16,130
is that if you introduce retrocausality

426
00:19:21,700 --> 00:19:18,910
into physics it opens the door to

427
00:19:23,830 --> 00:19:21,710
parapsychology and the physics community

428
00:19:28,840 --> 00:19:23,840
doesn't want to hear about that

429
00:19:32,110 --> 00:19:28,850
I found that amusing okay so there is a

430
00:19:33,880 --> 00:19:32,120
real need in Sai for theoretical

431
00:19:38,080 --> 00:19:33,890
foundations it's it's we're really

432
00:19:39,040 --> 00:19:38,090
lacking it however when we are looking

433
00:19:42,790 --> 00:19:39,050
for models

434
00:19:45,610 --> 00:19:42,800
let's look rather than for global models

435
00:19:48,310 --> 00:19:45,620
that are very loose let's look for

436
00:19:51,370 --> 00:19:48,320
precise models that are testable where

437
00:19:54,190 --> 00:19:51,380
we can use poplars falsifiability

438
00:19:56,890 --> 00:19:54,200

approach if we don't have something that

439
00:19:59,890 --> 00:19:56,900
has quantitative predictions that we can

440
00:20:03,100 --> 00:19:59,900
falsify then we haven't said anything at

441
00:20:06,790 --> 00:20:03,110
all and what I'm asking for

442
00:20:08,680 --> 00:20:06,800
gasp is reductionism and I know that's a

443
00:20:11,260 --> 00:20:08,690
dirty word in our community because we

444
00:20:12,880 --> 00:20:11,270
take a holistic approach but don't throw

445
00:20:15,280 --> 00:20:12,890
out the baby with the bathwater

446
00:20:18,250 --> 00:20:15,290
there are times to use a reductionist

447
00:20:20,680 --> 00:20:18,260
approach as well to make precise models

448
00:20:24,200 --> 00:20:20,690
that give us pieces of what's happening

449
00:20:37,960 --> 00:20:24,210
that we can then build up thank you

450
00:20:42,950 --> 00:20:40,880
please explain to me how you can have an

451
00:20:45,380 --> 00:20:42,960
experiment that doesn't eventually have

452
00:20:46,610 --> 00:20:45,390
an observer no matter how far removed so

453
00:20:48,050 --> 00:20:46,620
I don't quite understand how you're

454
00:20:50,570 --> 00:20:48,060
going to have you know you could say

455
00:20:52,250 --> 00:20:50,580
there's no observer effect at some

456
00:20:56,270 --> 00:20:52,260
indeterminate time thank you for asking

457
00:20:58,430 --> 00:20:56,280
is that so yes I agree with you if we

458
00:21:00,590 --> 00:20:58,440
ever know about that experiment it most

459
00:21:03,110 --> 00:21:00,600
certainly has an observer what I'm

460
00:21:06,260 --> 00:21:03,120
saying is that we don't know that it's

461
00:21:08,510 --> 00:21:06,270
the observer effect that caused the

462
00:21:09,860 --> 00:21:08,520
psychokinesis to occur in a certain

463
00:21:13,040 --> 00:21:09,870

direction there's no particular

464
00:21:15,470 --> 00:21:13,050
signature of that versus just intention

465
00:21:19,580 --> 00:21:15,480
causes a random thing to happen the way

466
00:21:20,660 --> 00:21:19,590
we want Hey I didn't think that was so

467
00:21:24,350 --> 00:21:20,670
controversial but I thought it was

468
00:21:26,330 --> 00:21:24,360
really cool and I wanted to say you know

469
00:21:28,070 --> 00:21:26,340
Hugh Price and I can't remember the name

470
00:21:31,550 --> 00:21:28,080
if you know that recent article about

471
00:21:33,650 --> 00:21:31,560
cost yeah beautiful article right anyway

472
00:21:35,480 --> 00:21:33,660
my email to you price and I said you

473
00:21:38,390 --> 00:21:35,490
know so if you think about it this opens

474
00:21:41,840 --> 00:21:38,400
the door for retro causal communication

475
00:21:45,770 --> 00:21:41,850
response he said no no no I don't know

476
00:21:49,340 --> 00:21:45,780
no and I said yeah it does and then he

477
00:21:50,930 --> 00:21:49,350
didn't respond so but I just want to

478
00:21:52,400 --> 00:21:50,940
just mirror that I had that same

479
00:21:54,110 --> 00:21:52,410
experience if like please please please

480
00:21:54,980 --> 00:21:54,120
don't don't say that yeah because he

481
00:21:57,350 --> 00:21:54,990
couldn't he didn't have an actual

482
00:21:59,540 --> 00:21:57,360
response that was you know it's just

483
00:22:05,360 --> 00:21:59,550
sort of an allergy to talking about

484
00:22:08,780 --> 00:22:05,370
anything that might open the door um so

485
00:22:12,820 --> 00:22:08,790
I just wanted to point out something

486
00:22:17,180 --> 00:22:12,830
that people occasionally lose track of

487
00:22:20,300 --> 00:22:17,190
the I I agree that that quantum theory

488
00:22:24,650 --> 00:22:20,310

as we have it is is not really an

489
00:22:27,320 --> 00:22:24,660
explanation to sign phenomena because

490
00:22:29,810 --> 00:22:27,330
even if wavefunction collapse is

491
00:22:34,430 --> 00:22:29,820
producing the effects there is nothing

492
00:22:39,310 --> 00:22:34,440
in in QM that allows you to bias the

493
00:22:41,570 --> 00:22:39,320
collapse in a favoured direction however

494
00:22:45,890 --> 00:22:41,580
quantum theory for all its beauty and

495
00:22:48,230 --> 00:22:45,900
power is a theory on the other hand EPR

496
00:22:51,680 --> 00:22:48,240
correlations have been experimentally

497
00:22:54,710 --> 00:22:51,690
observed they're facts they're not going

498
00:22:56,480 --> 00:22:54,720
to go away even if some genius comes up

499
00:23:01,549 --> 00:22:56,490
with a replacement for quantum theory

500
00:23:03,680 --> 00:23:01,559
tomorrow and this is why I at least

501
00:23:07,520 --> 00:23:03,690
frequently find myself thinking that

502
00:23:14,150 --> 00:23:07,530
whatever whatever connection underlies

503
00:23:17,030 --> 00:23:14,160
the the EPR type correlations may be

504
00:23:18,470 --> 00:23:17,040
very important to how psy works even

505
00:23:23,270 --> 00:23:18,480
though it's not explained by quantum

506
00:23:25,190 --> 00:23:23,280
theory fully accepted and we really need

507
00:23:30,200 --> 00:23:25,200
to invoke those sort of correlations

508
00:23:32,180 --> 00:23:30,210
more precisely in our theory thanks

509
00:23:35,030 --> 00:23:32,190
Garrett even for a very thoughtful talk

510
00:23:37,880 --> 00:23:35,040
and I would probably 85% agree with you

511
00:23:40,940 --> 00:23:37,890
because I think we need to be really

512
00:23:43,310 --> 00:23:40,950
careful about extrapolating physical

513
00:23:46,430 --> 00:23:43,320

facts into the macro world but I think

514
00:23:51,710 --> 00:23:46,440
one point I would like to point out is

515
00:23:53,510 --> 00:23:51,720
that quantum theory is not just the

516
00:23:55,520 --> 00:23:53,520
physical theory it is a physical theory

517
00:23:57,470 --> 00:23:55,530
but you can use the basic structure as

518
00:24:01,250 --> 00:23:57,480
we have done in our generalized version

519
00:24:03,710 --> 00:24:01,260
to produce a systemic theory that is

520
00:24:06,350 --> 00:24:03,720
applicable to systems that have similar

521
00:24:09,020 --> 00:24:06,360
or say isomorphic structures to quantum

522
00:24:11,240 --> 00:24:09,030
systems and whenever that happens you

523
00:24:13,460 --> 00:24:11,250
can do that and then you predict as we

524
00:24:15,680 --> 00:24:13,470
have shown a generalized form of

525
00:24:17,810 --> 00:24:15,690
entanglement which may be able to

526
00:24:21,169 --> 00:24:17,820
explain at least some of the phenomena

527
00:24:23,630 --> 00:24:21,179
and the point here is the basic element

528
00:24:25,220 --> 00:24:23,640
of every quantum formalism is the

529
00:24:27,380 --> 00:24:25,230
handling of non commuting or

530
00:24:30,200 --> 00:24:27,390
incompatible operations as you know and

531
00:24:32,960 --> 00:24:30,210
I think if you look at consciousness we

532
00:24:36,169 --> 00:24:32,970
have here the prime example of a system

533
00:24:38,990 --> 00:24:36,179
for which you need a formalism that can

534
00:24:41,570 --> 00:24:39,000
handle incompatible operations or put

535
00:24:44,150 --> 00:24:41,580
differently a formalism that can handle

536
00:24:46,760 --> 00:24:44,160
a situation where the measurement

537
00:24:48,919 --> 00:24:46,770
changes the state of the system and the

538
00:24:50,540 --> 00:24:48,929

prime system is consciousness because

539
00:24:51,550 --> 00:24:50,550
whenever you measure consciousness you

540
00:24:53,380 --> 00:24:51,560
change this

541
00:24:57,430 --> 00:24:53,390
the state of the system so I think there

542
00:24:59,440 --> 00:24:57,440
is a case here to extrapolate not

543
00:25:01,900 --> 00:24:59,450
quantum theory or quantum physics but

544
00:25:03,580 --> 00:25:01,910
the formalism of quantum theory to other

545
00:25:05,230 --> 00:25:03,590
systems and I think that needs to be

546
00:25:07,120 --> 00:25:05,240
said that's why I'm here good thank you

547
00:25:09,340 --> 00:25:07,130
I guess a question and maybe this is for

548
00:25:12,250 --> 00:25:09,350
later discussion is when you're

549
00:25:14,320 --> 00:25:12,260
generalizing it like this is it quantum

550
00:25:16,030 --> 00:25:14,330
mechanics or is it an analogy of quantum

551
00:25:19,240 --> 00:25:16,040
no it's not quantum mechanics it's a

552
00:25:21,040 --> 00:25:19,250
general quantum theory ok good that's

553
00:25:24,010 --> 00:25:21,050
what I want to say but therefore I think

554
00:25:26,310 --> 00:25:24,020
you're both right and 15 percent not ok

555
00:25:28,930 --> 00:25:26,320
thank you

556
00:25:32,020 --> 00:25:28,940
so let's collapse the wavefunction one

557
00:25:33,400 --> 00:25:32,030
way or the other right figuring I just

558
00:25:35,110 --> 00:25:33,410
wanted to thank you for your

559
00:25:36,670 --> 00:25:35,120
presentation and I hope there are ways

560
00:25:39,520 --> 00:25:36,680
you can shout it from the mountain top a

561
00:25:42,490 --> 00:25:39,530
little bit more I'm not a scientist I'm

562
00:25:44,380 --> 00:25:42,500
a practitioner an experiencer and I know

563
00:25:46,710 --> 00:25:44,390

that there's something cultural and

564
00:25:48,940 --> 00:25:46,720
psychological about how practitioners

565
00:25:51,010 --> 00:25:48,950
try and think about what it is they're

566
00:25:53,080 --> 00:25:51,020
doing imagine right now with the word

567
00:25:55,690 --> 00:25:53,090
Zen is breathing a sigh of relief saying

568
00:25:57,820 --> 00:25:55,700
the word quantum can take over you know

569
00:25:59,440 --> 00:25:57,830
like that because when we try and think

570
00:26:02,080 --> 00:25:59,450
about what we're doing while we're doing

571
00:26:04,900 --> 00:26:02,090
it it affects it has an effect on the

572
00:26:07,990 --> 00:26:04,910
effect or how well we can do it and I

573
00:26:09,520 --> 00:26:08,000
know so many young psychics are

574
00:26:11,200 --> 00:26:09,530
developing themselves and if they're off

575
00:26:13,900 --> 00:26:11,210
reading too many quantum books it's

576
00:26:15,340 --> 00:26:13,910
affecting how they how well they

577
00:26:19,210 --> 00:26:15,350
actually do and how they develop as

578
00:26:20,980 --> 00:26:19,220
human beings so this I breathe a sigh of

579
00:26:23,800 --> 00:26:20,990
relief I'm like thank God I can stop

580
00:26:25,450 --> 00:26:23,810
studying constantly and just get back to

581
00:26:27,040 --> 00:26:25,460
doing what could I catch early without

582
00:26:28,850 --> 00:26:27,050
analyzing too much so Thanks