1
00:00:00,480 --> 00:00:09,230
[Music]

2
00:00:14,690 --> 00:00:12,140
now parapsychology is notoriously

3
00:00:16,519 --> 00:00:14,700
unpopular as a result of that pair of

4
00:00:18,710 --> 00:00:16,529
psychologists have to keep steadily

5
00:00:22,760 --> 00:00:18,720
improving the power and quality of their

6
00:00:24,249 --> 00:00:22,770
experiments the people who are most

7
00:00:26,089 --> 00:00:24,259
hostile seem to be mainstream

8
00:00:29,150 --> 00:00:26,099
psychologists but there's been no

9
00:00:30,650 --> 00:00:29,160
shortage of physicists objecting oh this

10
00:00:34,430 --> 00:00:30,660
is theoretically impossible it's

11
00:00:35,170 --> 00:00:34,440
contradictory that would be a lecture in

12
00:00:38,450 --> 00:00:35,180
itself

13
00:00:42,709 --> 00:00:38,460

the combination of better experiments

14
00:00:44,660 --> 00:00:42,719
and relevance to physics has led to

15
00:00:46,490 --> 00:00:44,670
experiments in parapsychology that can

16
00:00:51,139 --> 00:00:46,500
test some of our most important physical

17
00:00:54,380 --> 00:00:51,149
theories starting with the quantum

18
00:00:57,950 --> 00:00:54,390
measurement problem as which Dean was

19
00:00:59,779 --> 00:00:57,960
just talking about and in fact this was

20
00:01:02,959 --> 00:00:59,789
prompted one of my research references

21
00:01:05,090 --> 00:01:02,969
was the publication of the first

22
00:01:09,680 --> 00:01:05,100
experiment Dean told us about that he

23
00:01:12,050 --> 00:01:09,690
presented in 2008 he used a Michelson

24
00:01:15,280 --> 00:01:12,060
Morley interferometer this illustration

25
00:01:17,480 --> 00:01:15,290
is a Mach Zehnder interferometer a

26
00:01:20,690 --> 00:01:17,490
Michelson Morley interferometer is

27
00:01:23,179 --> 00:01:20,700
basically one of these folded up so that

28
00:01:26,330 --> 00:01:23,189
the same beam splitter is used for both

29
00:01:30,620 --> 00:01:26,340
pathways this illustration lets you see

30
00:01:33,230 --> 00:01:30,630
what's going on more clearly as Dean

31
00:01:34,730 --> 00:01:33,240
pointed out the interference vanishes if

32
00:01:38,600 --> 00:01:34,740
something performs a which way

33
00:01:42,410 --> 00:01:38,610
measurement and the fact that you still

34
00:01:44,660 --> 00:01:42,420
get the interference if you drop the

35
00:01:47,569 --> 00:01:44,670
intensity to only one photon at a time

36
00:01:51,020 --> 00:01:47,579
that literally means one photon has to

37
00:01:53,330 --> 00:01:51,030
be traveling down both pathways now

38
00:01:55,099 --> 00:01:53,340

there's a strong illustration of quantum

39
00:01:57,889 --> 00:01:55,109
weirdness in what's called the elixir

40
00:02:05,539 --> 00:01:57,899
vitamin bomb test which is more or less

41
00:02:08,300 --> 00:02:05,549
the ultimate negative measurement you if

42
00:02:10,010 --> 00:02:08,310
there's something here you you set up

43
00:02:12,830 --> 00:02:10,020
the interferometer so that the

44
00:02:15,500 --> 00:02:12,840
interference if it's there forces all of

45
00:02:20,000 --> 00:02:15,510
the light into one detector the other

46
00:02:21,710 --> 00:02:20,010
detector doesn't see anything then you

47
00:02:22,590 --> 00:02:21,720
stick something that may or may not be a

48
00:02:26,430 --> 00:02:22,600
detector

49
00:02:29,310 --> 00:02:26,440
it won't interfere you still have

50
00:02:32,100 --> 00:02:29,320
interference if it is a detector then

51
00:02:34,050 --> 00:02:32,110
the interference is lost you do the

52
00:02:36,720 --> 00:02:34,060
experiment you get some photons over

53
00:02:40,230 --> 00:02:36,730
here that can happen either way then you

54
00:02:42,480 --> 00:02:40,240
see a photon over here it can't go there

55
00:02:44,160 --> 00:02:42,490
if there's interference so the fact that

56
00:02:46,530 --> 00:02:44,170
it's there means that the interference

57
00:02:50,280 --> 00:02:46,540
is lost that means that there has to be

58
00:02:52,200 --> 00:02:50,290
a detector in the path except that it

59
00:02:54,540 --> 00:02:52,210
also means that the photon had to have

60
00:02:56,010 --> 00:02:54,550
travelled the other path or the because

61
00:03:02,370 --> 00:02:56,020
if the detector detected it it would

62
00:03:05,010 --> 00:03:02,380
have stopped it so it's not even

63
00:03:07,560 --> 00:03:05,020

knowledge really that is usually could

64
00:03:10,110 --> 00:03:07,570
understood as the source of destroying

65
00:03:12,300 --> 00:03:10,120
interference it is the possibility of

66
00:03:16,920 --> 00:03:12,310
making a measurement whether or not a

67
00:03:18,900 --> 00:03:16,930
measurement was actually made I'm not

68
00:03:21,000 --> 00:03:18,910
going to bother with Raiden's experiment

69
00:03:26,970 --> 00:03:21,010
because he already explained it all to

70
00:03:29,580 --> 00:03:26,980
us now the problem is that beams

71
00:03:33,240 --> 00:03:29,590
original experiment leads to what I've

72
00:03:36,300 --> 00:03:33,250
called here the perception paradox the

73
00:03:38,850 --> 00:03:36,310
presence of equipment break that can

74
00:03:41,550 --> 00:03:38,860
make up which way measurement breaks

75
00:03:43,440 --> 00:03:41,560
interference but there's no equipment in

76
00:03:45,060 --> 00:03:43,450
the Radin experiment it's an empty

77
00:03:47,100 --> 00:03:45,070
interferometer there's nothing in the

78
00:03:50,360 --> 00:03:47,110
beam path there's just a remote viewer

79
00:03:56,130 --> 00:03:52,500
okay pointer doesn't work on white

80
00:03:58,110 --> 00:03:56,140
screen we already know from many other

81
00:04:00,720 --> 00:03:58,120
studies that remote viewing can reach

82
00:04:04,650 --> 00:04:00,730
great distances and look at past and

83
00:04:06,630 --> 00:04:04,660
future times but if this is so the

84
00:04:11,460 --> 00:04:06,640
capability for a which way measurement

85
00:04:14,150 --> 00:04:11,470
using remote viewing is always there so

86
00:04:17,099 --> 00:04:14,160
how can wantem superposition even exist

87
00:04:19,320 --> 00:04:17,109
the equipment that breaks it is always

88
00:04:24,090 --> 00:04:19,330

present we should never have observed it

89
00:04:27,390 --> 00:04:24,100
in the first place the only way out of

90
00:04:29,910 --> 00:04:27,400
the paradox at least as far as I've been

91
00:04:33,360 --> 00:04:29,920
able to see and knowing on this problem

92
00:04:35,790 --> 00:04:33,370
for three years is that we have to

93
00:04:36,330 --> 00:04:35,800
redefine the instrument because we do

94
00:04:37,890 --> 00:04:36,340
know that it

95
00:04:42,120 --> 00:04:37,900
barometers work and there is such a

96
00:04:44,909 --> 00:04:42,130
thing as as quantum interference the

97
00:04:47,010 --> 00:04:44,919
forced conclusion as I see it is that

98
00:04:49,350 --> 00:04:47,020
the instrument that breaks the

99
00:04:52,080 --> 00:04:49,360
interference is not the empty space that

100
00:04:54,090 --> 00:04:52,090
somebody might look at or might not the

101
00:04:56,159 --> 00:04:54,100
instrument is the act of looking it's

102
00:05:00,420 --> 00:04:56,169
the remote viewers state of attention

103
00:05:02,280 --> 00:05:00,430
and that follows that if a remote viewer

104
00:05:02,879 --> 00:05:02,290
is trying to look at a particular place

105
00:05:05,760 --> 00:05:02,889
and time

106
00:05:08,219 --> 00:05:05,770
there is a physically real instrument

107
00:05:13,440 --> 00:05:08,229
with physically measurable effects

108
00:05:15,480 --> 00:05:13,450
present at that spot the state of

109
00:05:17,129 --> 00:05:15,490
attention of a human mind determines

110
00:05:20,520 --> 00:05:17,139
whether or there is or is not a which

111
00:05:22,860 --> 00:05:20,530
way instrument present which means that

112
00:05:24,450 --> 00:05:22,870
attention in itself is a measuring

113
00:05:25,890 --> 00:05:24,460

instrument in the sense that quantum

114
00:05:29,490 --> 00:05:25,900
physicists talk about measuring

115
00:05:32,490 --> 00:05:29,500
instruments and that means that we

116
00:05:34,770 --> 00:05:32,500
probably need to resolve or extend

117
00:05:36,779 --> 00:05:34,780
quantum theory in some way to

118
00:05:38,730 --> 00:05:36,789
accommodate this class of instruments

119
00:05:40,650 --> 00:05:38,740
and it might let us distinguish among

120
00:05:44,159 --> 00:05:40,660
the various conflicting interpretations

121
00:05:46,890 --> 00:05:44,169
of quantum mechanics all of which were

122
00:05:49,320 --> 00:05:46,900
constructed to match theoretical

123
00:05:53,040 --> 00:05:49,330
predictions to explain the same set of

124
00:05:56,730 --> 00:05:53,050
observations but very few if any of them

125
00:06:00,360 --> 00:05:56,740
were a company constructed with this

126
00:06:04,379 --> 00:06:00,370
sort of non instrument instrument in

127
00:06:06,659 --> 00:06:04,389
mind by the designers so moving right

128
00:06:08,250 --> 00:06:06,669
along to another important physical

129
00:06:09,629 --> 00:06:08,260
issue and of course Dean also

130
00:06:12,420 --> 00:06:09,639
anticipated this since one of his

131
00:06:14,820 --> 00:06:12,430
experiments was retro causal however my

132
00:06:17,820 --> 00:06:14,830
research material here was the recent

133
00:06:23,339 --> 00:06:17,830
very controversial publication by Daryl

134
00:06:25,200 --> 00:06:23,349
BEM the problem of retro causation it

135
00:06:26,490 --> 00:06:25,210
keeps turning up in physics

136
00:06:29,159 --> 00:06:26,500
we've had some talked earlier about

137
00:06:33,000 --> 00:06:29,169
advanced waves that's only one of about

138
00:06:34,529 --> 00:06:33,010

half a dozen formalisms that end up with

139
00:06:36,980 --> 00:06:34,539
this odd prediction that the future

140
00:06:39,390 --> 00:06:36,990
should be influencing the past

141
00:06:41,250 --> 00:06:39,400
physicists really don't like that and

142
00:06:43,560 --> 00:06:41,260
the reason is the possibility of time

143
00:06:48,060 --> 00:06:43,570
paradox a sequence of events that

144
00:06:50,159 --> 00:06:48,070
contradicts itself basically retro

145
00:06:52,379 --> 00:06:50,169
causation makes it conceivable

146
00:06:55,439 --> 00:06:52,389
and could interfere with its own cause

147
00:06:57,739 --> 00:06:55,449
and prevent itself from happening and

148
00:07:00,300 --> 00:06:57,749
that gives you the liars paradox

149
00:07:02,010 --> 00:07:00,310
instantiated in physical reality this

150
00:07:08,850 --> 00:07:02,020
thing happens if and only if it doesn't

151
00:07:11,219 --> 00:07:08,860
happen in 1991 some gravitational

152
00:07:13,290 --> 00:07:11,229
theorists published an analysis of time

153
00:07:15,119 --> 00:07:13,300
paradoxes in a spacetime with

154
00:07:18,529 --> 00:07:15,129
traversable wormholes there's the

155
00:07:21,029 --> 00:07:18,539
reference if you care to look it up

156
00:07:23,459 --> 00:07:21,039
they found that a simple physical

157
00:07:26,369 --> 00:07:23,469
mechanism kelp kept self-contradictions

158
00:07:29,219 --> 00:07:26,379
from happening for any paradoxical

159
00:07:31,409 --> 00:07:29,229
self-contradictory sequence there exists

160
00:07:33,570 --> 00:07:31,419
a family of closely similar sequences

161
00:07:35,219 --> 00:07:33,580
that start from exactly the same initial

162
00:07:36,959 --> 00:07:35,229
conditions but are not self

163
00:07:40,740 --> 00:07:36,969

contradictory and don't result in

164
00:07:42,809 --> 00:07:40,750
paradox I like to summarize it with a

165
00:07:44,730 --> 00:07:42,819
homey Asian paraphrase after you

166
00:07:47,369 --> 00:07:44,740
eliminate the possibly impossible

167
00:07:52,070 --> 00:07:47,379
whatever remains however improbable must

168
00:07:55,610 --> 00:07:52,080
occur now I'm going to call these

169
00:07:58,619 --> 00:07:55,620
researchers ekt to save time

170
00:08:01,619 --> 00:07:58,629
their detailed analysis was based on

171
00:08:04,079 --> 00:08:01,629
wormholes but the concept involved looks

172
00:08:06,839 --> 00:08:04,089
like it should be much more general any

173
00:08:08,999 --> 00:08:06,849
kind of time paradox requires a very

174
00:08:10,529 --> 00:08:09,009
close orchestration of events in order

175
00:08:14,309 --> 00:08:10,539
to create the self canceling

176
00:08:16,469 --> 00:08:14,319
interference perturb any of a number of

177
00:08:19,860 --> 00:08:16,479
details and you can derail the

178
00:08:21,480 --> 00:08:19,870
self-contradiction creating a sequence

179
00:08:25,139 --> 00:08:21,490
that's possible because it's not

180
00:08:28,019 --> 00:08:25,149
contradictory the final outcome may be

181
00:08:32,069 --> 00:08:28,029
very odd or improbable according to our

182
00:08:33,209 --> 00:08:32,079
usual intuitions but if the alternative

183
00:08:36,930 --> 00:08:33,219
is something impossible

184
00:08:39,569 --> 00:08:36,940
it becomes favored so here's an example

185
00:08:42,029 --> 00:08:39,579
of a paradox using only information we

186
00:08:45,030 --> 00:08:42,039
require nothing more than a retro causal

187
00:08:48,060 --> 00:08:45,040
signal channel we have a computer that

188
00:08:51,420 --> 00:08:48,070

can use that channel it's programmed

189
00:08:53,939 --> 00:08:51,430
that at 10 a.m. it uses the signal to

190
00:08:56,910 --> 00:08:53,949
send a message to itself at 9:00 a.m. to

191
00:08:59,160 --> 00:08:56,920
shut down so if it shuts down it can't

192
00:09:00,809 --> 00:08:59,170
sense it as a signal so it won't get the

193
00:09:02,220 --> 00:09:00,819
signal and it won't shut down so it will

194
00:09:03,630 --> 00:09:02,230
send itself the signal and shut down

195
00:09:07,560 --> 00:09:03,640
preventing itself resign

196
00:09:09,960 --> 00:09:07,570
same paradox now here are some of the

197
00:09:13,350 --> 00:09:09,970
ways on ekt mechanism can salvage the

198
00:09:15,810 --> 00:09:13,360
situation the retro causal channel mace

199
00:09:19,920 --> 00:09:15,820
fail either sending no signal or sending

200
00:09:22,259 --> 00:09:19,930
a noisy signal that's misinterpreted the

201
00:09:24,150 --> 00:09:22,269
computer may receive no shutdown signal

202
00:09:25,769 --> 00:09:24,160
but suffers an internal error that

203
00:09:29,130 --> 00:09:25,779
prevents it from sending anything at a

204
00:09:31,530 --> 00:09:29,140
later time and there are many other

205
00:09:39,750 --> 00:09:31,540
failure modes possible these are just

206
00:09:41,340 --> 00:09:39,760
presented as examples ok ah now enter

207
00:09:43,949 --> 00:09:41,350
dr. BAM

208
00:09:46,620 --> 00:09:43,959
testing the ekt mechanism requires a

209
00:09:49,230 --> 00:09:46,630
retro causal information channel the

210
00:09:50,670 --> 00:09:49,240
only plausible candidate for that right

211
00:09:54,269 --> 00:09:50,680
now emerges from parapsychological

212
00:09:57,480 --> 00:09:54,279
studies of precognition presentiment and

213
00:09:59,340 --> 00:09:57,490

related phenomena the problem is that a

214
00:10:02,519 --> 00:09:59,350
paradoxical experiment is one that's

215
00:10:04,139 --> 00:10:02,529
guaranteed to fail the experimental

216
00:10:06,870 --> 00:10:04,149
design assures that the predictor

217
00:10:10,079 --> 00:10:06,880
guesses the wrong answer at least that

218
00:10:12,360 --> 00:10:10,089
was true until Ben's experiment produced

219
00:10:17,579 --> 00:10:12,370
something that slightly modified Kontest

220
00:10:21,180 --> 00:10:17,589
ekt this is experiment 1 in the series

221
00:10:24,689 --> 00:10:21,190
of nine that been published the subject

222
00:10:26,759 --> 00:10:24,699
is first presented with two curtain

223
00:10:31,970 --> 00:10:26,769
images I'm tracing along through the

224
00:10:34,410 --> 00:10:31,980
boxes on at the bottom of the chart

225
00:10:36,930 --> 00:10:34,420
subject sees two curtains on the screen

226
00:10:39,900 --> 00:10:36,940
clicks on one to indicate prediction of

227
00:10:41,880 --> 00:10:39,910
where a picture will appear then the

228
00:10:44,730 --> 00:10:41,890
system randomly chooses a position and

229
00:10:46,949 --> 00:10:44,740
the curtains are animated to fly open

230
00:10:52,650 --> 00:10:46,959
and there's a picture behind one of them

231
00:10:55,800 --> 00:10:52,660
and a blank wall behind the other the

232
00:10:58,439 --> 00:10:55,810
BEM experiment interspersed erotic and

233
00:11:00,180 --> 00:10:58,449
non in erotic targets the enhanced

234
00:11:02,759 --> 00:11:00,190
accuracy only occurred for erotic

235
00:11:05,460 --> 00:11:02,769
targets other pictures were predicted

236
00:11:07,710 --> 00:11:05,470
only with chance accuracy this is the

237
00:11:10,680 --> 00:11:07,720
feature that lets us test ekt with a

238
00:11:12,960 --> 00:11:10,690

slight modification BEM already used

239
00:11:14,519 --> 00:11:12,970
different randomizers in this experiment

240
00:11:16,730 --> 00:11:14,529
to confirm that his effect was really

241
00:11:19,070 --> 00:11:16,740
precognition and not PK as

242
00:11:21,079 --> 00:11:19,080
far as we can tell it was the

243
00:11:22,579 --> 00:11:21,089
modification involves a slightly more

244
00:11:25,010 --> 00:11:22,589
complicated randomizer

245
00:11:27,110 --> 00:11:25,020
but BEM has already shown that the

246
00:11:28,960 --> 00:11:27,120
randomizer is a black box we can change

247
00:11:31,460 --> 00:11:28,970
it without changing the experiment

248
00:11:35,329 --> 00:11:31,470
without having any effect on the

249
00:11:38,360 --> 00:11:35,339
subjects performance let's add a feature

250
00:11:40,250 --> 00:11:38,370
of a preferred direction we add another

251
00:11:45,470 --> 00:11:40,260
randomization and make a random choice

252
00:11:47,540 --> 00:11:45,480
for a a preferred direction and then

253
00:11:50,930 --> 00:11:47,550
when the participant makes a choice

254
00:11:53,990 --> 00:11:50,940
which is in normal chronology the first

255
00:11:55,490 --> 00:11:54,000
thing that happens in the experiment we

256
00:11:57,320 --> 00:11:55,500
compare it with the preferred direction

257
00:11:59,870 --> 00:11:57,330
if it matches the preferred direction we

258
00:12:02,030 --> 00:11:59,880
proceed as before if it doesn't match

259
00:12:04,160 --> 00:12:02,040
the preferred direction the erotic

260
00:12:06,320 --> 00:12:04,170
target is swapped out for a non erotic

261
00:12:07,820 --> 00:12:06,330
image now the participant doesn't know

262
00:12:09,829 --> 00:12:07,830
in advance what kind of picture will be

263
00:12:11,389 --> 00:12:09,839

shown so from the participant point of

264
00:12:15,019 --> 00:12:11,399
view this looks just like the original

265
00:12:16,880 --> 00:12:15,029
experiment the new design only allows

266
00:12:18,230 --> 00:12:16,890
erotic images to appear when the

267
00:12:20,480 --> 00:12:18,240
prediction matches the preferred

268
00:12:22,760 --> 00:12:20,490
direction the preferred direction is

269
00:12:24,139 --> 00:12:22,770
random invisible to the human and has

270
00:12:26,930 --> 00:12:24,149
nothing to do with where the image

271
00:12:29,060 --> 00:12:26,940
actually appears so the prediction will

272
00:12:32,329 --> 00:12:29,070
match the preferred direction 50% of the

273
00:12:36,199 --> 00:12:32,339
time but if the precognitive channel is

274
00:12:38,960 --> 00:12:36,209
still 57.6% accurate which is the figure

275
00:12:42,110 --> 00:12:38,970
that BEM got for selected subjects with

276
00:12:44,360 --> 00:12:42,120
the erotic images then consider this

277
00:12:46,910 --> 00:12:44,370
that this table shows some of the

278
00:12:50,120 --> 00:12:46,920
consequences when the prediction matches

279
00:12:50,960 --> 00:12:50,130
the preferred then because the channel

280
00:12:52,760 --> 00:12:50,970
is still accurate

281
00:12:54,710 --> 00:12:52,770
the placement matches the preferred

282
00:12:56,720 --> 00:12:54,720
direction fifty-seven point six percent

283
00:12:58,389 --> 00:12:56,730
of the time if the prediction is

284
00:13:01,010 --> 00:12:58,399
opposite the preferred direction

285
00:13:03,260 --> 00:13:01,020
everything is chance the placement

286
00:13:07,160 --> 00:13:03,270
matches the preferred direction 50% of

287
00:13:09,889 --> 00:13:07,170
the time overall the placement will

288
00:13:12,889 --> 00:13:09,899

match the preferred direction 54 4% of

289
00:13:15,620 --> 00:13:12,899
the time which means that a correlation

290
00:13:18,500 --> 00:13:15,630
between two well-qualified randomizers

291
00:13:20,030 --> 00:13:18,510
has suddenly appeared simply because

292
00:13:23,540 --> 00:13:20,040
we're doing some manipulations with a

293
00:13:26,660 --> 00:13:23,550
retro causal signal channel what is

294
00:13:29,630 --> 00:13:26,670
actually this is a prediction from the

295
00:13:30,319 --> 00:13:29,640
ekt model because basically what's

296
00:13:33,169 --> 00:13:30,329
happening

297
00:13:36,710 --> 00:13:33,179
is that we are now looking at a biased

298
00:13:38,629 --> 00:13:36,720
sample from the randomizers it's all of

299
00:13:41,840 --> 00:13:38,639
the trials that are actually being

300
00:13:43,729 --> 00:13:41,850
generated except that a fraction of

301
00:13:46,220 --> 00:13:43,739
mismatches that would normally pull this

302
00:13:49,220 --> 00:13:46,230
correlation down back down to 50% is

303
00:13:54,979 --> 00:13:49,230
being erased from history by the ekt

304
00:13:56,809 --> 00:13:54,989
mechanism the impossible self

305
00:14:00,669 --> 00:13:56,819
contradictory sequences are raloo

306
00:14:02,689 --> 00:14:00,679
reduced to zero probability a

307
00:14:05,840 --> 00:14:02,699
confirmation of this prediction is

308
00:14:08,660 --> 00:14:05,850
evidence that the ekt effect really is

309
00:14:10,819 --> 00:14:08,670
generalizable to more phenomena than

310
00:14:14,509 --> 00:14:10,829
just wormhole trajectories

311
00:14:16,340 --> 00:14:14,519
whereas a failure of this theoretical

312
00:14:18,619 --> 00:14:16,350
prediction in the modified experiment

313
00:14:20,739 --> 00:14:18,629

would suggest that we need to figure out

314
00:14:22,429 --> 00:14:20,749
some other mechanism that keeps

315
00:14:24,769 --> 00:14:22,439
paradoxes from happening in the

316
00:14:33,019 --> 00:14:24,779
observable world and I think yes I'm

317
00:14:50,050 --> 00:14:33,029
done thank you we have time for

318
00:14:59,920 --> 00:14:55,180
just a remark and and and asked for

319
00:15:02,860 --> 00:14:59,930
response in interacting with Daryl BEM

320
00:15:05,860 --> 00:15:02,870
with regard to his experiment I wondered

321
00:15:08,500 --> 00:15:05,870
whether his his re and anumber

322
00:15:11,380 --> 00:15:08,510
generator was in fact a random number

323
00:15:13,510 --> 00:15:11,390
generator and so I bought one and I

324
00:15:17,530 --> 00:15:13,520
content contacted the factory and it

325
00:15:20,770 --> 00:15:17,540
turns out it's not it's got a 380 byte

326
00:15:24,760 --> 00:15:20,780
buffer in it and Ben was unaware of this

327
00:15:26,650 --> 00:15:24,770
and had not cleared the buffer so he has

328
00:15:29,950 --> 00:15:26,660
not distinguished in his experiments

329
00:15:33,460 --> 00:15:29,960
between clairvoyance and and retro

330
00:15:34,660 --> 00:15:33,470
causation so the the it was a minor part

331
00:15:36,730 --> 00:15:34,670
of his paper but I just thought I would

332
00:15:40,360 --> 00:15:36,740
mention that since you brought up his

333
00:15:43,060 --> 00:15:40,370
works explicitly well yes I was working

334
00:15:45,550 --> 00:15:43,070
specifically from Ben's published report

335
00:15:47,380 --> 00:15:45,560
in which he indicates that he

336
00:15:50,290 --> 00:15:47,390
deliberately used both a pseudo-random

337
00:15:52,750 --> 00:15:50,300
source and a non deterministic noise

338
00:15:56,010 --> 00:15:52,760

source in order to play off the two

339
00:15:59,290 --> 00:15:56,020
possibilities of clairvoyance and pique

340
00:16:02,280 --> 00:15:59,300
against each other because either one of

341
00:16:06,250 --> 00:16:02,290
them would be an alternative in one mode

342
00:16:08,560 --> 00:16:06,260
but if retro causation was not happening

343
00:16:11,830 --> 00:16:08,570
then there would be two different

344
00:16:14,620 --> 00:16:11,840
mechanisms in operating and why should

345
00:16:18,280 --> 00:16:14,630
they have the same effect size exactly

346
00:16:20,530 --> 00:16:18,290
but I can report that that is the the

347
00:16:22,420 --> 00:16:20,540
exact random number generator that he's

348
00:16:27,090 --> 00:16:22,430
using is in fact acting as a

349
00:16:30,250 --> 00:16:27,100
pseudo-random generator as with a lookup

350
00:16:32,620 --> 00:16:30,260
table basically that means in terms of

351
00:16:35,500 --> 00:16:32,630
this theoretical analysis this means

352
00:16:37,720 --> 00:16:35,510
that we have one more stage of testing

353
00:16:39,640 --> 00:16:37,730
which is to see if the BEM experiment

354
00:16:45,310 --> 00:16:39,650
with a true random source actually works

355
00:16:47,260 --> 00:16:45,320
and that we can proceed as before thanks

356
00:16:49,390 --> 00:16:47,270
for raising those questions this is kind

357
00:16:51,640 --> 00:16:49,400
of a general question though Dean made

358
00:16:55,360 --> 00:16:51,650
reference to meditators affecting the

359
00:16:56,920 --> 00:16:55,370
quantum interference slit experiment and

360
00:16:58,750 --> 00:16:56,930
and there was some concern that they

361
00:17:00,610 --> 00:16:58,760
could be in the room and affect it

362
00:17:02,670 --> 00:17:00,620
physically but remote viewers could be

363
00:17:04,620 --> 00:17:02,680

distant

364
00:17:06,180 --> 00:17:04,630
they're really not quite the same thing

365
00:17:07,620 --> 00:17:06,190
is there any evidence that you know

366
00:17:09,150 --> 00:17:07,630
about one way or another that remote

367
00:17:11,040 --> 00:17:09,160
viewers can affect a double slit

368
00:17:14,520 --> 00:17:11,050
experiment the way the meditators did in

369
00:17:16,470 --> 00:17:14,530
teams experiment the meditators oil

370
00:17:19,170 --> 00:17:16,480
actually everybody meditator or non

371
00:17:22,380 --> 00:17:19,180
meditator was in Dean's original

372
00:17:24,360 --> 00:17:22,390
experiment attempting to use remote

373
00:17:27,060 --> 00:17:24,370
viewing whether or not they were trained

374
00:17:29,490 --> 00:17:27,070
remote viewers it's not that difficult a

375
00:17:31,680 --> 00:17:29,500
concept you aim your attention at some

376
00:17:32,550 --> 00:17:31,690
other location and see what's going on

377
00:17:34,650 --> 00:17:32,560
there

378
00:17:37,890 --> 00:17:34,660
granted that training to produce

379
00:17:41,310 --> 00:17:37,900
reliable accurate remote viewing may

380
00:17:43,140 --> 00:17:41,320
require a lot of labour it nevertheless

381
00:17:45,690 --> 00:17:43,150
it's a skill that's easy to describe

382
00:17:48,030 --> 00:17:45,700
right but what I'm wondering is if they

383
00:17:49,740 --> 00:17:48,040
attempted to do that in the future in

384
00:17:51,240 --> 00:17:49,750
the past since the remote viewer can

385
00:17:53,400 --> 00:17:51,250
view up and down the timeline would

386
00:17:54,960 --> 00:17:53,410
there be a different effect versus if

387
00:17:56,400 --> 00:17:54,970
they're in the room at the time and are

388
00:17:59,640 --> 00:17:56,410

attempting to do it in the present do

389
00:18:05,030 --> 00:17:59,650
you think so from our understanding of

390
00:18:11,790 --> 00:18:09,720
so this is a question that addresses

391
00:18:13,500 --> 00:18:11,800
your topic more generally than a rather

392
00:18:19,220 --> 00:18:13,510
than a specific issue that you raised

393
00:18:22,980 --> 00:18:19,230
and that is parapsychology ESP and

394
00:18:25,620 --> 00:18:22,990
quantum mechanics are we not pretty

395
00:18:28,860 --> 00:18:25,630
clearly in a situation where we have

396
00:18:32,250 --> 00:18:28,870
hidden variables and do we not have to

397
00:18:35,450 --> 00:18:32,260
just say clearly bomb or some sort of

398
00:18:39,330 --> 00:18:35,460
approach like that has got to be correct

399
00:18:42,570 --> 00:18:39,340
no I don't think that we are in a

400
00:18:44,820 --> 00:18:42,580
situation that involves hidden variables

401
00:18:46,350 --> 00:18:44,830
and I am saying that only partly because

402
00:18:48,810 --> 00:18:46,360
there are so many plain physics

403
00:18:53,580 --> 00:18:48,820
experiments that refute hidden variables

404
00:18:59,760 --> 00:18:53,590
I think that the existing formalism of

405
00:19:03,450 --> 00:18:59,770
quantum mechanics is adequate to explain

406
00:19:06,180 --> 00:19:03,460
what's going on but that our our minds

407
00:19:11,160 --> 00:19:06,190
and perhaps our brains to the extent

408
00:19:13,620 --> 00:19:11,170
that that those are connected interact

409
00:19:16,130 --> 00:19:13,630
with quantum fields in ways that the

410
00:19:18,830 --> 00:19:16,140
theory doesn't currently

411
00:19:20,970 --> 00:19:18,840
have-have ways to represent properly

412
00:19:26,070 --> 00:19:20,980
since there's nobody else asking a

413
00:19:31,680 --> 00:19:26,080

question I'll argue so hidden variables

414
00:19:35,580 --> 00:19:31,690
have not been ruled out by physics all

415
00:19:39,320 --> 00:19:35,590
we know is that you can't have local

416
00:19:42,660 --> 00:19:39,330
realism right you've either got to have

417
00:19:45,120 --> 00:19:42,670
action at a distance or lack of realism

418
00:19:48,180 --> 00:19:45,130
but if you accept that one of those is

419
00:19:52,440 --> 00:19:48,190
allowed then hidden variables may still

420
00:19:55,470 --> 00:19:52,450
well exist and isn't consciousness

421
00:19:57,560 --> 00:19:55,480
essentially a hidden variable isn't it

422
00:20:01,500 --> 00:19:57,570
isn't our interaction

423
00:20:04,560 --> 00:20:01,510
that thing which takes the randomness of

424
00:20:08,040 --> 00:20:04,570
quantum phenomena and says no it's not

425
00:20:12,000 --> 00:20:08,050
quite random Einstein was right about

426
00:20:15,000 --> 00:20:12,010
God and dice well it's certainly the

427
00:20:17,490 --> 00:20:15,010
case that if you give up locality then

428
00:20:20,880 --> 00:20:17,500
you can keep hidden variables from the

429
00:20:23,430 --> 00:20:20,890
existing experimental results as for

430
00:20:26,970 --> 00:20:23,440
consciousness being a hidden variable I

431
00:20:29,010 --> 00:20:26,980
would object that it's actually the the

432
00:20:30,930 --> 00:20:29,020
most completely non hidden variable

433
00:20:37,440 --> 00:20:30,940
there is it's the one aspect of reality

434
00:20:39,090 --> 00:20:37,450
that we experience directly thanks very

435
00:20:42,030 --> 00:20:39,100
gracious of you I would ask you the

436
00:20:44,610 --> 00:20:42,040
question I was going to ask Dean it

437
00:20:46,740 --> 00:20:44,620
seems if the meditators or the subjects

438
00:20:49,830 --> 00:20:46,750

are given the instruction like to go in

439
00:20:50,970 --> 00:20:49,840
there and and then be present there but

440
00:20:53,550 --> 00:20:50,980
they don't come away with the knowledge

441
00:20:56,820 --> 00:20:53,560
of which slit the photon goes through

442
00:20:58,530 --> 00:20:56,830
correct and if that's correct then what

443
00:21:00,240 --> 00:20:58,540
that shows it's not that the

444
00:21:04,350 --> 00:21:00,250
interference patterns are not caused by

445
00:21:09,600 --> 00:21:04,360
a lack of knowledge we in fact don't

446
00:21:12,510 --> 00:21:09,610
know how much information the meditators

447
00:21:14,310 --> 00:21:12,520
our act are coming away with or the

448
00:21:17,100 --> 00:21:14,320
participants or the remote viewers or

449
00:21:20,220 --> 00:21:17,110
what you whatever you want to call them

450
00:21:23,340 --> 00:21:20,230
they are imagining in their minds eye

451
00:21:27,800 --> 00:21:23,350
that they're seeing photons passed down

452
00:21:29,590 --> 00:21:27,810
a beam path are they actually noting

453
00:21:32,020 --> 00:21:29,600
some of the photon

454
00:21:33,580 --> 00:21:32,030
that that are really passing through we

455
00:21:35,770 --> 00:21:33,590
can't know that because we'd have to put

456
00:21:38,049 --> 00:21:35,780
a physical detector into the beam path

457
00:21:44,470 --> 00:21:38,059
to check on that and that would destroy

458
00:21:46,060 --> 00:21:44,480
the experiment that's the subjective

459
00:21:53,470 --> 00:21:46,070
experience they're supposed to be trying

460
00:21:56,370 --> 00:21:53,480
for yes they're specifically being

461
00:22:00,970 --> 00:21:56,380
instructed a court at least according to

462
00:22:03,700 --> 00:22:00,980
Dean's publication to try to perceive

463
00:22:07,779 --> 00:22:03,710

what's going on in the beam path to try

464
00:22:10,029 --> 00:22:07,789
to see the photons but this experiment

465
00:22:13,510 --> 00:22:10,039
is not one photon at a time right these

466
00:22:15,090 --> 00:22:13,520
a millions per second yes there's a high

467
00:22:18,850 --> 00:22:15,100
throughput and one of my personal

468
00:22:21,130 --> 00:22:18,860
suspicions is that the the the large

469
00:22:24,430 --> 00:22:21,140
number of photons present at any given

470
00:22:26,470 --> 00:22:24,440
time is why the experiment experimental

471
00:22:28,570 --> 00:22:26,480
results indicate a detector with very

472
00:22:30,970 --> 00:22:28,580
low quantum efficiency the human mind

473
00:22:32,830 --> 00:22:30,980
can't process that much at once so we're

474
00:22:35,020 --> 00:22:32,840
only catching a few of them so my

475
00:22:37,000 --> 00:22:35,030
feeling is that it's the presence of

476
00:22:39,549 --> 00:22:37,010
consciousness projected consciousness in

477
00:22:42,010 --> 00:22:39,559
the vicinity there that does the work

478
00:22:48,100 --> 00:22:42,020
not the knowledge of which slit the

479
00:22:53,510 --> 00:22:51,650
would you want to respond um actually I

480
00:22:55,540 --> 00:22:53,520
think that's very close to what I was

481
00:22:58,150 --> 00:22:55,550
saying in slightly different language