

1
00:00:00,000 --> 00:00:05,549
another viewpoint on all this that we've

2
00:00:02,339 --> 00:00:09,349
talked about many times before just so

3
00:00:05,549 --> 00:00:11,309
it's on the floor I think the

4
00:00:09,349 --> 00:00:13,798
conclusions being jumped to in the New

5
00:00:11,308 --> 00:00:16,890
Scientist article and a lot of other

6
00:00:13,798 --> 00:00:18,390
places are just naive and there's an

7
00:00:16,890 --> 00:00:20,070
awful lot of confusion about all this so

8
00:00:18,390 --> 00:00:25,170
let me give you my viewpoint you can

9
00:00:20,070 --> 00:00:28,859
react for two entangled particles take

10
00:00:25,170 --> 00:00:30,539
off in different directions they are in

11
00:00:28,859 --> 00:00:33,420
a state that's no less real than

12
00:00:30,539 --> 00:00:35,340
anything with a simple up-or-down spin

13
00:00:33,420 --> 00:00:38,370
they're in a very definite state that's

14
00:00:35,340 --> 00:00:41,850
a superposed state and in a in a Hilbert

15
00:00:38,369 --> 00:00:43,649
space that's just a vector at 45 degrees

16
00:00:41,850 --> 00:00:46,980
rather than at zero or 90 degrees

17
00:00:43,649 --> 00:00:50,609
exactly as determined or and exactly as

18
00:00:46,979 --> 00:00:52,828
real as anything else it's just not in

19
00:00:50,609 --> 00:00:55,859
on our basis it's in a definite state of

20
00:00:52,829 --> 00:00:58,948
superposition now it is true that when

21
00:00:55,859 --> 00:01:02,519
you measure that interaction changes it

22
00:00:58,948 --> 00:01:05,640
to be in an upstate or a downstate in it

23
00:01:02,520 --> 00:01:07,170
in a binary system but consciousness in

24
00:01:05,640 --> 00:01:08,519
my view has nothing whatsoever to do

25
00:01:07,170 --> 00:01:13,829
with it environment is simply wrong

26
00:01:08,519 --> 00:01:16,769
about this so the leap that I would

27
00:01:13,829 --> 00:01:18,298
object to is the one that says these

28
00:01:16,769 --> 00:01:21,030
phenomena which you've pretty much

29

00:01:18,299 --> 00:01:23,360
correctly described imply that the

30
00:01:21,030 --> 00:01:26,159
consciousness creates the universe

31
00:01:23,359 --> 00:01:29,879
reality that's being discussed as a very

32
00:01:26,159 --> 00:01:32,579
naive definition of reality I would say

33
00:01:29,879 --> 00:01:34,170
and our interactions do have something

34
00:01:32,578 --> 00:01:37,109
to do with what happens in the universe

35
00:01:34,170 --> 00:01:38,939
obviously but it's all out there and

36
00:01:37,109 --> 00:01:40,890
it's real whether we interact with it or

37
00:01:38,938 --> 00:01:42,389
not and the interactions that are

38
00:01:40,890 --> 00:01:47,640
involved in quantum measurement are a

39
00:01:42,390 --> 00:01:49,710
lot more prosaic than then are sometimes

40
00:01:47,640 --> 00:01:51,090
portrayed well it's certainly something

41
00:01:49,709 --> 00:01:53,069
we're not going to settle here because

42
00:01:51,090 --> 00:01:55,500
it's a very deep issue I'd like to point

43
00:01:53,069 --> 00:01:58,408

out though that the notion that you have

44

00:01:55,500 --> 00:02:00,420

a spin that objectively exists that you

45

00:01:58,409 --> 00:02:02,609

simply measure out here that sort of

46

00:02:00,420 --> 00:02:04,920

runs afoul in the idea or the the fact i

47

00:02:02,609 --> 00:02:06,179

should say that whenever regardless of

48

00:02:04,920 --> 00:02:09,118

which direction you choose to measure

49

00:02:06,180 --> 00:02:11,489

the spin in it's going to be a one half

50

00:02:09,118 --> 00:02:13,439

H bar it's going to be either up or down

51

00:02:11,489 --> 00:02:13,650

it's not going to be at some angle not

52

00:02:13,439 --> 00:02:16,408

going

53

00:02:13,650 --> 00:02:18,658

measure some fraction of one half H bar

54

00:02:16,408 --> 00:02:22,109

or H bar whichever the spin is of the

55

00:02:18,658 --> 00:02:24,060

particle so it's not it's a you are

56

00:02:22,110 --> 00:02:25,829

creating a reality here when you make a

57

00:02:24,060 --> 00:02:27,060

measurement because the object would not

58
00:02:25,829 --> 00:02:28,140
know that you're going to measure in

59
00:02:27,060 --> 00:02:30,359
this direction therefore it has to be

60
00:02:28,139 --> 00:02:32,158
aligned this way it can't be that way or

61
00:02:30,359 --> 00:02:33,480
that way because you're always going to

62
00:02:32,158 --> 00:02:36,679
measure their an up or down you're never

63
00:02:33,479 --> 00:02:36,679
going to measure a fraction of that I

64
00:02:40,188 --> 00:02:45,389
have a question about whether you've

65
00:02:42,539 --> 00:02:48,209
begun to connect these theories with

66
00:02:45,389 --> 00:02:50,068
human identity you know who we are in

67
00:02:48,209 --> 00:02:54,658
relationship to the quantum world and

68
00:02:50,068 --> 00:02:56,219
how we relate to one another well in the

69
00:02:54,658 --> 00:02:58,048
book the guy theory I do make some

70
00:02:56,219 --> 00:02:59,729
suggestions along those lines I mean

71
00:02:58,049 --> 00:03:00,980
that's not the point of this talk I

72
00:02:59,729 --> 00:03:03,539
didn't want to preach about my

73
00:03:00,979 --> 00:03:04,798
metaphysics of God but since you asked

74
00:03:03,539 --> 00:03:06,449
the question I'll say a sense or two

75
00:03:04,799 --> 00:03:08,549
about that i think that basically it's

76
00:03:06,449 --> 00:03:09,988
that the rationale behind the universe

77
00:03:08,549 --> 00:03:11,700
is that there's a consciousness that

78
00:03:09,989 --> 00:03:13,230
created the universe because that

79
00:03:11,699 --> 00:03:15,358
Constance wanted to experience what it's

80
00:03:13,229 --> 00:03:16,949
like to live in that universe as you as

81
00:03:15,359 --> 00:03:18,419
me as the animals as the plan says

82
00:03:16,949 --> 00:03:20,759
whatever aliens exist in the Andromeda

83
00:03:18,419 --> 00:03:22,500
galaxy the point of it is to create our

84
00:03:20,759 --> 00:03:24,030
universe in which life can arise

85
00:03:22,500 --> 00:03:25,859
following the laws of Darwinian

86

00:03:24,030 --> 00:03:28,259
evolution good point are when you

87
00:03:25,859 --> 00:03:29,760
evolution is key aspect of this life can

88
00:03:28,259 --> 00:03:31,798
evolve and that consciousness can

89
00:03:29,759 --> 00:03:33,090
experience its potential which is the

90
00:03:31,799 --> 00:03:35,159
experience that we're having right here

91
00:03:33,090 --> 00:03:37,259
in this room now in part so that's my

92
00:03:35,158 --> 00:03:39,568
metaphysical interpretation what how it

93
00:03:37,259 --> 00:03:40,828
relates to quantum physics at any level

94
00:03:39,568 --> 00:03:42,869
deeper than what I've said here today I

95
00:03:40,829 --> 00:03:45,810
wouldn't know and this is my my attempt

96
00:03:42,870 --> 00:03:47,729
to show that quantum physics at least if

97
00:03:45,810 --> 00:03:49,979
it quarter physics cannot prove the

98
00:03:47,729 --> 00:03:51,329
existence of God cannot do that but it

99
00:03:49,979 --> 00:03:53,549
does certainly point to the idea that

100
00:03:51,329 --> 00:03:55,769

consciousness is a key element in the

101

00:03:53,549 --> 00:03:59,189

creation of reality and with with the

102

00:03:55,769 --> 00:04:01,620

apologies of dick schaaap how does

103

00:03:59,189 --> 00:04:05,250

perception affect the conscious of

104

00:04:01,620 --> 00:04:07,079

reality in the equation of consciousness

105

00:04:05,250 --> 00:04:10,079

creating reality how does perception

106

00:04:07,079 --> 00:04:12,689

affect it well actually ending on your

107

00:04:10,079 --> 00:04:15,329

head is it spin up or down I'm taking

108

00:04:12,689 --> 00:04:17,279

perception as being the what Constance

109

00:04:15,329 --> 00:04:18,598

does in the making of the measurement

110

00:04:17,279 --> 00:04:20,098

process I mean that's part of

111

00:04:18,598 --> 00:04:21,689

consciousness and the conscious

112

00:04:20,098 --> 00:04:24,139

conscious being active in this process

113

00:04:21,689 --> 00:04:26,098

making an observation is perception I

114

00:04:24,139 --> 00:04:26,819

don't understand the question beyond

115
00:04:26,098 --> 00:04:38,189
that

116
00:04:26,819 --> 00:04:40,199
I spinning its spinning whichever way

117
00:04:38,189 --> 00:04:41,219
you choose to measure it if you choose

118
00:04:40,199 --> 00:04:43,199
to measure the spin in this direction

119
00:04:41,220 --> 00:04:44,940
it's going to either up or down it's not

120
00:04:43,199 --> 00:04:46,589
going to be some fraction of that it's

121
00:04:44,939 --> 00:04:48,000
going to be either up or down very

122
00:04:46,589 --> 00:04:50,639
mysterious you know this is not what you

123
00:04:48,000 --> 00:04:53,129
think if you spin take a globe you know

124
00:04:50,639 --> 00:04:55,110
spitting around its axis and you tilted

125
00:04:53,129 --> 00:04:56,610
in various directions if you choose to

126
00:04:55,110 --> 00:04:58,199
measure its spin and say this direction

127
00:04:56,610 --> 00:05:00,540
by spitting in that one you'll get some

128
00:04:58,199 --> 00:05:02,670
fractional some fractional value for

129
00:05:00,540 --> 00:05:04,470
what the projection of the this axis is

130
00:05:02,670 --> 00:05:05,850
on that one but you make a quantum spin

131
00:05:04,470 --> 00:05:07,590
measurement it's always going to be up

132
00:05:05,850 --> 00:05:15,600
or down regardless of which direction

133
00:05:07,589 --> 00:05:18,149
you measure you get to choose so uh like

134
00:05:15,600 --> 00:05:19,860
if there is a crowd of people and

135
00:05:18,149 --> 00:05:21,799
there's a rock in the center or

136
00:05:19,860 --> 00:05:25,590
something everybody's looking at it if

137
00:05:21,800 --> 00:05:29,550
someone looked away it the rock wouldn't

138
00:05:25,589 --> 00:05:33,109
disappear so it's like you have to have

139
00:05:29,550 --> 00:05:36,930
no one watching something for it like

140
00:05:33,110 --> 00:05:38,939
kind of fur not to really be there

141
00:05:36,930 --> 00:05:40,050
design well I son asked the same sort of

142
00:05:38,939 --> 00:05:42,209
question because I send didn't much care

143

00:05:40,050 --> 00:05:43,410
for quantum physics and so he asked one

144
00:05:42,209 --> 00:05:44,669
of his colleagues well do you really

145
00:05:43,410 --> 00:05:47,040
think the moon is not there when you

146
00:05:44,670 --> 00:05:48,810
don't look at it and he was really

147
00:05:47,040 --> 00:05:50,400
didn't like quantum physics but as it

148
00:05:48,810 --> 00:05:52,680
turns out Einstein was proven wrong

149
00:05:50,399 --> 00:05:55,139
because the bell inequality demonstrated

150
00:05:52,680 --> 00:05:57,540
that the Einstein Podolsky Rosen paradox

151
00:05:55,139 --> 00:06:00,479
was indeed mistaken and so was Einstein

152
00:05:57,540 --> 00:06:02,160
now you know the question of whether

153
00:06:00,480 --> 00:06:03,689
things are not there when we're not

154
00:06:02,160 --> 00:06:05,790
looking I would want to go that far I

155
00:06:03,689 --> 00:06:07,589
mean clearly that's that's not even that

156
00:06:05,790 --> 00:06:09,780
doesn't happen though at the quantum

157
00:06:07,589 --> 00:06:11,879

level at the quantum level it certainly

158

00:06:09,779 --> 00:06:14,669

seems seems to happen because things

159

00:06:11,879 --> 00:06:17,370

don't actually get put in their proper

160

00:06:14,670 --> 00:06:19,650

place until you make the measurement so

161

00:06:17,370 --> 00:06:20,819

I'm i guess i'm forced to say that

162

00:06:19,649 --> 00:06:23,399

there's a mystery here when you try to

163

00:06:20,819 --> 00:06:24,719

extrapolate this to our this the state

164

00:06:23,399 --> 00:06:27,449

of the universe in the state of

165

00:06:24,720 --> 00:06:28,800

ourselves mystery dad will just have to

166

00:06:27,449 --> 00:06:31,379

live with but it certainly points that

167

00:06:28,800 --> 00:06:33,569

way unfortunately i'm sure there were a

168

00:06:31,379 --> 00:06:37,969

lot more interesting questions but we're

169

00:06:33,569 --> 00:06:37,969

all out of time so thank you burning

170

00:06:39,848 --> 00:06:42,848

ok