



1
00:00:05,539 --> 00:00:02,330
another viewpoint on all this that we've

2
00:00:09,339 --> 00:00:05,549
talked about many times before just so

3
00:00:11,299 --> 00:00:09,349
it's on the floor I think the

4
00:00:13,789 --> 00:00:11,309
conclusions being jumped to in the New

5
00:00:16,880 --> 00:00:13,799
Scientist article and a lot of other

6
00:00:18,380 --> 00:00:16,890
places are just naive and there's an

7
00:00:20,060 --> 00:00:18,390
awful lot of confusion about all this so

8
00:00:25,160 --> 00:00:20,070
let me give you my viewpoint you can

9
00:00:28,849 --> 00:00:25,170
react for two entangled particles take

10
00:00:30,529 --> 00:00:28,859
off in different directions they are in

11
00:00:33,410 --> 00:00:30,539
a state that's no less real than

12
00:00:35,330 --> 00:00:33,420
anything with a simple up-or-down spin

13
00:00:38,360 --> 00:00:35,340

they're in a very definite state that's

14

00:00:41,840 --> 00:00:38,370

a superposed state and in a in a Hilbert

15

00:00:43,639 --> 00:00:41,850

space that's just a vector at 45 degrees

16

00:00:46,970 --> 00:00:43,649

rather than at zero or 90 degrees

17

00:00:50,600 --> 00:00:46,980

exactly as determined or and exactly as

18

00:00:52,819 --> 00:00:50,610

real as anything else it's just not in

19

00:00:55,850 --> 00:00:52,829

on our basis it's in a definite state of

20

00:00:58,939 --> 00:00:55,860

superposition now it is true that when

21

00:01:02,510 --> 00:00:58,949

you measure that interaction changes it

22

00:01:05,630 --> 00:01:02,520

to be in an upstate or a downstate in it

23

00:01:07,160 --> 00:01:05,640

in a binary system but consciousness in

24

00:01:08,510 --> 00:01:07,170

my view has nothing whatsoever to do

25

00:01:13,820 --> 00:01:08,520

with it environment is simply wrong

26
00:01:16,760 --> 00:01:13,830
about this so the leap that I would

27
00:01:18,289 --> 00:01:16,770
object to is the one that says these

28
00:01:21,020 --> 00:01:18,299
phenomena which you've pretty much

29
00:01:23,350 --> 00:01:21,030
correctly described imply that the

30
00:01:26,149 --> 00:01:23,360
consciousness creates the universe

31
00:01:29,870 --> 00:01:26,159
reality that's being discussed as a very

32
00:01:32,569 --> 00:01:29,880
naive definition of reality I would say

33
00:01:34,160 --> 00:01:32,579
and our interactions do have something

34
00:01:37,100 --> 00:01:34,170
to do with what happens in the universe

35
00:01:38,929 --> 00:01:37,110
obviously but it's all out there and

36
00:01:40,880 --> 00:01:38,939
it's real whether we interact with it or

37
00:01:42,380 --> 00:01:40,890
not and the interactions that are

38
00:01:47,630 --> 00:01:42,390

involved in quantum measurement are a

39

00:01:49,700 --> 00:01:47,640

lot more prosaic than then are sometimes

40

00:01:51,080 --> 00:01:49,710

portrayed well it's certainly something

41

00:01:53,060 --> 00:01:51,090

we're not going to settle here because

42

00:01:55,490 --> 00:01:53,070

it's a very deep issue I'd like to point

43

00:01:58,399 --> 00:01:55,500

out though that the notion that you have

44

00:02:00,410 --> 00:01:58,409

a spin that objectively exists that you

45

00:02:02,600 --> 00:02:00,420

simply measure out here that sort of

46

00:02:04,910 --> 00:02:02,610

runs afoul in the idea or the the fact i

47

00:02:06,170 --> 00:02:04,920

should say that whenever regardless of

48

00:02:09,109 --> 00:02:06,180

which direction you choose to measure

49

00:02:11,479 --> 00:02:09,119

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

50

00:02:13,430 --> 00:02:11,489

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

51
00:02:13,640 --> 00:02:13,440
it's not going to be at some anger not

52
00:02:16,399 --> 00:02:13,650
going

53
00:02:18,649 --> 00:02:16,409
measure some fraction of one half H bar

54
00:02:22,100 --> 00:02:18,659
or H bar whichever the spin is of the

55
00:02:24,050 --> 00:02:22,110
particle so it's not it's a you are

56
00:02:25,819 --> 00:02:24,060
creating a reality here when you make a

57
00:02:27,050 --> 00:02:25,829
measurement because the object would not

58
00:02:28,130 --> 00:02:27,060
know that you're going to measure in

59
00:02:30,349 --> 00:02:28,140
this direction therefore it has to be

60
00:02:32,149 --> 00:02:30,359
aligned this way it can't be that way or

61
00:02:33,470 --> 00:02:32,159
that way because you're always going to

62
00:02:40,179 --> 00:02:33,480
measure their an up or down you're never

63
00:02:45,380 --> 00:02:42,530

have a question about whether you've

64

00:02:48,199 --> 00:02:45,390

begun to connect these theories with

65

00:02:50,059 --> 00:02:48,209

human identity you know who we are in

66

00:02:54,649 --> 00:02:50,069

relationship to the quantum world and

67

00:02:56,210 --> 00:02:54,659

how we relate to one another well in the

68

00:02:58,039 --> 00:02:56,220

book the guy theory I do make some

69

00:02:59,720 --> 00:02:58,049

suggestions along those lines I mean

70

00:03:00,970 --> 00:02:59,730

that's not the point of this talk I

71

00:03:03,530 --> 00:03:00,980

didn't want to preach about my

72

00:03:04,789 --> 00:03:03,540

metaphysics of God but since you asked

73

00:03:06,440 --> 00:03:04,799

the question I'll say a sense or two

74

00:03:08,539 --> 00:03:06,450

about that i think that basically it's

75

00:03:09,979 --> 00:03:08,549

that the rationale behind the universe

76

00:03:11,690 --> 00:03:09,989

is that there's a consciousness that

77

00:03:13,220 --> 00:03:11,700

created the universe because that

78

00:03:15,349 --> 00:03:13,230

Constance wanted to experience what it's

79

00:03:16,940 --> 00:03:15,359

like to live in that universe as you as

80

00:03:18,409 --> 00:03:16,950

me as the animals as the plan says

81

00:03:20,750 --> 00:03:18,419

whatever aliens exist in the Andromeda

82

00:03:22,490 --> 00:03:20,760

galaxy the point of it is to create our

83

00:03:24,020 --> 00:03:22,500

universe in which life can arise

84

00:03:25,849 --> 00:03:24,030

following the laws of Darwinian

85

00:03:28,250 --> 00:03:25,859

evolution good point are when you

86

00:03:29,750 --> 00:03:28,260

evolution is key aspect of this life can

87

00:03:31,789 --> 00:03:29,760

evolve and that consciousness can

88

00:03:33,080 --> 00:03:31,799

experience its potential which is the

89

00:03:35,149 --> 00:03:33,090

experience that we're having right here

90

00:03:37,250 --> 00:03:35,159

in this room now in part so that's my

91

00:03:39,559 --> 00:03:37,260

metaphysical interpretation what how it

92

00:03:40,819 --> 00:03:39,569

relates to quantum physics at any level

93

00:03:42,860 --> 00:03:40,829

deeper than what I've said here today I

94

00:03:45,800 --> 00:03:42,870

wouldn't know and this is my my attempt

95

00:03:47,719 --> 00:03:45,810

to show that quantum physics at least if

96

00:03:49,969 --> 00:03:47,729

it quarter physics cannot prove the

97

00:03:51,319 --> 00:03:49,979

existence of God cannot do that but it

98

00:03:53,539 --> 00:03:51,329

does certainly point to the idea that

99

00:03:55,759 --> 00:03:53,549

consciousness is a key element in the

100

00:03:59,180 --> 00:03:55,769

creation of reality and with with the

101
00:04:01,610 --> 00:03:59,190
apologies of dick schaaap how does

102
00:04:05,240 --> 00:04:01,620
perception affect the conscious of

103
00:04:07,069 --> 00:04:05,250
reality in the equation of consciousness

104
00:04:10,069 --> 00:04:07,079
creating reality how does perception

105
00:04:12,680 --> 00:04:10,079
affect it well actually ending on your

106
00:04:15,319 --> 00:04:12,690
head is it spin up or down I'm taking

107
00:04:17,270 --> 00:04:15,329
perception as being the what Constance

108
00:04:18,589 --> 00:04:17,280
does in the making of the measurement

109
00:04:20,089 --> 00:04:18,599
process I mean that's part of

110
00:04:21,680 --> 00:04:20,099
consciousness and the conscious

111
00:04:24,129 --> 00:04:21,690
conscious being active in this process

112
00:04:26,089 --> 00:04:24,139
making an observation is perception I

113
00:04:26,810 --> 00:04:26,099

don't understand the question beyond

114

00:04:38,180 --> 00:04:26,820

that

115

00:04:40,190 --> 00:04:38,190

I spinning its spinning whichever way

116

00:04:41,210 --> 00:04:40,200

you choose to measure it if you choose

117

00:04:43,190 --> 00:04:41,220

to measure the spin in this direction

118

00:04:44,930 --> 00:04:43,200

it's going to either up or down it's not

119

00:04:46,580 --> 00:04:44,940

going to be some fraction of that it's

120

00:04:47,990 --> 00:04:46,590

going to be either up or down very

121

00:04:50,630 --> 00:04:48,000

mysterious you know this is not what you

122

00:04:53,120 --> 00:04:50,640

think if you spin take a globe you know

123

00:04:55,100 --> 00:04:53,130

spitting around its axis and you tilted

124

00:04:56,600 --> 00:04:55,110

in various directions if you choose to

125

00:04:58,190 --> 00:04:56,610

measure its spin and say this direction

126
00:05:00,530 --> 00:04:58,200
by spitting in that one you'll get some

127
00:05:02,660 --> 00:05:00,540
fractional some fractional value for

128
00:05:04,460 --> 00:05:02,670
what the projection of the this axis is

129
00:05:05,840 --> 00:05:04,470
on that one but you make a quantum spin

130
00:05:07,580 --> 00:05:05,850
measurement it's always going to be up

131
00:05:15,590 --> 00:05:07,590
or down regardless of which direction

132
00:05:18,140 --> 00:05:15,600
you measure you get to choose so uh like

133
00:05:19,850 --> 00:05:18,150
if there is a crowd of people and

134
00:05:21,790 --> 00:05:19,860
there's a rock in the center or

135
00:05:25,580 --> 00:05:21,800
something everybody's looking at it if

136
00:05:29,540 --> 00:05:25,590
someone looked away it the rock wouldn't

137
00:05:33,100 --> 00:05:29,550
disappear so it's like you have to have

138
00:05:36,920 --> 00:05:33,110

no one watching something for it like

139

00:05:38,930 --> 00:05:36,930

kind of fur not to really be there

140

00:05:40,040 --> 00:05:38,940

design well I son asked the same sort of

141

00:05:42,200 --> 00:05:40,050

question because I send didn't much care

142

00:05:43,400 --> 00:05:42,210

for quantum physics and so he asked one

143

00:05:44,660 --> 00:05:43,410

of his colleagues well do you really

144

00:05:47,030 --> 00:05:44,670

think the moon is not there when you

145

00:05:48,800 --> 00:05:47,040

don't look at it and he was really

146

00:05:50,390 --> 00:05:48,810

didn't like quantum physics but as it

147

00:05:52,670 --> 00:05:50,400

turns out Einstein was proven wrong

148

00:05:55,130 --> 00:05:52,680

because the bell inequality demonstrated

149

00:05:57,530 --> 00:05:55,140

that the Einstein Podolsky Rosen paradox

150

00:06:00,470 --> 00:05:57,540

was indeed mistaken and so was Einstein

151
00:06:02,150 --> 00:06:00,480
now you know the question of whether

152
00:06:03,680 --> 00:06:02,160
things are not there when we're not

153
00:06:05,780 --> 00:06:03,690
looking I would want to go that far I

154
00:06:07,580 --> 00:06:05,790
mean clearly that's that's not even that

155
00:06:09,770 --> 00:06:07,590
doesn't happen though at the quantum

156
00:06:11,870 --> 00:06:09,780
level at the quantum level it certainly

157
00:06:14,660 --> 00:06:11,880
seems seems to happen because things

158
00:06:17,360 --> 00:06:14,670
don't actually get put in their proper

159
00:06:19,640 --> 00:06:17,370
place until you make the measurement so

160
00:06:20,810 --> 00:06:19,650
I'm i guess i'm forced to say that

161
00:06:23,390 --> 00:06:20,820
there's a mystery here when you try to

162
00:06:24,710 --> 00:06:23,400
extrapolate this to our this the state

163
00:06:27,440 --> 00:06:24,720

of the universe in the state of

164

00:06:28,790 --> 00:06:27,450

ourselves mystery dad will just have to

165

00:06:31,370 --> 00:06:28,800

live with but it certainly points that

166

00:06:33,560 --> 00:06:31,380

way unfortunately i'm sure there were a