1
00:00:17,410 --> 00:00:21,589
thank you for the introduction and I'd

2
00:00:19,850 --> 00:00:23,470
like also to say thank you to the

3
00:00:21,589 --> 00:00:26,570
Quantico folks for putting this together

4
00:00:23,469 --> 00:00:28,000
this is a wonderful meeting I've been

5
00:00:26,570 --> 00:00:31,250
talking to lots of people who have

6
00:00:28,000 --> 00:00:33,409
something in mind which seems to be

7
00:00:31,250 --> 00:00:35,509
common to all of us let's look for a

8
00:00:33,409 --> 00:00:38,599
brighter future how can we achieve that

9
00:00:35,509 --> 00:00:40,609
I think we can achieve it by working

10
00:00:38,600 --> 00:00:46,160
together and I'll talk some more about

11
00:00:40,609 --> 00:00:50,750
that later what I am proposing to do

12
00:00:46,159 --> 00:00:55,449
today is to talk about global

13
00:00:50,750 --> 00:01:00,439
consciousness an idea that it really is

14
00:00:55,450 --> 00:01:02,900
now ready for us to take on what it's

15
00:01:00,439 --> 00:01:07,368
referring to as an interconnection of

16
00:01:02,899 --> 00:01:10,340
minds and in krd Shannon's term it's a

17
00:01:07,368 --> 00:01:14,950
noosphere a layer of knowing or

18
00:01:10,340 --> 00:01:19,759
intelligence for the earth in the Harz

19
00:01:14,950 --> 00:01:22,879
idea in his description of what it means

20
00:01:19,759 --> 00:01:25,670
to be human and what evolution amounts

21
00:01:22,879 --> 00:01:29,629
to it he said that we have another stage

22
00:01:25,670 --> 00:01:31,789
to go that we are well advanced but that

23
00:01:29,629 --> 00:01:34,489
we will become what we were supposed to

24
00:01:31,789 --> 00:01:36,829
become in the next phase and that is a

25
00:01:34,489 --> 00:01:40,658
layer of intelligence to take care of

26
00:01:36,828 --> 00:01:40,658
the earth to care for the earth

27
00:01:47,890 --> 00:01:55,129
in the publicity and the brochure from

28
00:01:52,090 --> 00:01:57,759
Quantico there was a description of a

29

00:01:55,129 --> 00:02:01,819
global consciousness project saying that

30
00:01:57,759 --> 00:02:03,379
these studies indicate or suggest that

31
00:02:01,819 --> 00:02:05,329
there is indeed a global consciousness

32
00:02:03,379 --> 00:02:08,719
that's what I want to be talking about

33
00:02:05,329 --> 00:02:11,419
today partly because if this is so we

34
00:02:08,719 --> 00:02:13,459
should be asking ourselves do we create

35
00:02:11,419 --> 00:02:17,389
through our collective group

36
00:02:13,459 --> 00:02:20,449
intelligence something that is the

37
00:02:17,389 --> 00:02:23,419
reality that are we creating the world

38
00:02:20,449 --> 00:02:25,909
in which we live could we through our

39
00:02:23,419 --> 00:02:29,030
association with each other bring about

40
00:02:25,909 --> 00:02:31,159
fundamental change in the world as we

41
00:02:29,030 --> 00:02:32,750
know it I think many of us believe that

42
00:02:31,159 --> 00:02:35,650
fundamental change is not a bad idea

43
00:02:32,750 --> 00:02:38,120

it's time for some fundamental changes

44
00:02:35,650 --> 00:02:40,640
so I'm going to give you a little

45
00:02:38,120 --> 00:02:42,530
background talk about the evidence that

46
00:02:40,639 --> 00:02:46,458
this global consciousness actually

47
00:02:42,530 --> 00:02:49,159
exists and then toward the end of my

48
00:02:46,459 --> 00:02:51,920
time we'll be talking about what it

49
00:02:49,159 --> 00:02:55,039
means what are the implications in some

50
00:02:51,919 --> 00:02:57,048
depth I worked in Princeton University

51
00:02:55,039 --> 00:03:00,229
and what was called a engineering

52
00:02:57,049 --> 00:03:03,469
anomalies research laboratory for some a

53
00:03:00,229 --> 00:03:05,599
little over 20 years and we did

54
00:03:03,469 --> 00:03:08,539
experiments asking whether human

55
00:03:05,599 --> 00:03:12,889
consciousness can interact with the

56
00:03:08,539 --> 00:03:15,439
world in the form of physical devices

57
00:03:12,889 --> 00:03:18,708
physical systems of various kinds one we

58
00:03:15,439 --> 00:03:20,810
use a lot we call a random event

59
00:03:18,709 --> 00:03:23,539
generator it was a pretty good-sized

60
00:03:20,810 --> 00:03:26,689
device a box like a suitcase sitting on

61
00:03:23,539 --> 00:03:29,659
a table and people would sit near that

62
00:03:26,689 --> 00:03:32,539
but have no connection to it no wires no

63
00:03:29,659 --> 00:03:35,209
direct connection at all and you'd be

64
00:03:32,539 --> 00:03:38,509
given the task of changing how that

65
00:03:35,209 --> 00:03:40,370
machine would produce would work make it

66
00:03:38,509 --> 00:03:42,099
change so they would produce high

67
00:03:40,370 --> 00:03:44,120
numbers when that was the instruction

68
00:03:42,099 --> 00:03:46,669
low numbers when what was the

69
00:03:44,120 --> 00:03:49,519
instruction and that experiment worked

70
00:03:46,669 --> 00:03:51,359
we were able to show and not only that

71
00:03:49,519 --> 00:03:55,530
experiment but several others that were

72
00:03:51,360 --> 00:03:57,960
related to it that if you intend that

73
00:03:55,530 --> 00:04:00,210
the world in the form of this device

74
00:03:57,960 --> 00:04:02,520
that the world should change it will

75
00:04:00,210 --> 00:04:09,750
change it might be a small difference

76
00:04:02,520 --> 00:04:12,060
but it's a real difference this is a

77
00:04:09,750 --> 00:04:14,580
picture of results from that very

78
00:04:12,060 --> 00:04:17,970
experiment one should pictured before

79
00:04:14,580 --> 00:04:21,359
where people were asked to produce high

80
00:04:17,970 --> 00:04:24,020
numbers and in the case of ask being

81
00:04:21,358 --> 00:04:27,959
asked to produce high numbers they did

82
00:04:24,019 --> 00:04:29,430
what's normal is for the numbers to be

83
00:04:27,959 --> 00:04:31,859
not very much different from what's

84
00:04:29,430 --> 00:04:34,319
expected I'll give you a little bit more

85
00:04:31,860 --> 00:04:36,120
of an idea what's expected and when

86

00:04:34,319 --> 00:04:39,810
people were asked to produce low numbers

87
00:04:36,120 --> 00:04:42,418
they could do that too and moving on

88
00:04:39,810 --> 00:04:45,750
into how this kind of machine works or

89
00:04:42,418 --> 00:04:47,699
what a random number generator is many

90
00:04:45,750 --> 00:04:50,160
people think of a computer program but

91
00:04:47,699 --> 00:04:52,589
that's not what we were using instead we

92
00:04:50,160 --> 00:04:54,840
were using a physical device it was

93
00:04:52,589 --> 00:04:58,739
deeply buried in that box on the table

94
00:04:54,839 --> 00:05:02,069
and I'll show you pictures of simpler

95
00:04:58,740 --> 00:05:04,490
smaller ones that we use nowadays they

96
00:05:02,069 --> 00:05:07,110
all are based are the ones we used on

97
00:05:04,490 --> 00:05:10,560
electron tunneling it's a quantum effect

98
00:05:07,110 --> 00:05:13,319
and this is a kind of graphic that might

99
00:05:10,560 --> 00:05:16,769
give you some idea we set up a circuit

100
00:05:13,319 --> 00:05:19,110

that's driving electrons against a

101
00:05:16,769 --> 00:05:21,959
barrier that white bar in the middle is

102
00:05:19,110 --> 00:05:24,000
a barrier in a diode a diode you may

103
00:05:21,959 --> 00:05:26,819
know as a switch that allows the

104
00:05:24,000 --> 00:05:29,850
electrons to flow one way but prevents

105
00:05:26,819 --> 00:05:32,459
them from flowing the other way but

106
00:05:29,850 --> 00:05:32,790
quanta lectrons are they have a mind of

107
00:05:32,459 --> 00:05:35,039
their own

108
00:05:32,790 --> 00:05:36,990
so it's beacon so they some of them

109
00:05:35,040 --> 00:05:38,280
penetrate the barrier and I don't know

110
00:05:36,990 --> 00:05:41,610
if you can see it but there's a tiny

111
00:05:38,279 --> 00:05:45,269
faint cloud on the other side of barrier

112
00:05:41,610 --> 00:05:47,580
where by classical standards nothing

113
00:05:45,269 --> 00:05:50,939
should appear what does of you there is

114
00:05:47,579 --> 00:05:53,129
a tiny voltage that we sample when it's

115
00:05:50,939 --> 00:05:55,978
a high when that voltage is a very

116
00:05:53,129 --> 00:05:57,659
fairly high level we say that's a 1 if

117
00:05:55,978 --> 00:06:00,269
it's a low

118
00:05:57,660 --> 00:06:03,170
level we fit zero and we wind up with a

119
00:06:00,269 --> 00:06:06,180
completely unpredictable quantum based

120
00:06:03,170 --> 00:06:08,970
sequence of random numbers zero one one

121
00:06:06,180 --> 00:06:10,800
zero zero zero humans can't produce

122
00:06:08,970 --> 00:06:16,370
random numbers very well but these

123
00:06:10,800 --> 00:06:19,770
devices produce exactly theoretically

124
00:06:16,370 --> 00:06:21,720
effective random numbers that and

125
00:06:19,769 --> 00:06:25,349
remember the important definition is

126
00:06:21,720 --> 00:06:28,110
that a sequence of random numbers has in

127
00:06:25,350 --> 00:06:32,700
effect no future no future that's been

128
00:06:28,110 --> 00:06:34,830
determined it's a sequence where nobody

129
00:06:32,699 --> 00:06:37,529
not even the machine that's producing it

130
00:06:34,829 --> 00:06:40,620
can give any indication of what the

131
00:06:37,529 --> 00:06:42,269
future will be like here's what such

132
00:06:40,620 --> 00:06:45,209
data might look like if you would just

133
00:06:42,269 --> 00:06:47,129
graph them take a thousand trials and

134
00:06:45,209 --> 00:06:49,769
what we usually call a trial is two

135
00:06:47,129 --> 00:06:51,449
hundred samples basically like flipping

136
00:06:49,769 --> 00:06:54,509
two hundred coins and counting how many

137
00:06:51,449 --> 00:06:57,180
heads you expect that will be about a

138
00:06:54,509 --> 00:07:00,180
hundred most of the time in fact if you

139
00:06:57,180 --> 00:07:01,709
gather lots of these data samples you'll

140
00:07:00,180 --> 00:07:04,319
find that there's a distribution that

141
00:07:01,709 --> 00:07:07,469
looks just like the famous bell curve

142
00:07:04,319 --> 00:07:11,250
there's a mean value that's a hundred we

143

00:07:07,470 --> 00:07:15,060
exactly half of them should be ones and

144
00:07:11,250 --> 00:07:17,430
hat should be zero so we but there's

145
00:07:15,060 --> 00:07:18,030
also some variation it's not 100 all all

146
00:07:17,430 --> 00:07:23,030
the time

147
00:07:18,029 --> 00:07:25,379
maybe 97 on my you to 114 it gets

148
00:07:23,029 --> 00:07:28,199
increasingly rare as you get further

149
00:07:25,379 --> 00:07:29,490
from the mean so you get that shape and

150
00:07:28,199 --> 00:07:31,139
you probably if you're looking at either

151
00:07:29,490 --> 00:07:33,150
of these graphs you say well how is

152
00:07:31,139 --> 00:07:34,079
anybody going to tell if there's really

153
00:07:33,149 --> 00:07:35,959
been a change

154
00:07:34,079 --> 00:07:38,939
you couldn't unless it was a big change

155
00:07:35,959 --> 00:07:42,810
so we use a particular kind of graphic

156
00:07:38,939 --> 00:07:45,418
to show the development over time of a

157
00:07:42,810 --> 00:07:47,970

sequence of random numbers and we do

158
00:07:45,418 --> 00:07:50,759
this in both baseline or calibration

159
00:07:47,970 --> 00:07:52,910
conditions which is what which produces

160
00:07:50,759 --> 00:07:55,949
something looks like this a random walk

161
00:07:52,910 --> 00:07:58,410
that has a level trend it doesn't tend

162
00:07:55,949 --> 00:08:01,439
to go up or down particularly it just

163
00:07:58,410 --> 00:08:02,510
wanders about as some people say like a

164
00:08:01,439 --> 00:08:06,500
drunk trying

165
00:08:02,509 --> 00:08:09,139
at home this is what the ones we use

166
00:08:06,500 --> 00:08:11,439
nowadays look like over the when we

167
00:08:09,139 --> 00:08:14,839
started in 1980 there were hardly any

168
00:08:11,439 --> 00:08:18,319
any computers except room size computers

169
00:08:14,839 --> 00:08:20,869
as technology advanced we were able to

170
00:08:18,319 --> 00:08:22,279
shrink that suitcase size device into

171
00:08:20,870 --> 00:08:26,480
something that easily fits into your

172
00:08:22,279 --> 00:08:28,279
hand and we did that partly so that we

173
00:08:26,480 --> 00:08:30,500
could give other people this equipment

174
00:08:28,279 --> 00:08:33,679
so they could try the same kinds of

175
00:08:30,500 --> 00:08:36,110
experiment and what we do with these in

176
00:08:33,679 --> 00:08:40,159
many of the experiments is to produce a

177
00:08:36,110 --> 00:08:42,050
continuous sequence of data and there is

178
00:08:40,159 --> 00:08:45,379
a an index that goes along with that so

179
00:08:42,049 --> 00:08:47,779
that we can see exactly what kind of

180
00:08:45,379 --> 00:08:50,600
numbers were produced at any given time

181
00:08:47,779 --> 00:08:54,139
in other words we can create an

182
00:08:50,600 --> 00:08:55,940
experimental situation that we can use

183
00:08:54,139 --> 00:08:58,519
for a variety of different kinds of

184
00:08:55,940 --> 00:09:01,520
experiments the early ones just asked

185
00:08:58,519 --> 00:09:05,329
could my intention changed the way the

186
00:09:01,519 --> 00:09:07,129
device operates but we decided at some

187
00:09:05,330 --> 00:09:10,670
point it would be a pretty good idea to

188
00:09:07,129 --> 00:09:14,240
go out into the field and especially

189
00:09:10,669 --> 00:09:16,189
into places where we might find groups

190
00:09:14,240 --> 00:09:19,580
who were coming together and actually

191
00:09:16,190 --> 00:09:21,500
becoming in a sense resonant with each

192
00:09:19,580 --> 00:09:24,700
other they would be participating in

193
00:09:21,500 --> 00:09:27,620
perhaps a ritual or all enjoying an

194
00:09:24,700 --> 00:09:30,020
incredibly beautiful concert so that the

195
00:09:27,620 --> 00:09:32,149
idea was that in such a situation we

196
00:09:30,019 --> 00:09:35,840
would find the development of something

197
00:09:32,149 --> 00:09:39,139
we could call group consciousness and in

198
00:09:35,840 --> 00:09:42,399
that kind of situation this is a name

199
00:09:39,139 --> 00:09:45,080
that we apply to the idea early on

200

00:09:42,399 --> 00:09:46,730
perhaps we could see signs of something

201
00:09:45,080 --> 00:09:51,560
we've been hearing about already today

202
00:09:46,730 --> 00:09:53,659
something like a consciousness field we

203
00:09:51,559 --> 00:09:56,239
also because we're all always doing

204
00:09:53,659 --> 00:09:59,809
science we did some things in mundane

205
00:09:56,240 --> 00:10:01,440
situations to make sure that it wasn't

206
00:09:59,809 --> 00:10:05,309
just the machine

207
00:10:01,440 --> 00:10:06,990
wrong but in a busy train station or a

208
00:10:05,309 --> 00:10:10,079
street corner you shouldn't wouldn't

209
00:10:06,990 --> 00:10:11,340
expect any kind of coherence among the

210
00:10:10,080 --> 00:10:13,290
people who happen to be wandering

211
00:10:11,340 --> 00:10:16,620
through instead there would be a kind of

212
00:10:13,289 --> 00:10:19,079
chaotic non interaction something like

213
00:10:16,620 --> 00:10:22,769
an inter penetration without interaction

214
00:10:19,080 --> 00:10:25,740

and we found that indeed in such

215
00:10:22,769 --> 00:10:28,259
situations the level random walk would

216
00:10:25,740 --> 00:10:32,100
be the result but let me show you what

217
00:10:28,259 --> 00:10:35,009
we find in luminous situations or

218
00:10:32,100 --> 00:10:38,100
situations where a kind of group

219
00:10:35,009 --> 00:10:41,669
coherence or residents might develop two

220
00:10:38,100 --> 00:10:44,909
examples on the left is a beautiful

221
00:10:41,669 --> 00:10:48,299
natural monument in north eastern

222
00:10:44,909 --> 00:10:51,539
Wyoming it's a volcano which erupted

223
00:10:48,299 --> 00:10:54,569
millions of years ago and left a column

224
00:10:51,539 --> 00:10:57,360
of lava inside the mountain the mountain

225
00:10:54,570 --> 00:11:00,210
was softer than lava and the millions of

226
00:10:57,360 --> 00:11:02,100
years eroded away everything but that

227
00:11:00,210 --> 00:11:04,980
central column which is a very

228
00:11:02,100 --> 00:11:08,940
impressive and quite beautiful monument

229
00:11:04,980 --> 00:11:12,720
that the North American Native Americans

230
00:11:08,940 --> 00:11:15,350
thought of as a kind of sacred place we

231
00:11:12,720 --> 00:11:18,629
went there with a shaman a Native

232
00:11:15,350 --> 00:11:21,210
Shoshone shaman from that area whose

233
00:11:18,629 --> 00:11:25,470
mission among other things was to heal

234
00:11:21,210 --> 00:11:28,129
any spiritual wounds that might have

235
00:11:25,470 --> 00:11:31,680
been suffered over the time people

236
00:11:28,129 --> 00:11:33,990
uncaring people coming to visit and he

237
00:11:31,679 --> 00:11:37,199
found a power spot as we walked around

238
00:11:33,990 --> 00:11:40,649
this place and produced and did a

239
00:11:37,200 --> 00:11:44,190
ceremony for 20 minutes he chanted and

240
00:11:40,649 --> 00:11:45,990
sang and drummed and smoked a mixture of

241
00:11:44,190 --> 00:11:49,680
herbs and I have no idea what was in the

242
00:11:45,990 --> 00:11:54,330
mixture but it was effective here

243
00:11:49,679 --> 00:11:56,429
instead of the expected sorry the

244
00:11:54,330 --> 00:11:58,470
expected level random walk we see

245
00:11:56,429 --> 00:12:00,679
something that goes strikingly far

246
00:11:58,470 --> 00:12:03,410
outside those

247
00:12:00,679 --> 00:12:05,209
and in fact the shaman who I had

248
00:12:03,409 --> 00:12:07,309
attempted to explain what we were doing

249
00:12:05,210 --> 00:12:11,330
said when he looked at this craft

250
00:12:07,309 --> 00:12:14,119
at last I understand then I went with a

251
00:12:11,330 --> 00:12:17,060
group of 19 spiritually interested

252
00:12:14,120 --> 00:12:20,870
people to Egypt and among other things

253
00:12:17,059 --> 00:12:23,659
we visited the Great Pyramid had it an

254
00:12:20,870 --> 00:12:26,029
opportunity to go inside and this is the

255
00:12:23,659 --> 00:12:29,089
result of this is the data taken and

256
00:12:26,029 --> 00:12:31,429
marked in the index with the beginning

257

00:12:29,090 --> 00:12:34,759
and end of certain segments the very

258
00:12:31,429 --> 00:12:36,889
first segment here is the entrance

259
00:12:34,759 --> 00:12:39,529
tunnel and you can see there's very

260
00:12:36,889 --> 00:12:43,129
little tendency for that to deviate from

261
00:12:39,529 --> 00:12:46,279
the random walk we expect then we went

262
00:12:43,129 --> 00:12:48,159
to the Queen's Chamber here and the

263
00:12:46,279 --> 00:12:50,629
Grand Gallery if you've ever been there

264
00:12:48,159 --> 00:12:52,850
you know that's a pretty impressive

265
00:12:50,629 --> 00:12:55,189
place and if you haven't been there and

266
00:12:52,850 --> 00:12:58,040
do go check it out that's really quite

267
00:12:55,190 --> 00:13:01,130
remarkable these data are remarkable -

268
00:12:58,039 --> 00:13:05,149
they're so far from flat so far from

269
00:13:01,129 --> 00:13:07,519
normally random that you have to draw

270
00:13:05,149 --> 00:13:10,189
the conclusion or at least lean toward

271
00:13:07,519 --> 00:13:13,639

the conclusion that our resonant root

272
00:13:10,190 --> 00:13:17,300
consciousness which we felt was felt

273
00:13:13,639 --> 00:13:20,330
also by this random number generator

274
00:13:17,299 --> 00:13:22,969
attached to a palmtop computer I was

275
00:13:20,330 --> 00:13:25,940
carrying and we did a couple of

276
00:13:22,970 --> 00:13:28,250
meditations in the King's Chamber and

277
00:13:25,940 --> 00:13:31,760
then after that we wandered out and did

278
00:13:28,250 --> 00:13:34,750
our normal kind of stuff to me one of

279
00:13:31,759 --> 00:13:36,950
the most remarkable X priority of

280
00:13:34,750 --> 00:13:38,720
experiences and in terms of this

281
00:13:36,950 --> 00:13:41,030
particular experiment one of the most

282
00:13:38,720 --> 00:13:45,920
remarkable databases we went to all of

283
00:13:41,029 --> 00:13:49,129
the ruined temples that we could go to

284
00:13:45,919 --> 00:13:51,740
and in those places almost always we

285
00:13:49,129 --> 00:13:54,110
also found these strong effects so we've

286
00:13:51,740 --> 00:13:57,139
been talking about two different kinds

287
00:13:54,110 --> 00:13:59,450
of experiment in the laboratory for

288
00:13:57,139 --> 00:14:01,519
about 12 years we did these random

289
00:13:59,450 --> 00:14:03,070
number generator experiments and they

290
00:14:01,519 --> 00:14:06,519
showed with

291
00:14:03,070 --> 00:14:08,230
any real question if you believe that we

292
00:14:06,519 --> 00:14:10,750
were doing our job well as scientists

293
00:14:08,230 --> 00:14:13,420
that conscious intention can change the

294
00:14:10,750 --> 00:14:16,179
behavior of a physical device a random

295
00:14:13,419 --> 00:14:18,099
number generator and then we did several

296
00:14:16,179 --> 00:14:21,399
more years of experiments which we're

297
00:14:18,100 --> 00:14:23,709
showing that that something like gluten

298
00:14:21,399 --> 00:14:27,578
group consciousness exists and it also

299
00:14:23,708 --> 00:14:30,879
has effects in the world so we were in

300
00:14:27,578 --> 00:14:36,338
effect ready for a new to think about a

301
00:14:30,879 --> 00:14:38,759
new kind of experiment and the question

302
00:14:36,339 --> 00:14:42,550
we wanted to ask was could a

303
00:14:38,759 --> 00:14:46,509
world-spanning network of these same

304
00:14:42,549 --> 00:14:49,199
devices installed in locations all

305
00:14:46,509 --> 00:14:51,819
around the world could they possibly

306
00:14:49,200 --> 00:14:54,519
constitute an instrument that we could

307
00:14:51,820 --> 00:14:57,310
use to ask a question about global

308
00:14:54,519 --> 00:15:00,039
consciousness not just a small group but

309
00:14:57,309 --> 00:15:02,078
in some sense all of us or at least very

310
00:15:00,039 --> 00:15:06,909
large numbers of us operating together

311
00:15:02,078 --> 00:15:09,578
as a kind of huge group consciousness we

312
00:15:06,909 --> 00:15:11,259
did a few couple of prototypes before

313
00:15:09,578 --> 00:15:16,479
actually entering into this and one of

314

00:15:11,259 --> 00:15:20,169
the first attempts was during Princess

315
00:15:16,480 --> 00:15:22,480
Diana's funeral everyone was we were

316
00:15:20,169 --> 00:15:24,250
hearing that many hundreds of millions

317
00:15:22,480 --> 00:15:26,589
of people if not a couple of billion

318
00:15:24,250 --> 00:15:29,889
people would be paying attention at the

319
00:15:26,589 --> 00:15:33,630
same time to this what turned out to be

320
00:15:29,889 --> 00:15:36,789
six hour-long funeral ceremony and you

321
00:15:33,629 --> 00:15:40,240
can see a red line here which is the

322
00:15:36,789 --> 00:15:43,629
composite of 12 data lines data

323
00:15:40,240 --> 00:15:46,180
sequences connected always from well

324
00:15:43,629 --> 00:15:49,750
made random number generators by my

325
00:15:46,179 --> 00:15:53,979
friends and colleagues in Europe and the

326
00:15:49,750 --> 00:15:56,500
US they that's a hundred to one odds

327
00:15:53,980 --> 00:15:59,230
that we should get any such large

328
00:15:56,500 --> 00:16:00,759

deviation by chance there's a little

329
00:15:59,230 --> 00:16:03,129
cloud of

330
00:16:00,759 --> 00:16:07,149
or blueish lines that shows what chance

331
00:16:03,129 --> 00:16:08,860
actually produces so this and other work

332
00:16:07,149 --> 00:16:11,590
like it gave us the courage to go ahead

333
00:16:08,860 --> 00:16:14,710
and build a network and over the years

334
00:16:11,590 --> 00:16:17,350
we've had more than 100 of these

335
00:16:14,710 --> 00:16:19,269
instruments installed in around the

336
00:16:17,350 --> 00:16:22,180
world you can see that there are some

337
00:16:19,269 --> 00:16:25,419
places which are kind of bare that's

338
00:16:22,179 --> 00:16:27,459
because there's either very little

339
00:16:25,419 --> 00:16:28,990
internet or very little infrastructure

340
00:16:27,460 --> 00:16:32,280
to keep the electricity and therefore

341
00:16:28,990 --> 00:16:36,190
your computer running we're missing

342
00:16:32,279 --> 00:16:38,019
Siberia much of Africa and Greenland and

343
00:16:36,190 --> 00:16:39,990
we also have even though a couple people

344
00:16:38,019 --> 00:16:43,629
have offered we have known in in

345
00:16:39,990 --> 00:16:45,960
Antarctica either so this is what the

346
00:16:43,629 --> 00:16:51,509
data look like when they come in it's a

347
00:16:45,960 --> 00:16:53,769
mess it's a chaotic Rumble but by

348
00:16:51,509 --> 00:16:57,159
appropriate use of Statistics we can

349
00:16:53,769 --> 00:17:02,759
begin to pull that that chaotic incoming

350
00:16:57,159 --> 00:17:04,809
data set apart and look at all the

351
00:17:02,759 --> 00:17:07,150
accumulating deviations for the

352
00:17:04,809 --> 00:17:09,190
individual devices and then make an

353
00:17:07,150 --> 00:17:12,759
average of those which is not so easy to

354
00:17:09,190 --> 00:17:15,880
see but this dark line here is that's

355
00:17:12,759 --> 00:17:19,180
the average accumulating deviation

356
00:17:15,880 --> 00:17:21,880
across all of the devices that are that

357
00:17:19,180 --> 00:17:25,150
are sending their data to the server in

358
00:17:21,880 --> 00:17:27,160
Princeton we call that line a cumulative

359
00:17:25,150 --> 00:17:30,670
deviation it just means that we're

360
00:17:27,160 --> 00:17:33,490
adding each for each second that's the

361
00:17:30,670 --> 00:17:36,070
time interval between our samples the

362
00:17:33,490 --> 00:17:39,099
deviation from 100 which the expected

363
00:17:36,069 --> 00:17:42,189
value if it's 102 our line goes up by 2

364
00:17:39,099 --> 00:17:44,529
notches if it's 98 it goes down from

365
00:17:42,190 --> 00:17:47,910
there by 2 notches and back to 100 and

366
00:17:44,529 --> 00:17:51,279
so on until you get a history of the

367
00:17:47,910 --> 00:17:54,040
accumulating deviation that's a picture

368
00:17:51,279 --> 00:17:55,809
I'll show you in many repetitions later

369
00:17:54,039 --> 00:17:58,420
there are lots of ways to look at the

370
00:17:55,809 --> 00:18:00,129
data and some of them very pretty but

371

00:17:58,420 --> 00:18:03,130
they don't tell us much it's hard to see

372
00:18:00,130 --> 00:18:06,940
in a great detail there even if we have

373
00:18:03,130 --> 00:18:09,610
a have a powerful event this is a great

374
00:18:06,940 --> 00:18:10,570
earthquake in Turkey this is now so long

375
00:18:09,609 --> 00:18:13,779
ago most of us

376
00:18:10,569 --> 00:18:15,759
have forgotten that even though many

377
00:18:13,779 --> 00:18:17,769
thousands of people died in this

378
00:18:15,759 --> 00:18:20,500
earthquake and it was tremendous

379
00:18:17,769 --> 00:18:23,049
destruction we might imagine that one or

380
00:18:20,500 --> 00:18:25,180
another those Peaks there represents

381
00:18:23,049 --> 00:18:27,089
something happening but the truth is

382
00:18:25,180 --> 00:18:29,289
it's really hard to make out any

383
00:18:27,089 --> 00:18:32,349
scientific conclusion from data like

384
00:18:29,289 --> 00:18:35,619
that so we use this cumulative deviation

385
00:18:32,349 --> 00:18:38,439

picture to represent the history of the

386
00:18:35,619 --> 00:18:42,009
data during the time we say the event is

387
00:18:38,440 --> 00:18:44,910
that we're interested in takes place in

388
00:18:42,009 --> 00:18:48,190
left hand larger graph there is a

389
00:18:44,910 --> 00:18:49,810
sequence that appears indeed to have at

390
00:18:48,190 --> 00:18:54,640
least part of the time a fairly strong

391
00:18:49,809 --> 00:18:56,740
trend away from the expected random walk

392
00:18:54,640 --> 00:18:59,920
on the right there are two examples of

393
00:18:56,740 --> 00:19:02,890
what we think of as kind of baseline or

394
00:18:59,920 --> 00:19:07,240
background events so we'll go straight

395
00:19:02,890 --> 00:19:09,460
to the scientific hypothesis that we use

396
00:19:07,240 --> 00:19:12,789
for this experiment it's fairly

397
00:19:09,460 --> 00:19:15,400
straightforward and simple but it's also

398
00:19:12,789 --> 00:19:17,889
a little bit vague I'll talk a bit more

399
00:19:15,400 --> 00:19:20,410
about that a moment but the hypothesis

400
00:19:17,890 --> 00:19:22,030
that we have in mind is that events

401
00:19:20,410 --> 00:19:24,610
which really focus the attention of

402
00:19:22,029 --> 00:19:27,460
large numbers of people around the world

403
00:19:24,609 --> 00:19:29,709
that such events will correlate with

404
00:19:27,460 --> 00:19:33,940
changes in our data our data will change

405
00:19:29,710 --> 00:19:36,160
during those events and the data will be

406
00:19:33,940 --> 00:19:41,019
collected from our whole network of

407
00:19:36,160 --> 00:19:43,150
random number generators that that

408
00:19:41,019 --> 00:19:45,369
general hypothesis needs to be

409
00:19:43,150 --> 00:19:47,530
instantiated more specifically and I'll

410
00:19:45,369 --> 00:19:49,479
talk about that in a moment but

411
00:19:47,529 --> 00:19:51,849
basically we're using the same tools as

412
00:19:49,480 --> 00:19:53,920
we developed in the laboratory we're

413
00:19:51,849 --> 00:19:57,490
making what my son decided we should

414
00:19:53,920 --> 00:19:59,800
call an electric diagram it's as if it

415
00:19:57,490 --> 00:20:02,440
were an electro encephalogram for the

416
00:19:59,799 --> 00:20:04,529
human but now we've got the earth body

417
00:20:02,440 --> 00:20:06,970
so we call it an electric diagram

418
00:20:04,529 --> 00:20:10,230
consequently we refer to that network

419
00:20:06,970 --> 00:20:13,180
sometimes is the egg Network you Gigi

420
00:20:10,230 --> 00:20:14,299
the people are volunteers from all

421
00:20:13,180 --> 00:20:17,720
around the world

422
00:20:14,299 --> 00:20:20,389
lots of scientists lots of artists and

423
00:20:17,720 --> 00:20:22,549
businessmen a variety of people always

424
00:20:20,390 --> 00:20:25,070
all that's really required is the

425
00:20:22,549 --> 00:20:29,899
dedication to keep a computer running

426
00:20:25,069 --> 00:20:32,329
for years and years the method we use is

427
00:20:29,900 --> 00:20:35,420
to identify events that we really think

428

00:20:32,329 --> 00:20:37,909
ought to bring us all together to share

429
00:20:35,420 --> 00:20:42,050
emotions to be deeply engaged somehow

430
00:20:37,910 --> 00:20:44,450
and the question are we able to catch a

431
00:20:42,049 --> 00:20:47,599
little bit of an indication there's such

432
00:20:44,450 --> 00:20:49,279
a thing as global consciousness we look

433
00:20:47,599 --> 00:20:51,349
at a variety of different kinds of

434
00:20:49,279 --> 00:20:54,649
events natural disasters like

435
00:20:51,349 --> 00:20:57,829
earthquakes and floods accidents

436
00:20:54,650 --> 00:20:59,090
occasionally a plane will crash and two

437
00:20:57,829 --> 00:21:03,250
or three hundred people will be killed

438
00:20:59,089 --> 00:21:05,599
and with and there will be shocked

439
00:21:03,250 --> 00:21:09,440
terrorist attacks are you more shocking

440
00:21:05,599 --> 00:21:12,980
and although they've become so we become

441
00:21:09,440 --> 00:21:15,259
a newer to them almost major political

442
00:21:12,980 --> 00:21:17,180

events we also look at positive things

443
00:21:15,259 --> 00:21:19,730
like great or religious or other

444
00:21:17,180 --> 00:21:23,480
celebrations and things like global

445
00:21:19,730 --> 00:21:26,360
demonstrations for peace or a brighter

446
00:21:23,480 --> 00:21:29,660
future that sort of thing and I'm going

447
00:21:26,359 --> 00:21:31,939
to show you a number of examples we

448
00:21:29,660 --> 00:21:33,680
always make a hypothesis ahead of time

449
00:21:31,940 --> 00:21:36,650
before looking at the data so we can

450
00:21:33,680 --> 00:21:39,259
actually do statistics and interpret the

451
00:21:36,650 --> 00:21:40,820
statistics in a reliable way what that

452
00:21:39,259 --> 00:21:44,150
all that means is that we have to say

453
00:21:40,819 --> 00:21:47,179
this is the event name it and identify

454
00:21:44,150 --> 00:21:49,790
it put it into a prediction registry and

455
00:21:47,180 --> 00:21:53,029
say when does it begin when does it end

456
00:21:49,789 --> 00:21:55,670
and we have a fairly standard amount of

457
00:21:53,029 --> 00:21:57,559
time we know we need several hours so we

458
00:21:55,670 --> 00:22:02,390
usually set something like six hours if

459
00:21:57,559 --> 00:22:04,190
we can about many of the times we don't

460
00:22:02,390 --> 00:22:07,940
see much in the way of results that

461
00:22:04,190 --> 00:22:12,350
would add to the evidence but in about

462
00:22:07,940 --> 00:22:15,529
70% of the events that we pick instead

463
00:22:12,349 --> 00:22:17,990
of only 50% the result goes in the

464
00:22:15,529 --> 00:22:21,649
direction that we predict and it turns

465
00:22:17,990 --> 00:22:22,890
out that something like close to 20% are

466
00:22:21,650 --> 00:22:25,169
significant in

467
00:22:22,890 --> 00:22:28,769
standard fashion where he should expect

468
00:22:25,169 --> 00:22:30,450
to see only 5% so I'm going to run

469
00:22:28,769 --> 00:22:33,839
through a few examples and then talk

470
00:22:30,450 --> 00:22:37,110
more generally about the result this is

471
00:22:33,839 --> 00:22:39,148
the earthquake in Hawaiian Haiti a

472
00:22:37,109 --> 00:22:41,099
couple of years ago actually three years

473
00:22:39,148 --> 00:22:44,308
ago now this killed

474
00:22:41,099 --> 00:22:46,589
we had a Haitian driver for the taxi

475
00:22:44,308 --> 00:22:49,589
that took us to the train that took us

476
00:22:46,589 --> 00:22:51,720
to the airport and I asked him if he had

477
00:22:49,589 --> 00:22:53,778
heard recently how many what the total

478
00:22:51,720 --> 00:22:56,700
number of people killed he said nearly

479
00:22:53,778 --> 00:22:59,819
400,000 people so this is a huge event

480
00:22:56,700 --> 00:23:01,409
and it shows a very strong deviation

481
00:22:59,819 --> 00:23:03,990
this happens to be opposite the

482
00:23:01,409 --> 00:23:06,090
direction we normally predict and so it

483
00:23:03,990 --> 00:23:09,169
counts against our bottom line but still

484
00:23:06,089 --> 00:23:13,439
I think unquestionably a deviation

485

00:23:09,169 --> 00:23:14,880
compared with what's expected there are

486
00:23:13,440 --> 00:23:18,778
other ways to look at the data and this

487
00:23:14,880 --> 00:23:22,110
is one which shows an enormous spike in

488
00:23:18,778 --> 00:23:23,880
in our data which is in random number

489
00:23:22,109 --> 00:23:27,689
generators placed around the world our

490
00:23:23,880 --> 00:23:30,269
data show a very striking powerful spike

491
00:23:27,690 --> 00:23:32,940
right at the time of the quake and then

492
00:23:30,269 --> 00:23:36,470
this is now two days rather than only a

493
00:23:32,940 --> 00:23:40,950
few hours and as time goes on we see

494
00:23:36,470 --> 00:23:42,659
many many large spikes in the data which

495
00:23:40,950 --> 00:23:45,960
corresponds to the understanding that

496
00:23:42,659 --> 00:23:50,340
grows after a disaster like that how bad

497
00:23:45,960 --> 00:23:52,319
it is this is something a little more

498
00:23:50,339 --> 00:23:57,288
positive or happy and in terms of

499
00:23:52,319 --> 00:24:01,470

outcome the in Chile there was a a

500
00:23:57,288 --> 00:24:04,740
collapse in a mine and some 33 miners

501
00:24:01,470 --> 00:24:06,870
work and were confined

502
00:24:04,740 --> 00:24:10,079
I guess hundreds of meters below the

503
00:24:06,869 --> 00:24:12,148
ground and thought to be lost but the

504
00:24:10,079 --> 00:24:16,819
people worked hard to rescue them and

505
00:24:12,148 --> 00:24:19,339
this is the first two hours after

506
00:24:16,819 --> 00:24:21,349
it was apparently going to be possible

507
00:24:19,339 --> 00:24:25,278
they were rescued the red curve by the

508
00:24:21,349 --> 00:24:29,119
way shows all of the data and sorry

509
00:24:25,278 --> 00:24:32,329
about that the green curve shows the

510
00:24:29,119 --> 00:24:38,148
data just from one of our devices in

511
00:24:32,329 --> 00:24:42,439
Santiago in in a local device relative

512
00:24:38,148 --> 00:24:46,069
to the earthquake the second graph there

513
00:24:42,440 --> 00:24:48,169
shows the data over a period of 17 hours

514
00:24:46,069 --> 00:24:50,089
which was the time it took to get all

515
00:24:48,169 --> 00:24:52,580
those miners up out of the ground and

516
00:24:50,089 --> 00:24:56,990
you can see a continuous steady trend

517
00:24:52,579 --> 00:25:00,648
there but as somebody as many of us

518
00:24:56,990 --> 00:25:03,109
recognize one of the major events that

519
00:25:00,648 --> 00:25:06,138
brought huge numbers of people to feel

520
00:25:03,109 --> 00:25:09,849
the same emotions was the attacks in New

521
00:25:06,138 --> 00:25:14,829
York and Washington on September 11 2001

522
00:25:09,849 --> 00:25:18,949
we usually just call it 911 there were

523
00:25:14,829 --> 00:25:20,839
two plane crashes and two building

524
00:25:18,950 --> 00:25:23,149
collapses the end couple of other

525
00:25:20,839 --> 00:25:25,819
incidents including attack on the

526
00:25:23,148 --> 00:25:30,619
Pentagon this is a picture of the data

527
00:25:25,819 --> 00:25:33,730
over a period of nine days with 911 just

528
00:25:30,619 --> 00:25:36,229
this little black box in the middle

529
00:25:33,730 --> 00:25:39,169
showing where all that stuff was

530
00:25:36,230 --> 00:25:41,329
happening at for our prediction our

531
00:25:39,169 --> 00:25:44,000
original prediction showed a significant

532
00:25:41,329 --> 00:25:45,230
deviation but people said well for such

533
00:25:44,000 --> 00:25:47,509
a big thing it should have been a bigger

534
00:25:45,230 --> 00:25:49,548
deviation than that shouldn't it and who

535
00:25:47,509 --> 00:25:53,000
knows what it should be well what it

536
00:25:49,548 --> 00:25:56,119
turns out in our explorations was that

537
00:25:53,000 --> 00:25:59,659
the deviations continued for about two

538
00:25:56,119 --> 00:26:05,239
days it wasn't just a little blip but a

539
00:25:59,659 --> 00:26:07,879
long long chain of sequential changes in

540
00:26:05,240 --> 00:26:09,740
the data here's a completely independent

541
00:26:07,878 --> 00:26:13,519
measure looking at the same period of

542

00:26:09,740 --> 00:26:17,750
time this is showing just three days

543
00:26:13,519 --> 00:26:20,750
with 911 in the center and the major

544
00:26:17,750 --> 00:26:22,190
events are right here and you can see

545
00:26:20,750 --> 00:26:26,388
that there's a big change in the data

546
00:26:22,190 --> 00:26:28,759
that starts a few hours early so many

547
00:26:26,388 --> 00:26:29,349
people including me wonder why that

548
00:26:28,759 --> 00:26:33,069
would be there

549
00:26:29,349 --> 00:26:36,730
a couple of possible explanations one of

550
00:26:33,069 --> 00:26:39,668
them is a very straightforward idea that

551
00:26:36,730 --> 00:26:42,250
there were perhaps 50 or 100 people the

552
00:26:39,669 --> 00:26:45,070
terrorists in organization who knew

553
00:26:42,250 --> 00:26:46,900
about this a 10 20 or so who were

554
00:26:45,069 --> 00:26:50,109
preparing to die they were saying their

555
00:26:46,900 --> 00:26:52,509
prayers to Allah probably about the time

556
00:26:50,109 --> 00:26:53,829

that data started changing my preferred

557
00:26:52,509 --> 00:26:58,538
explanation is different

558
00:26:53,829 --> 00:27:01,750
we have premonitions very good research

559
00:26:58,538 --> 00:27:05,440
shows that human beings sometimes dream

560
00:27:01,750 --> 00:27:07,179
or even in the daytime somehow come to

561
00:27:05,440 --> 00:27:09,429
expect something that does indeed happen

562
00:27:07,179 --> 00:27:12,880
it's that we call it premonitions or

563
00:27:09,429 --> 00:27:15,669
precognition why wouldn't that happen

564
00:27:12,880 --> 00:27:20,650
also to a larger scale group

565
00:27:15,669 --> 00:27:22,538
consciousness we can at this point find

566
00:27:20,650 --> 00:27:24,309
any way to distinguish between those

567
00:27:22,538 --> 00:27:27,009
options but I think both of them should

568
00:27:24,308 --> 00:27:29,139
be considered a couple more ways of

569
00:27:27,009 --> 00:27:31,000
looking at the data this is just the

570
00:27:29,140 --> 00:27:33,190
major spikes that happen around the time

571
00:27:31,000 --> 00:27:37,089
are the data change there's no question

572
00:27:33,190 --> 00:27:40,019
about it but by far my month for me as a

573
00:27:37,089 --> 00:27:45,038
kind of statistician the most persuasive

574
00:27:40,019 --> 00:27:46,960
example orcid data set is what we call

575
00:27:45,038 --> 00:27:49,390
autocorrelation one of the definitions

576
00:27:46,960 --> 00:27:52,150
of random sequences is that there's no

577
00:27:49,390 --> 00:27:54,130
relationship between one moment and the

578
00:27:52,150 --> 00:27:56,860
next moment there's no predictability if

579
00:27:54,130 --> 00:27:59,080
you know what has happened now you don't

580
00:27:56,859 --> 00:28:03,369
know what happens in the future normally

581
00:27:59,079 --> 00:28:05,500
but it turns out that on 9/11 the there

582
00:28:03,369 --> 00:28:07,389
is a predictability in an

583
00:28:05,500 --> 00:28:09,849
autocorrelation that persists for about

584
00:28:07,390 --> 00:28:12,909
two hours in other words the data are

585
00:28:09,849 --> 00:28:15,189
not normal random data and it shows very

586
00:28:12,909 --> 00:28:18,340
clearly in this graph where the red line

587
00:28:15,190 --> 00:28:24,370
is the real data the black cloud shows

588
00:28:18,339 --> 00:28:27,250
what random data would do moving on to

589
00:28:24,369 --> 00:28:30,849
another terrible disaster we look at the

590
00:28:27,250 --> 00:28:32,558
great tsunami in Japan again we have the

591
00:28:30,849 --> 00:28:34,298
whole network shown in the red trays

592
00:28:32,558 --> 00:28:35,480
which doesn't look terribly impressive

593
00:28:34,298 --> 00:28:39,710
here but I'll show you

594
00:28:35,480 --> 00:28:46,190
or more figures later our local egg in

595
00:28:39,710 --> 00:28:48,549
Japan had a huge deviation if we look at

596
00:28:46,190 --> 00:28:51,380
a longer period of time you can see that

597
00:28:48,549 --> 00:28:54,799
trends that are beginning around the

598
00:28:51,380 --> 00:28:58,520
quake persist for a long time this is a

599

00:28:54,799 --> 00:29:01,190
very strong unusual or unlikely curve

600
00:28:58,519 --> 00:29:03,349
for random data it looks very much like

601
00:29:01,190 --> 00:29:05,509
something we found we looked at all big

602
00:29:03,349 --> 00:29:11,059
earthquakes over a period of about eight

603
00:29:05,509 --> 00:29:14,140
years in in general there's a there's a

604
00:29:11,059 --> 00:29:16,789
change in this particular statistic that

605
00:29:14,140 --> 00:29:19,700
starts happening a few hours before the

606
00:29:16,789 --> 00:29:23,180
earthquake it gets to its most extreme

607
00:29:19,700 --> 00:29:24,799
value the low point right at the time of

608
00:29:23,180 --> 00:29:27,830
the quake and then comes back to normal

609
00:29:24,799 --> 00:29:31,009
in the next few hours it almost looked

610
00:29:27,829 --> 00:29:33,649
like we could build a machine to to

611
00:29:31,009 --> 00:29:35,990
predict earthquakes it isn't quite as

612
00:29:33,650 --> 00:29:38,390
simple as that but maybe as we learn

613
00:29:35,990 --> 00:29:40,339

more that could happen here are some

614
00:29:38,390 --> 00:29:42,140
other pictures of the data in Japan

615
00:29:40,339 --> 00:29:44,959
again right at the time of the quake

616
00:29:42,140 --> 00:29:47,620
there's a huge spike a little later than

617
00:29:44,960 --> 00:29:49,250
an even bigger one which might possibly

618
00:29:47,619 --> 00:29:51,139
represent the fact that we were

619
00:29:49,250 --> 00:29:52,910
beginning to understand the true

620
00:29:51,140 --> 00:29:56,660
magnitude of the disaster that's ongoing

621
00:29:52,910 --> 00:29:58,910
and here's yet another it is possible to

622
00:29:56,660 --> 00:30:00,830
look with many different statistics at

623
00:29:58,910 --> 00:30:02,990
these data where we're showing here is

624
00:30:00,829 --> 00:30:06,460
that no matter how you look there's

625
00:30:02,990 --> 00:30:10,700
something unusual going on in the data

626
00:30:06,460 --> 00:30:13,730
represented in during that during a

627
00:30:10,700 --> 00:30:16,309
disaster like that which engages so many

628
00:30:13,730 --> 00:30:19,549
of us millions of us in the same

629
00:30:16,309 --> 00:30:23,299
thoughts which include things like fear

630
00:30:19,549 --> 00:30:25,809
and sadness and compassion for the

631
00:30:23,299 --> 00:30:28,369
people that are affected this is a

632
00:30:25,809 --> 00:30:33,409
another kind of example a little smaller

633
00:30:28,369 --> 00:30:34,759
scale but still a disaster in in Russia

634
00:30:33,410 --> 00:30:39,290
there was a

635
00:30:34,759 --> 00:30:43,430
a takeover of a school ultimately fifty

636
00:30:39,289 --> 00:30:45,829
hundred and fifty people hostages were

637
00:30:43,430 --> 00:30:49,910
killed in that situation and it looks at

638
00:30:45,829 --> 00:30:52,099
almost as if the world and maybe in the

639
00:30:49,910 --> 00:30:57,100
form of our instrument or paying

640
00:30:52,099 --> 00:31:00,639
attention here's another example when

641
00:30:57,099 --> 00:31:04,339
you I don't know how widespread these

642
00:31:00,640 --> 00:31:06,290
these events how widespread the coverage

643
00:31:04,339 --> 00:31:09,379
is but you may have heard about the

644
00:31:06,289 --> 00:31:13,579
shooting in a theater the first showing

645
00:31:09,380 --> 00:31:16,280
of a new Batman movie some crazed person

646
00:31:13,579 --> 00:31:18,769
brought an automatic weapon in and just

647
00:31:16,279 --> 00:31:20,269
killed as many people as it could in the

648
00:31:18,769 --> 00:31:22,759
audience that's what the data looked

649
00:31:20,269 --> 00:31:26,119
like during that event more recently we

650
00:31:22,759 --> 00:31:28,849
had a disaster in Connecticut where

651
00:31:26,119 --> 00:31:30,889
twenty children five six year old

652
00:31:28,849 --> 00:31:34,099
children were slaughtered by another

653
00:31:30,890 --> 00:31:38,410
crazy person that's the data developing

654
00:31:34,099 --> 00:31:43,459
over time as that news of that disaster

655
00:31:38,410 --> 00:31:46,509
increased when the Tibetans rioted or

656

00:31:43,460 --> 00:31:50,390
demonstrated against the Chinese

657
00:31:46,509 --> 00:31:54,529
occupation the world took notice in this

658
00:31:50,390 --> 00:31:56,450
form here's the again the other end of

659
00:31:54,529 --> 00:31:58,670
the spectrum we're looking at positive

660
00:31:56,450 --> 00:32:02,630
events sometimes this is the coup Mela

661
00:31:58,670 --> 00:32:05,480
which is a an enormous celebration of in

662
00:32:02,630 --> 00:32:08,390
the Hindu religion as many people as can

663
00:32:05,480 --> 00:32:11,170
which turns out to be ten maybe twenty

664
00:32:08,390 --> 00:32:14,360
million some say more than that

665
00:32:11,170 --> 00:32:17,269
pilgrimage to the Ganges and bathe to

666
00:32:14,359 --> 00:32:20,299
cleanse themselves of all sins and this

667
00:32:17,269 --> 00:32:22,639
is a repeated event so we've looked at

668
00:32:20,299 --> 00:32:26,539
it three times in the last several years

669
00:32:22,640 --> 00:32:29,870
and it's a little unusual for us to have

670
00:32:26,539 --> 00:32:31,789

such an obvious replication but this is

671
00:32:29,869 --> 00:32:34,219
what we're actually looking for we

672
00:32:31,789 --> 00:32:38,210
repeat this experiment time and time and

673
00:32:34,220 --> 00:32:40,759
time again and our hope is that by even

674
00:32:38,210 --> 00:32:43,670
though our the system is very noisy it's

675
00:32:40,759 --> 00:32:44,309
hard to find it's like we're looking for

676
00:32:43,670 --> 00:32:49,259
a gold

677
00:32:44,309 --> 00:32:51,509
in kind of choppy sea we it by repeating

678
00:32:49,259 --> 00:32:53,970
this experiment we gradually build up

679
00:32:51,509 --> 00:32:58,980
some evidence that there really is a

680
00:32:53,970 --> 00:33:00,660
goldfish this is another celebration you

681
00:32:58,980 --> 00:33:04,740
might say even though it's a funeral

682
00:33:00,660 --> 00:33:07,820
people highly respected pope john ii and

683
00:33:04,740 --> 00:33:10,109
this is the data line during his funeral

684
00:33:07,819 --> 00:33:14,129
much more recently we're greatly

685
00:33:10,109 --> 00:33:16,949
surprised by the resignation of Pope

686
00:33:14,130 --> 00:33:19,470
Benedict an event that was basically

687
00:33:16,950 --> 00:33:21,000
unique in anybody's memory because

688
00:33:19,470 --> 00:33:23,640
nothing like does it happened for what

689
00:33:21,000 --> 00:33:25,819
six hundred years of something and then

690
00:33:23,640 --> 00:33:28,110
after that the new pope was appointed

691
00:33:25,819 --> 00:33:30,809
this isn't as strong but it is a

692
00:33:28,109 --> 00:33:34,199
positive outcome with in fact larger

693
00:33:30,809 --> 00:33:37,039
than our average effect size and we can

694
00:33:34,200 --> 00:33:43,230
hope that the newly elected Pope will

695
00:33:37,039 --> 00:33:45,420
help bring compassion into favour as an

696
00:33:43,230 --> 00:33:49,529
emotion that humans might share with

697
00:33:45,420 --> 00:33:51,840
each other most people think when they

698
00:33:49,529 --> 00:33:53,670
hear about this project that sporting

699
00:33:51,839 --> 00:33:56,309
events especially big ones like the

700
00:33:53,670 --> 00:33:59,360
World Cup really ought to just knock the

701
00:33:56,309 --> 00:34:01,679
socks off our or a system but they don't

702
00:33:59,359 --> 00:34:04,319
we don't know exactly why but the

703
00:34:01,680 --> 00:34:07,410
standard measure typically produces this

704
00:34:04,319 --> 00:34:09,150
kind of outcome which is not very very

705
00:34:07,410 --> 00:34:11,940
much different from chance expectation

706
00:34:09,150 --> 00:34:14,250
it's possible we haven't figured out the

707
00:34:11,940 --> 00:34:17,159
right question to ask we haven't found

708
00:34:14,250 --> 00:34:19,230
the right statistical measure and but

709
00:34:17,159 --> 00:34:21,809
it's also possible there really is a

710
00:34:19,230 --> 00:34:23,969
matter of a different kind of event

711
00:34:21,809 --> 00:34:26,880
there's lots of excitement but there's

712
00:34:23,969 --> 00:34:29,309
no compassion and there isn't much in

713

00:34:26,880 --> 00:34:31,590
the way of resonance and coherence

714
00:34:29,309 --> 00:34:35,299
amongst people even their problem even

715
00:34:31,590 --> 00:34:38,190
though they are all enjoying the game

716
00:34:35,300 --> 00:34:41,100
meditation lots of people gather

717
00:34:38,190 --> 00:34:45,619
together and organize as many people

718
00:34:41,099 --> 00:34:49,259
friends and strangers as possible to do

719
00:34:45,619 --> 00:34:52,769
meditations on peace or the bright

720
00:34:49,260 --> 00:34:54,570
future or whatever this is one of many

721
00:34:52,769 --> 00:34:55,230
examples it happens to be an unusually

722
00:34:54,570 --> 00:34:56,929
strong one

723
00:34:55,230 --> 00:35:00,380
of course I picked it out

724
00:34:56,929 --> 00:35:03,710
for that reason but here's a different

725
00:35:00,380 --> 00:35:06,019
one this is relatively small number but

726
00:35:03,710 --> 00:35:09,349
these are transcendental meditation

727
00:35:06,019 --> 00:35:11,719

cities the advanced meditators people

728
00:35:09,349 --> 00:35:15,410
have been meditating for years and years

729
00:35:11,719 --> 00:35:17,659
all working all doing the same thing

730
00:35:15,409 --> 00:35:19,699
which is just sitting there not trying

731
00:35:17,659 --> 00:35:22,219
to accomplish anything but there has

732
00:35:19,699 --> 00:35:24,739
been some indication that when there are

733
00:35:22,219 --> 00:35:27,528
a number of people focused in meditation

734
00:35:24,739 --> 00:35:30,199
that their column will spread out and

735
00:35:27,528 --> 00:35:34,329
change the way that social matrix around

736
00:35:30,199 --> 00:35:34,328
them is operating so things like

737
00:35:34,358 --> 00:35:41,298
accident reports and gun shootings and

738
00:35:37,849 --> 00:35:43,220
so forth diminish that's the evidence

739
00:35:41,298 --> 00:35:45,288
for that's pretty good the evidence that

740
00:35:43,219 --> 00:35:48,798
it affects our system is also fairly

741
00:35:45,289 --> 00:35:50,420
strong and speaking of great

742
00:35:48,798 --> 00:35:54,108
celebrations probably one of the

743
00:35:50,420 --> 00:35:56,000
greatest is New Year's even in countries

744
00:35:54,108 --> 00:35:58,548
that have or cultures that have a

745
00:35:56,000 --> 00:36:00,139
different New Year's they lots and lots

746
00:35:58,548 --> 00:36:03,650
of people pay attention to the

747
00:36:00,139 --> 00:36:07,278
transition from December 31st to January

748
00:36:03,650 --> 00:36:10,068
1st and if we look at all the time zones

749
00:36:07,278 --> 00:36:12,318
and we stack them up we can look at a

750
00:36:10,068 --> 00:36:14,480
period of time right around midnight and

751
00:36:12,318 --> 00:36:17,389
ask does that is that different from

752
00:36:14,480 --> 00:36:19,490
normal and this is a this is a kind of

753
00:36:17,389 --> 00:36:22,969
composite it shows you what that might

754
00:36:19,489 --> 00:36:27,858
look like here's real data from one year

755
00:36:22,969 --> 00:36:29,328
a particularly clear version that

756
00:36:27,858 --> 00:36:33,199
representing our prediction which is

757
00:36:29,329 --> 00:36:35,269
that this measure will decrease the

758
00:36:33,199 --> 00:36:38,449
variance the variability or data will

759
00:36:35,269 --> 00:36:41,528
decrease around midnight and there's a

760
00:36:38,449 --> 00:36:44,118
beautiful picture of a decrease that

761
00:36:41,528 --> 00:36:47,059
maximizes or comes to its most extreme

762
00:36:44,119 --> 00:36:50,568
value right at midnight it's as if the

763
00:36:47,059 --> 00:36:53,180
people gathered gradually calm the

764
00:36:50,568 --> 00:36:57,019
system calm themselves and become

765
00:36:53,179 --> 00:36:59,328
attuned to each other and maybe lift a

766
00:36:57,019 --> 00:37:01,159
glass or give somebody a hug right at

767
00:36:59,329 --> 00:37:03,559
midnight this is what it looks like if

768
00:37:01,159 --> 00:37:06,710
you come if you look across all the

769
00:37:03,559 --> 00:37:07,930
years it's not as sharply focused but

770

00:37:06,710 --> 00:37:12,090
you can see that there's a

771
00:37:07,929 --> 00:37:12,089
diminish variance right around midnight

772
00:37:13,500 --> 00:37:19,599
now here's another kind of occasion

773
00:37:17,019 --> 00:37:22,150
that's often repeated in fact every year

774
00:37:19,599 --> 00:37:24,159
there will be an International Peace Day

775
00:37:22,150 --> 00:37:26,590
it's always on the same day so it's easy

776
00:37:24,159 --> 00:37:29,259
to make a prediction that we will see a

777
00:37:26,590 --> 00:37:30,990
change in our data on that day due to

778
00:37:29,260 --> 00:37:34,480
the fact that millions of people are

779
00:37:30,989 --> 00:37:37,719
thinking let's have peace on this

780
00:37:34,480 --> 00:37:40,210
particular day it doesn't always work

781
00:37:37,719 --> 00:37:43,179
sometimes our predictions are simply not

782
00:37:40,210 --> 00:37:46,269
borne out but it works more often than

783
00:37:43,179 --> 00:37:49,119
not to the point where we have over time

784
00:37:46,269 --> 00:37:53,230

a fairly strong indication that there is

785
00:37:49,119 --> 00:37:56,019
a consistent deviation during the times

786
00:37:53,230 --> 00:37:59,469
that we have picked as such as times

787
00:37:56,019 --> 00:38:02,679
when people will come together lots of

788
00:37:59,469 --> 00:38:05,730
examples when people come together and

789
00:38:02,679 --> 00:38:09,789
feel compassion or exhibit compassion

790
00:38:05,730 --> 00:38:14,070
seem to be effective in changing the

791
00:38:09,789 --> 00:38:16,840
data that we have in our database I

792
00:38:14,070 --> 00:38:19,180
think and there's lots of reasons to

793
00:38:16,840 --> 00:38:21,519
believe this that compassion as an

794
00:38:19,179 --> 00:38:24,789
emotion is one of the most powerful

795
00:38:21,519 --> 00:38:26,559
drivers of the effects that we see I'll

796
00:38:24,789 --> 00:38:28,630
talk a little bit more about it but it

797
00:38:26,559 --> 00:38:30,940
makes sense in a certain way compassion

798
00:38:28,630 --> 00:38:33,340
is something that really is defined by

799
00:38:30,940 --> 00:38:35,920
an interconnection of people with each

800
00:38:33,340 --> 00:38:38,710
other this is what the bottom line looks

801
00:38:35,920 --> 00:38:40,680
like for our data over large number but

802
00:38:38,710 --> 00:38:43,449
almost 15 years

803
00:38:40,679 --> 00:38:46,000
it's very scattered looking it probably

804
00:38:43,449 --> 00:38:48,129
isn't as terribly impressive because

805
00:38:46,000 --> 00:38:50,650
there's only a small difference between

806
00:38:48,130 --> 00:38:53,079
the grand mean of the data and what's

807
00:38:50,650 --> 00:38:56,470
expected but that small difference is

808
00:38:53,079 --> 00:38:58,869
repeated on average so many times that

809
00:38:56,469 --> 00:39:01,539
if we use the same representation of the

810
00:38:58,869 --> 00:39:04,359
cumulative deviation we see that there's

811
00:39:01,539 --> 00:39:07,539
a huge departure from expectation in

812
00:39:04,360 --> 00:39:11,309
fact the probability is 10 to the minus

813
00:39:07,539 --> 00:39:16,659
12 that's a lot of zeros followed by one

814
00:39:11,309 --> 00:39:18,670
we can also talk about the amount of

815
00:39:16,659 --> 00:39:21,699
deviation in terms of a z-score or what

816
00:39:18,670 --> 00:39:24,130
people refer to as Sigma that we have a

817
00:39:21,699 --> 00:39:26,710
7-segment effect and in the hard

818
00:39:24,130 --> 00:39:28,869
scientists most people say well if you

819
00:39:26,710 --> 00:39:30,789
get around five or six sigma then we pay

820
00:39:28,869 --> 00:39:33,819
attention I think it's time to pay

821
00:39:30,789 --> 00:39:35,469
attention to these data lots of people

822
00:39:33,820 --> 00:39:37,990
ask reasonably enough what do you do for

823
00:39:35,469 --> 00:39:40,929
controls and there's this is a picture

824
00:39:37,989 --> 00:39:42,909
of control data which are random samples

825
00:39:40,929 --> 00:39:45,449
from a distribution just like the one

826
00:39:42,909 --> 00:39:47,920
that we should be seeing in our

827

00:39:45,449 --> 00:39:50,379
experiment and you can see there's a

828
00:39:47,920 --> 00:39:52,059
cloud of grey lines here which is the

829
00:39:50,380 --> 00:39:54,400
background against which this might be

830
00:39:52,059 --> 00:39:57,519
compared there's a huge difference an

831
00:39:54,400 --> 00:39:59,260
unmistakable difference so what kinds of

832
00:39:57,519 --> 00:40:03,730
things make a difference what's

833
00:39:59,260 --> 00:40:06,130
important in this experiment events

834
00:40:03,730 --> 00:40:10,240
which engage really large numbers of

835
00:40:06,130 --> 00:40:12,510
people are should we think produce

836
00:40:10,239 --> 00:40:15,269
larger effect and they do there is

837
00:40:12,510 --> 00:40:18,390
statistically a significant difference

838
00:40:15,269 --> 00:40:21,159
positive and negative events them

839
00:40:18,389 --> 00:40:23,109
sometimes people say well don't positive

840
00:40:21,159 --> 00:40:24,879
events have stronger effects turns out

841
00:40:23,110 --> 00:40:27,789

that both positive and negative events

842
00:40:24,880 --> 00:40:29,769
have similar size effects people a

843
00:40:27,789 --> 00:40:31,920
little surprised but when we think about

844
00:40:29,769 --> 00:40:34,599
the fact that compassion might be

845
00:40:31,920 --> 00:40:36,369
determinant you have compassion during a

846
00:40:34,599 --> 00:40:39,549
tragedy even though it's a negative

847
00:40:36,369 --> 00:40:43,949
event the emotion that brings us

848
00:40:39,550 --> 00:40:47,140
together may be something more positive

849
00:40:43,949 --> 00:40:50,019
intense or unique or shocking or

850
00:40:47,139 --> 00:40:51,730
surprising events are much more likely

851
00:40:50,019 --> 00:40:55,960
to produce effects than things that

852
00:40:51,730 --> 00:40:58,690
we've become accustomed to it seems that

853
00:40:55,960 --> 00:41:00,460
there is there is a requirement for kind

854
00:40:58,690 --> 00:41:02,170
of mass consciousness we have to work

855
00:41:00,460 --> 00:41:05,019
together to produce these effects

856
00:41:02,170 --> 00:41:07,300
powerful emotions help and I think it's

857
00:41:05,019 --> 00:41:11,199
also necessary that there be something

858
00:41:07,300 --> 00:41:14,010
like an experimenter effect I have to we

859
00:41:11,199 --> 00:41:16,989
have to expect that this can work

860
00:41:14,010 --> 00:41:20,910
otherwise we wouldn't be asked any

861
00:41:16,989 --> 00:41:26,169
question I want to show you just a few

862
00:41:20,909 --> 00:41:28,509
cases of subsets where we can think in

863
00:41:26,170 --> 00:41:30,240
terms of replications of an experiment

864
00:41:28,510 --> 00:41:31,599
that's they're much closer to each other

865
00:41:30,239 --> 00:41:35,768
so

866
00:41:31,599 --> 00:41:39,640
when Obama president President Obama won

867
00:41:35,768 --> 00:41:41,858
the nomination we predicted that there

868
00:41:39,639 --> 00:41:44,018
would be a pretty strong effect and sure

869
00:41:41,858 --> 00:41:46,690
enough there was a huge effect and then

870
00:41:44,018 --> 00:41:49,328
when he except made his acceptance

871
00:41:46,690 --> 00:41:52,150
speech another large effect and so forth

872
00:41:49,329 --> 00:41:54,009
when it was inaugurated turns out that

873
00:41:52,150 --> 00:41:56,949
the effect was backwards but who knows

874
00:41:54,009 --> 00:41:59,259
exactly what that means it let me go

875
00:41:56,949 --> 00:42:02,499
back to that and just remark that over

876
00:41:59,259 --> 00:42:06,190
time we had something like 15 events

877
00:42:02,498 --> 00:42:09,429
where Obama and his you know presence on

878
00:42:06,190 --> 00:42:12,818
this world stage was very important it

879
00:42:09,429 --> 00:42:14,948
seems fairly strong curve and it's

880
00:42:12,818 --> 00:42:17,949
beginning to level off maybe we don't

881
00:42:14,949 --> 00:42:23,139
know it may take another positive trend

882
00:42:17,949 --> 00:42:25,239
later but we'll see if we look at

883
00:42:23,139 --> 00:42:27,818
another politician and probably most of

884

00:42:25,239 --> 00:42:31,420
you have never heard of them this is a

885
00:42:27,818 --> 00:42:34,179
man named Manny Pacquaio he's from the

886
00:42:31,420 --> 00:42:35,858
Philippines and he's extremely well

887
00:42:34,179 --> 00:42:38,108
known and very popular in the

888
00:42:35,858 --> 00:42:41,288
Philippines and he's not only a

889
00:42:38,108 --> 00:42:44,259
politician but an accomplished boxer he

890
00:42:41,289 --> 00:42:46,479
is a world champion boxer so we looked

891
00:42:44,259 --> 00:42:48,130
at all his boxing matches and sure

892
00:42:46,478 --> 00:42:53,639
enough they're almost all positive

893
00:42:48,130 --> 00:42:58,660
outcomes this one is a really large

894
00:42:53,639 --> 00:43:02,288
database it's a 110 events which you can

895
00:42:58,659 --> 00:43:05,679
think of as checking or looking at

896
00:43:02,289 --> 00:43:07,719
global harmony peace prayers meditations

897
00:43:05,679 --> 00:43:10,358
of various kind so forth this is put

898
00:43:07,719 --> 00:43:13,358

together by a colleague named Brian

899
00:43:10,358 --> 00:43:15,458
Williams he just gathered all of those

900
00:43:13,358 --> 00:43:18,219
events and asked you know what's the

901
00:43:15,458 --> 00:43:20,048
trend like and this is in this graph as

902
00:43:18,219 --> 00:43:23,380
the ones we've looked at before the

903
00:43:20,048 --> 00:43:28,208
expected data line should be a wandering

904
00:43:23,380 --> 00:43:31,749
random walk down at this level baseline

905
00:43:28,208 --> 00:43:35,798
that's how what we see this has five

906
00:43:31,748 --> 00:43:37,659
parts and 10,000 this is my you know a

907
00:43:35,798 --> 00:43:41,588
very unlikely

908
00:43:37,659 --> 00:43:44,409
emulation so what we think about when

909
00:43:41,588 --> 00:43:46,869
we're praying or meditating or what when

910
00:43:44,409 --> 00:43:50,730
we're working together when we're

911
00:43:46,869 --> 00:43:52,960
wishing that our political world would

912
00:43:50,730 --> 00:43:56,409
be more constructive and less

913
00:43:52,960 --> 00:43:58,659
destructive it works it works in such a

914
00:43:56,409 --> 00:44:00,759
small way that we can't necessarily see

915
00:43:58,659 --> 00:44:05,048
it but there is an effect on a

916
00:44:00,760 --> 00:44:08,049
completely physical abstract system that

917
00:44:05,048 --> 00:44:10,358
kind of works so probably our

918
00:44:08,048 --> 00:44:13,960
politicians and business leaders and so

919
00:44:10,358 --> 00:44:17,920
forth are even more sensitive to the

920
00:44:13,960 --> 00:44:20,798
wishes and prayers of all of us than a

921
00:44:17,920 --> 00:44:23,500
random number generator so we should I

922
00:44:20,798 --> 00:44:26,079
think feel empowered maybe even

923
00:44:23,500 --> 00:44:29,619
responsible to think positively about

924
00:44:26,079 --> 00:44:31,839
the future I want to take now just a

925
00:44:29,619 --> 00:44:34,210
moment for a really very much larger

926
00:44:31,838 --> 00:44:36,130
perspective and this is not a picture of

927
00:44:34,210 --> 00:44:42,789
any particular event this is a picture

928
00:44:36,130 --> 00:44:46,539
of all the data for 12 13 years 12 years

929
00:44:42,789 --> 00:44:48,430
he is in other words there's this is not

930
00:44:46,539 --> 00:44:51,549
looking at the effect of event this is

931
00:44:48,429 --> 00:44:53,798
just looking at the data as an effect or

932
00:44:51,548 --> 00:44:58,298
a kind of representation of history you

933
00:44:53,798 --> 00:45:01,210
might say so what we see is a positive

934
00:44:58,298 --> 00:45:06,210
trend and a peak right around 9/11 and

935
00:45:01,210 --> 00:45:09,460
then a long-long long-long 8 years long

936
00:45:06,210 --> 00:45:12,429
trend which is significant statistically

937
00:45:09,460 --> 00:45:14,199
and we might ask well what's going on

938
00:45:12,429 --> 00:45:15,639
what could possibly correlate with that

939
00:45:14,199 --> 00:45:20,639
and there are lots of things we could

940
00:45:15,639 --> 00:45:23,618
think like sunspots doesn't work social

941

00:45:20,639 --> 00:45:25,900
measures might and one we looked at

942
00:45:23,619 --> 00:45:28,510
which I find very interesting and this

943
00:45:25,900 --> 00:45:30,309
is very selective is presidential

944
00:45:28,510 --> 00:45:32,680
approval rating we don't have it for

945
00:45:30,309 --> 00:45:36,849
this whole period of time but what we

946
00:45:32,679 --> 00:45:40,449
see is a very high and almost precise

947
00:45:36,849 --> 00:45:42,818
correspondences pipe a peaks or spikes

948
00:45:40,449 --> 00:45:44,919
in the presidential approval rating with

949
00:45:42,818 --> 00:45:47,349
some of these historical events the Iraq

950
00:45:44,920 --> 00:45:48,548
war begins and so on but there's a

951
00:45:47,349 --> 00:45:52,088
generally

952
00:45:48,548 --> 00:45:56,858
a parallel trend in this social measure

953
00:45:52,088 --> 00:45:59,768
with as completely arbitrary data set we

954
00:45:56,858 --> 00:46:01,838
can categorize the data in the events in

955
00:45:59,768 --> 00:46:04,748

many different ways and this just shows

956
00:46:01,838 --> 00:46:08,858
the effect size for a variety of

957
00:46:04,748 --> 00:46:11,759
different set of choices war matters

958
00:46:08,858 --> 00:46:14,498
political events seem to matter

959
00:46:11,759 --> 00:46:17,409
accidents and meditation events and so

960
00:46:14,498 --> 00:46:21,968
forth demonstrations but when we get

961
00:46:17,409 --> 00:46:24,278
down to the far end and the average

962
00:46:21,969 --> 00:46:26,528
effect size for these group subsets of

963
00:46:24,278 --> 00:46:28,268
data aren't aren't strong enough to be

964
00:46:26,528 --> 00:46:31,588
significant even though they're still

965
00:46:28,268 --> 00:46:34,419
positive here's a representation

966
00:46:31,588 --> 00:46:36,338
graphically of the number of people

967
00:46:34,420 --> 00:46:40,599
involved the more people involved the

968
00:46:36,338 --> 00:46:43,208
larger the effect here is something I

969
00:46:40,599 --> 00:46:45,789
think in certain sense should be obvious

970
00:46:43,208 --> 00:46:50,318
given our hypothesis if people are

971
00:46:45,789 --> 00:46:54,778
gathered and made coherent in a certain

972
00:46:50,318 --> 00:47:00,759
sense by common commonly felt emotions

973
00:46:54,778 --> 00:47:03,579
mutually shared ideas or emotions then

974
00:47:00,759 --> 00:47:05,889
the effect might be greater and so here

975
00:47:03,579 --> 00:47:08,410
we're looking at the level or strength

976
00:47:05,889 --> 00:47:12,038
of emotion the stronger the emotion and

977
00:47:08,409 --> 00:47:14,739
this is just arbitrary or ratings by

978
00:47:12,039 --> 00:47:16,630
people it's a subjective rating but he

979
00:47:14,739 --> 00:47:19,568
will go through the list and and say

980
00:47:16,630 --> 00:47:24,338
does this one represent a high or a low

981
00:47:19,568 --> 00:47:27,038
or a medium level of emotion then we

982
00:47:24,338 --> 00:47:28,808
have the question of positive and

983
00:47:27,039 --> 00:47:30,369
negative events as I mentioned there's

984
00:47:28,809 --> 00:47:32,170
no difference between the positive and

985
00:47:30,369 --> 00:47:36,338
negative events they both produce

986
00:47:32,170 --> 00:47:40,150
effects but before I show the next slide

987
00:47:36,338 --> 00:47:42,998
I want to note this quote a quote from

988
00:47:40,150 --> 00:47:45,130
the Dalai Lama he says if you want

989
00:47:42,998 --> 00:47:48,159
others to be happy practice compassion

990
00:47:45,130 --> 00:47:53,528
if you want to be happy practice

991
00:47:48,159 --> 00:47:56,618
compassion and here's a kind of graphic

992
00:47:53,528 --> 00:47:58,309
evidence that what he says is true the

993
00:47:56,619 --> 00:48:01,190
effect of compassion

994
00:47:58,309 --> 00:48:04,519
when it's evoked strong their powerful e

995
00:48:01,190 --> 00:48:09,440
is much greater in our data then when

996
00:48:04,519 --> 00:48:13,340
there's little or no compassion

997
00:48:09,440 --> 00:48:15,679
I very recently updated this analysis

998

00:48:13,340 --> 00:48:18,920
that's from two or three years ago now

999
00:48:15,679 --> 00:48:21,409
the effect is even stronger and it's a

1000
00:48:18,920 --> 00:48:23,720
few parts in a thousand that this could

1001
00:48:21,409 --> 00:48:27,789
be chance the difference seems to be

1002
00:48:23,719 --> 00:48:30,379
real so what characterizes these effects

1003
00:48:27,789 --> 00:48:32,929
this is sort of technical stuff and I'll

1004
00:48:30,380 --> 00:48:34,640
just run through it quickly the primary

1005
00:48:32,929 --> 00:48:38,409
effect that we're talking about turns

1006
00:48:34,639 --> 00:48:41,719
out to be not these devices being pushed

1007
00:48:38,409 --> 00:48:44,299
individual layers but instead being

1008
00:48:41,719 --> 00:48:47,750
pushed to be correlated with each other

1009
00:48:44,300 --> 00:48:49,640
instead of completely random inter or

1010
00:48:47,750 --> 00:48:52,750
relationship of the data from one and

1011
00:48:49,639 --> 00:48:55,429
another they begin to wave in synchrony

1012
00:48:52,750 --> 00:48:58,429

during the events when human

1013
00:48:55,429 --> 00:49:02,779
consciousness is powerfully coordinated

1014
00:48:58,429 --> 00:49:06,469
or coherent this is pod this measure is

1015
00:49:02,780 --> 00:49:10,610
positive at the level of this famous Six

1016
00:49:06,469 --> 00:49:12,799
Sigma or seven there is an independent

1017
00:49:10,610 --> 00:49:15,110
kind of correlation that is like a

1018
00:49:12,800 --> 00:49:18,710
variance compared with a mean shift and

1019
00:49:15,110 --> 00:49:23,300
that's also strongly positive a

1020
00:49:18,710 --> 00:49:28,369
marginally significant both the these

1021
00:49:23,300 --> 00:49:30,650
kinds of mean shift in in the pair

1022
00:49:28,369 --> 00:49:33,589
pairwise correlation the variance in the

1023
00:49:30,650 --> 00:49:35,840
pairwise correlation those both show

1024
00:49:33,590 --> 00:49:39,260
autocorrelation remember this thing that

1025
00:49:35,840 --> 00:49:42,710
defines in its absence true random

1026
00:49:39,260 --> 00:49:47,480
events we find correlation in the data

1027
00:49:42,710 --> 00:49:50,030
that proceeds through time during during

1028
00:49:47,480 --> 00:49:52,699
the in both of these measures doing the

1029
00:49:50,030 --> 00:49:55,250
events that we call global consciousness

1030
00:49:52,699 --> 00:49:57,289
events short events are more powerful

1031
00:49:55,250 --> 00:49:59,570
than long events and that's probably a

1032
00:49:57,289 --> 00:50:02,029
function of the fact that there is a

1033
00:49:59,570 --> 00:50:04,400
moment in global consciousness space if

1034
00:50:02,030 --> 00:50:08,170
you will which is maybe two or three

1035
00:50:04,400 --> 00:50:11,070
hours long in a human consciousness it's

1036
00:50:08,170 --> 00:50:13,670
maybe two or three hundred milliseconds

1037
00:50:11,070 --> 00:50:16,080
that's what the moment in time for us is

1038
00:50:13,670 --> 00:50:18,990
but the global consciousness is

1039
00:50:16,079 --> 00:50:20,730
lumbering along at a different rate so

1040
00:50:18,989 --> 00:50:23,669
it takes a little while for the effect

1041
00:50:20,730 --> 00:50:26,909
to develop a little and it maintain for

1042
00:50:23,670 --> 00:50:30,510
a longer time effect is stronger than

1043
00:50:26,909 --> 00:50:31,920
when we're awake then it is that when

1044
00:50:30,510 --> 00:50:34,290
we're asleep that shouldn't be a

1045
00:50:31,920 --> 00:50:36,269
surprise to anyone any consciousness

1046
00:50:34,289 --> 00:50:39,599
that should be but the nice thing about

1047
00:50:36,269 --> 00:50:40,739
this is that point to the effect that

1048
00:50:39,599 --> 00:50:43,710
we're talking about is being something

1049
00:50:40,739 --> 00:50:46,009
has to do with consciousness it

1050
00:50:43,710 --> 00:50:50,039
maximizes by the way around dinner time

1051
00:50:46,010 --> 00:50:53,310
not exactly sure why and this minimum it

1052
00:50:50,039 --> 00:50:55,710
comes around 3:00 in the morning some

1053
00:50:53,309 --> 00:50:57,840
events produce actual negative

1054
00:50:55,710 --> 00:51:00,900
correlations I mentioned before that we

1055

00:50:57,840 --> 00:51:03,539
predict the positive deviation but

1056
00:51:00,900 --> 00:51:05,760
sometimes it's strongly negative there

1057
00:51:03,539 --> 00:51:07,980
are at least some events where the

1058
00:51:05,760 --> 00:51:10,320
effect is truly negative and we're

1059
00:51:07,980 --> 00:51:12,389
trying to work we're working hard to

1060
00:51:10,320 --> 00:51:18,059
find out what makes the difference and

1061
00:51:12,389 --> 00:51:20,960
that will lead us to more more capacity

1062
00:51:18,059 --> 00:51:25,650
to model and understand what's going on

1063
00:51:20,960 --> 00:51:28,460
so ultimately we asked early on is there

1064
00:51:25,650 --> 00:51:30,930
any evidence for this kind of global

1065
00:51:28,460 --> 00:51:34,170
consciousness or a noosphere for the

1066
00:51:30,929 --> 00:51:37,529
earth and I think there there is and I

1067
00:51:34,170 --> 00:51:42,869
want to just go through a few points

1068
00:51:37,530 --> 00:51:45,120
that seem to make that fairly clear we

1069
00:51:42,869 --> 00:51:47,670

have demonstrated in laboratory

1070
00:51:45,119 --> 00:51:50,369
experiments and a variety of other kinds

1071
00:51:47,670 --> 00:51:52,680
of experiments and also in this global

1072
00:51:50,369 --> 00:51:55,230
consciousness project experiment the

1073
00:51:52,679 --> 00:51:58,079
consciousness really has a presence in

1074
00:51:55,230 --> 00:52:00,449
it in and of itself in the world it has

1075
00:51:58,079 --> 00:52:02,849
a presence it's not just it doesn't

1076
00:52:00,449 --> 00:52:05,399
require that we touch things or read

1077
00:52:02,849 --> 00:52:08,009
things or talk to other people

1078
00:52:05,400 --> 00:52:11,430
consciousness directly impinges on the

1079
00:52:08,010 --> 00:52:14,310
world consciousness is extended and it's

1080
00:52:11,429 --> 00:52:16,919
non-local it is not as Rupert said

1081
00:52:14,309 --> 00:52:17,318
earlier today is not confined to this

1082
00:52:16,920 --> 00:52:19,809
call

1083
00:52:17,318 --> 00:52:22,690
extends out into the world the data

1084
00:52:19,809 --> 00:52:25,420
could not come to exist as they do

1085
00:52:22,690 --> 00:52:29,048
unless that were true consciousness is

1086
00:52:25,420 --> 00:52:33,130
simply not confined to the inside of the

1087
00:52:29,048 --> 00:52:35,469
body humans we all are connected at a

1088
00:52:33,130 --> 00:52:38,640
very deep level it's not something we

1089
00:52:35,469 --> 00:52:42,278
can directly perceive it's a level maybe

1090
00:52:38,639 --> 00:52:43,868
on certain kinds of occasions if we you

1091
00:52:42,278 --> 00:52:45,818
know meet somebody and fall in love we

1092
00:52:43,869 --> 00:52:48,719
say ah there is something new in the

1093
00:52:45,818 --> 00:52:51,969
world but most of the time we have no

1094
00:52:48,719 --> 00:52:58,088
direct perception of the interconnection

1095
00:52:51,969 --> 00:53:01,599
that we clearly have mind because it's

1096
00:52:58,088 --> 00:53:03,670
not confined to the inner part of your

1097
00:53:01,599 --> 00:53:06,849
body inside your head it can have

1098
00:53:03,670 --> 00:53:08,229
effects that we have not really imagined

1099
00:53:06,849 --> 00:53:10,150
even though there have always been

1100
00:53:08,228 --> 00:53:13,558
people that said oh yes there is

1101
00:53:10,150 --> 00:53:15,699
telepathy I can perceive I do know

1102
00:53:13,559 --> 00:53:17,160
something about what's going to happen

1103
00:53:15,699 --> 00:53:19,989
in the future

1104
00:53:17,159 --> 00:53:22,389
there is now an increasing amount of

1105
00:53:19,989 --> 00:53:25,869
scientific evidence that mind has

1106
00:53:22,389 --> 00:53:28,228
effects we haven't really imagined when

1107
00:53:25,869 --> 00:53:31,358
we cooperate our intention has even more

1108
00:53:28,228 --> 00:53:33,218
potential for consequences of course

1109
00:53:31,358 --> 00:53:35,469
they could be negative but I suspect

1110
00:53:33,219 --> 00:53:40,208
that most of the time when we're working

1111
00:53:35,469 --> 00:53:42,818
in a consciousness space that will be

1112

00:53:40,208 --> 00:53:46,118
positive and we're coherent we create

1113
00:53:42,818 --> 00:53:49,719
noosphere and I think that as the sages

1114
00:53:46,119 --> 00:53:52,890
have said for millennia we are all one

1115
00:53:49,719 --> 00:53:57,130
that we should begin to recognize that

1116
00:53:52,889 --> 00:54:03,489
oneness is it is something we can accept

1117
00:53:57,130 --> 00:54:06,009
as modern wisdom as well so I wonder if

1118
00:54:03,489 --> 00:54:09,728
we're ready and this is an expression

1119
00:54:06,009 --> 00:54:12,039
from the Navajo southwestern American

1120
00:54:09,728 --> 00:54:15,038
Native Americans when you put a thing in

1121
00:54:12,039 --> 00:54:17,769
order and you give it a name and you're

1122
00:54:15,039 --> 00:54:20,199
all in accord it becomes I think there's

1123
00:54:17,768 --> 00:54:22,478
a perfect expression of the possibility

1124
00:54:20,199 --> 00:54:25,570
that we have before us which may also be

1125
00:54:22,478 --> 00:54:29,179
a responsibility now

1126
00:54:25,570 --> 00:54:30,650

is this this is my ending slide lot of

1127
00:54:29,179 --> 00:54:34,419
people think the effects are too small

1128
00:54:30,650 --> 00:54:36,889
to matter but if we think about the

1129
00:54:34,420 --> 00:54:39,200
metaphoric expressions of chaos theory

1130
00:54:36,889 --> 00:54:41,690
we asked whether the flap of a

1131
00:54:39,199 --> 00:54:47,779
butterfly's wind can bring good weather

1132
00:54:41,690 --> 00:54:50,210
to Germany and we hope so indeed and we

1133
00:54:47,780 --> 00:54:54,490
think so if we all believed together etc

1134
00:54:50,210 --> 00:54:54,490
etc so thank you very much

1135
00:55:08,449 --> 00:55:10,509
you