



1
00:00:05,809 --> 00:00:03,980
well I'm glad to be here today okay and

2
00:00:10,459 --> 00:00:05,819
I'm gonna talk about some brain imaging

3
00:00:13,400 --> 00:00:10,469
of brain signals from subjects that

4
00:00:15,620 --> 00:00:13,410
we've studied with correlated brain

5
00:00:17,750 --> 00:00:15,630
signals now first of all I wanted to

6
00:00:20,870 --> 00:00:17,760
acknowledge all my collaborators and

7
00:00:22,820 --> 00:00:20,880
co-investigators Liana Standish from

8
00:00:24,590 --> 00:00:22,830
Bastyr University and Leila Kozak

9
00:00:27,830 --> 00:00:24,600
Jeannie actor Burt

10
00:00:30,109 --> 00:00:27,840
Karen Cook James Lake Clark Johnson and

11
00:00:33,560 --> 00:00:30,119
we wanted to thank Dean Radin for help

12
00:00:37,520 --> 00:00:33,570
with our EEG alpha analysis - which I'll

13
00:00:40,639 --> 00:00:37,530

show a little bit later on so the

14

00:00:42,380 --> 00:00:40,649

question is is there evidence for

15

00:00:44,630 --> 00:00:42,390

correlations between distance

16

00:00:47,270 --> 00:00:44,640

intentionality and brain function in

17

00:00:53,600 --> 00:00:47,280

recipients of distance intentionality

18

00:00:56,600 --> 00:00:53,610

who are tested using fMRI and EEG now

19

00:00:58,670 --> 00:00:56,610

for a background history has shown

20

00:01:01,490 --> 00:00:58,680

evidence for a connection between human

21

00:01:04,850 --> 00:01:01,500

beings we all like connections between

22

00:01:07,280 --> 00:01:04,860

those we love and those that we work

23

00:01:10,270 --> 00:01:07,290

with and so how are we connected there

24

00:01:14,060 --> 00:01:10,280

could be spiritual connections emotional

25

00:01:16,219 --> 00:01:14,070

connections sensory connections now all

26
00:01:17,450 --> 00:01:16,229
of you you have a sensory connection

27
00:01:20,300 --> 00:01:17,460
with me right now

28
00:01:22,130 --> 00:01:20,310
so you can you can see me and I I can

29
00:01:25,760 --> 00:01:22,140
see you I have a sensory connection

30
00:01:29,810 --> 00:01:25,770
and then there's energy connections so

31
00:01:33,920 --> 00:01:29,820
all of these have influence on how my

32
00:01:36,770 --> 00:01:33,930
theory is on how the brain works okay so

33
00:01:40,130 --> 00:01:36,780
a little bit of background in my regular

34
00:01:42,020 --> 00:01:40,140
work I do brain imaging of different

35
00:01:45,560 --> 00:01:42,030
diseases and and different research

36
00:01:47,240 --> 00:01:45,570
projects so one of my biggest projects

37
00:01:49,789 --> 00:01:47,250
is to study children with learning

38
00:01:52,730 --> 00:01:49,799

disabilities and so I do a lot of brain

39

00:01:55,789 --> 00:01:52,740

imaging of language in children with

40

00:01:57,679 --> 00:01:55,799

learning disabilities but so functional

41

00:01:59,770 --> 00:01:57,689

magnetic resonance imaging is a

42

00:02:02,450 --> 00:01:59,780

technique for measuring brain activation

43

00:02:06,830 --> 00:02:02,460

using blood oxygen level dependence

44

00:02:10,010 --> 00:02:06,840

which is called bold but now fMRI is

45

00:02:12,589 --> 00:02:10,020

completely dependent on the water in the

46

00:02:13,370 --> 00:02:12,599

brain so we've heard some talk before

47

00:02:15,770 --> 00:02:13,380

about the

48

00:02:18,890 --> 00:02:15,780

importance of water and that's exactly

49

00:02:22,010 --> 00:02:18,900

what we're measuring in the brain is the

50

00:02:25,820 --> 00:02:22,020

water signal which may be influenced by

51
00:02:29,750 --> 00:02:25,830
the oxygen but the real signal is coming

52
00:02:31,880 --> 00:02:29,760
from the water so how is it

53
00:02:34,610 --> 00:02:31,890
statistically tested is there a

54
00:02:37,670 --> 00:02:34,620
possibility of false positives and I'll

55
00:02:41,690 --> 00:02:37,680
go through some of the statistical tests

56
00:02:47,060 --> 00:02:41,700
that we use to test for the significance

57
00:02:50,510 --> 00:02:47,070
of brain activation that we get so

58
00:02:53,540 --> 00:02:50,520
there's been a blossoming of MRI in the

59
00:02:55,610 --> 00:02:53,550
in its ability to do brain scan and I

60
00:02:59,480 --> 00:02:55,620
borrowed some slides from Mark Cohen

61
00:03:01,570 --> 00:02:59,490
from UCLA and so and I'm gonna give you

62
00:03:04,310 --> 00:03:01,580
a little background on brain imaging but

63
00:03:06,470 --> 00:03:04,320

there's a blossoming of advances in

64

00:03:08,540 --> 00:03:06,480

brain imaging techniques has happened in

65

00:03:11,000 --> 00:03:08,550

just like the past five to ten years

66

00:03:12,920 --> 00:03:11,010

that's allowed us to measure new things

67

00:03:16,720 --> 00:03:12,930

in the brain that we haven't been able

68

00:03:24,920 --> 00:03:21,050

okay so brain activation is what happens

69

00:03:27,140 --> 00:03:24,930

when you think so so if all of you put

70

00:03:29,450 --> 00:03:27,150

up your right hand and you if all of you

71

00:03:31,760 --> 00:03:29,460

go like this with your right hand and as

72

00:03:36,260 --> 00:03:31,770

you're doing this you are activating

73

00:03:38,470 --> 00:03:36,270

your motor cortex on your left side so

74

00:03:42,350 --> 00:03:38,480

it crosses over so your right hand

75

00:03:45,020 --> 00:03:42,360

activates part on your left brain it

76

00:03:47,900 --> 00:03:45,030

crosses over and so you're activating

77

00:03:50,900 --> 00:03:47,910

parts of your motor cortex right up here

78

00:03:53,630 --> 00:03:50,910

of your left side of your brain and this

79

00:03:54,790 --> 00:03:53,640

has causes a change in CB f stands for

80

00:03:58,120 --> 00:03:54,800

cerebral blood flow

81

00:04:02,300 --> 00:03:58,130

it changes the cerebral blood volume

82

00:04:06,320 --> 00:04:02,310

oxygen and venous oxygen and glucose

83

00:04:08,150 --> 00:04:06,330

utilization so all of these things

84

00:04:12,530 --> 00:04:08,160

happen is your change your brain

85

00:04:15,650 --> 00:04:12,540

activation now it also changes the

86

00:04:17,320 --> 00:04:15,660

electrical activity in your brain which

87

00:04:21,690 --> 00:04:17,330

you can measure with

88

00:04:25,690 --> 00:04:21,700

electroencephalography techniques

89

00:04:28,420 --> 00:04:25,700

and so the the technique with functional

90

00:04:31,560 --> 00:04:28,430

MRI is dependent on the fact that we

91

00:04:34,540 --> 00:04:31,570

have an influence of the blood oxygen on

92

00:04:36,640 --> 00:04:34,550

the tissue a signal that we get even

93

00:04:39,280 --> 00:04:36,650

though it's some distant it could be

94

00:04:42,220 --> 00:04:39,290

some distant from the from the blood

95

00:04:44,920 --> 00:04:42,230

vessel so here's the blood vessel in the

96

00:04:47,650 --> 00:04:44,930

brain and we can pick up signal over

97

00:04:49,930 --> 00:04:47,660

here because of the influence of the

98

00:04:55,240 --> 00:04:49,940

oxygen on the water in the tissue over

99

00:04:57,490 --> 00:04:55,250

here okay so one of the first

100

00:05:01,390 --> 00:04:57,500

experiments done with functional MRI was

101
00:05:03,850 --> 00:05:01,400
with photic stimulation and so you can

102
00:05:06,610 --> 00:05:03,860
measure the brain signal say every three

103
00:05:09,100 --> 00:05:06,620
seconds and you keep going beep beep

104
00:05:10,480 --> 00:05:09,110
beep and you go on and then you go off

105
00:05:13,900 --> 00:05:10,490
and you go on

106
00:05:16,780 --> 00:05:13,910
I sell off and on and as you change the

107
00:05:20,350 --> 00:05:16,790
stimulus you get a change in the brain

108
00:05:23,380 --> 00:05:20,360
activation as seen by the EM our signal

109
00:05:27,010 --> 00:05:23,390
intensity and so we can see this change

110
00:05:29,670 --> 00:05:27,020
and then we can do statistics to test is

111
00:05:33,870 --> 00:05:29,680
this significantly different than this

112
00:05:38,140 --> 00:05:33,880
for all the different parts of the brain

113
00:05:40,600 --> 00:05:38,150

so in photic stimulation we in this case

114

00:05:43,180 --> 00:05:40,610

there are stimulating for sixty seconds

115

00:05:45,370 --> 00:05:43,190

at a time and then they switch tasks for

116

00:05:47,740 --> 00:05:45,380

another sixty seconds and then they

117

00:05:51,159 --> 00:05:47,750

switch now typically we go through about

118

00:05:53,980 --> 00:05:51,169

five cycles of on-off period to get

119

00:05:58,770 --> 00:05:53,990

enough statistics to make a statement

120

00:06:01,720 --> 00:05:58,780

about brain activation so this is an

121

00:06:05,470 --> 00:06:01,730

example of activation with a moving

122

00:06:08,140 --> 00:06:05,480

visual stimulus and so here's a here it

123

00:06:11,320 --> 00:06:08,150

is in the back of the brain in the MT

124

00:06:17,170 --> 00:06:11,330

region of the brain v5 these are areas

125

00:06:19,360 --> 00:06:17,180

of visual processing in the brain okay

126
00:06:22,960 --> 00:06:19,370
and then to process the signal we do

127
00:06:25,750 --> 00:06:22,970
some problem convolution of the impulse

128
00:06:28,330 --> 00:06:25,760
function in order to process this

129
00:06:30,850 --> 00:06:28,340
because there is a delay so after you

130
00:06:33,909 --> 00:06:30,860
get a stimulus there is a delay of about

131
00:06:34,460 --> 00:06:33,919
five seconds between the onset of the

132
00:06:40,670 --> 00:06:34,470
stimulus

133
00:06:43,400 --> 00:06:40,680
and the change in the bold signal okay

134
00:06:45,700 --> 00:06:43,410
so the temporal resolution is limiting

135
00:06:49,550 --> 00:06:45,710
in fMRI that's one of the limitations

136
00:06:52,460 --> 00:06:49,560
and that's why we'd like both fMRI and

137
00:06:55,850 --> 00:06:52,470
EEG because the temporal resolution is

138
00:07:00,770 --> 00:06:55,860

very slow in fMRI but the spatial

139

00:07:03,380 --> 00:07:00,780

resolution is very good so we like to do

140

00:07:05,090 --> 00:07:03,390

both fMRI and EEG because we get the

141

00:07:08,570 --> 00:07:05,100

best of both worlds the spatial

142

00:07:14,480 --> 00:07:08,580

resolution with fMRI and the temporal

143

00:07:18,890 --> 00:07:14,490

resolution with EEG okay now we use

144

00:07:22,490 --> 00:07:18,900

software developed by a group in Oxford

145

00:07:26,390 --> 00:07:22,500

called FSL so we have software developed

146

00:07:29,960 --> 00:07:26,400

to do the statistics of the brain signal

147

00:07:32,540 --> 00:07:29,970

and we can measure single subjects

148

00:07:36,050 --> 00:07:32,550

statistics and we can do group

149

00:07:39,140 --> 00:07:36,060

statistics let me go okay and it's

150

00:07:41,720 --> 00:07:39,150

called the GLM estimation so we have

151

00:07:44,840 --> 00:07:41,730

this model that we apply to the brain

152

00:07:47,510 --> 00:07:44,850

signal which we use to figure out how

153

00:07:50,150 --> 00:07:47,520

close the model fits with the actual

154

00:07:52,490 --> 00:07:50,160

signal we get from the brain and we use

155

00:07:54,680 --> 00:07:52,500

that model to test every voxel in the

156

00:08:00,530 --> 00:07:54,690

brain to see if there's a significant

157

00:08:05,090 --> 00:08:00,540

activation and we do some

158

00:08:08,300 --> 00:08:05,100

autocorrelation and we and were able to

159

00:08:11,090 --> 00:08:08,310

get brain activation map in the brain

160

00:08:12,650 --> 00:08:11,100

I'll show you some in a minute but now

161

00:08:14,659 --> 00:08:12,660

we've published a paper in the journal

162

00:08:18,080 --> 00:08:14,669

of alternative and complementary

163

00:08:20,270 --> 00:08:18,090

medicine Jeanne actor Berg is the first

164

00:08:22,880 --> 00:08:20,280

author on this paper she's from Hawaii

165

00:08:26,300 --> 00:08:22,890

and so is care and they're both from

166

00:08:30,920 --> 00:08:26,310

Hawaii I'm from Seattle and my job was

167

00:08:33,230 --> 00:08:30,930

to analyze the signal so they sent me

168

00:08:36,050 --> 00:08:33,240

the images that came from the scanner

169

00:08:42,250 --> 00:08:36,060

and my job was to analyze the brain

170

00:08:45,230 --> 00:08:42,260

images so the subjects consisted of 22

171

00:08:48,150 --> 00:08:45,240

participants 11 pairs of healer and

172

00:08:51,420 --> 00:08:48,160

recipients now in the Big Island

173

00:08:54,090 --> 00:08:51,430

of Hawaii they have these Hawaiian

174

00:08:55,830 --> 00:08:54,100

healers that are gifted these are the

175

00:08:58,440 --> 00:08:55,840

gifted Hawaiian healers and they know

176
00:09:01,290 --> 00:08:58,450
how to send their energy and they know

177
00:09:04,500 --> 00:09:01,300
how to influence their energy for good

178
00:09:07,800 --> 00:09:04,510
to heal so Jeannie is the one who

179
00:09:14,180 --> 00:09:07,810
selected these healers to do this

180
00:09:19,680 --> 00:09:17,010
so in the experimental conditions the

181
00:09:22,560 --> 00:09:19,690
healer was in a control room physically

182
00:09:26,310 --> 00:09:22,570
an optically isolated from the receiver

183
00:09:27,960 --> 00:09:26,320
in the scanner so the scanner is deep in

184
00:09:30,720 --> 00:09:27,970
this tunnel if you have ever how many of

185
00:09:33,240 --> 00:09:30,730
you had an MRI if you had an MRI it's

186
00:09:35,790 --> 00:09:33,250
kind of daunting because you have to go

187
00:09:39,150 --> 00:09:35,800
in this deep tunnel it's really noisy

188
00:09:41,400 --> 00:09:39,160

and you say how how could you do a brain

189

00:09:45,300 --> 00:09:41,410

activation like this with all this noise

190

00:09:48,210 --> 00:09:45,310

how could this will ever work well it

191

00:09:51,270 --> 00:09:48,220

does work because you can you you have

192

00:09:53,880 --> 00:09:51,280

the on and off stimulus while the noise

193

00:09:56,370 --> 00:09:53,890

is going on so the noise is constant and

194

00:10:01,590 --> 00:09:56,380

you have the on and off stimulus during

195

00:10:03,720 --> 00:10:01,600

that time the healer was verbally

196

00:10:07,290 --> 00:10:03,730

instructed with cues to start and stop

197

00:10:10,680 --> 00:10:07,300

the distance intentionality in a random

198

00:10:14,280 --> 00:10:10,690

pattern so they they were told to start

199

00:10:18,200 --> 00:10:14,290

and stop in a random pattern in in 12

200

00:10:22,710 --> 00:10:18,210

different time periods

201
00:10:26,610 --> 00:10:22,720
now the scanner was a 1.5 tesla this is

202
00:10:30,450 --> 00:10:26,620
a very strong magnetic field and mr

203
00:10:32,850 --> 00:10:30,460
imaging system i might mention that

204
00:10:35,280 --> 00:10:32,860
there's some people that told us that

205
00:10:37,710 --> 00:10:35,290
they lose their psychic abilities when

206
00:10:39,330 --> 00:10:37,720
they go into MRI scanner because the

207
00:10:42,090 --> 00:10:39,340
magnetic field is too strong and they

208
00:10:43,170 --> 00:10:42,100
lose their psychic abilities so i've

209
00:10:47,670 --> 00:10:43,180
heard that before

210
00:10:51,630 --> 00:10:47,680
but anyway with 1.5 mr imaging system we

211
00:10:53,640 --> 00:10:51,640
can get very nice images and for those

212
00:10:55,650 --> 00:10:53,650
of you involved in brain imaging these

213
00:10:57,780 --> 00:10:55,660

these will make sense to you if you're

214

00:11:00,000 --> 00:10:57,790

involved in brain imaging these

215

00:11:01,730 --> 00:11:00,010

parameters are important to get good

216

00:11:04,440 --> 00:11:01,740

contrast in the brain

217

00:11:10,350 --> 00:11:04,450

related to the blood oxygen level

218

00:11:12,960 --> 00:11:10,360

dependence so then we did fMRI analysis

219

00:11:17,730 --> 00:11:12,970

of the on-off patterns dictated to the

220

00:11:20,940 --> 00:11:17,740

healer we used FSL from Oxford UK to

221

00:11:24,780 --> 00:11:20,950

analyze the the signal we have single

222

00:11:27,870 --> 00:11:24,790

subject analysis and group analysis so

223

00:11:33,120 --> 00:11:27,880

we do a group analysis after we do the

224

00:11:35,730 --> 00:11:33,130

single subject analysis and then the

225

00:11:39,060 --> 00:11:35,740

results show that in the group analysis

226

00:11:40,740 --> 00:11:39,070

we had two very significant clusters now

227

00:11:44,280 --> 00:11:40,750

let me tell you again what this means

228

00:11:48,150 --> 00:11:44,290

this is a group analysis of the

229

00:11:51,560 --> 00:11:48,160

receivers who are inside the scanner who

230

00:11:54,630 --> 00:11:51,570

are receiving signals from the healers

231

00:11:58,590 --> 00:11:54,640

so all of the signal comes from the the

232

00:12:01,650 --> 00:11:58,600

receivers not not their senders and so

233

00:12:03,420 --> 00:12:01,660

they their receivers again are are able

234

00:12:05,820 --> 00:12:03,430

to receive the signal from the healers

235

00:12:08,040 --> 00:12:05,830

and were able to measure the signal in

236

00:12:11,310 --> 00:12:08,050

their brain and we get these two

237

00:12:13,800 --> 00:12:11,320

significant clusters with a probability

238

00:12:17,370 --> 00:12:13,810

of false positive eight point five times

239

00:12:21,060 --> 00:12:17,380

ten to the minus ninth so so I think

240

00:12:23,280 --> 00:12:21,070

that's significant that's 10 to the

241

00:12:25,470 --> 00:12:23,290

minus ninth is a significant

242

00:12:28,250 --> 00:12:25,480

significance and we got us another

243

00:12:31,680 --> 00:12:28,260

cluster of a little less significance

244

00:12:34,230 --> 00:12:31,690

and so so we can test the probability of

245

00:12:34,950 --> 00:12:34,240

using these techniques now this this is

246

00:12:38,160 --> 00:12:34,960

kind of blurry

247

00:12:40,290 --> 00:12:38,170

I have better images than these but we

248

00:12:44,040 --> 00:12:40,300

this is one of the clusters in the back

249

00:12:48,000 --> 00:12:44,050

of the brain that they again this is the

250

00:12:50,790 --> 00:12:48,010

group analysis cluster and again this is

251
00:12:54,090 --> 00:12:50,800
a part of the brain involved in visual

252
00:12:55,650 --> 00:12:54,100
processing and in imagery so this is a

253
00:12:58,530 --> 00:12:55,660
part of the brain involved in image

254
00:13:01,800 --> 00:12:58,540
processing even though they got no

255
00:13:03,660 --> 00:13:01,810
stimulus except from the healer the

256
00:13:06,240 --> 00:13:03,670
healer was the only person giving the

257
00:13:10,500 --> 00:13:06,250
stimulus and they got a signal here in

258
00:13:12,939 --> 00:13:10,510
the back of the brain and then we also

259
00:13:17,139 --> 00:13:12,949
got a signal in the front of the brain

260
00:13:21,429 --> 00:13:17,149
in the frontal regions and so the

261
00:13:27,939 --> 00:13:21,439
angular anterior cingulate is involved

262
00:13:29,499 --> 00:13:27,949
in attention attention to stimulus so so

263
00:13:32,289 --> 00:13:29,509

that's one of the parts of the brain and

264

00:13:34,199 --> 00:13:32,299

also the frontal regions are involved in

265

00:13:37,629 --> 00:13:34,209

a lot of higher order cognitive

266

00:13:42,460 --> 00:13:37,639

processing so we get a lot of

267

00:13:45,939 --> 00:13:42,470

higher-order level of cognitive

268

00:13:48,340 --> 00:13:45,949

processing including language so we get

269

00:13:53,199 --> 00:13:48,350

a lot of frontal areas involved in

270

00:13:55,629 --> 00:13:53,209

language and so when we map those

271

00:13:59,470 --> 00:13:55,639

clusters these are all the different

272

00:14:06,419 --> 00:13:59,480

regions that we get of activation from

273

00:14:11,859 --> 00:14:09,159

okay so here's another paper that we

274

00:14:13,449 --> 00:14:11,869

published again in the Journal of

275

00:14:16,749 --> 00:14:13,459

alternative and complimentary medicine

276

00:14:19,720 --> 00:14:16,759

and that this was one of the first

277

00:14:23,049 --> 00:14:19,730

papers we published on just a couple of

278

00:14:25,929 --> 00:14:23,059

case reports so the last details that I

279

00:14:29,759 --> 00:14:25,939

showed you involved 11 pairs of subjects

280

00:14:34,030 --> 00:14:29,769

whereas this was only a couple of pairs

281

00:14:37,179 --> 00:14:34,040

and again we were showed signal in the

282

00:14:40,900 --> 00:14:37,189

back of the brain and here's the time

283

00:14:43,840 --> 00:14:40,910

domain the correlation of that signal so

284

00:14:46,509 --> 00:14:43,850

we can plot the time course of the brain

285

00:14:49,689 --> 00:14:46,519

signal as a function of time as they're

286

00:14:52,989 --> 00:14:49,699

being stim as the person outside the

287

00:14:55,539 --> 00:14:52,999

scanner is sending the stimulus within

288

00:14:58,329 --> 00:14:55,549

this case it was the part of the sender

289

00:15:01,689 --> 00:14:58,339

was getting checkerboard flicker board

290

00:15:04,569 --> 00:15:01,699

pattern so in this case it was not a

291

00:15:07,779 --> 00:15:04,579

healer it was a it was just a sender

292

00:15:10,029 --> 00:15:07,789

that was watching a checkerboard flicker

293

00:15:14,259 --> 00:15:10,039

pattern that was randomly going on and

294

00:15:16,629 --> 00:15:14,269

off and here again we get activation in

295

00:15:21,699 --> 00:15:16,639

the band the occipital visual parts of

296

00:15:25,779 --> 00:15:21,709

the brain okay now as some of these same

297

00:15:26,560 --> 00:15:25,789

people also we did EEG analysis now the

298

00:15:29,680 --> 00:15:26,570

difference with

299

00:15:34,090 --> 00:15:29,690

eg is the both the sender and the

300

00:15:39,520 --> 00:15:34,100

receiver were hooked up to the cap they

301
00:15:42,220 --> 00:15:39,530
all got this cap with 16 channels of EEG

302
00:15:45,940 --> 00:15:42,230
recording and in there and in this case

303
00:15:51,930 --> 00:15:45,950
we could record both the alpha wave

304
00:16:00,070 --> 00:15:56,230
and we published this Liana Stannis was

305
00:16:02,860 --> 00:16:00,080
first author on this paper and in this

306
00:16:06,340 --> 00:16:02,870
case we were measuring EEG evidence have

307
00:16:09,180 --> 00:16:06,350
correlated signals and this is this

308
00:16:12,610 --> 00:16:09,190
setup that we had at Bastyr University

309
00:16:16,330 --> 00:16:12,620
so he had one subject position in one

310
00:16:19,360 --> 00:16:16,340
room and he's he's watching a visual

311
00:16:23,170 --> 00:16:19,370
stimulus we have the control center and

312
00:16:27,070 --> 00:16:23,180
then we have another subject physically

313
00:16:29,170 --> 00:16:27,080

isolated from this other subject and at

314

00:16:34,660 --> 00:16:29,180

one point only one of the subjects is

315

00:16:40,930 --> 00:16:34,670

getting a stimulus and the other subject

316

00:16:43,770 --> 00:16:40,940

is acting as a receiver so I really like

317

00:16:47,350 --> 00:16:43,780

alpha waves because I've actually used

318

00:16:50,320 --> 00:16:47,360

alpha wave therapy in some of our

319

00:16:55,090 --> 00:16:50,330

patients with multiple sclerosis so I

320

00:16:57,880 --> 00:16:55,100

like alpha waves and I will show you the

321

00:17:01,330 --> 00:16:57,890

results so Dean Radin suggested a

322

00:17:03,910 --> 00:17:01,340

technique for us to use to correlate the

323

00:17:07,750 --> 00:17:03,920

difference between EEG signal between

324

00:17:10,620 --> 00:17:07,760

the senders and the receivers so we use

325

00:17:13,780 --> 00:17:10,630

that technique and we got a regression

326

00:17:18,550 --> 00:17:13,790

with the significance of point oh oh oh

327

00:17:22,569 --> 00:17:18,560

sorry 0.01 one so this is a regression

328

00:17:26,490 --> 00:17:22,579

analysis between the sender's signal and

329

00:17:30,490 --> 00:17:26,500

the receiver signal of their alpha and

330

00:17:33,310 --> 00:17:30,500

so when you do a correlation it's kind

331

00:17:35,170 --> 00:17:33,320

of scattered but there is a significant

332

00:17:38,380 --> 00:17:35,180

correlation between the senders and the

333

00:17:39,680 --> 00:17:38,390

receivers so the pink line is kind of

334

00:17:43,580 --> 00:17:39,690

the regression line

335

00:17:49,850 --> 00:17:43,590

and all these individual dots is one dot

336

00:17:52,690 --> 00:17:49,860

from the the sender receiver pair so

337

00:17:55,220 --> 00:17:52,700

this was a significant effect

338

00:17:58,390 --> 00:17:55,230

correlating signals between the senders

339

00:18:03,710 --> 00:17:58,400

and the receivers who were eiseley

340

00:18:06,050 --> 00:18:03,720

isolated from one another but now the

341

00:18:07,880 --> 00:18:06,060

the group again and the group at Bastyr

342

00:18:10,820 --> 00:18:07,890

University helped us to choose these

343

00:18:13,640 --> 00:18:10,830

people who claim to have a connection

344

00:18:17,720 --> 00:18:13,650

with their partner so the these people

345

00:18:19,520 --> 00:18:17,730

claim to have a connection and so some

346

00:18:22,220 --> 00:18:19,530

of them are more gifted than others and

347

00:18:25,100 --> 00:18:22,230

they could repeat the effect over and

348

00:18:29,240 --> 00:18:25,110

over again where some of them had more

349

00:18:31,550 --> 00:18:29,250

of a weak correlation so it just says as

350

00:18:38,030 --> 00:18:31,560

with everything you have the gifted and

351

00:18:40,070 --> 00:18:38,040

then the semi gifted people so these

352

00:18:42,380 --> 00:18:40,080

findings support previous research on

353

00:18:44,960 --> 00:18:42,390

distance healing suggesting that human

354

00:18:46,430 --> 00:18:44,970

intentions may direct may directly

355

00:18:49,670 --> 00:18:46,440

affect others in ways that are not

356

00:18:52,790 --> 00:18:49,680

entirely understood but with functional

357

00:18:56,570 --> 00:18:52,800

imaging and with EEG we can we can study

358

00:19:01,250 --> 00:18:56,580

these effects and we can measure a

359

00:19:03,140 --> 00:19:01,260

signal in their brain so I'll stop with

360

00:19:23,470 --> 00:19:03,150

that

361

00:19:30,639 --> 00:19:25,899

we have had for quite a few questions

362

00:19:33,039 --> 00:19:30,649

you mentioned at the beginning of your

363

00:19:34,930 --> 00:19:33,049

talk that you when you had us raise our

364

00:19:38,430 --> 00:19:34,940

right hand that that would have left

365

00:19:40,810 --> 00:19:38,440

brain stimulation right I had been to a

366

00:19:43,149 --> 00:19:40,820

kind of a healing demonstration some

367

00:19:44,649 --> 00:19:43,159

years ago with Donna Eden and she chose

368

00:19:46,690 --> 00:19:44,659

people in the audience to demonstrate a

369

00:19:49,180 --> 00:19:46,700

principle and she said they had homo

370

00:19:51,340 --> 00:19:49,190

lateral they were homo lateral which i

371

00:19:53,710 --> 00:19:51,350

think means your right brain is working

372

00:19:57,610 --> 00:19:53,720

with your right hand and she performs

373

00:19:59,740 --> 00:19:57,620

some work on him energetically in very

374

00:20:02,259 --> 00:19:59,750

short order that enabled them to

375

00:20:04,419 --> 00:20:02,269

crossover and so I'm wondering if you

376

00:20:06,039 --> 00:20:04,429

have ever heard of something like that

377

00:20:10,480 --> 00:20:06,049

or have seen anything like that and if

378

00:20:12,220 --> 00:20:10,490

it would show up in the MRI imaging yes

379

00:20:14,350 --> 00:20:12,230

as a matter of fact one of the

380

00:20:16,570 --> 00:20:14,360

experiments we we usually do to test the

381

00:20:19,180 --> 00:20:16,580

scanner is a finger tapping experiment

382

00:20:21,730 --> 00:20:19,190

and when we do a finger tapping on off

383

00:20:25,240 --> 00:20:21,740

we get activation and a lot of times

384

00:20:28,139 --> 00:20:25,250

we'll we'll get bilateral activation but

385

00:20:31,480 --> 00:20:28,149

it will be stronger on the contralateral

386

00:20:33,669 --> 00:20:31,490

hemisphere but I can understand that

387

00:20:37,330 --> 00:20:33,679

there could be some people that have

388

00:20:40,539 --> 00:20:37,340

homo lateral activation but the usual

389

00:20:42,610 --> 00:20:40,549

case the usual brain is for

390

00:20:43,240 --> 00:20:42,620

contralateral activation if you do your

391

00:20:45,580 --> 00:20:43,250

right hand

392

00:20:53,409 --> 00:20:45,590

you usually get left-sided activation

393

00:20:57,490 --> 00:20:53,419

that's the usual case Todd do you think

394

00:20:58,960 --> 00:20:57,500

that the setup of your EEG experiment

395

00:21:01,810 --> 00:20:58,970

where you had all your monitoring

396

00:21:05,649 --> 00:21:01,820

equipment directly in line in between

397

00:21:07,810 --> 00:21:05,659

the sender and receiver may have not

398

00:21:10,080 --> 00:21:07,820

given you such good results as if they

399

00:21:12,430 --> 00:21:10,090

have been separate in a different way

400

00:21:13,659 --> 00:21:12,440

yeah are you asking because they're in

401
00:21:16,450 --> 00:21:13,669
line or yeah right

402
00:21:18,669 --> 00:21:16,460
you know you're the center and the

403
00:21:21,120 --> 00:21:18,679
receiver on the same straight line as as

404
00:21:24,129 --> 00:21:21,130
your electronic monitoring equipment

405
00:21:25,690 --> 00:21:24,139
right is that is that true that was

406
00:21:28,810 --> 00:21:25,700
pretty much true there were three rooms

407
00:21:31,750 --> 00:21:28,820
in a row so they were three rooms I in a

408
00:21:34,570 --> 00:21:31,760
row but there was quite a big distance

409
00:21:36,460 --> 00:21:34,580
between there though so that in that

410
00:21:36,940 --> 00:21:36,470
diagram they looked close together but

411
00:21:38,830 --> 00:21:36,950
there was

412
00:21:41,200 --> 00:21:38,840
quite a big distance those were pretty

413
00:21:50,990 --> 00:21:41,210

big rooms that there were in between

414

00:22:00,140 --> 00:21:55,240

I wonder if you might have any

415

00:22:03,020 --> 00:22:00,150

speculation or explanation perhaps why I

416

00:22:05,420 --> 00:22:03,030

believe the Hawaiian situation was

417

00:22:07,880 --> 00:22:05,430

healers why there would be a strong

418

00:22:11,950 --> 00:22:07,890

response or a noticeable response in the

419

00:22:14,300 --> 00:22:11,960

deep in the optical region of the brain

420

00:22:17,540 --> 00:22:14,310

so that's a good question why in the

421

00:22:21,230 --> 00:22:17,550

optical region one of my explanations is

422

00:22:23,570 --> 00:22:21,240

that there's some imagery involved so so

423

00:22:27,020 --> 00:22:23,580

maybe what's happening is that the

424

00:22:31,340 --> 00:22:27,030

healers are invoking an imagery process

425

00:22:34,400 --> 00:22:31,350

in the receiver so so the truth is way

426
00:22:38,990 --> 00:22:34,410
in normal visual experiments if a human

427
00:22:41,690 --> 00:22:39,000
will picture an event and just in make

428
00:22:44,810 --> 00:22:41,700
an image in his mind the brain activates

429
00:22:47,540 --> 00:22:44,820
as if he is really seeing the picture so

430
00:22:51,080 --> 00:22:47,550
so it's a very close coupling in the

431
00:22:53,060 --> 00:22:51,090
brain between reality and just thinking

432
00:22:56,690 --> 00:22:53,070
about a picture so if you think of a

433
00:23:00,260 --> 00:22:56,700
face if you think of a face you'll

434
00:23:02,060 --> 00:23:00,270
activate the fusiform as if you are

435
00:23:04,250 --> 00:23:02,070
really looking at a face even though

436
00:23:06,110 --> 00:23:04,260
you're just thinking about a face so I

437
00:23:09,350 --> 00:23:06,120
think it's the imagery that's being

438
00:23:16,480 --> 00:23:09,360

evoked by the healer that's one of my

439

00:23:20,570 --> 00:23:16,490

theories I'm curious how the sender

440

00:23:22,160 --> 00:23:20,580

identifies the receiver not and not just

441

00:23:25,490 --> 00:23:22,170

in your talk but in previous ones as

442

00:23:27,950 --> 00:23:25,500

well but in some cases clearly you have

443

00:23:30,380 --> 00:23:27,960

them connected by circuitry in other

444

00:23:32,120 --> 00:23:30,390

cases they're in separate rooms so I

445

00:23:34,280 --> 00:23:32,130

could imagine the sender would know the

446

00:23:37,070 --> 00:23:34,290

person's name perhaps would know the

447

00:23:39,320 --> 00:23:37,080

location might be thinking geospatially

448

00:23:41,750 --> 00:23:39,330

as to all person located there or might

449

00:23:44,720 --> 00:23:41,760

be thinking all Fred what what is the

450

00:23:46,850 --> 00:23:44,730

sender doing mentally to identify the

451
00:23:49,610 --> 00:23:46,860
receiver well that's a good question

452
00:23:52,760 --> 00:23:49,620
before they started the experiment we

453
00:23:56,240 --> 00:23:52,770
had the healer spend some time with the

454
00:23:58,550 --> 00:23:56,250
sender so they they were in they spent

455
00:24:00,800 --> 00:23:58,560
some time together you know getting to

456
00:24:03,620 --> 00:24:00,810
know each other and so they saw that the

457
00:24:04,370 --> 00:24:03,630
sender really did have a good impression

458
00:24:07,400 --> 00:24:04,380
about

459
00:24:10,520 --> 00:24:07,410
who the sender the receiver was so they

460
00:24:14,180 --> 00:24:10,530
did spend some time together before they

461
00:24:18,020 --> 00:24:14,190
separated but we've done it both ways if

462
00:24:20,900 --> 00:24:18,030
the sender doesn't know the receiver it

463
00:24:24,590 --> 00:24:20,910

it doesn't work as well it almost

464

00:24:27,200 --> 00:24:24,600

doesn't work nearly as well as when this

465

00:24:34,180 --> 00:24:27,210

sent the sender knows pretty well the

466

00:24:42,620 --> 00:24:40,070

sorry I I'm having a bit of deja vu here

467

00:24:45,710 --> 00:24:42,630

and wishing I could get at my reference

468

00:24:47,930 --> 00:24:45,720

library because I seem to remember but

469

00:24:51,260 --> 00:24:47,940

I'm blocking on details that quite

470

00:24:55,010 --> 00:24:51,270

recently there's been another fMRI study

471

00:24:57,380 --> 00:24:55,020

that garnered some publicity for

472

00:25:00,200 --> 00:24:57,390

claiming to have refuted the whole ESP

473

00:25:02,780 --> 00:25:00,210

concept once and for all and showing no

474

00:25:06,650 --> 00:25:02,790

correlation between senders and

475

00:25:08,900 --> 00:25:06,660

receivers in an ESP task really do you

476

00:25:13,150 --> 00:25:08,910

know who the author was that's why I

477

00:25:17,270 --> 00:25:13,160

wish I could get at my library to check

478

00:25:20,840 --> 00:25:17,280

already well I could I can picture in an

479

00:25:23,840 --> 00:25:20,850

environment when nothing would work you

480

00:25:27,500 --> 00:25:23,850

can sabotage the environment and make it

481

00:25:29,240 --> 00:25:27,510

so nothing works I mean several people

482

00:25:32,120 --> 00:25:29,250

here have mentioned that the environment

483

00:25:35,030 --> 00:25:32,130

is very important in how you set up the

484

00:25:38,450 --> 00:25:35,040

experiment and so I think that the

485

00:25:43,300 --> 00:25:38,460

environmental impact can influence how

486

00:25:46,220 --> 00:25:43,310

well the healer can send to the receiver

487

00:25:51,350 --> 00:25:46,230

so I can understand how there could be a

488

00:25:53,720 --> 00:25:51,360

false result I'm curious in what way

489

00:25:56,560 --> 00:25:53,730

were the alpha waves linked do they have

490

00:25:59,450 --> 00:25:56,570

the same frequency - were they

491

00:26:01,970 --> 00:25:59,460

synchronized or how hard they work the

492

00:26:04,130 --> 00:26:01,980

awful ways were linked in the way that

493

00:26:07,340 --> 00:26:04,140

they differed between the flicker on

494

00:26:10,580 --> 00:26:07,350

state in the flicker off state so we

495

00:26:15,800 --> 00:26:10,590

were comparing the Alpha amplitude

496

00:26:16,310 --> 00:26:15,810

between on and off and and that distant

497

00:26:18,560 --> 00:26:16,320

in that

498

00:26:22,730 --> 00:26:18,570

difference between those two states is

499

00:26:24,710 --> 00:26:22,740

what we use to correlate the this

500

00:26:26,749 --> 00:26:24,720

amplitude okay the amplitude of the

501
00:26:32,810 --> 00:26:26,759
alpha between the flicker on and the off

502
00:26:35,210 --> 00:26:32,820
state I had a question about the

503
00:26:36,980 --> 00:26:35,220
receivers I mean who were they

504
00:26:39,470 --> 00:26:36,990
what were they told did they have a

505
00:26:40,789 --> 00:26:39,480
background of meditation or they were

506
00:26:43,220 --> 00:26:40,799
they involved with the healers are

507
00:26:45,470 --> 00:26:43,230
really just some people off the street

508
00:26:48,080 --> 00:26:45,480
that were that they grabbed the

509
00:26:51,200 --> 00:26:48,090
receivers their receivers yeah the the

510
00:26:53,629 --> 00:26:51,210
receivers were chosen as far as I know

511
00:26:56,419 --> 00:26:53,639
by the healer but but I'd have to ask

512
00:26:58,549 --> 00:26:56,429
Jeanie that that question I'm I'm not

513
00:27:00,980 --> 00:26:58,559

entirely sure sure how they were chosen

514

00:27:03,560 --> 00:27:00,990

but I do know that they they did spend

515

00:27:06,200 --> 00:27:03,570

time with the healer before they went in

516

00:27:09,499 --> 00:27:06,210

the scanner so so that the healer did

517

00:27:11,299 --> 00:27:09,509

have a really good relationship with

518

00:27:13,940 --> 00:27:11,309

them before they went into the scanner

519

00:27:15,529 --> 00:27:13,950

an imaging and a sort of part of this

520

00:27:18,499 --> 00:27:15,539

healers idea so they could be

521

00:27:20,960 --> 00:27:18,509

transmitted to the receiver if they talk

522

00:27:24,200 --> 00:27:20,970

to each other wait what's your question

523

00:27:26,720 --> 00:27:24,210

well if the healers are into imaging

524

00:27:29,299 --> 00:27:26,730

then if they just got talked it over

525

00:27:32,659 --> 00:27:29,309

with the receivers then that may help

526

00:27:35,509 --> 00:27:32,669

explain why it's you're seeing in the

527

00:27:51,380 --> 00:27:35,519

imaging part of the brain oh I say what

528

00:27:56,430 --> 00:27:53,850

Todd that was a great presentation thank

529

00:27:59,400 --> 00:27:56,440

you I happen to have talked to Jeanne

530

00:28:04,440 --> 00:27:59,410

October about how those subjects were

531

00:28:07,440 --> 00:28:04,450

chosen and she says that the healers

532

00:28:11,040 --> 00:28:07,450

were asked to recruit a subject with

533

00:28:13,110 --> 00:28:11,050

whom they had worked in the past and had

534

00:28:17,700 --> 00:28:13,120

some sort of empathic emotional

535

00:28:20,310 --> 00:28:17,710

connection and so the empathic component

536

00:28:23,460 --> 00:28:20,320

to the whole deal seems to be really

537

00:28:25,890 --> 00:28:23,470

crucial about what you found and it

538

00:28:28,440 --> 00:28:25,900

seems to me that these large-scale

539

00:28:31,440 --> 00:28:28,450

double-blind healing studies where you

540

00:28:36,110 --> 00:28:31,450

have typically strangers praying for

541

00:28:40,140 --> 00:28:36,120

strangers completely subvert one of the

542

00:28:44,670 --> 00:28:40,150

necessary factors at least in your study

543

00:28:48,870 --> 00:28:44,680

for a successful study right so it

544

00:28:51,870 --> 00:28:48,880

that's probably a great shortcoming of

545

00:28:55,080 --> 00:28:51,880

the double-blind randomized study as

546

00:28:56,730 --> 00:28:55,090

it's done in in many places right that's

547

00:28:59,070 --> 00:28:56,740

so important for the healer and the

548

00:29:02,430 --> 00:28:59,080

receiver to to have a good relationship

549

00:29:05,850 --> 00:29:02,440

in empathic emotional type of connection

550

00:29:07,980 --> 00:29:05,860

and in the follow-up study that you all

551
00:29:09,360 --> 00:29:07,990
did I understand that that empathic bond

552
00:29:12,450 --> 00:29:09,370
simply wasn't there

553
00:29:16,140 --> 00:29:12,460
because these are in the rerun of the

554
00:29:19,200 --> 00:29:16,150
study the healers did not know the the

555
00:29:20,940 --> 00:29:19,210
subjects there was one where Jeanne did

556
00:29:22,920 --> 00:29:20,950
one where they didn't know each other is

557
00:29:25,050 --> 00:29:22,930
that right yeah and that did that showed

558
00:29:27,660 --> 00:29:25,060
no significance it was a flop it was a

559
00:29:30,060 --> 00:29:27,670
flop so so that makes sense to me why

560
00:29:32,640 --> 00:29:30,070
this other person got a negative result

561
00:29:35,010 --> 00:29:32,650
when if they didn't set it up a good

562
00:29:38,280 --> 00:29:35,020
connection between the healer and the

563
00:29:39,810 --> 00:29:38,290

receiver that's so crucial and and I

564

00:29:42,150 --> 00:29:39,820

know you do that with your work too

565

00:29:47,310 --> 00:29:42,160

right you you met you established a

566

00:29:50,400 --> 00:29:47,320

good connection right in your work could

567

00:29:54,720 --> 00:29:50,410

you talk about the control aspects of

568

00:29:58,240 --> 00:29:54,730

this and the first experiment in other

569

00:30:01,450 --> 00:29:58,250

words there was no the sender

570

00:30:06,100 --> 00:30:01,460

would set up a connection with the with

571

00:30:09,640 --> 00:30:06,110

the recipient recipient and then the

572

00:30:13,540 --> 00:30:09,650

sender would not send at certain times

573

00:30:17,650 --> 00:30:13,550

there would be no response rights so it

574

00:30:21,520 --> 00:30:17,660

was on off on off in a random matter so

575

00:30:26,170 --> 00:30:21,530

so the manner was randomly on and off so

576

00:30:28,960 --> 00:30:26,180

so in fMRI statistics they they you do

577

00:30:31,450 --> 00:30:28,970

this statistics that says okay I'm gonna

578

00:30:33,250 --> 00:30:31,460

test a part of the brain and I'm gonna

579

00:30:36,310 --> 00:30:33,260

test whether there was a significant

580

00:30:39,310 --> 00:30:36,320

correlation with the stimulus so the

581

00:30:42,310 --> 00:30:39,320

control in essence is the off period in

582

00:30:48,250 --> 00:30:42,320

the on and the randomization of this on

583

00:30:50,830 --> 00:30:48,260

off condition you're working here with

584

00:30:53,020 --> 00:30:50,840

distance healing all very positive now

585

00:30:55,420 --> 00:30:53,030

certainly in folklore there's a long

586

00:30:57,760 --> 00:30:55,430

history of negative influence at a

587

00:31:00,760 --> 00:30:57,770

distance have they done anything and

588

00:31:05,530 --> 00:31:00,770

looking at the ability to adversely

589

00:31:07,420 --> 00:31:05,540

affect a subject adversely affect theirs

590

00:31:09,160 --> 00:31:07,430

and if you read folklore throughout the

591

00:31:11,890 --> 00:31:09,170

world I was talking about corn barrels

592

00:31:14,370 --> 00:31:11,900

this morning that they will argue 50% of

593

00:31:18,030 --> 00:31:14,380

their work is in the negative domain

594

00:31:20,890 --> 00:31:18,040

yeah I've heard about that and I know

595

00:31:22,900 --> 00:31:20,900

scientists that are worried that some of

596

00:31:25,420 --> 00:31:22,910

this intentionality will get in the Hat

597

00:31:28,840 --> 00:31:25,430

the wrong hands of somebody wanting to

598

00:31:31,960 --> 00:31:28,850

do harm I'm more interested in healing

599

00:31:33,820 --> 00:31:31,970

but I do know of sometimes scientists

600

00:31:38,050 --> 00:31:33,830

who have told me of experiments done

601
00:31:40,180 --> 00:31:38,060
with the intent to do damage and to

602
00:31:43,930 --> 00:31:40,190
instead of the healing part I've heard

603
00:31:46,510 --> 00:31:43,940
of those one of the variables you're

604
00:31:49,060 --> 00:31:46,520
speaking of is the previous emotional

605
00:31:51,580 --> 00:31:49,070
connection I wondering whether or not

606
00:31:54,280 --> 00:31:51,590
there's any possibility looking at the

607
00:31:57,430 --> 00:31:54,290
data in terms of whether the Healey had

608
00:32:00,340 --> 00:31:57,440
a need for healing so to those people

609
00:32:02,680 --> 00:32:00,350
who are in need of healing even if

610
00:32:04,660 --> 00:32:02,690
they've had a previous emotional bond

611
00:32:07,150 --> 00:32:04,670
with the healer as they become more

612
00:32:09,400 --> 00:32:07,160
healed or let's say the healing process

613
00:32:11,180 --> 00:32:09,410

is complete does that weaken the

614

00:32:13,859 --> 00:32:11,190

resident phenomena

615

00:32:15,629 --> 00:32:13,869

I don't think we've studied that but

616

00:32:17,700 --> 00:32:15,639

that's a good question I we haven't

617

00:32:20,359 --> 00:32:17,710

studied that aspect of it but there's a

618

00:32:23,729 --> 00:32:20,369

lot of aspects of the healer and the

619

00:32:26,549 --> 00:32:23,739

emotional aspects of of the healer and

620

00:32:28,849 --> 00:32:26,559

the receiver and their health that could

621

00:32:34,619 --> 00:32:28,859

impact I can see how that could impacted