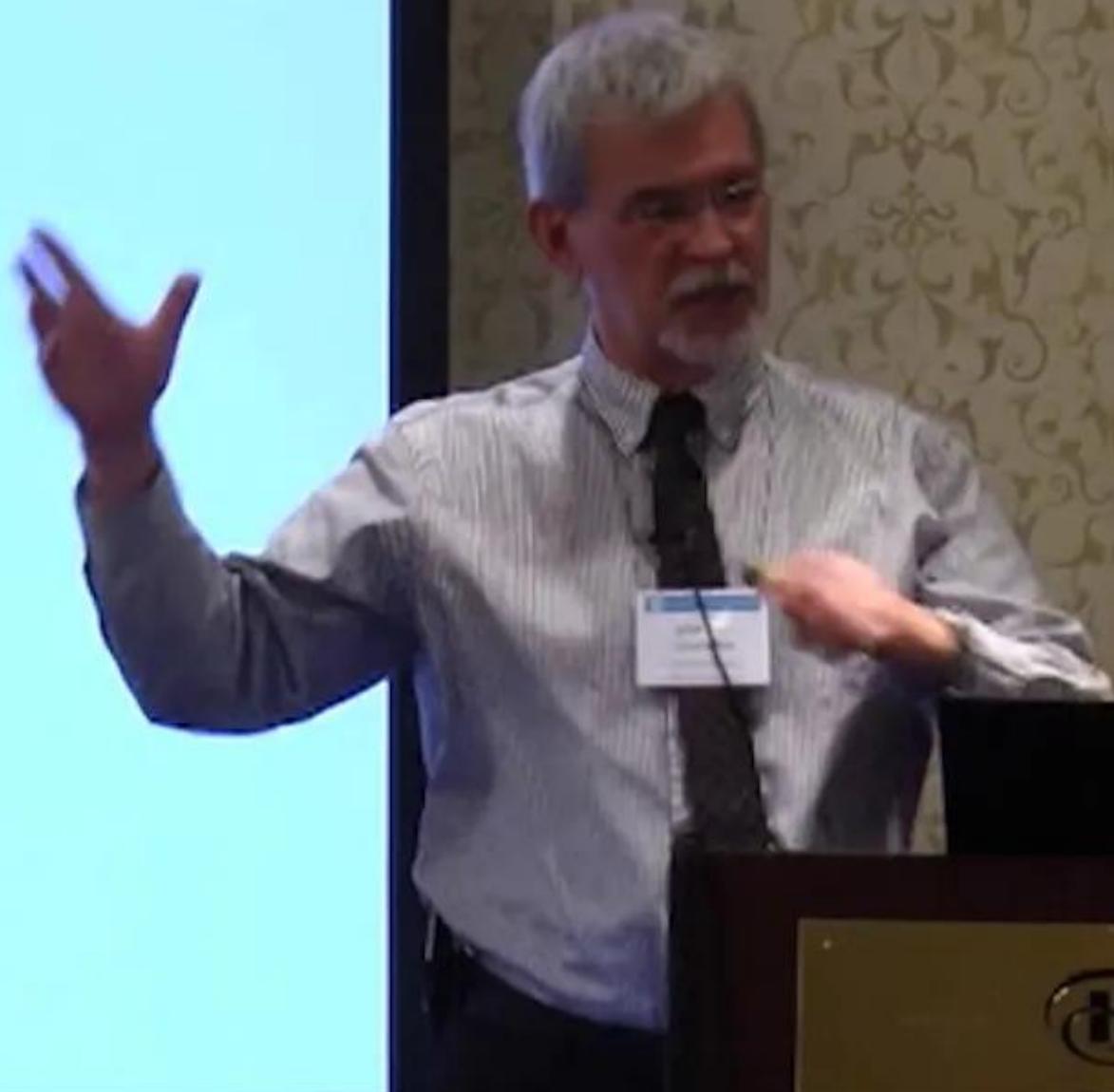


nd reproduces

gnals



1
00:00:11,509 --> 00:00:09,680
so I'm I'm the senior director at the

2
00:00:15,159 --> 00:00:11,519
Sanyo le Institute and brain mind and

3
00:00:17,240 --> 00:00:15,169
healing and consider myself a frontier

4
00:00:19,820 --> 00:00:17,250
science researcher I'm particularly

5
00:00:21,679 --> 00:00:19,830
interested in frontier areas I have a

6
00:00:24,139 --> 00:00:21,689
very checkered background I do have a

7
00:00:26,089 --> 00:00:24,149
PhD it is from Georgetown University and

8
00:00:28,040 --> 00:00:26,099
it's conventional in neuroscience I did

9
00:00:30,170 --> 00:00:28,050
all that sort of stuff I also did a

10
00:00:34,010 --> 00:00:30,180
couple of companies and pushed the

11
00:00:35,810 --> 00:00:34,020
boundaries in wastewater treatment using

12
00:00:39,020 --> 00:00:35,820
constructed wetlands and that's because

13
00:00:40,520 --> 00:00:39,030

I like the frontier so my major job at

14

00:00:43,510 --> 00:00:40,530

the Institute is to look at those

15

00:00:46,220 --> 00:00:43,520

frontiers including homeopathy

16

00:00:48,050 --> 00:00:46,230

consciousness the placebo effect which I

17

00:00:51,920 --> 00:00:48,060

like to think of as intrinsic healing

18

00:00:53,390 --> 00:00:51,930

processes spirituality mind body and

19

00:00:54,050 --> 00:00:53,400

some of those things have now become

20

00:00:56,600 --> 00:00:54,060

mainstream

21

00:00:58,490 --> 00:00:56,610

especially mind-body and I believe that

22

00:01:02,330 --> 00:00:58,500

all the rest of them are moving towards

23

00:01:05,450 --> 00:01:02,340

mainstream as well however we continue

24

00:01:07,460 --> 00:01:05,460

to do a couple of things in science and

25

00:01:09,859 --> 00:01:07,470

in particularly the frontier areas that

26

00:01:12,379 --> 00:01:09,869

are troubling one of them is that when

27

00:01:14,749 --> 00:01:12,389

we have a negative finding it's very

28

00:01:17,179 --> 00:01:14,759

hard to publish it and those are almost

29

00:01:18,889 --> 00:01:17,189

as valuable as the positive findings

30

00:01:21,949 --> 00:01:18,899

because there's usually knowledge in

31

00:01:24,050 --> 00:01:21,959

there and if we don't publish it the

32

00:01:25,639 --> 00:01:24,060

next person that comes along wastes

33

00:01:28,580 --> 00:01:25,649

their time and energy essentially

34

00:01:32,090 --> 00:01:28,590

repeating work that we could have saved

35

00:01:36,230 --> 00:01:32,100

that time redesign the protocol and done

36

00:01:38,169 --> 00:01:36,240

a better job for the next test of it I'm

37

00:01:41,330 --> 00:01:38,179

going to end my talk with talking about

38

00:01:43,999 --> 00:01:41,340

the problem with reproducibility itself

39

00:01:48,469 --> 00:01:44,009

so this is not unique to the frontier

40

00:01:50,809 --> 00:01:48,479

area but it haunts us as a community it

41

00:01:52,760 --> 00:01:50,819

also on the flip side of that coin that

42

00:01:56,179 --> 00:01:52,770

haunts us is that when we're looking at

43

00:01:59,660 --> 00:01:56,189

anomalies the edges of science we're

44

00:02:03,339 --> 00:01:59,670

constantly coming up with findings that

45

00:02:06,379 --> 00:02:03,349

do not fit the conventional dogma do not

46

00:02:08,300 --> 00:02:06,389

fit the conventional wisdom and those

47

00:02:11,449 --> 00:02:08,310

are also difficult to publish and I

48

00:02:14,230 --> 00:02:11,459

think the two ideas are related so I'm

49

00:02:18,460 --> 00:02:14,240

going to spend a loast of my talk about

50

00:02:21,280 --> 00:02:18,470

the work that I have done in my lab and

51
00:02:23,710 --> 00:02:21,290
in collaborating labs so that we have a

52
00:02:26,350 --> 00:02:23,720
strong foundation and what I think are

53
00:02:28,900 --> 00:02:26,360
the areas and so that we have something

54
00:02:32,620 --> 00:02:28,910
concrete the areas of research that

55
00:02:34,210 --> 00:02:32,630
where these these edges are and so that

56
00:02:37,510 --> 00:02:34,220
we have something concrete to talk about

57
00:02:39,190 --> 00:02:37,520
I tend to run a little long so Bill's

58
00:02:40,750 --> 00:02:39,200
going to chase me off the stage but if I

59
00:02:43,600 --> 00:02:40,760
can time it right I mean try to leave

60
00:02:46,270 --> 00:02:43,610
enough time for discussion the point of

61
00:02:49,120 --> 00:02:46,280
this talk is to begin a discussion and

62
00:02:51,850 --> 00:02:49,130
we will not and I hope we will not end

63
00:02:57,240 --> 00:02:51,860

it with the 45 minutes that we have here

64

00:03:01,360 --> 00:02:59,470

so one of my favorite quotes from

65

00:03:03,160 --> 00:03:01,370

William James the great philosopher and

66

00:03:05,920 --> 00:03:03,170

I'm sure most of you have read him if

67

00:03:10,390 --> 00:03:05,930

you haven't read them a man knew what he

68

00:03:12,940 --> 00:03:10,400

was talking about we'd never understand

69

00:03:14,920 --> 00:03:12,950

going forward we only understand after

70

00:03:15,820 --> 00:03:14,930

we've done it and look back how do you

71

00:03:19,000 --> 00:03:15,830

know it's wrong

72

00:03:23,290 --> 00:03:19,010

maybe it's just unorthodox and that's

73

00:03:28,120 --> 00:03:23,300

what I think haunts this community this

74

00:03:29,590 --> 00:03:28,130

type of research it's unorthodox so one

75

00:03:32,530 --> 00:03:29,600

of the things that we ought to all agree

76
00:03:34,900 --> 00:03:32,540
upon is what makes for good science what

77
00:03:37,390 --> 00:03:34,910
are the criteria for good science

78
00:03:39,940 --> 00:03:37,400
because my my opening premise here is

79
00:03:41,380 --> 00:03:39,950
that it not that it fit the conventional

80
00:03:43,930 --> 00:03:41,390
wisdom but that it have these

81
00:03:46,060 --> 00:03:43,940
characteristics that there's some kind

82
00:03:49,660 --> 00:03:46,070
of control group and if there isn't a

83
00:03:52,860 --> 00:03:49,670
control group we say it out loud I don't

84
00:03:55,480 --> 00:03:52,870
have a good control group for X Y & Z

85
00:03:58,420 --> 00:03:55,490
that you use randomization whenever

86
00:04:00,370 --> 00:03:58,430
possible the whole discussions this

87
00:04:02,950 --> 00:04:00,380
morning about quantum mechanics bring

88
00:04:05,170 --> 00:04:02,960

that to mind randomization is clearly a

89

00:04:08,050 --> 00:04:05,180

significant part of the universe and if

90

00:04:13,930 --> 00:04:08,060

we don't pay attention to it it it will

91

00:04:16,150 --> 00:04:13,940

bite us baseline comparability do your

92

00:04:18,220 --> 00:04:16,160

baselines do your baselines over and

93

00:04:21,970 --> 00:04:18,230

over again so that you can see what the

94

00:04:22,780 --> 00:04:21,980

intrinsic variability is in the baseline

95

00:04:32,170 --> 00:04:22,790

in the

96

00:04:35,470 --> 00:04:32,180

variability and don't mistake that

97

00:04:36,640 --> 00:04:35,480

variability for the phenomenon that

98

00:04:38,200 --> 00:04:36,650

you're researching less that's the

99

00:04:41,140 --> 00:04:38,210

variability unless that's the phenomenon

100

00:04:46,090 --> 00:04:41,150

you're researching report drop Data

101
00:04:47,950 --> 00:04:46,100
Report drop studies I was at a

102
00:04:52,060 --> 00:04:47,960
conference that I put together about

103
00:04:55,090 --> 00:04:52,070
2000 to 2000 2001 in which we brought

104
00:04:57,310 --> 00:04:55,100
over some Chinese researchers and they

105
00:05:02,050 --> 00:04:57,320
claimed to have been able to train

106
00:05:04,120 --> 00:05:02,060
individuals to do anomalous viewing to

107
00:05:06,240 --> 00:05:04,130
see through closed boxes and see the

108
00:05:09,850 --> 00:05:06,250
hieroglyphics that are the Chinese

109
00:05:11,440 --> 00:05:09,860
glyphs that were in there and they found

110
00:05:13,000 --> 00:05:11,450
a set of twins who were particularly

111
00:05:16,450 --> 00:05:13,010
gifted at it Dean Radin

112
00:05:20,020 --> 00:05:16,460
says he has met them and books the real

113
00:05:22,930 --> 00:05:20,030

thing and and I certainly don't want to

114

00:05:25,330 --> 00:05:22,940

deny that reality but I was curious

115

00:05:27,790 --> 00:05:25,340

about how many people had been trained

116

00:05:30,730 --> 00:05:27,800

how many were successful how difficult

117

00:05:33,070 --> 00:05:30,740

was this to do and the response was I

118

00:05:35,050 --> 00:05:33,080

don't know and I thought for sure we'd

119

00:05:36,370 --> 00:05:35,060

lost something in translation because he

120

00:05:38,050 --> 00:05:36,380

was Chinese and speaking in Chinese

121

00:05:43,180 --> 00:05:38,060

through a translator but it turned out

122

00:05:45,040 --> 00:05:43,190

didn't care it's very important if this

123

00:05:48,070 --> 00:05:45,050

is a true anomaly if this is a real

124

00:05:53,920 --> 00:05:48,080

thing how common is it we really need to

125

00:05:56,530 --> 00:05:53,930

know that effective blinding often

126

00:05:59,350 --> 00:05:56,540

missed especially if you're convinced

127

00:06:01,870 --> 00:05:59,360

you have a real phenomenon you forget

128

00:06:03,610 --> 00:06:01,880

about the blinding real important

129

00:06:06,430 --> 00:06:03,620

especially if you want to convince the

130

00:06:08,410 --> 00:06:06,440

skeptics make sure that when the

131

00:06:10,990 --> 00:06:08,420

experiment is actually being run than

132

00:06:13,180 --> 00:06:11,000

when the analysis being done that the

133

00:06:15,580 --> 00:06:13,190

people who are doing that are blinded to

134

00:06:16,990 --> 00:06:15,590

what's going on I'll come back I well I

135

00:06:19,750 --> 00:06:17,000

don't think I'll tell that story unless

136

00:06:22,990 --> 00:06:19,760

I do run short but I have a great story

137

00:06:24,520 --> 00:06:23,000

about firing two postdocs and lying to

138

00:06:26,950 --> 00:06:24,530

one because I was sure they were not

139

00:06:28,750 --> 00:06:26,960

properly blinded the phenomenon was real

140

00:06:30,850 --> 00:06:28,760

but I couldn't believe it until I was

141

00:06:32,470 --> 00:06:30,860

absolutely convinced they were so

142

00:06:33,070 --> 00:06:32,480

blinded they actually thought they were

143

00:06:37,089 --> 00:06:33,080

doing and

144

00:06:38,230 --> 00:06:37,099

karley different experiment be sure

145

00:06:42,700 --> 00:06:38,240

you're measuring there out right

146

00:06:47,499 --> 00:06:42,710

outcomes statistics statistics is a

147

00:06:49,390 --> 00:06:47,509

relatively new new discipline I do not

148

00:06:51,909 --> 00:06:49,400

claim to be anything like an expert in

149

00:06:55,390 --> 00:06:51,919

it I always have a statistician on any

150

00:06:57,939 --> 00:06:55,400

research project I do it will also come

151
00:07:00,879 --> 00:06:57,949
back to bite you if you don't do the

152
00:07:03,399 --> 00:07:00,889
right statistics and then finally the

153
00:07:06,820 --> 00:07:03,409
gold standard of science independent

154
00:07:10,320 --> 00:07:06,830
replication and that's why we need to

155
00:07:13,059 --> 00:07:10,330
publish the failed studies as well

156
00:07:15,189 --> 00:07:13,069
because otherwise what are we actually

157
00:07:17,980 --> 00:07:15,199
replicating what are we trying to

158
00:07:19,270 --> 00:07:17,990
replicate and of course I think you've

159
00:07:21,070 --> 00:07:19,280
all seen this and I hope you're all

160
00:07:23,920 --> 00:07:21,080
aware of it but I just want to make sure

161
00:07:25,570 --> 00:07:23,930
we are on the same page these are the

162
00:07:27,519 --> 00:07:25,580
gold standards and I'm talking mostly

163
00:07:29,680 --> 00:07:27,529

about healing medicine and health

164

00:07:30,999 --> 00:07:29,690

because that's my my focus and specialty

165

00:07:33,189 --> 00:07:31,009

but it applies to anything else really

166

00:07:35,649 --> 00:07:33,199

the systematic reviews and randomly

167

00:07:36,820 --> 00:07:35,659

controlled trials there is and I'll talk

168

00:07:38,830 --> 00:07:36,830

a little bit about this there is a

169

00:07:40,510 --> 00:07:38,840

problem with RCTs it's a significant

170

00:07:43,089 --> 00:07:40,520

problem and that is that it has nothing

171

00:07:45,070 --> 00:07:43,099

to do with the bloody real world RCTs

172

00:07:46,749 --> 00:07:45,080

are a total artifact but they still

173

00:07:49,540 --> 00:07:46,759

remain the gold standard until somebody

174

00:07:52,480 --> 00:07:49,550

comes up with a better one and then it

175

00:07:53,980 --> 00:07:52,490

here it is RCTs right there and then of

176

00:07:57,249 --> 00:07:53,990

course the ones that and this is the

177

00:07:58,659 --> 00:07:57,259

causal one so if you if you're talking

178

00:08:01,990 --> 00:07:58,669

in quantum mechanics where you have

179

00:08:04,300 --> 00:08:02,000

where causality is weird then this

180

00:08:06,850 --> 00:08:04,310

pyramid may not be right but in most

181

00:08:10,600 --> 00:08:06,860

cases case series qualitative research

182

00:08:13,980 --> 00:08:10,610

and anecdotes are not to be ignored but

183

00:08:18,820 --> 00:08:13,990

they are the lowest quality of research

184

00:08:20,829 --> 00:08:18,830

so benveniste jacque benveniste friend

185

00:08:23,439 --> 00:08:20,839

of mine colleague of mine passed away a

186

00:08:27,850 --> 00:08:23,449

few years ago in a mishap in surgery

187

00:08:29,950 --> 00:08:27,860

very sad a brilliant man wrote perhaps

188

00:08:32,139 --> 00:08:29,960

that one of the most infamous papers in

189

00:08:33,790 --> 00:08:32,149

all of biological research if not of all

190

00:08:36,819 --> 00:08:33,800

of science was published in nature in

191

00:08:38,230 --> 00:08:36,829

1988 there's nature now has an official

192

00:08:39,610 --> 00:08:38,240

policy they were never published

193

00:08:42,760 --> 00:08:39,620

anything on homeopathy

194

00:08:44,590 --> 00:08:42,770

again if you check out their blog you

195

00:08:48,160 --> 00:08:44,600

will find that I'm on their blog they

196

00:08:49,420 --> 00:08:48,170

blog against me and I paraphrase because

197

00:08:51,760 --> 00:08:49,430

I'm on the stage and don't want to be

198

00:08:53,560 --> 00:08:51,770

mistaken for quoting it but doctor I've

199

00:08:55,480 --> 00:08:53,570

should have his funding removed for

200

00:09:00,540 --> 00:08:55,490

trying to legitimize the debunked field

201

00:09:03,300 --> 00:09:00,550

of homeopathy benveniste

202

00:09:05,470 --> 00:09:03,310

she's a short track for the Nobel Prize

203

00:09:07,030 --> 00:09:05,480

graduate student comes to a postdoc

204

00:09:09,420 --> 00:09:07,040

actually comes to him shows him a

205

00:09:11,320 --> 00:09:09,430

homeopathic experiment benveniste

206

00:09:12,519 --> 00:09:11,330

threatens to fire him if he doesn't go

207

00:09:15,040 --> 00:09:12,529

back and do the work he was supposed to

208

00:09:16,990 --> 00:09:15,050

do guy goes and does it again brings him

209

00:09:19,030 --> 00:09:17,000

back to benveniste shock says okay I'll

210

00:09:21,430 --> 00:09:19,040

show you what you did wrong went and did

211

00:09:24,970 --> 00:09:21,440

the experiment himself and reproduced

212

00:09:28,269 --> 00:09:24,980

the effect basically that IgE at hide

213

00:09:30,130 --> 00:09:28,279

Aleutians D granulates mast cells now

214

00:09:32,110 --> 00:09:30,140

mast cells are a problematic model and I

215

00:09:34,750 --> 00:09:32,120

won't get into that but you can sneeze

216

00:09:36,490 --> 00:09:34,760

at mast cells and not that's a pun of

217

00:09:40,200 --> 00:09:36,500

course for those of you know biology and

218

00:09:45,600 --> 00:09:40,210

they will degranulation unthe aleste

219

00:09:49,120 --> 00:09:45,610

this work was published in Nature and a

220

00:09:52,150 --> 00:09:49,130

magician was was hired to go and debunk

221

00:09:54,579 --> 00:09:52,160

it which produced all the controversy

222

00:09:57,130 --> 00:09:54,589

around it by the way and five labs were

223

00:09:58,960 --> 00:09:57,140

asked to replicate it and I would

224

00:10:00,820 --> 00:09:58,970

recommend that those of you who really

225

00:10:02,620 --> 00:10:00,830

want to look at science history go back

226

00:10:05,500 --> 00:10:02,630

and look at the actual results from

227

00:10:07,420 --> 00:10:05,510

those five labs the claim was that those

228

00:10:10,180 --> 00:10:07,430

five labs were unable to replicated

229

00:10:12,340 --> 00:10:10,190

which is not true two of them were able

230

00:10:14,140 --> 00:10:12,350

to replicate and nature even published

231

00:10:16,470 --> 00:10:14,150

the figures showing they replicated it

232

00:10:18,610 --> 00:10:16,480

and underneath the pictures it says

233

00:10:21,699 --> 00:10:18,620

failure to replicate it's the most

234

00:10:23,410 --> 00:10:21,709

bizarre example of you see what you

235

00:10:26,320 --> 00:10:23,420

think you're going to see rather than

236

00:10:28,390 --> 00:10:26,330

what's actually there nonetheless they

237

00:10:32,290 --> 00:10:28,400

brought in this magician Randi the

238

00:10:34,150 --> 00:10:32,300

magician well-known again I'm familiar

239

00:10:35,680 --> 00:10:34,160

with them and by the way I'm a

240

00:10:37,300 --> 00:10:35,690

card-carrying member of the skeptic

241

00:10:39,790 --> 00:10:37,310

Society I'm a founder of the Washington

242

00:10:43,329 --> 00:10:39,800

DC skeptic Society there's nothing wrong

243

00:10:45,250 --> 00:10:43,339

with being a skeptic Randi on the other

244

00:10:46,990 --> 00:10:45,260

hand in my opinion went overboard he

245

00:10:49,180 --> 00:10:47,000

invalidated the claims I'll argue about

246

00:10:52,510 --> 00:10:49,190

that developed this controversy and

247

00:10:55,630 --> 00:10:52,520

division to good replication attempts

248

00:10:59,200 --> 00:10:55,640

we're done as I say in the science in

249

00:11:01,090 --> 00:10:59,210

that in the nature controversy but the

250

00:11:02,800 --> 00:11:01,100

bottom line was it's destroyed

251
00:11:05,860 --> 00:11:02,810
homeopathic research in France

252
00:11:08,170 --> 00:11:05,870
it destroyed benveniste to get a Nobel

253
00:11:10,570 --> 00:11:08,180
Prize almost did his career in but he

254
00:11:14,890 --> 00:11:10,580
didn't care he loved controversy in

255
00:11:17,740 --> 00:11:14,900
itself and he's since moved on well he

256
00:11:19,690 --> 00:11:17,750
has since moved on but at the time that

257
00:11:22,240 --> 00:11:19,700
I that I was referring to here he was

258
00:11:25,750 --> 00:11:22,250
doing histamine and cd3 cells which was

259
00:11:30,010 --> 00:11:25,760
his specialty was an immunologist this

260
00:11:32,410 --> 00:11:30,020
is not his work this was done in 1991 so

261
00:11:34,720 --> 00:11:32,420
we're talking a few years later st.

262
00:11:38,650 --> 00:11:34,730
lawdy at all and I but I love the figure

263
00:11:42,100 --> 00:11:38,660

because it's so nice and regular and I

264

00:11:43,600 --> 00:11:42,110

was sure this was crap and when Wayne

265

00:11:46,450 --> 00:11:43,610

Jonas and I started the Samuele

266

00:11:49,840 --> 00:11:46,460

Institute back in 2001 I stuck up my

267

00:11:51,820 --> 00:11:49,850

hand and I said Wayne I will test

268

00:11:53,470 --> 00:11:51,830

homeopathy Wayne if you don't know Wayne

269

00:11:55,480 --> 00:11:53,480

Jonas he's up he's a physician and

270

00:11:57,130 --> 00:11:55,490

practices homeopathy himself and I've

271

00:11:58,630 --> 00:11:57,140

known him for thirty years now and for

272

00:12:00,700 --> 00:11:58,640

the previous 20 years I've been teasing

273

00:12:03,280 --> 00:12:00,710

the hell out of him about doing this

274

00:12:04,960 --> 00:12:03,290

stupid idea of homeopathy he knew I was

275

00:12:06,610 --> 00:12:04,970

prejudiced but I am in the end a good

276

00:12:08,890 --> 00:12:06,620

scientist and I said I want your

277

00:12:10,900 --> 00:12:08,900

handshake that I'll go wherever the data

278

00:12:14,500 --> 00:12:10,910

was and he looked at me and he got a big

279

00:12:18,490 --> 00:12:14,510

grin on his face and he said deal the

280

00:12:20,350 --> 00:12:18,500

debt the data led me to this I I believe

281

00:12:22,030 --> 00:12:20,360

I have figured out how it works it's

282

00:12:24,370 --> 00:12:22,040

called the silica hypothesis it's why

283

00:12:28,240 --> 00:12:24,380

nature has a blog against me but this is

284

00:12:30,130 --> 00:12:28,250

an amazing phenomenon and highly

285

00:12:31,750 --> 00:12:30,140

reproducible it turns out there are at

286

00:12:34,000 --> 00:12:31,760

this point I believe twelve good

287

00:12:37,930 --> 00:12:34,010

publications reproducing benveniste

288

00:12:39,670 --> 00:12:37,940

Ridge "I work I don't want to talk too

289

00:12:41,800 --> 00:12:39,680

much about his work I want to talk about

290

00:12:45,880 --> 00:12:41,810

something else really which is how do

291

00:12:47,320 --> 00:12:45,890

you test something like this and what do

292

00:12:50,800 --> 00:12:47,330

you do with the results when they come

293

00:12:52,690 --> 00:12:50,810

up so he made he benveniste and spent

294

00:12:54,370 --> 00:12:52,700

the rest of his career trying to figure

295

00:12:57,280 --> 00:12:54,380

out the mechanism because mechanism is

296

00:12:58,840 --> 00:12:57,290

the magic bullet for basic science and

297

00:13:00,700 --> 00:12:58,850

probably all of science but certainly

298

00:13:02,079 --> 00:13:00,710

for basic science and certainly in

299

00:13:05,259 --> 00:13:02,089

biomedical work

300

00:13:06,999 --> 00:13:05,269

and and so most of the criticism was the

301
00:13:09,489 --> 00:13:07,009
fact that had been done by hand and he's

302
00:13:11,259 --> 00:13:09,499
working with very small quantities so he

303
00:13:12,670 --> 00:13:11,269
developed a robotic device and I'll show

304
00:13:16,090 --> 00:13:12,680
you a picture I bought one I still own

305
00:13:17,559 --> 00:13:16,100
it I don't own it the Institute does and

306
00:13:21,429 --> 00:13:17,569
he eventually came up with the idea that

307
00:13:25,239 --> 00:13:21,439
it was electromagnetic in nature he was

308
00:13:27,160 --> 00:13:25,249
wrong but that's another story so he

309
00:13:31,360 --> 00:13:27,170
decided he could digitize it we're

310
00:13:33,460 --> 00:13:31,370
talking 1990s 2000 and delivered the

311
00:13:34,929 --> 00:13:33,470
digitized sound and reproduced the fact

312
00:13:36,970 --> 00:13:34,939
he convinced the Congress of the United

313
00:13:41,710 --> 00:13:36,980

States that this was real and that he

314

00:13:43,929 --> 00:13:41,720

could transmit medical cures medical

315

00:13:46,059 --> 00:13:43,939

drugs over the Internet

316

00:13:48,400 --> 00:13:46,069

reconstitute them in water and nobody

317

00:13:49,299 --> 00:13:48,410

could turn away from that idea DARPA

318

00:13:52,179 --> 00:13:49,309

picked it up

319

00:13:54,100 --> 00:13:52,189

DARPA asked us to test this and of

320

00:13:56,679 --> 00:13:54,110

course DARPA is a very dark place in

321

00:13:58,179 --> 00:13:56,689

many respects and so they when everybody

322

00:13:59,679 --> 00:13:58,189

else is thinking drugs for helping

323

00:14:02,730 --> 00:13:59,689

people I'm sure DARPA had something else

324

00:14:06,910 --> 00:14:02,740

in mind but they wanted to test this and

325

00:14:10,090 --> 00:14:06,920

they asked me to run the study processes

326

00:14:11,769 --> 00:14:10,100

automated and even benveniste was

327

00:14:17,799 --> 00:14:11,779

beginning to wonder about operator

328

00:14:19,150 --> 00:14:17,809

effects so this is the team and some of

329

00:14:21,489 --> 00:14:19,160

you know these folks this is Jacques

330

00:14:23,470 --> 00:14:21,499

himself right there this guy's name is

331

00:14:26,499 --> 00:14:23,480

Jamal that's me in a younger age that's

332

00:14:30,519 --> 00:14:26,509

Wayne Jonas also a younger age this is a

333

00:14:32,169 --> 00:14:30,529

sociologist this is the statistician

334

00:14:33,939 --> 00:14:32,179

from the University of Maryland chair of

335

00:14:35,919 --> 00:14:33,949

the department and the senior member of

336

00:14:37,449 --> 00:14:35,929

the skeptic Society of Washington DC and

337

00:14:40,480 --> 00:14:37,459

I'll come back to why that's important

338

00:14:42,129 --> 00:14:40,490

this is DDA he's the engineer that

339

00:14:44,980 --> 00:14:42,139

worked in Jacque steam to build the

340

00:14:48,579 --> 00:14:44,990

robot this is the man I want you to

341

00:14:50,559 --> 00:14:48,589

remember Jamal this is the replay system

342

00:14:52,509 --> 00:14:50,569

and I won't spend a lot of time on it

343

00:14:53,970 --> 00:14:52,519

except that it's extremely simple they

344

00:14:57,000 --> 00:14:53,980

used up

345

00:14:58,830 --> 00:14:57,010

a laptop computer and the sound card of

346

00:15:02,400 --> 00:14:58,840

a laptop computer and anybody who's an

347

00:15:03,510 --> 00:15:02,410

engineer realizes that in 1998 which is

348

00:15:04,980 --> 00:15:03,520

when this computer was put together

349

00:15:05,700 --> 00:15:04,990

those sound cards are not very high

350

00:15:08,310 --> 00:15:05,710

resolution

351
00:15:09,900 --> 00:15:08,320
he runs them through an amplifier or we

352
00:15:11,730 --> 00:15:09,910
and I actually did this ran them through

353
00:15:13,710 --> 00:15:11,740
an amplifier and run them through a coil

354
00:15:16,920 --> 00:15:13,720
and you just test it in fact you're

355
00:15:18,360 --> 00:15:16,930
doing it you put water in there with

356
00:15:20,280 --> 00:15:18,370
calcium by the way it turns out that's

357
00:15:21,900 --> 00:15:20,290
important and remember my hypothesis for

358
00:15:25,410 --> 00:15:21,910
how homeopathy works called the calcium

359
00:15:27,330 --> 00:15:25,420
hype the silica hypothesis it's related

360
00:15:29,180 --> 00:15:27,340
to this calcium phenomenon and that he

361
00:15:31,290 --> 00:15:29,190
could reconstitute the signal in there

362
00:15:34,110 --> 00:15:31,300
okay that's what the thing actually

363
00:15:35,910 --> 00:15:34,120

physically looks like that it's a the

364

00:15:39,000 --> 00:15:35,920

robot is out of screen but I'll show you

365

00:15:40,950 --> 00:15:39,010

in just a moment this is the the

366

00:15:42,390 --> 00:15:40,960

reagents are put in here it's all mixed

367

00:15:46,440 --> 00:15:42,400

together here and it's all automated in

368

00:15:48,690 --> 00:15:46,450

the rope whoops the robot is really good

369

00:15:51,570 --> 00:15:48,700

at doing this and doing it reproducibly

370

00:15:53,430 --> 00:15:51,580

so he got rid of that that drift and

371

00:15:56,010 --> 00:15:53,440

that that an error phenomenon that

372

00:15:58,110 --> 00:15:56,020

happens when people do it these are the

373

00:16:00,120 --> 00:15:58,120

results because in some respects the

374

00:16:02,160 --> 00:16:00,130

results are less important than than the

375

00:16:02,910 --> 00:16:02,170

underlying phenomenon here this is the

376

00:16:05,250 --> 00:16:02,920

control

377

00:16:06,780 --> 00:16:05,260

it's a thrombin fibrinogen coagulation

378

00:16:08,430 --> 00:16:06,790

rates basically it's coagulation of

379

00:16:09,270 --> 00:16:08,440

blood where you only take two components

380

00:16:14,730 --> 00:16:09,280

so you don't have to worry about

381

00:16:16,890 --> 00:16:14,740

individualization and I believe Julia B

382

00:16:19,380 --> 00:16:16,900

shell will be speaking later today or is

383

00:16:22,950 --> 00:16:19,390

it yeah this afternoon on hematological

384

00:16:24,360 --> 00:16:22,960

correlates with parapsychology there's

385

00:16:27,420 --> 00:16:24,370

something very interesting about human

386

00:16:29,160 --> 00:16:27,430

blood and parapsychology and I don't

387

00:16:31,110 --> 00:16:29,170

have time in this lecture but but listen

388

00:16:32,460 --> 00:16:31,120

to her lecture because I suspect it's

389

00:16:33,990 --> 00:16:32,470

gonna be very interesting any rate this

390

00:16:37,950 --> 00:16:34,000

is the synthetic version of it just the

391

00:16:40,080 --> 00:16:37,960

two components this one is the the

392

00:16:42,240 --> 00:16:40,090

coagulation is slowed oh no sound

393

00:16:43,650 --> 00:16:42,250

reproducible it is basically if you just

394

00:16:44,850 --> 00:16:43,660

run this thing on one piece of paper you

395

00:16:45,930 --> 00:16:44,860

cut a hole through the paper it just

396

00:16:52,110 --> 00:16:45,940

keeps doing the same thing over and over

397

00:16:57,300 --> 00:16:52,120

again and less whoops unless you run the

398

00:17:01,380 --> 00:16:57,310

experiment with Jamal I see vice is a--

399

00:17:03,900 --> 00:17:01,390

in the lab when he runs the experiment

400

00:17:04,830 --> 00:17:03,910

and if you recognize that name and

401
00:17:06,429 --> 00:17:04,840
you've been paying attention to

402
00:17:08,829 --> 00:17:06,439
homeopathy because he's back on this

403
00:17:10,480 --> 00:17:08,839
again with another Nobel laureate where

404
00:17:13,569 --> 00:17:10,490
they Nobel laureate I guess Jacque never

405
00:17:15,009 --> 00:17:13,579
got his guy named Monty err who's gotten

406
00:17:18,100 --> 00:17:15,019
into homeopathy again he's working with

407
00:17:23,679 --> 00:17:18,110
Jamal again so every time Jamal ran the

408
00:17:26,529 --> 00:17:23,689
experiment the bloody thing worked this

409
00:17:30,129 --> 00:17:26,539
is me running the experiment with water

410
00:17:31,990 --> 00:17:30,139
time sorry and you'll notice again it's

411
00:17:35,710 --> 00:17:32,000
pretty much on top of it and this is

412
00:17:37,779 --> 00:17:35,720
essentially changing the a synthetic

413
00:17:39,909 --> 00:17:37,789

inhibitor just to show that in fact the

414

00:17:41,470 --> 00:17:39,919

robot works so in chemistry works the

415

00:17:43,690 --> 00:17:41,480

way it should there are no surprises

416

00:17:45,610 --> 00:17:43,700

here this is optical density on this so

417

00:17:47,860 --> 00:17:45,620

as it coagulates the optical density

418

00:17:49,570 --> 00:17:47,870

goes up it goes up asymptotically

419

00:17:52,389 --> 00:17:49,580

eventually it essentially turns into a

420

00:17:55,480 --> 00:17:52,399

solid block right this is the

421

00:17:57,879 --> 00:17:55,490

interesting one right here and he could

422

00:18:00,190 --> 00:17:57,889

do this every time and this is not a

423

00:18:03,460 --> 00:18:00,200

trivial difference right chemistry is

424

00:18:03,700 --> 00:18:03,470

very reliable it works the same each

425

00:18:06,549 --> 00:18:03,710

time

426

00:18:07,450 --> 00:18:06,559

so here's Jamal here's the robot Jamal

427

00:18:09,610 --> 00:18:07,460

is a happy guy

428

00:18:11,590 --> 00:18:09,620

we're in a secured military lab by the

429

00:18:13,930 --> 00:18:11,600

way I have total control over this

430

00:18:15,879 --> 00:18:13,940

environment I have absolute control over

431

00:18:18,909 --> 00:18:15,889

this environment I have control over the

432

00:18:20,560 --> 00:18:18,919

people that are there and in fact one of

433

00:18:22,450 --> 00:18:20,570

the arrangements we went with we made

434

00:18:23,919 --> 00:18:22,460

with Jacques and his team is they could

435

00:18:25,749 --> 00:18:23,929

not and they signed the document they

436

00:18:26,980 --> 00:18:25,759

could not be within 200 yards of the

437

00:18:28,810 --> 00:18:26,990

experiment when it was actually running

438

00:18:29,919 --> 00:18:28,820

now it turns out he lives in France so

439

00:18:30,690 --> 00:18:29,929

that wasn't a problem he just went back

440

00:18:33,249 --> 00:18:30,700

to France

441

00:18:34,869 --> 00:18:33,259

Jamal sets it up I took this picture and

442

00:18:36,549 --> 00:18:34,879

thing works I'm going great I study

443

00:18:36,999 --> 00:18:36,559

under him for a while I got it I got it

444

00:18:39,519 --> 00:18:37,009

down

445

00:18:44,440 --> 00:18:39,529

Jamal by the way has two PhDs one in

446

00:18:46,149 --> 00:18:44,450

pharmacology and one chemistry and Benny

447

00:18:47,740 --> 00:18:46,159

then they go back to France and then I

448

00:18:51,009 --> 00:18:47,750

do the experiment that damn thing

449

00:18:52,749 --> 00:18:51,019

doesn't work oh well I'm learning I'm

450

00:18:54,850 --> 00:18:52,759

using DARPA money so I go ahead and I

451
00:18:56,379 --> 00:18:54,860
fly them back again and they come into

452
00:18:57,789 --> 00:18:56,389
the lab they watch me doing they say I

453
00:19:01,600 --> 00:18:57,799
don't know what you're doing wrong John

454
00:19:04,360 --> 00:19:01,610
and Jamal says well let me run it works

455
00:19:06,909 --> 00:19:04,370
again stays there for two days

456
00:19:08,769 --> 00:19:06,919
works fine and during that time I got to

457
00:19:10,330 --> 00:19:08,779
know him we he smoked cigarettes a lot

458
00:19:12,190 --> 00:19:10,340
of milk not allowed to smoke at Walter

459
00:19:14,019 --> 00:19:12,200
Reed which is where this was so we'd go

460
00:19:16,540 --> 00:19:14,029
outside and I got to talking with him he

461
00:19:19,780 --> 00:19:16,550
speaks French Spanish Italian

462
00:19:22,270 --> 00:19:19,790
the Egyptian whatever the 20 languages I

463
00:19:24,160 --> 00:19:22,280

speak English so we had a we had a slow

464

00:19:31,930 --> 00:19:24,170

but but growing friendship and

465

00:19:34,660 --> 00:19:31,940

conversation so turns out that Jamal so

466

00:19:37,930 --> 00:19:34,670

Jamal why do you have two PhDs oh I

467

00:19:44,020 --> 00:19:37,940

don't like telling people this but I'm

468

00:19:48,760 --> 00:19:44,030

the firstborn tenth generation male for

469

00:19:51,610 --> 00:19:48,770

the energy healers in my community I'll

470

00:19:53,500 --> 00:19:51,620

go really the other thing I noticed that

471

00:19:55,240 --> 00:19:53,510

he's smoking a cigarette so I actually

472

00:19:57,010 --> 00:19:55,250

think maybe cigarettes are doing this I

473

00:20:01,420 --> 00:19:57,020

tried I actually light a cigarette in

474

00:20:03,940 --> 00:20:01,430

there try that doesn't do it so I'm

475

00:20:06,070 --> 00:20:03,950

thinking this is interesting and Jamal

476

00:20:07,570 --> 00:20:06,080

thinks this is unimpressive and I said

477

00:20:09,100 --> 00:20:07,580

well how did you get the homeopathy and

478

00:20:11,170 --> 00:20:09,110

he said well I was studying with under

479

00:20:12,580 --> 00:20:11,180

shock for a while and I got my second

480

00:20:13,840 --> 00:20:12,590

PhD and I he got interested in

481

00:20:16,510 --> 00:20:13,850

homeopathy I said I followed along with

482

00:20:17,710 --> 00:20:16,520

it and I said well how does it work

483

00:20:19,030 --> 00:20:17,720

whatever you're around he said I don't

484

00:20:20,890 --> 00:20:19,040

know he said the only thing we have been

485

00:20:23,260 --> 00:20:20,900

able to find his people who can

486

00:20:25,540 --> 00:20:23,270

interfere with the process so this woman

487

00:20:30,790 --> 00:20:25,550

is a Korean woman who'd come to Jacques

488

00:20:33,040 --> 00:20:30,800

wanted to do homeopathy and she if she

489

00:20:34,120 --> 00:20:33,050

was within six feet of the experiment it

490

00:20:41,140 --> 00:20:34,130

wouldn't work

491

00:20:43,600 --> 00:20:41,150

and they noted this so they these right

492

00:20:45,880 --> 00:20:43,610

there are made out of mule metal they

493

00:20:47,680 --> 00:20:45,890

discovered that if the if they made the

494

00:20:48,580 --> 00:20:47,690

containers out of new metal it would

495

00:20:54,400 --> 00:20:48,590

even block

496

00:20:56,950 --> 00:20:54,410

Suz effect so I call up Jacques and I

497

00:20:59,950 --> 00:20:56,960

say I think you're right

498

00:21:02,980 --> 00:20:59,960

I think the person is involved here and

499

00:21:05,380 --> 00:21:02,990

he said ah you know John I thought that

500

00:21:06,220 --> 00:21:05,390

because I because we're looking Fridays

501
00:21:08,770 --> 00:21:06,230
I don't think so anymore

502
00:21:11,620 --> 00:21:08,780
and I learned from Jamal from these

503
00:21:14,290 --> 00:21:11,630
cigarette excursions we had done that

504
00:21:16,300 --> 00:21:14,300
his wife was getting her CPA and she'd

505
00:21:18,100 --> 00:21:16,310
gone to Spain to do this and she'd been

506
00:21:20,350 --> 00:21:18,110
gone for two years and he basically been

507
00:21:22,750 --> 00:21:20,360
living in the lab and I said how close

508
00:21:24,190 --> 00:21:22,760
is Jamal to the machine because they we

509
00:21:24,790 --> 00:21:24,200
bought one and put it in Walter Reed and

510
00:21:26,440 --> 00:21:24,800
they kept

511
00:21:30,310 --> 00:21:26,450
one of their own there they're very

512
00:21:32,050 --> 00:21:30,320
expensive \$45,000 and he said oh it sits

513
00:21:33,970 --> 00:21:32,060

on his desk and I said send him on a

514

00:21:36,670 --> 00:21:33,980

vacation and he said he won't go and I

515

00:21:39,480 --> 00:21:36,680

said I don't care override him five days

516

00:21:42,550 --> 00:21:39,490

later Jacques calls me up go sacre bleu

517

00:21:45,790 --> 00:21:42,560

the damn thing stopped working I said

518

00:21:49,450 --> 00:21:45,800

yeah you have built yourself a bioenergy

519

00:21:51,970 --> 00:21:49,460

tester unfortunately shortly thereafter

520

00:21:54,160 --> 00:21:51,980

he died as I say and people have

521

00:21:57,310 --> 00:21:54,170

forgotten this paper because we said

522

00:21:59,830 --> 00:21:57,320

this we called it the Jamaal effect it's

523

00:22:01,360 --> 00:21:59,840

actually in our paper we don't get to

524

00:22:02,620 --> 00:22:01,370

overboard about it cuz I don't didn't

525

00:22:04,120 --> 00:22:02,630

know what to do with it I didn't I

526

00:22:06,550 --> 00:22:04,130

wanted to get publishing fascism so I

527

00:22:07,810 --> 00:22:06,560

didn't want to get too crazy but we

528

00:22:09,730 --> 00:22:07,820

started worrying that you know our

529

00:22:11,980 --> 00:22:09,740

statistician started worrying about it

530

00:22:13,210 --> 00:22:11,990

and by the way statistician was insane

531

00:22:15,400 --> 00:22:13,220

because remember he's a member of the

532

00:22:17,320 --> 00:22:15,410

skeptic Society trained by Randy the

533

00:22:19,600 --> 00:22:17,330

magician as a magician in addition to

534

00:22:22,120 --> 00:22:19,610

being a statistician and I said well I'm

535

00:22:24,310 --> 00:22:22,130

sure Jamal did not do any trickery and

536

00:22:26,230 --> 00:22:24,320

he said I guarantee you Jon you put me

537

00:22:29,020 --> 00:22:26,240

in that room I'll do it right in front

538

00:22:30,490 --> 00:22:29,030

of you you'll never even see it so one

539

00:22:31,600 --> 00:22:30,500

of the things that we realized we needed

540

00:22:33,190 --> 00:22:31,610

to do was we should have video to

541

00:22:34,600 --> 00:22:33,200

videotape it but we didn't make the

542

00:22:38,410 --> 00:22:34,610

premise that we were looking for fraud

543

00:22:41,670 --> 00:22:38,420

we were testing the ability our ability

544

00:22:48,060 --> 00:22:41,680

to replicate jacque's claim that's it

545

00:22:51,820 --> 00:22:48,070

clear concise and thought out that way

546

00:22:54,820 --> 00:22:51,830

so one of the things that we learned was

547

00:22:57,180 --> 00:22:54,830

that the team that you put together is

548

00:23:00,550 --> 00:22:57,190

extremely important you want a

549

00:23:04,270 --> 00:23:00,560

multidisciplinary team a team that

550

00:23:07,060 --> 00:23:04,280

consists of a statistician a skeptic if

551

00:23:10,600 --> 00:23:07,070

at all possible somebody who is not

552

00:23:12,040 --> 00:23:10,610

gonna sabotage the experiment but

553

00:23:15,730 --> 00:23:12,050

somebody that comes in with I don't

554

00:23:18,760 --> 00:23:15,740

believe this somebody from Missouri show

555

00:23:20,110 --> 00:23:18,770

me right you want somebody on that team

556

00:23:21,970 --> 00:23:20,120

now in our case the statistician and

557

00:23:25,090 --> 00:23:21,980

that person were the same one we also

558

00:23:26,380 --> 00:23:25,100

had a social psychologist it's one of

559

00:23:27,700 --> 00:23:26,390

the best it turns out he's world-famous

560

00:23:29,530 --> 00:23:27,710

and I don't want to bring him up because

561

00:23:29,920 --> 00:23:29,540

he's actually doing ID of people from

562

00:23:33,760 --> 00:23:29,930

there

563

00:23:36,070 --> 00:23:33,770

he's a profiler right so his job his one

564

00:23:38,000 --> 00:23:36,080

job was to take contemporaneous notes

565

00:23:39,950 --> 00:23:38,010

every time we met

566

00:23:42,230 --> 00:23:39,960

as a team either was Jacques there or

567

00:23:43,550 --> 00:23:42,240

not there take contemporaneous notes you

568

00:23:45,560 --> 00:23:43,560

would type them up that night he would

569

00:23:47,210 --> 00:23:45,570

send him out by email and we would sign

570

00:23:49,880 --> 00:23:47,220

virtually or sign physically and we'd

571

00:23:52,880 --> 00:23:49,890

turn it back to him within 48 hours very

572

00:23:55,670 --> 00:23:52,890

very important because when you go

573

00:23:57,740 --> 00:23:55,680

through this anybody who believes in the

574

00:24:01,280 --> 00:23:57,750

work they've done and who doesn't right

575

00:24:03,590 --> 00:24:01,290

and you're testing them they will start

576

00:24:06,710 --> 00:24:03,600

it's up it's a human phenomenon

577

00:24:09,320 --> 00:24:06,720

you will start wiggling out you will

578

00:24:12,590 --> 00:24:09,330

start the wiggle in a way to indicate

579

00:24:13,870 --> 00:24:12,600

that you the tester have done something

580

00:24:16,670 --> 00:24:13,880

that's not right

581

00:24:18,380 --> 00:24:16,680

so as it became clear we could not

582

00:24:19,910 --> 00:24:18,390

replicate this without and by the way

583

00:24:21,170 --> 00:24:19,920

they came back twice and every time

584

00:24:22,670 --> 00:24:21,180

Jamal was in the room it worked and

585

00:24:24,530 --> 00:24:22,680

every time he wasn't it didn't and I

586

00:24:26,000 --> 00:24:24,540

brought in certified buyer energy

587

00:24:27,350 --> 00:24:26,010

healers and I'm gonna show you in one of

588

00:24:29,270 --> 00:24:27,360

those experiments

589

00:24:31,040 --> 00:24:29,280

I had Wayne do it I did it none of us

590

00:24:32,300 --> 00:24:31,050

could make it happen had to be Jamal for

591

00:24:35,150 --> 00:24:32,310

some reasons I think he was entangled

592

00:24:36,740 --> 00:24:35,160

and maybe in the quantum sense with the

593

00:24:39,380 --> 00:24:36,750

machine but he was certainly entangled

594

00:24:41,270 --> 00:24:39,390

with the experiment and was he

595

00:24:42,770 --> 00:24:41,280

committing fraud it's certainly possible

596

00:24:46,820 --> 00:24:42,780

because I didn't test it but I don't

597

00:24:48,770 --> 00:24:46,830

think so but more importantly Jacque was

598

00:24:50,930 --> 00:24:48,780

very unhappy with this outcome he'd

599

00:24:54,290 --> 00:24:50,940

started a company digi bio which is

600

00:24:56,360 --> 00:24:54,300

still alive by the way and he did not

601
00:24:59,240 --> 00:24:56,370
like the way this was going so his

602
00:25:01,820 --> 00:24:59,250
memory of the meetings started to shift

603
00:25:04,240 --> 00:25:01,830
and so the sociologists would bring out

604
00:25:06,500 --> 00:25:04,250
the notes that Jacque had signed

605
00:25:09,980 --> 00:25:06,510
contemporaneously and Schalk would go

606
00:25:11,150 --> 00:25:09,990
I'll be I remembered that conversation

607
00:25:13,040 --> 00:25:11,160
differently but you're right that's my

608
00:25:15,830 --> 00:25:13,050
signature now that I've seen the written

609
00:25:17,990 --> 00:25:15,840
document I recall doing that and so this

610
00:25:21,650 --> 00:25:18,000
turned out to be a good study published

611
00:25:23,240 --> 00:25:21,660
in fab we gave it to DARPA DARPA who I

612
00:25:25,910 --> 00:25:23,250
thought was gonna laugh us out of the

613
00:25:29,240 --> 00:25:25,920

room said yeah we've seen this before

614

00:25:30,980 --> 00:25:29,250

I go say what and you go oh yeah yeah we

615

00:25:32,090 --> 00:25:30,990

know about 12 men and women around the

616

00:25:36,140 --> 00:25:32,100

world that can do this kind of thing

617

00:25:38,540 --> 00:25:36,150

what I why didn't you tell me this all

618

00:25:41,150 --> 00:25:38,550

because it's of no interest what how can

619

00:25:44,060 --> 00:25:41,160

this not be of interest well it seems to

620

00:25:47,390 --> 00:25:44,070

be unique it's only found in special

621

00:25:48,620 --> 00:25:47,400

people and I'm like so and they look at

622

00:25:50,240 --> 00:25:48,630

me and they go do you know how it works

623

00:25:52,610 --> 00:25:50,250

I said no but

624

00:25:55,400 --> 00:25:52,620

me the money and I'll figure it out no

625

00:25:57,350 --> 00:25:55,410

not interested we're only interested and

626

00:25:59,000 --> 00:25:57,360

if you know how to train somebody to do

627

00:26:01,250 --> 00:25:59,010

it then we're really paying attention or

628

00:26:03,140 --> 00:26:01,260

better yet you know how to put it into

629

00:26:04,940 --> 00:26:03,150

some sort of device or machine DARPA

630

00:26:07,430 --> 00:26:04,950

loves machines so Bill's going to talk

631

00:26:10,340 --> 00:26:07,440

about trying to get the healer out of

632

00:26:13,700 --> 00:26:10,350

the healing and I'm sorry I'm angle diz

633

00:26:15,260 --> 00:26:13,710

his title but unfortunately I have to

634

00:26:18,230 --> 00:26:15,270

I've got other commitments so I won't be

635

00:26:20,810 --> 00:26:18,240

able to hear it but again DARPA was only

636

00:26:22,790 --> 00:26:20,820

interest in that and they didn't laugh

637

00:26:24,050 --> 00:26:22,800

at us at all they had no problem with it

638

00:26:27,110 --> 00:26:24,060

they were disappointed because they

639

00:26:28,670 --> 00:26:27,120

thought they had something else and when

640

00:26:33,500 --> 00:26:28,680

it turned out it was what we call the

641

00:26:35,150 --> 00:26:33,510

jamal effect the least bit surprised we

642

00:26:39,070 --> 00:26:35,160

did this in a secured room by the way I

643

00:26:42,470 --> 00:26:39,080

mean they very serious guys okay

644

00:26:45,950 --> 00:26:42,480

bioenergy what the hell is bioenergy

645

00:26:47,420 --> 00:26:45,960

this is bioenergy right so bioenergy in

646

00:26:48,800 --> 00:26:47,430

this case I mean something that where

647

00:26:50,990 --> 00:26:48,810

you don't physically touch it and you

648

00:26:54,320 --> 00:26:51,000

cause a phenomenon as a guy named Mia

649

00:26:58,250 --> 00:26:54,330

Tech variks wir que us he's world famous

650

00:27:00,260 --> 00:26:58,260

BBC and BR he's had a practice here in

651
00:27:04,430 --> 00:27:00,270
Rockville I think he's retired now good

652
00:27:06,170 --> 00:27:04,440
friend I know him very well very

653
00:27:07,730 --> 00:27:06,180
interesting guy and I've got stories

654
00:27:10,700 --> 00:27:07,740
that were they're really kind of

655
00:27:13,520 --> 00:27:10,710
interesting and again I'm being told by

656
00:27:18,200 --> 00:27:13,530
my boss Wayne Jonas that this man can

657
00:27:19,390 --> 00:27:18,210
heal people just by generating bio

658
00:27:21,650 --> 00:27:19,400
injury oh come on

659
00:27:23,090 --> 00:27:21,660
well let's put him in a laboratory John

660
00:27:25,220 --> 00:27:23,100
you're you're claiming to be this good

661
00:27:27,530 --> 00:27:25,230
scientist I said yeah I'll take this guy

662
00:27:29,510 --> 00:27:27,540
apart we'll put him in the lab and we

663
00:27:32,720 --> 00:27:29,520

will have him do his thing

664

00:27:34,360 --> 00:27:32,730

to jerkhead cells these are jerk cat

665

00:27:38,500 --> 00:27:34,370

cells sitting in here in a cuvette and

666

00:27:41,630 --> 00:27:38,510

it's loaded with fear fluo 3 which is a

667

00:27:44,210 --> 00:27:41,640

calcium ion of not an iota for calcium

668

00:27:48,170 --> 00:27:44,220

fluorescent it it lights up when there's

669

00:27:49,790 --> 00:27:48,180

free calcium and I I asked me attack can

670

00:27:51,560 --> 00:27:49,800

he work with these cells and can he

671

00:27:53,600 --> 00:27:51,570

increase their calcium flux and he said

672

00:27:56,690 --> 00:27:53,610

ok let me go talk to them

673

00:27:57,660 --> 00:27:56,700

right and he goes and he puts his hands

674

00:27:59,280 --> 00:27:57,670

around the dish and

675

00:28:01,710 --> 00:27:59,290

talks with him and he says sure I can do

676

00:28:02,970 --> 00:28:01,720

this I'm going on great this is gonna be

677

00:28:04,830 --> 00:28:02,980

great by the way I bring in the same

678

00:28:07,560 --> 00:28:04,840

team again and the psychologist looking

679

00:28:09,570 --> 00:28:07,570

at me going John no you're setting the

680

00:28:11,130 --> 00:28:09,580

wrong tone I'm going okay and he said

681

00:28:13,710 --> 00:28:11,140

okay I've talked to them I can work with

682

00:28:15,840 --> 00:28:13,720

and he said now explain calcium to me so

683

00:28:17,310 --> 00:28:15,850

we do a crash course and in cell biology

684

00:28:19,110 --> 00:28:17,320

and he said okay what do you mean by

685

00:28:21,150 --> 00:28:19,120

free calcium so I explained cyclic AMP

686

00:28:22,440 --> 00:28:21,160

II explained calcium stores I explained

687

00:28:24,240 --> 00:28:22,450

calcium anaphors about an hour and a

688

00:28:27,950 --> 00:28:24,250

half later says okay I got it I'm going

689

00:28:33,150 --> 00:28:31,620

two years every Wednesday except when it

690

00:28:36,300 --> 00:28:33,160

hit a crisp Christmas in the Easter he's

691

00:28:38,640 --> 00:28:36,310

Catholic or and once when he was sick

692

00:28:40,020 --> 00:28:38,650

and once when his dogs got sick every

693

00:28:42,470 --> 00:28:40,030

Wednesday morning he came in at ten

694

00:28:47,010 --> 00:28:42,480

o'clock and worked until twelve o'clock

695

00:28:49,740 --> 00:28:47,020

every time he put his hand around jerk

696

00:28:50,250 --> 00:28:49,750

pet cells 15 minutes baseline before he

697

00:28:53,180 --> 00:28:50,260

shows up

698

00:28:56,070 --> 00:28:53,190

there's the baseline 15 minutes

699

00:28:57,780 --> 00:28:56,080

bioenergy treatment we followed by sham

700

00:29:05,480 --> 00:28:57,790

with Noah and we did sham no treatment

701
00:29:09,150 --> 00:29:05,490
controls and every time he produced this

702
00:29:12,090 --> 00:29:09,160
15 to 25 percent change in calcium every

703
00:29:16,800 --> 00:29:12,100
time every Wednesday for two years

704
00:29:18,120 --> 00:29:16,810
again military lab I really am getting

705
00:29:20,250 --> 00:29:18,130
ready to pull my fingernails out I mean

706
00:29:22,530 --> 00:29:20,260
how can this be this is this is totally

707
00:29:24,600 --> 00:29:22,540
weird to me but I am convinced this is

708
00:29:26,430 --> 00:29:24,610
real because it's reproducible at least

709
00:29:29,760 --> 00:29:26,440
in my lab and other people have claimed

710
00:29:31,470 --> 00:29:29,770
this and we actually did it with heat

711
00:29:35,310 --> 00:29:31,480
shock protein because I got interested

712
00:29:38,310 --> 00:29:35,320
in underlying mechanism so we asked him

713
00:29:41,640 --> 00:29:38,320

to we asked him to block heat shock

714

00:29:43,170 --> 00:29:41,650

protein which he effectively did and you

715

00:29:46,020 --> 00:29:43,180

know basically once he understood the

716

00:29:47,190 --> 00:29:46,030

cells and after he'd talked with him he

717

00:29:48,390 --> 00:29:47,200

can do almost anything I wanted him to

718

00:29:50,250 --> 00:29:48,400

do with him it was the most

719

00:29:53,370 --> 00:29:50,260

extraordinary thing I had ever seen

720

00:29:58,710 --> 00:29:53,380

and I said so how do you do this and so

721

00:30:01,170 --> 00:29:58,720

he goes well I passed God's love through

722

00:30:03,180 --> 00:30:01,180

my heart chakra and I'm going boy how am

723

00:30:06,720 --> 00:30:03,190

I going to test that

724

00:30:09,510 --> 00:30:06,730

and so I say well you know about Jesus

725

00:30:11,400 --> 00:30:09,520

Christ article of course and I said well

726

00:30:13,230 --> 00:30:11,410

you know Jesus is said to have done some

727

00:30:15,540 --> 00:30:13,240

of those things what what do you do

728

00:30:16,200 --> 00:30:15,550

that's related to that he said oh Jesus

729

00:30:18,630 --> 00:30:16,210

was like this

730

00:30:20,160 --> 00:30:18,640

I of course burst out laughing right he

731

00:30:22,050 --> 00:30:20,170

was literally doing that and I don't

732

00:30:23,610 --> 00:30:22,060

think he meant to do quite that but I

733

00:30:24,780 --> 00:30:23,620

burst out laughing and he sort of looks

734

00:30:27,450 --> 00:30:24,790

at me and he said but what I do is just

735

00:30:28,920 --> 00:30:27,460

like this and they said thinking I got a

736

00:30:30,540 --> 00:30:28,930

joke or a little bit of laughing I said

737

00:30:37,920 --> 00:30:30,550

- have you ever tried to change water

738

00:30:41,320 --> 00:30:37,930

into wine he goes yes it just smells

739

00:30:48,410 --> 00:30:45,440

so this this man I don't think he has a

740

00:30:50,990 --> 00:30:48,420

clue how he does it he also claimed that

741

00:30:54,050 --> 00:30:51,000

he could do it anywhere anytime the time

742

00:30:57,290 --> 00:30:54,060

and space were irrelevant and I do have

743

00:31:01,310 --> 00:30:57,300

a problem with that because it turns out

744

00:31:05,690 --> 00:31:01,320

in my lab under these conditions his

745

00:31:07,430 --> 00:31:05,700

hands that affect his hands have to be

746

00:31:09,800 --> 00:31:07,440

within 18 inches of the cuvette with the

747

00:31:13,280 --> 00:31:09,810

cells if his hands were behind his back

748

00:31:16,790 --> 00:31:13,290

the effect went away if he was more than

749

00:31:19,490 --> 00:31:16,800

9 feet from the cells the effect went

750

00:31:23,030 --> 00:31:19,500

away and obeyed and earned verse square

751

00:31:25,220 --> 00:31:23,040

law his hands are emitting something

752

00:31:27,740 --> 00:31:25,230

those are the almost perfect criteria

753

00:31:29,420 --> 00:31:27,750

for some emission I have since I think

754

00:31:31,070 --> 00:31:29,430

figured out how but I haven't done the

755

00:31:31,910 --> 00:31:31,080

experiments I did the obvious one

756

00:31:33,620 --> 00:31:31,920

because everybody said it was

757

00:31:35,600 --> 00:31:33,630

electromagnetic radiation while I'm a

758

00:31:38,240 --> 00:31:35,610

neurophysiologist so I built a Faraday

759

00:31:40,220 --> 00:31:38,250

cage and it only partially have impacted

760

00:31:42,410 --> 00:31:40,230

it but he claimed he could do it

761

00:31:44,870 --> 00:31:42,420

anywhere anytime and I said from your

762

00:31:46,640 --> 00:31:44,880

home and he said of course so I said ok

763

00:31:50,150 --> 00:31:46,650

next Wednesday don't come in 10 o'clock

764

00:31:51,320 --> 00:31:50,160

start the experiment nothing he so he

765

00:31:52,820 --> 00:31:51,330

calls me up an hour and said so how'd it

766

00:31:54,110 --> 00:31:52,830

work it didn't work and he said I don't

767

00:31:56,030 --> 00:31:54,120

have good communication with him I'm

768

00:31:57,500 --> 00:31:56,040

going right and I said how do you need

769

00:31:59,060 --> 00:31:57,510

that he said send me a digital picture I

770

00:32:00,290 --> 00:31:59,070

sent him a digital picture we run the

771

00:32:01,310 --> 00:32:00,300

experiment again this experiment ran

772

00:32:05,150 --> 00:32:01,320

till about 4:00 in the afternoon because

773

00:32:07,270 --> 00:32:05,160

it never worked so he said that didn't

774

00:32:09,950 --> 00:32:07,280

work so he needed a live video feed and

775

00:32:12,350 --> 00:32:09,960

none of that worked I am absolutely

776

00:32:14,030 --> 00:32:12,360

convinced this man's the real thing I'm

777

00:32:17,090 --> 00:32:14,040

absolutely convinced these things really

778

00:32:18,740 --> 00:32:17,100

happen Jamal was one neotec was one by

779

00:32:20,570 --> 00:32:18,750

the way both of them were born with it

780

00:32:22,220 --> 00:32:20,580

the other phenomenon that probably many

781

00:32:24,020 --> 00:32:22,230

of you know is that some sort of

782

00:32:26,780 --> 00:32:24,030

near-death experience can sometimes

783

00:32:28,460 --> 00:32:26,790

bring this on but the attack was

784

00:32:30,080 --> 00:32:28,470

identified when he was about 6 years old

785

00:32:36,380 --> 00:32:30,090

I don't want to digress to that story

786

00:32:37,910 --> 00:32:36,390

and Jamal as I told you first born tenth

787

00:32:40,190 --> 00:32:37,920

generation healer right

788

00:32:44,480 --> 00:32:40,200

he had the force with him he's clearly a

789

00:32:47,480 --> 00:32:44,490

Jedi and so those guys were born with it

790

00:32:49,370 --> 00:32:47,490

and they're super powerful I actually

791

00:32:50,840 --> 00:32:49,380

can if you're interested I could talk a

792

00:32:53,440 --> 00:32:50,850

little bit about what I think is going

793

00:32:55,899 --> 00:32:53,450

on but at the time I didn't know

794

00:32:57,700 --> 00:32:55,909

and as we all know we suffer from

795

00:32:59,110 --> 00:32:57,710

funding in time you got you only have so

796

00:33:02,139 --> 00:32:59,120

much time I spent two years on this I

797

00:33:03,580 --> 00:33:02,149

spent all my NIH money and we published

798

00:33:06,909 --> 00:33:03,590

it and I'd haven't had a chance to go

799

00:33:08,409 --> 00:33:06,919

back and test my current theory on how

800

00:33:10,450 --> 00:33:08,419

it works although I will tell you what

801
00:33:11,710 --> 00:33:10,460
it is and I'll show you some data in

802
00:33:12,970 --> 00:33:11,720
regard to that and somebody else is

803
00:33:18,430 --> 00:33:12,980
talking about this very subject

804
00:33:20,440 --> 00:33:18,440
biophotons a little later so so this one

805
00:33:22,840 --> 00:33:20,450
is a little story I love I tell this

806
00:33:27,909 --> 00:33:22,850
story to my graduate students in medical

807
00:33:29,590 --> 00:33:27,919
school at Georgetown they only do one at

808
00:33:32,080 --> 00:33:29,600
a time okay you're gonna have to do a

809
00:33:33,940 --> 00:33:32,090
visual memory so remember this side and

810
00:33:35,799 --> 00:33:33,950
I want you to look at the light the

811
00:33:38,889 --> 00:33:35,809
cells and how they're lighting up this

812
00:33:40,509 --> 00:33:38,899
is the fuehrer fluo 3 it's sensitive to

813
00:33:43,090 --> 00:33:40,519

calcium concentration more calcium

814

00:33:45,100 --> 00:33:43,100

brighter lights right so every one of

815

00:33:47,049 --> 00:33:45,110

these cells I've got a calcium free and

816

00:33:49,000 --> 00:33:47,059

every one of them that pops is to just

817

00:33:50,200 --> 00:33:49,010

suddenly release calcium okay if you go

818

00:33:54,009 --> 00:33:50,210

back and do the other one work for me

819

00:33:56,379 --> 00:33:54,019

thank you yeah whoops now you get them

820

00:33:59,620 --> 00:33:56,389

both going okay perfect so you get a

821

00:34:02,049 --> 00:33:59,630

real-time comparison 20 seconds laser

822

00:34:03,820 --> 00:34:02,059

interference microscopy military lab

823

00:34:05,769 --> 00:34:03,830

best laser interference might think you

824

00:34:07,840 --> 00:34:05,779

work best laser interference microscope

825

00:34:14,290 --> 00:34:07,850

you can buy it's got its own software to

826

00:34:16,809 --> 00:34:14,300

analyze what's going on and on and I

827

00:34:18,490 --> 00:34:16,819

want you to memorize or remember what

828

00:34:20,829 --> 00:34:18,500

you saw and see if you see any

829

00:34:21,849 --> 00:34:20,839

difference between them you guys see a

830

00:34:25,750 --> 00:34:21,859

difference between the left and the

831

00:34:28,599 --> 00:34:25,760

right come on don't be afraid somebody

832

00:34:30,669 --> 00:34:28,609

say yes or no yeah

833

00:34:33,040 --> 00:34:30,679

the one on the left has fewer cells

834

00:34:35,079 --> 00:34:33,050

lighting up I'd never have published

835

00:34:36,970 --> 00:34:35,089

this because I didn't replicate it and

836

00:34:41,349 --> 00:34:36,980

because there's some problems with this

837

00:34:43,270 --> 00:34:41,359

system bla bla bla bla but the one on

838

00:34:47,230 --> 00:34:43,280

the left is before me a techie entered

839

00:34:48,550 --> 00:34:47,240

the room same cells same dish same

840

00:34:50,589 --> 00:34:48,560

situation I was just setting it up I was

841

00:34:52,030 --> 00:34:50,599

just doing the baseline this is 60

842

00:34:55,020 --> 00:34:52,040

seconds after he enters the cell enters

843

00:34:57,790 --> 00:34:55,030

the room all he's done is enter the room

844

00:35:01,089 --> 00:34:57,800

and I'm running it because I was running

845

00:35:02,829 --> 00:35:01,099

this my baseline and he walked in 60

846

00:35:05,589 --> 00:35:02,839

seconds after he's in there these things

847

00:35:06,530 --> 00:35:05,599

start popping so he's radiating

848

00:35:10,340 --> 00:35:06,540

something that they respond

849

00:35:12,500 --> 00:35:10,350

- okay it's kind of cool and you know I

850

00:35:13,970 --> 00:35:12,510

was thinking about repeating it but

851
00:35:16,010 --> 00:35:13,980
turns out that time on this microscope

852
00:35:18,050 --> 00:35:16,020
super expensive and I didn't do it I got

853
00:35:19,850 --> 00:35:18,060
interested another phenomenon I have a

854
00:35:21,020 --> 00:35:19,860
good friend went to graduate school with

855
00:35:23,870 --> 00:35:21,030
him one of the world's best

856
00:35:25,040 --> 00:35:23,880
neuroscientist and met Mia Tech knew

857
00:35:27,950 --> 00:35:25,050
what I was doing thought it was all

858
00:35:30,110 --> 00:35:27,960
garbage and I said so I need some help

859
00:35:31,970 --> 00:35:30,120
with analyzing these these images I

860
00:35:34,160 --> 00:35:31,980
already I already run them through the

861
00:35:37,580 --> 00:35:34,170
computer the computer it said there's

862
00:35:39,800 --> 00:35:37,590
25% difference between the two and I'd

863
00:35:43,490 --> 00:35:39,810

like to know what you think John his

864

00:35:44,900 --> 00:35:43,500

name's John - and john spends 25 minutes

865

00:35:46,970 --> 00:35:44,910

because i start timeing it after the

866

00:35:50,390 --> 00:35:46,980

first few he goes back and forth back to

867

00:35:53,270 --> 00:35:50,400

study again looking at he said there is

868

00:35:54,620 --> 00:35:53,280

a difference I said really I said God

869

00:35:56,240 --> 00:35:54,630

can you tell me what you think it is and

870

00:35:59,030 --> 00:35:56,250

he said well I'm gonna guess this is

871

00:36:00,830 --> 00:35:59,040

about 25% brighter right on the button

872

00:36:04,040 --> 00:36:00,840

agrees with the computer completely he

873

00:36:06,110 --> 00:36:04,050

said what was the treatment so he knew

874

00:36:08,390 --> 00:36:06,120

when me attack was so I say me attack

875

00:36:10,850 --> 00:36:08,400

burkas because let me see those again to

876

00:36:12,110 --> 00:36:10,860

this day four years later he denies

877

00:36:16,580 --> 00:36:12,120

there's any difference between those two

878

00:36:21,050 --> 00:36:16,590

images this is such a threat to his

879

00:36:22,550 --> 00:36:21,060

worldview that I don't I believe him he

880

00:36:26,570 --> 00:36:22,560

doesn't he doesn't see the difference

881

00:36:28,670 --> 00:36:26,580

anymore this is why it is so important

882

00:36:33,020 --> 00:36:28,680

that we published negative and the

883

00:36:36,620 --> 00:36:33,030

positive data okay so if we've got these

884

00:36:38,150 --> 00:36:36,630

phenomenon homeopathy bioenergy and you

885

00:36:40,070 --> 00:36:38,160

all have seen this I think bill was even

886

00:36:42,530 --> 00:36:40,080

talking about it you know we we got this

887

00:36:47,300 --> 00:36:42,540

outcome we got this input and we have no

888

00:36:49,790 --> 00:36:47,310

idea what the mechanism is so this is a

889

00:36:51,410 --> 00:36:49,800

Dean's work from 2000 elsens and Dean's

890

00:36:54,410 --> 00:36:51,420

work from from 2000 those of you

891

00:36:56,120 --> 00:36:54,420

familiar with it this is the the random

892

00:36:59,270 --> 00:36:56,130

number generator work I think this is

893

00:37:00,860 --> 00:36:59,280

our ng work yeah this is the R&G work

894

00:37:03,890 --> 00:37:00,870

and you'll notice these highly

895

00:37:05,810 --> 00:37:03,900

significant shift in our ng work and yet

896

00:37:08,540 --> 00:37:05,820

it is still denied that people can

897

00:37:10,580 --> 00:37:08,550

interact with our Ang's extreme this is

898

00:37:13,040 --> 00:37:10,590

a systematic review this is extremely

899

00:37:14,300 --> 00:37:13,050

good data for some reason Dean has

900

00:37:17,570 --> 00:37:14,310

pointed this out it's always a curiosity

901
00:37:19,280 --> 00:37:17,580
to both of us there was a huge jump in

902
00:37:23,870 --> 00:37:19,290
the 70s and then it sort of died

903
00:37:27,200 --> 00:37:23,880
as did the funding nothing is so firmly

904
00:37:29,300 --> 00:37:27,210
believed that which is least known when

905
00:37:30,920 --> 00:37:29,310
we bring a prejudice to the to this to

906
00:37:33,500 --> 00:37:30,930
the stage and we bring a Dogma to the

907
00:37:36,110 --> 00:37:33,510
stage we will defend that my colleague

908
00:37:38,090 --> 00:37:36,120
my student my friend best one of the

909
00:37:40,580 --> 00:37:38,100
best neuroscientists on the planet can

910
00:37:45,640 --> 00:37:40,590
no longer see the difference in the

911
00:37:47,450 --> 00:37:45,650
images because it makes no sense to him

912
00:37:49,520 --> 00:37:47,460
so what does this have to do with

913
00:37:52,820 --> 00:37:49,530

biophotons I only spend a few seconds on

914

00:37:55,070 --> 00:37:52,830

this and it's not bill who is talking

915

00:37:58,130 --> 00:37:55,080

about biophotons tomorrow

916

00:38:00,680 --> 00:37:58,140

John John Kruk is going to talk about

917

00:38:03,470 --> 00:38:00,690

healing and biophotons so I don't know

918

00:38:05,330 --> 00:38:03,480

John if you're here stick with that man

919

00:38:06,560 --> 00:38:05,340

there's something in biophotons

920

00:38:08,180 --> 00:38:06,570

so I've been doing a lot of work in this

921

00:38:11,570 --> 00:38:08,190

I built a couple of labs written a few

922

00:38:14,540 --> 00:38:11,580

papers the labs in the Netherlands this

923

00:38:17,540 --> 00:38:14,550

is this this is natural light whoops

924

00:38:19,400 --> 00:38:17,550

this is natural light and in a darkroom

925

00:38:23,450 --> 00:38:19,410

and this is 60 minutes later with a

926
00:38:26,060 --> 00:38:23,460
high-capacity CCD which shows the light

927
00:38:29,240 --> 00:38:26,070
coming from the back of his neck we've

928
00:38:32,540 --> 00:38:29,250
done all kinds of experiments meditators

929
00:38:34,220 --> 00:38:32,550
really wanted to serious yoga meditators

930
00:38:35,390 --> 00:38:34,230
really and I do this I don't mean to

931
00:38:37,490 --> 00:38:35,400
denigrate them at all I'd do the same

932
00:38:39,080 --> 00:38:37,500
thing wanted to show that they had light

933
00:38:40,460 --> 00:38:39,090
radiating from them everywhere and in

934
00:38:41,900 --> 00:38:40,470
fact they're almost totally dark if

935
00:38:43,790 --> 00:38:41,910
they're really good at it and that's

936
00:38:45,890 --> 00:38:43,800
because the light is related to reactive

937
00:38:47,690 --> 00:38:45,900
oxygen species when they get a deep

938
00:38:49,990 --> 00:38:47,700

meditation all their inflammatory

939

00:38:55,160 --> 00:38:50,000

markers go down and the light goes down

940

00:38:57,470 --> 00:38:55,170

so on and in the fact that that's just a

941

00:38:59,510 --> 00:38:57,480

result of the high energy reactions

942

00:39:01,190 --> 00:38:59,520

doesn't bother me at all I still think

943

00:39:03,650 --> 00:39:01,200

there is information in those and I

944

00:39:05,780 --> 00:39:03,660

think that's what neotec was doing

945

00:39:09,050 --> 00:39:05,790

that's what's coming from his hands and

946

00:39:10,660 --> 00:39:09,060

I want somebody to do that experiment so

947

00:39:12,830 --> 00:39:10,670

we have started some of this work and

948

00:39:16,160 --> 00:39:12,840

hopefully this one mark I'll be able to

949

00:39:17,670 --> 00:39:16,170

do but I want you to hear the sound of

950

00:39:20,830 --> 00:39:17,680

light

951
00:39:24,320 --> 00:39:20,840

[Music]

952
00:39:28,240 --> 00:39:24,330
so we this is recorded from the hands

953
00:39:31,970 --> 00:39:28,250
cuz it turns out we can diagnose

954
00:39:34,880 --> 00:39:31,980
diabetes pre-diabetes two forms of

955
00:39:36,170 --> 00:39:34,890
arthritis whether you're asleep or awake

956
00:39:38,060 --> 00:39:36,180
without looking at you and your

957
00:39:39,590 --> 00:39:38,070
meditation state just by looking at the

958
00:39:41,240 --> 00:39:39,600
differential between the light coming

959
00:39:42,770 --> 00:39:41,250
from your palms and the lights coming

960
00:39:44,030 --> 00:39:42,780
from the back your hands and the

961
00:39:48,080 --> 00:39:44,040
difference between the left and the

962
00:39:52,160 --> 00:39:48,090
right and all we did is capture that

963
00:39:54,230 --> 00:39:52,170

from one of us and then bin it there's

964

00:39:56,120 --> 00:39:54,240

nothing there's no manipulation here

965

00:39:59,600 --> 00:39:56,130

this has just been bending to either

966

00:40:02,330 --> 00:39:59,610

0.05 second Bins 0.25 second bins or

967

00:40:08,180 --> 00:40:02,340

five second bins that's all this is

968

00:40:13,580 --> 00:40:08,190

spontaneous ultra low frequency light

969

00:40:18,380 --> 00:40:13,590

emission nothing does anybody notice

970

00:40:27,770 --> 00:40:19,420

[Music]

971

00:40:32,120 --> 00:40:27,780

thought it would be noise its music the

972

00:40:35,210 --> 00:40:32,130

heck is that about and I'm going and I'm

973

00:40:36,350 --> 00:40:35,220

being dragged off now in these are the

974

00:40:38,300 --> 00:40:36,360

lessons learned interpolation

975

00:40:40,130 --> 00:40:38,310

interdisciplinary team specialist

976
00:40:43,970 --> 00:40:40,140
statistician skeptic social management

977
00:40:45,950 --> 00:40:43,980
do not under sorry about that folks do

978
00:40:47,510 --> 00:40:45,960
not underestimate this the importance of

979
00:40:49,550 --> 00:40:47,520
this for doing controversial stuff

980
00:40:51,560 --> 00:40:49,560
systematic literature reviews the

981
00:40:52,880 --> 00:40:51,570
Institute my Institute's become experts

982
00:40:55,060 --> 00:40:52,890
in this we have something called a real

983
00:40:57,860 --> 00:40:55,070
which is rapid we have a search one

984
00:41:00,590 --> 00:40:57,870
these are the usual suspects file drawer

985
00:41:02,090 --> 00:41:00,600
nothing no reason that we shouldn't pay

986
00:41:04,010 --> 00:41:02,100
attention to that and of course the

987
00:41:07,280 --> 00:41:04,020
publishing bias who wants to publish

988
00:41:10,250 --> 00:41:07,290

negative data we need to get over that

989

00:41:12,860 --> 00:41:10,260

publishing bias this is Bill Taylor's

990

00:41:19,610 --> 00:41:12,870

stuff and we were unable to replicate

991

00:41:23,690 --> 00:41:19,620

Bill's work why I'm not sure but this

992

00:41:25,100 --> 00:41:23,700

phenomenon is amazing and I'm now

993

00:41:26,630 --> 00:41:25,110

participating in a group out of Santa

994

00:41:31,330 --> 00:41:26,640

Barbara that's taking a good hard close

995

00:41:33,700 --> 00:41:31,340

look at this leonetti's showed the

996

00:41:36,220 --> 00:41:33,710

first in applause in 2005 where he did

997

00:41:39,120 --> 00:41:36,230

statistics showing that most studies are

998

00:41:44,610 --> 00:41:39,130

unreplicated none really talk anymore

999

00:41:47,610 --> 00:41:44,620

replicable in mainstream science then

1000

00:41:50,920 --> 00:41:47,620

this was done in Bayer HealthCare

1001
00:41:52,920 --> 00:41:50,930
replicated two-thirds of 67 researchers

1002
00:41:56,170 --> 00:41:52,930
in the fields of oncology women's and

1003
00:41:57,280 --> 00:41:56,180
they failed to replicate two-thirds of

1004
00:42:00,760 --> 00:41:57,290
them I didn't say that right but you can

1005
00:42:02,530 --> 00:42:00,770
read it faster and I can say it farmer

1006
00:42:05,290 --> 00:42:02,540
this is pharmaceutical industry these

1007
00:42:07,120 --> 00:42:05,300
guys make trillions of dollars based

1008
00:42:10,960 --> 00:42:07,130
upon their basic research and they can't

1009
00:42:12,430 --> 00:42:10,970
replicate it the most interest are the

1010
00:42:15,990 --> 00:42:12,440
newest one that I'm aware of and there

1011
00:42:19,240 --> 00:42:16,000
may be new stuff now is in nature 2012

1012
00:42:20,830 --> 00:42:19,250
Amgen tried to replicate 53 studies that

1013
00:42:22,720 --> 00:42:20,840

considered landmarks to the basic

1014

00:42:25,960 --> 00:42:22,730

science of cancer and we're only repla

1015

00:42:28,540 --> 00:42:25,970

able to replicate six so just because

1016

00:42:30,610 --> 00:42:28,550

you're an anomalous work and you have

1017

00:42:34,150 --> 00:42:30,620

difficulty replicating it don't let

1018

00:42:36,580 --> 00:42:34,160

anybody knock you down for that this is

1019

00:42:38,980 --> 00:42:36,590

a problem that reality this is a problem

1020

00:42:43,270 --> 00:42:38,990

of science I'm not sure what that's

1021

00:42:44,860 --> 00:42:43,280

about but it is through out science this

1022

00:42:46,600 --> 00:42:44,870

is not unique to our field

1023

00:42:52,810 --> 00:42:46,610

thank you very much little ladies and

1024

00:42:55,420 --> 00:42:52,820

gentlemen thank you John

1025

00:42:57,670 --> 00:42:55,430

quick anecdote a couple months before he

1026
00:43:00,550 --> 00:42:57,680
died Jacques and I were having lunch in

1027
00:43:04,180 --> 00:43:00,560
Paris still yelling and bitching about

1028
00:43:05,770 --> 00:43:04,190
your mom and I said to him but doesn't

1029
00:43:08,290 --> 00:43:05,780
that make it more interesting and he

1030
00:43:11,710 --> 00:43:08,300
said no I want

1031
00:43:13,420 --> 00:43:11,720
replicable simple straightforward and by

1032
00:43:15,280 --> 00:43:13,430
the way I just think he was mistaken on

1033
00:43:19,120 --> 00:43:15,290
the the EEM part of it

1034
00:43:21,910 --> 00:43:19,130
a homeopathy is is the summary evidence

1035
00:43:24,610 --> 00:43:21,920
that basically sloppy pharmacology it is

1036
00:43:27,460 --> 00:43:24,620
nano pharmacology and them in the

1037
00:43:29,350 --> 00:43:27,470
industry the pharmaceutical industry not

1038
00:43:31,480 --> 00:43:29,360

through homeopathy but has realized that

1039

00:43:33,550 --> 00:43:31,490

Nano pharmacology is the future and

1040

00:43:36,070 --> 00:43:33,560

that's what Hahnemann discovered my

1041

00:43:37,960 --> 00:43:36,080

accident was essentially now and finally

1042

00:43:40,510 --> 00:43:37,970

because I have the mic we have to talk

1043

00:43:42,820 --> 00:43:40,520

on the side because I'm not finding a

1044

00:43:46,540 --> 00:43:42,830

difference with distance but we'll talk

1045

00:43:48,280 --> 00:43:46,550

yeah yes John I'm wondering if you could

1046

00:43:50,680 --> 00:43:48,290

go back your early slide because I'm

1047

00:43:54,160 --> 00:43:50,690

thinking with the one with the waves

1048

00:44:06,340 --> 00:43:54,170

that you pointed out or the real early

1049

00:44:08,170 --> 00:44:06,350

one no keep going just that one and I

1050

00:44:11,260 --> 00:44:08,180

think most people probably unfamiliar

1051

00:44:12,910 --> 00:44:11,270

with the the horizontal axis and just

1052

00:44:14,290 --> 00:44:12,920

how high the concentrations are oh you

1053

00:44:17,290 --> 00:44:14,300

might want to point thank you I jump

1054

00:44:21,730 --> 00:44:17,300

right through that so just this is

1055

00:44:25,120 --> 00:44:21,740

called 59 C which means Sentinel so it's

1056

00:44:28,360 --> 00:44:25,130

59 100-fold dilutions which translates

1057

00:44:32,230 --> 00:44:28,370

to 10 to the minus 120 a--the molar

1058

00:44:33,730 --> 00:44:32,240

there is statistically zero probability

1059

00:44:36,100 --> 00:44:33,740

of there being an active molecule there

1060

00:44:38,620 --> 00:44:36,110

so that would be remind if you go from

1061

00:44:41,080 --> 00:44:38,630

the 10 to 10 to 12 see where the

1062

00:44:43,960 --> 00:44:41,090

molecules end yeah so so all the

1063

00:44:45,010 --> 00:44:43,970

molecules are gone as you point out

1064

00:44:47,440 --> 00:44:45,020

right here

1065

00:44:51,790 --> 00:44:47,450

if Avogadro is right I'm not questioning

1066

00:44:54,790 --> 00:44:51,800

Avogadro but and yet it appears on this

1067

00:44:57,760 --> 00:44:54,800

rhythmic phenomenon going back to your

1068

00:44:58,990 --> 00:44:57,770

your allusion to early biophoton

1069

00:45:00,810 --> 00:44:59,000

research I'm wondering if you're

1070

00:45:03,200 --> 00:45:00,820

familiar that

1071

00:45:06,090 --> 00:45:03,210

grrrrrr witches work was confirmed by

1072

00:45:08,220 --> 00:45:06,100

two people paid by Siemens one of whom

1073

00:45:10,830 --> 00:45:08,230

was dennis gabor who won a nobel prize

1074

00:45:13,260 --> 00:45:10,840

for a holography in 1970 I believe it

1075

00:45:16,890 --> 00:45:13,270

was yeah biophotons

1076

00:45:19,410 --> 00:45:16,900

they're gonna be the future folks it's

1077

00:45:23,970 --> 00:45:19,420

this figure I wanted to ask about I've

1078

00:45:28,470 --> 00:45:23,980

never seen possible explanations for the

1079

00:45:31,920 --> 00:45:28,480

alternation yes and I don't have a good

1080

00:45:35,280 --> 00:45:31,930

one for that but when we look at the

1081

00:45:37,020 --> 00:45:35,290

silica that is present in that and it

1082

00:45:40,670 --> 00:45:37,030

comes from the chambers that they're

1083

00:45:44,850 --> 00:45:40,680

made from the silica seems to change its

1084

00:45:47,070 --> 00:45:44,860

configuration and apparent free solution

1085

00:45:49,710 --> 00:45:47,080

concentration with this rhythm and I

1086

00:45:51,540 --> 00:45:49,720

have no idea why that is so and that's

1087

00:45:55,050 --> 00:45:51,550

it could be an epiphenomenon it's the

1088

00:45:57,090 --> 00:45:55,060

same mystery yes there there I do not

1089

00:45:58,410 --> 00:45:57,100

claim that they're still mystery here

1090

00:45:59,700 --> 00:45:58,420

folks don't don't worry about there's a

1091

00:46:01,830 --> 00:45:59,710

lifetime's worth of work here if you

1092

00:46:03,600 --> 00:46:01,840

want to go too into it just be ready for

1093

00:46:05,260 --> 00:46:03,610

the slings and arrows thank you very