

1
00:00:05,990 --> 00:00:11,519
so I'm I'm the senior director at the

2
00:00:09,689 --> 00:00:15,169
Sanyo le Institute and brain mind and

3
00:00:11,519 --> 00:00:17,250
healing and consider myself a frontier

4
00:00:15,169 --> 00:00:19,829
science researcher I'm particularly

5
00:00:17,250 --> 00:00:21,689
interested in frontier areas I have a

6
00:00:19,829 --> 00:00:24,148
very checkered background I do have a

7
00:00:21,689 --> 00:00:26,099
PhD it is from Georgetown University and

8
00:00:24,149 --> 00:00:28,050
it's conventional in neuroscience I did

9
00:00:26,099 --> 00:00:30,179
all that sort of stuff I also did a

10
00:00:28,050 --> 00:00:34,020
couple of companies and pushed the

11
00:00:30,179 --> 00:00:35,820
boundaries in wastewater treatment using

12
00:00:34,020 --> 00:00:39,030
constructed wetlands and that's because

13
00:00:35,820 --> 00:00:40,530
I like the frontier so my major job at

14
00:00:39,030 --> 00:00:43,520
the Institute is to look at those

15
00:00:40,530 --> 00:00:46,230
frontiers including homeopathy

16
00:00:43,520 --> 00:00:48,060
consciousness the placebo effect which I

17
00:00:46,229 --> 00:00:51,929
like to think of as intrinsic healing

18
00:00:48,060 --> 00:00:53,400
processes spirituality mind body and

19
00:00:51,929 --> 00:00:54,060
some of those things have now become

20
00:00:53,399 --> 00:00:56,609
mainstream

21
00:00:54,060 --> 00:00:58,500
especially mind-body and I believe that

22
00:00:56,609 --> 00:01:02,340
all the rest of them are moving towards

23
00:00:58,500 --> 00:01:05,459
mainstream as well however we continue

24
00:01:02,340 --> 00:01:07,469
to do a couple of things in science and

25
00:01:05,459 --> 00:01:09,868
in particularly the frontier areas that

26
00:01:07,469 --> 00:01:12,388
are troubling one of them is that when

27
00:01:09,868 --> 00:01:14,759
we have a negative finding it's very

28
00:01:12,388 --> 00:01:17,188
hard to publish it and those are almost

29

00:01:14,759 --> 00:01:18,899
as valuable as the positive findings

30
00:01:17,188 --> 00:01:21,958
because there's usually knowledge in

31
00:01:18,899 --> 00:01:24,060
there and if we don't publish it the

32
00:01:21,959 --> 00:01:25,649
next person that comes along wastes

33
00:01:24,060 --> 00:01:28,590
their time and energy essentially

34
00:01:25,649 --> 00:01:32,099
repeating work that we could have saved

35
00:01:28,590 --> 00:01:36,240
that time redesign the protocol and done

36
00:01:32,099 --> 00:01:38,178
a better job for the next test of it I'm

37
00:01:36,239 --> 00:01:41,339
going to end my talk with talking about

38
00:01:38,179 --> 00:01:44,009
the problem with reproducibility itself

39
00:01:41,340 --> 00:01:48,478
so this is not unique to the frontier

40
00:01:44,009 --> 00:01:50,819
area but it haunts us as a community it

41
00:01:48,478 --> 00:01:52,769
also on the flip side of that coin that

42
00:01:50,819 --> 00:01:56,189
haunts us is that when we're looking at

43
00:01:52,769 --> 00:01:59,670

anomalies the edges of science we're

44

00:01:56,188 --> 00:02:03,348

constantly coming up with findings that

45

00:01:59,670 --> 00:02:06,388

do not fit the conventional dogma do not

46

00:02:03,349 --> 00:02:08,310

fit the conventional wisdom and those

47

00:02:06,388 --> 00:02:11,459

are also difficult to publish and I

48

00:02:08,310 --> 00:02:14,240

think the two ideas are related so I'm

49

00:02:11,459 --> 00:02:18,469

going to spend a loast of my talk about

50

00:02:14,240 --> 00:02:21,290

the work that I have done in my lab and

51

00:02:18,469 --> 00:02:23,719

in collaborating labs so that we have a

52

00:02:21,289 --> 00:02:26,359

strong foundation and what I think are

53

00:02:23,719 --> 00:02:28,909

the areas and so that we have something

54

00:02:26,360 --> 00:02:32,630

concrete the areas of research that

55

00:02:28,909 --> 00:02:34,219

where these these edges are and so that

56

00:02:32,629 --> 00:02:37,519

we have something concrete to talk about

57

00:02:34,219 --> 00:02:39,199

I tend to run a little long so Bill's

58
00:02:37,520 --> 00:02:40,760
going to chase me off the stage but if I

59
00:02:39,199 --> 00:02:43,609
can time it right I mean try to leave

60
00:02:40,759 --> 00:02:46,280
enough time for discussion the point of

61
00:02:43,610 --> 00:02:49,130
this talk is to begin a discussion and

62
00:02:46,280 --> 00:02:51,860
we will not and I hope we will not end

63
00:02:49,129 --> 00:02:56,199
it with the 45 minutes that we have here

64
00:02:51,860 --> 00:02:56,200
today but this discussion continues on

65
00:02:57,250 --> 00:03:01,370
so one of my favorite quotes from

66
00:02:59,479 --> 00:03:03,169
William James the great philosopher and

67
00:03:01,370 --> 00:03:05,930
I'm sure most of you have read him if

68
00:03:03,169 --> 00:03:10,399
you haven't read them a man knew what he

69
00:03:05,930 --> 00:03:12,950
was talking about we'd never understand

70
00:03:10,400 --> 00:03:14,930
going forward we only understand after

71
00:03:12,949 --> 00:03:15,829
we've done it and look back how do you

72
00:03:14,930 --> 00:03:19,010
know it's wrong

73
00:03:15,830 --> 00:03:23,300
maybe it's just unorthodox and that's

74
00:03:19,009 --> 00:03:28,129
what I think haunts this community this

75
00:03:23,300 --> 00:03:29,600
type of research it's unorthodox so one

76
00:03:28,129 --> 00:03:32,539
of the things that we ought to all agree

77
00:03:29,599 --> 00:03:34,909
upon is what makes for good science what

78
00:03:32,539 --> 00:03:37,400
are the criteria for good science

79
00:03:34,909 --> 00:03:39,949
because my my opening premise here is

80
00:03:37,400 --> 00:03:41,390
that it not that it fit the conventional

81
00:03:39,949 --> 00:03:43,939
wisdom but that it have these

82
00:03:41,389 --> 00:03:46,069
characteristics that there's some kind

83
00:03:43,939 --> 00:03:49,669
of control group and if there isn't a

84
00:03:46,069 --> 00:03:52,870
control group we say it out loud I don't

85
00:03:49,669 --> 00:03:55,489
have a good control group for X Y & Z

86

00:03:52,870 --> 00:03:58,430
that you use randomization whenever

87
00:03:55,490 --> 00:04:00,379
possible the whole discussions this

88
00:03:58,430 --> 00:04:02,960
morning about quantum mechanics bring

89
00:04:00,379 --> 00:04:05,180
that to mind randomization is clearly a

90
00:04:02,960 --> 00:04:08,060
significant part of the universe and if

91
00:04:05,180 --> 00:04:13,939
we don't pay attention to it it it will

92
00:04:08,060 --> 00:04:16,160
bite us baseline comparability do your

93
00:04:13,939 --> 00:04:18,230
baselines do your baselines over and

94
00:04:16,160 --> 00:04:21,980
over again so that you can see what the

95
00:04:18,230 --> 00:04:22,790
intrinsic variability is in the baseline

96
00:04:21,980 --> 00:04:25,879
in the

97
00:04:22,790 --> 00:04:29,530
in the basic phenomena because every

98
00:04:25,879 --> 00:04:32,180
real phenomenon in the universe have

99
00:04:29,529 --> 00:04:35,479
variability and don't mistake that

100
00:04:32,180 --> 00:04:36,650

variability for the phenomenon that

101

00:04:35,480 --> 00:04:38,210

you're researching less that's the

102

00:04:36,649 --> 00:04:41,149

variability unless that's the phenomenon

103

00:04:38,209 --> 00:04:46,099

you're researching report drop Data

104

00:04:41,149 --> 00:04:47,959

Report drop studies I was at a

105

00:04:46,100 --> 00:04:52,070

conference that I put together about

106

00:04:47,959 --> 00:04:55,099

2000 to 2000 2001 in which we brought

107

00:04:52,069 --> 00:04:57,319

over some Chinese researchers and they

108

00:04:55,100 --> 00:05:02,060

claimed to have been able to train

109

00:04:57,319 --> 00:05:04,129

individuals to do anomalous viewing to

110

00:05:02,060 --> 00:05:06,250

see through closed boxes and see the

111

00:05:04,129 --> 00:05:09,860

hieroglyphics that are the Chinese

112

00:05:06,250 --> 00:05:11,449

glyphs that were in there and they found

113

00:05:09,860 --> 00:05:13,009

a set of twins who were particularly

114

00:05:11,449 --> 00:05:16,459

gifted at it Dean Radin

115
00:05:13,009 --> 00:05:20,029
says he has met them and books the real

116
00:05:16,459 --> 00:05:22,939
thing and and I certainly don't want to

117
00:05:20,029 --> 00:05:25,339
deny that reality but I was curious

118
00:05:22,939 --> 00:05:27,800
about how many people had been trained

119
00:05:25,339 --> 00:05:30,739
how many were successful how difficult

120
00:05:27,800 --> 00:05:33,079
was this to do and the response was I

121
00:05:30,740 --> 00:05:35,060
don't know and I thought for sure we'd

122
00:05:33,079 --> 00:05:36,379
lost something in translation because he

123
00:05:35,060 --> 00:05:38,060
was Chinese and speaking in Chinese

124
00:05:36,379 --> 00:05:43,189
through a translator but it turned out

125
00:05:38,060 --> 00:05:45,050
didn't care it's very important if this

126
00:05:43,189 --> 00:05:48,079
is a true anomaly if this is a real

127
00:05:45,050 --> 00:05:53,930
thing how common is it we really need to

128
00:05:48,079 --> 00:05:56,539
know that effective blinding often

129
00:05:53,930 --> 00:05:59,360
missed especially if you're convinced

130
00:05:56,540 --> 00:06:01,879
you have a real phenomenon you forget

131
00:05:59,360 --> 00:06:03,620
about the blinding real important

132
00:06:01,879 --> 00:06:06,439
especially if you want to convince the

133
00:06:03,620 --> 00:06:08,420
skeptics make sure that when the

134
00:06:06,439 --> 00:06:11,000
experiment is actually being run than

135
00:06:08,420 --> 00:06:13,189
when the analysis being done that the

136
00:06:11,000 --> 00:06:15,589
people who are doing that are blinded to

137
00:06:13,189 --> 00:06:17,000
what's going on I'll come back I well I

138
00:06:15,589 --> 00:06:19,759
don't think I'll tell that story unless

139
00:06:17,000 --> 00:06:23,000
I do run short but I have a great story

140
00:06:19,759 --> 00:06:24,529
about firing two postdocs and lying to

141
00:06:23,000 --> 00:06:26,959
one because I was sure they were not

142
00:06:24,529 --> 00:06:28,759
properly blinded the phenomenon was real

143

00:06:26,959 --> 00:06:30,859
but I couldn't believe it until I was

144
00:06:28,759 --> 00:06:32,480
absolutely convinced they were so

145
00:06:30,860 --> 00:06:33,080
blinded they actually thought they were

146
00:06:32,480 --> 00:06:37,099
doing and

147
00:06:33,079 --> 00:06:38,240
karley different experiment be sure

148
00:06:37,098 --> 00:06:42,709
you're measuring there out right

149
00:06:38,240 --> 00:06:47,509
outcomes statistics statistics is a

150
00:06:42,709 --> 00:06:49,399
relatively new new discipline I do not

151
00:06:47,509 --> 00:06:51,919
claim to be anything like an expert in

152
00:06:49,399 --> 00:06:55,399
it I always have a statistician on any

153
00:06:51,918 --> 00:06:57,948
research project I do it will also come

154
00:06:55,399 --> 00:07:00,888
back to bite you if you don't do the

155
00:06:57,949 --> 00:07:03,408
right statistics and then finally the

156
00:07:00,889 --> 00:07:06,829
gold standard of science independent

157
00:07:03,408 --> 00:07:10,329

replication and that's why we need to

158

00:07:06,829 --> 00:07:13,068
publish the failed studies as well

159

00:07:10,329 --> 00:07:15,198
because otherwise what are we actually

160

00:07:13,069 --> 00:07:17,990
replicating what are we trying to

161

00:07:15,199 --> 00:07:19,280
replicate and of course I think you've

162

00:07:17,990 --> 00:07:21,079
all seen this and I hope you're all

163

00:07:19,279 --> 00:07:23,929
aware of it but I just want to make sure

164

00:07:21,079 --> 00:07:25,579
we are on the same page these are the

165

00:07:23,930 --> 00:07:27,528
gold standards and I'm talking mostly

166

00:07:25,579 --> 00:07:29,689
about healing medicine and health

167

00:07:27,528 --> 00:07:31,009
because that's my my focus and specialty

168

00:07:29,689 --> 00:07:33,199
but it applies to anything else really

169

00:07:31,009 --> 00:07:35,658
the systematic reviews and randomly

170

00:07:33,199 --> 00:07:36,829
controlled trials there is and I'll talk

171

00:07:35,658 --> 00:07:38,839
a little bit about this there is a

172
00:07:36,829 --> 00:07:40,519
problem with RCTs it's a significant

173
00:07:38,839 --> 00:07:43,098
problem and that is that it has nothing

174
00:07:40,519 --> 00:07:45,079
to do with the bloody real world RCTs

175
00:07:43,098 --> 00:07:46,759
are a total artifact but they still

176
00:07:45,079 --> 00:07:49,550
remain the gold standard until somebody

177
00:07:46,759 --> 00:07:52,490
comes up with a better one and then it

178
00:07:49,550 --> 00:07:53,990
here it is RCTs right there and then of

179
00:07:52,490 --> 00:07:57,259
course the ones that and this is the

180
00:07:53,990 --> 00:07:58,668
causal one so if you if you're talking

181
00:07:57,259 --> 00:08:02,000
in quantum mechanics where you have

182
00:07:58,668 --> 00:08:04,310
where causality is weird then this

183
00:08:02,000 --> 00:08:06,860
pyramid may not be right but in most

184
00:08:04,310 --> 00:08:10,610
cases case series qualitative research

185
00:08:06,860 --> 00:08:13,990
and anecdotes are not to be ignored but

186
00:08:10,610 --> 00:08:18,830
they are the lowest quality of research

187
00:08:13,990 --> 00:08:20,838
so benveniste jacque benveniste friend

188
00:08:18,829 --> 00:08:23,448
of mine colleague of mine passed away a

189
00:08:20,838 --> 00:08:27,860
few years ago in a mishap in surgery

190
00:08:23,449 --> 00:08:29,960
very sad a brilliant man wrote perhaps

191
00:08:27,860 --> 00:08:32,149
that one of the most infamous papers in

192
00:08:29,959 --> 00:08:33,799
all of biological research if not of all

193
00:08:32,149 --> 00:08:36,828
of science was published in nature in

194
00:08:33,799 --> 00:08:38,240
1988 there's nature now has an official

195
00:08:36,828 --> 00:08:39,620
policy they were never published

196
00:08:38,240 --> 00:08:42,769
anything on homeopathy

197
00:08:39,620 --> 00:08:44,600
again if you check out their blog you

198
00:08:42,769 --> 00:08:48,169
will find that I'm on their blog they

199
00:08:44,600 --> 00:08:49,430
blog against me and I paraphrase because

200

00:08:48,169 --> 00:08:51,769
I'm on the stage and don't want to be

201
00:08:49,429 --> 00:08:53,569
mistaken for quoting it but doctor I've

202
00:08:51,769 --> 00:08:55,490
should have his funding removed for

203
00:08:53,570 --> 00:09:00,550
trying to legitimize the debunked field

204
00:08:55,490 --> 00:09:03,310
of homeopathy benveniste

205
00:09:00,549 --> 00:09:05,479
she's a short track for the Nobel Prize

206
00:09:03,309 --> 00:09:07,039
graduate student comes to a postdoc

207
00:09:05,480 --> 00:09:09,430
actually comes to him shows him a

208
00:09:07,039 --> 00:09:11,329
homeopathic experiment benveniste

209
00:09:09,429 --> 00:09:12,528
threatens to fire him if he doesn't go

210
00:09:11,330 --> 00:09:15,050
back and do the work he was supposed to

211
00:09:12,528 --> 00:09:17,000
do guy goes and does it again brings him

212
00:09:15,049 --> 00:09:19,039
back to benveniste shock says okay I'll

213
00:09:17,000 --> 00:09:21,440
show you what you did wrong went and did

214
00:09:19,039 --> 00:09:24,980

the experiment himself and reproduced

215

00:09:21,440 --> 00:09:28,279

the effect basically that IgE at hide

216

00:09:24,980 --> 00:09:30,139

Aleutians D granulates mast cells now

217

00:09:28,278 --> 00:09:32,120

mast cells are a problematic model and I

218

00:09:30,139 --> 00:09:34,759

won't get into that but you can sneeze

219

00:09:32,120 --> 00:09:36,500

at mast cells and not that's a pun of

220

00:09:34,759 --> 00:09:40,210

course for those of you know biology and

221

00:09:36,500 --> 00:09:45,610

they will degranulation unthe aleste

222

00:09:40,210 --> 00:09:49,129

this work was published in Nature and a

223

00:09:45,610 --> 00:09:52,159

magician was was hired to go and debunk

224

00:09:49,129 --> 00:09:54,588

it which produced all the controversy

225

00:09:52,159 --> 00:09:57,139

around it by the way and five labs were

226

00:09:54,589 --> 00:09:58,970

asked to replicate it and I would

227

00:09:57,139 --> 00:10:00,830

recommend that those of you who really

228

00:09:58,970 --> 00:10:02,629

want to look at science history go back

229
00:10:00,830 --> 00:10:05,509
and look at the actual results from

230
00:10:02,629 --> 00:10:07,429
those five labs the claim was that those

231
00:10:05,509 --> 00:10:10,189
five labs were unable to replicated

232
00:10:07,429 --> 00:10:12,349
which is not true two of them were able

233
00:10:10,190 --> 00:10:14,150
to replicate and nature even published

234
00:10:12,350 --> 00:10:16,480
the figures showing they replicated it

235
00:10:14,149 --> 00:10:18,620
and underneath the pictures it says

236
00:10:16,480 --> 00:10:21,709
failure to replicate it's the most

237
00:10:18,620 --> 00:10:23,419
bizarre example of you see what you

238
00:10:21,708 --> 00:10:26,329
think you're going to see rather than

239
00:10:23,419 --> 00:10:28,399
what's actually there nonetheless they

240
00:10:26,330 --> 00:10:32,300
brought in this magician Randi the

241
00:10:28,399 --> 00:10:34,159
magician well-known again I'm familiar

242
00:10:32,299 --> 00:10:35,689
with them and by the way I'm a

243
00:10:34,159 --> 00:10:37,309
card-carrying member of the skeptic

244
00:10:35,690 --> 00:10:39,800
Society I'm a founder of the Washington

245
00:10:37,309 --> 00:10:43,338
DC skeptic Society there's nothing wrong

246
00:10:39,799 --> 00:10:45,259
with being a skeptic Randi on the other

247
00:10:43,339 --> 00:10:47,000
hand in my opinion went overboard he

248
00:10:45,259 --> 00:10:49,189
invalidated the claims I'll argue about

249
00:10:47,000 --> 00:10:52,519
that developed this controversy and

250
00:10:49,190 --> 00:10:55,640
division to good replication attempts

251
00:10:52,519 --> 00:10:59,210
we're done as I say in the science in

252
00:10:55,639 --> 00:11:01,100
that in the nature controversy but the

253
00:10:59,210 --> 00:11:02,810
bottom line was it's destroyed

254
00:11:01,100 --> 00:11:05,870
homeopathic research in France

255
00:11:02,809 --> 00:11:08,179
it destroyed benveniste to get a Nobel

256
00:11:05,870 --> 00:11:10,580
Prize almost did his career in but he

257

00:11:08,179 --> 00:11:14,899
didn't care he loved controversy in

258
00:11:10,580 --> 00:11:17,750
itself and he's since moved on well he

259
00:11:14,899 --> 00:11:19,699
has since moved on but at the time that

260
00:11:17,750 --> 00:11:22,250
I that I was referring to here he was

261
00:11:19,700 --> 00:11:25,759
doing histamine and cd3 cells which was

262
00:11:22,250 --> 00:11:30,019
his specialty was an immunologist this

263
00:11:25,759 --> 00:11:32,419
is not his work this was done in 1991 so

264
00:11:30,019 --> 00:11:34,730
we're talking a few years later st.

265
00:11:32,419 --> 00:11:38,659
lawdy at all and I but I love the figure

266
00:11:34,730 --> 00:11:42,110
because it's so nice and regular and I

267
00:11:38,659 --> 00:11:43,610
was sure this was crap and when Wayne

268
00:11:42,110 --> 00:11:46,460
Jonas and I started the Samuele

269
00:11:43,610 --> 00:11:49,850
Institute back in 2001 I stuck up my

270
00:11:46,460 --> 00:11:51,830
hand and I said Wayne I will test

271
00:11:49,850 --> 00:11:53,480

homeopathy Wayne if you don't know Wayne

272

00:11:51,830 --> 00:11:55,490

Jonas he's up he's a physician and

273

00:11:53,480 --> 00:11:57,139

practices homeopathy himself and I've

274

00:11:55,490 --> 00:11:58,639

known him for thirty years now and for

275

00:11:57,139 --> 00:12:00,710

the previous 20 years I've been teasing

276

00:11:58,639 --> 00:12:03,289

the hell out of him about doing this

277

00:12:00,710 --> 00:12:04,970

stupid idea of homeopathy he knew I was

278

00:12:03,289 --> 00:12:06,620

prejudiced but I am in the end a good

279

00:12:04,970 --> 00:12:08,899

scientist and I said I want your

280

00:12:06,620 --> 00:12:10,909

handshake that I'll go wherever the data

281

00:12:08,899 --> 00:12:14,509

was and he looked at me and he got a big

282

00:12:10,909 --> 00:12:18,500

grin on his face and he said deal the

283

00:12:14,509 --> 00:12:20,360

debt the data led me to this I I believe

284

00:12:18,500 --> 00:12:22,039

I have figured out how it works it's

285

00:12:20,360 --> 00:12:24,379

called the silica hypothesis it's why

286
00:12:22,039 --> 00:12:28,250
nature has a blog against me but this is

287
00:12:24,379 --> 00:12:30,139
an amazing phenomenon and highly

288
00:12:28,250 --> 00:12:31,759
reproducible it turns out there are at

289
00:12:30,139 --> 00:12:34,009
this point I believe twelve good

290
00:12:31,759 --> 00:12:37,939
publications reproducing benveniste

291
00:12:34,009 --> 00:12:39,679
Ridge "I work I don't want to talk too

292
00:12:37,940 --> 00:12:41,810
much about his work I want to talk about

293
00:12:39,679 --> 00:12:45,889
something else really which is how do

294
00:12:41,809 --> 00:12:47,329
you test something like this and what do

295
00:12:45,889 --> 00:12:50,809
you do with the results when they come

296
00:12:47,330 --> 00:12:52,700
up so he made he benveniste and spent

297
00:12:50,809 --> 00:12:54,379
the rest of his career trying to figure

298
00:12:52,700 --> 00:12:57,290
out the mechanism because mechanism is

299
00:12:54,379 --> 00:12:58,850
the magic bullet for basic science and

300
00:12:57,289 --> 00:13:00,709
probably all of science but certainly

301
00:12:58,850 --> 00:13:02,089
for basic science and certainly in

302
00:13:00,710 --> 00:13:05,269
biomedical work

303
00:13:02,089 --> 00:13:07,009
and and so most of the criticism was the

304
00:13:05,269 --> 00:13:09,499
fact that had been done by hand and he's

305
00:13:07,009 --> 00:13:11,269
working with very small quantities so he

306
00:13:09,499 --> 00:13:12,680
developed a robotic device and I'll show

307
00:13:11,269 --> 00:13:16,100
you a picture I bought one I still own

308
00:13:12,679 --> 00:13:17,568
it I don't own it the Institute does and

309
00:13:16,100 --> 00:13:21,439
he eventually came up with the idea that

310
00:13:17,568 --> 00:13:25,248
it was electromagnetic in nature he was

311
00:13:21,438 --> 00:13:27,169
wrong but that's another story so he

312
00:13:25,249 --> 00:13:31,370
decided he could digitize it we're

313
00:13:27,169 --> 00:13:33,469
talking 1990s 2000 and delivered the

314

00:13:31,370 --> 00:13:34,938
digitized sound and reproduced the fact

315
00:13:33,470 --> 00:13:36,980
he convinced the Congress of the United

316
00:13:34,938 --> 00:13:41,719
States that this was real and that he

317
00:13:36,980 --> 00:13:43,938
could transmit medical cures medical

318
00:13:41,720 --> 00:13:46,069
drugs over the Internet

319
00:13:43,938 --> 00:13:48,409
reconstitute them in water and nobody

320
00:13:46,068 --> 00:13:49,308
could turn away from that idea DARPA

321
00:13:48,409 --> 00:13:52,188
picked it up

322
00:13:49,308 --> 00:13:54,110
DARPA asked us to test this and of

323
00:13:52,188 --> 00:13:56,688
course DARPA is a very dark place in

324
00:13:54,110 --> 00:13:58,188
many respects and so they when everybody

325
00:13:56,688 --> 00:13:59,688
else is thinking drugs for helping

326
00:13:58,188 --> 00:14:02,740
people I'm sure DARPA had something else

327
00:13:59,688 --> 00:14:06,919
in mind but they wanted to test this and

328
00:14:02,740 --> 00:14:10,100

they asked me to run the study processes

329

00:14:06,919 --> 00:14:11,778

automated and even benveniste was

330

00:14:10,100 --> 00:14:17,808

beginning to wonder about operator

331

00:14:11,778 --> 00:14:19,159

effects so this is the team and some of

332

00:14:17,808 --> 00:14:21,499

you know these folks this is Jacques

333

00:14:19,159 --> 00:14:23,480

himself right there this guy's name is

334

00:14:21,499 --> 00:14:26,509

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

335

00:14:23,480 --> 00:14:30,528

Wayne Jonas also a younger age this is a

336

00:14:26,509 --> 00:14:32,178

sociologist this is the statistician

337

00:14:30,528 --> 00:14:33,948

from the University of Maryland chair of

338

00:14:32,178 --> 00:14:35,928

the department and the senior member of

339

00:14:33,948 --> 00:14:37,458

the skeptic Society of Washington DC and

340

00:14:35,928 --> 00:14:40,490

I'll come back to why that's important

341

00:14:37,458 --> 00:14:42,138

this is DDA he's the engineer that

342

00:14:40,490 --> 00:14:44,990

worked in Jacque steam to build the

343
00:14:42,139 --> 00:14:48,589
robot this is the man I want you to

344
00:14:44,990 --> 00:14:50,568
remember Jamal this is the replay system

345
00:14:48,589 --> 00:14:52,519
and I won't spend a lot of time on it

346
00:14:50,568 --> 00:14:53,979
except that it's extremely simple they

347
00:14:52,519 --> 00:14:57,009
used up

348
00:14:53,980 --> 00:14:58,840
a laptop computer and the sound card of

349
00:14:57,009 --> 00:15:02,409
a laptop computer and anybody who's an

350
00:14:58,840 --> 00:15:03,519
engineer realizes that in 1998 which is

351
00:15:02,409 --> 00:15:04,990
when this computer was put together

352
00:15:03,519 --> 00:15:05,710
those sound cards are not very high

353
00:15:04,990 --> 00:15:08,320
resolution

354
00:15:05,710 --> 00:15:09,910
he runs them through an amplifier or we

355
00:15:08,320 --> 00:15:11,740
and I actually did this ran them through

356
00:15:09,909 --> 00:15:13,719
an amplifier and run them through a coil

357
00:15:11,740 --> 00:15:16,930
and you just test it in fact you're

358
00:15:13,720 --> 00:15:18,370
doing it you put water in there with

359
00:15:16,929 --> 00:15:20,289
calcium by the way it turns out that's

360
00:15:18,370 --> 00:15:21,909
important and remember my hypothesis for

361
00:15:20,289 --> 00:15:25,419
how homeopathy works called the calcium

362
00:15:21,909 --> 00:15:27,339
hype the silica hypothesis it's related

363
00:15:25,419 --> 00:15:29,189
to this calcium phenomenon and that he

364
00:15:27,340 --> 00:15:31,300
could reconstitute the signal in there

365
00:15:29,190 --> 00:15:34,120
okay that's what the thing actually

366
00:15:31,299 --> 00:15:35,919
physically looks like that it's a the

367
00:15:34,120 --> 00:15:39,009
robot is out of screen but I'll show you

368
00:15:35,919 --> 00:15:40,959
in just a moment this is the the

369
00:15:39,009 --> 00:15:42,399
reagents are put in here it's all mixed

370
00:15:40,960 --> 00:15:46,450
together here and it's all automated in

371

00:15:42,399 --> 00:15:48,699
the rope whoops the robot is really good

372
00:15:46,450 --> 00:15:51,580
at doing this and doing it reproducibly

373
00:15:48,700 --> 00:15:53,440
so he got rid of that that drift and

374
00:15:51,580 --> 00:15:56,020
that that an error phenomenon that

375
00:15:53,440 --> 00:15:58,120
happens when people do it these are the

376
00:15:56,019 --> 00:16:00,129
results because in some respects the

377
00:15:58,120 --> 00:16:02,169
results are less important than than the

378
00:16:00,129 --> 00:16:02,919
underlying phenomenon here this is the

379
00:16:02,169 --> 00:16:05,259
control

380
00:16:02,919 --> 00:16:06,789
it's a thrombin fibrinogen coagulation

381
00:16:05,259 --> 00:16:08,439
rates basically it's coagulation of

382
00:16:06,789 --> 00:16:09,279
blood where you only take two components

383
00:16:08,440 --> 00:16:14,740
so you don't have to worry about

384
00:16:09,279 --> 00:16:16,899
individualization and I believe Julia B

385
00:16:14,740 --> 00:16:19,389

shell will be speaking later today or is

386

00:16:16,899 --> 00:16:22,959

it yeah this afternoon on hematological

387

00:16:19,389 --> 00:16:24,370

correlates with parapsychology there's

388

00:16:22,960 --> 00:16:27,430

something very interesting about human

389

00:16:24,370 --> 00:16:29,169

blood and parapsychology and I don't

390

00:16:27,429 --> 00:16:31,120

have time in this lecture but but listen

391

00:16:29,169 --> 00:16:32,469

to her lecture because I suspect it's

392

00:16:31,120 --> 00:16:34,000

gonna be very interesting any rate this

393

00:16:32,470 --> 00:16:37,960

is the synthetic version of it just the

394

00:16:34,000 --> 00:16:40,090

two components this one is the the

395

00:16:37,960 --> 00:16:42,250

coagulation is slowed oh no sound

396

00:16:40,090 --> 00:16:43,660

reproducible it is basically if you just

397

00:16:42,250 --> 00:16:44,860

run this thing on one piece of paper you

398

00:16:43,659 --> 00:16:45,939

cut a hole through the paper it just

399

00:16:44,860 --> 00:16:52,120

keeps doing the same thing over and over

400
00:16:45,940 --> 00:16:57,310
again and less whoops unless you run the

401
00:16:52,120 --> 00:17:01,389
experiment with Jamal I see vice is a--

402
00:16:57,309 --> 00:17:03,909
in the lab when he runs the experiment

403
00:17:01,389 --> 00:17:04,839
and if you recognize that name and

404
00:17:03,909 --> 00:17:06,439
you've been paying attention to

405
00:17:04,839 --> 00:17:08,838
homeopathy because he's back on this

406
00:17:06,439 --> 00:17:10,490
again with another Nobel laureate where

407
00:17:08,838 --> 00:17:13,578
they Nobel laureate I guess Jacque never

408
00:17:10,490 --> 00:17:15,019
got his guy named Monty err who's gotten

409
00:17:13,578 --> 00:17:18,109
into homeopathy again he's working with

410
00:17:15,019 --> 00:17:23,689
Jamal again so every time Jamal ran the

411
00:17:18,109 --> 00:17:26,538
experiment the bloody thing worked this

412
00:17:23,689 --> 00:17:30,139
is me running the experiment with water

413
00:17:26,538 --> 00:17:32,000
time sorry and you'll notice again it's

414
00:17:30,138 --> 00:17:35,719
pretty much on top of it and this is

415
00:17:32,000 --> 00:17:37,788
essentially changing the a synthetic

416
00:17:35,720 --> 00:17:39,919
inhibitor just to show that in fact the

417
00:17:37,788 --> 00:17:41,480
robot works so in chemistry works the

418
00:17:39,919 --> 00:17:43,700
way it should there are no surprises

419
00:17:41,480 --> 00:17:45,620
here this is optical density on this so

420
00:17:43,700 --> 00:17:47,870
as it coagulates the optical density

421
00:17:45,619 --> 00:17:49,579
goes up it goes up asymptotically

422
00:17:47,869 --> 00:17:52,398
eventually it essentially turns into a

423
00:17:49,579 --> 00:17:55,490
solid block right this is the

424
00:17:52,398 --> 00:17:57,888
interesting one right here and he could

425
00:17:55,490 --> 00:18:00,200
do this every time and this is not a

426
00:17:57,888 --> 00:18:03,469
trivial difference right chemistry is

427
00:18:00,200 --> 00:18:03,710
very reliable it works the same each

428

00:18:03,470 --> 00:18:06,558
time

429
00:18:03,710 --> 00:18:07,460
so here's Jamal here's the robot Jamal

430
00:18:06,558 --> 00:18:09,619
is a happy guy

431
00:18:07,460 --> 00:18:11,600
we're in a secured military lab by the

432
00:18:09,619 --> 00:18:13,939
way I have total control over this

433
00:18:11,599 --> 00:18:15,888
environment I have absolute control over

434
00:18:13,940 --> 00:18:18,919
this environment I have control over the

435
00:18:15,888 --> 00:18:20,569
people that are there and in fact one of

436
00:18:18,919 --> 00:18:22,460
the arrangements we went with we made

437
00:18:20,569 --> 00:18:23,928
with Jacques and his team is they could

438
00:18:22,460 --> 00:18:25,759
not and they signed the document they

439
00:18:23,929 --> 00:18:26,990
could not be within 200 yards of the

440
00:18:25,759 --> 00:18:28,819
experiment when it was actually running

441
00:18:26,990 --> 00:18:29,929
now it turns out he lives in France so

442
00:18:28,819 --> 00:18:30,700

that wasn't a problem he just went back

443

00:18:29,929 --> 00:18:33,259
to France

444

00:18:30,700 --> 00:18:34,879
Jamal sets it up I took this picture and

445

00:18:33,259 --> 00:18:36,558
thing works I'm going great I study

446

00:18:34,878 --> 00:18:37,009
under him for a while I got it I got it

447

00:18:36,558 --> 00:18:39,528
down

448

00:18:37,009 --> 00:18:44,450
Jamal by the way has two PhDs one in

449

00:18:39,528 --> 00:18:46,159
pharmacology and one chemistry and Benny

450

00:18:44,450 --> 00:18:47,750
then they go back to France and then I

451

00:18:46,159 --> 00:18:51,019
do the experiment that damn thing

452

00:18:47,750 --> 00:18:52,759
doesn't work oh well I'm learning I'm

453

00:18:51,019 --> 00:18:54,859
using DARPA money so I go ahead and I

454

00:18:52,759 --> 00:18:56,389
fly them back again and they come into

455

00:18:54,859 --> 00:18:57,798
the lab they watch me doing they say I

456

00:18:56,388 --> 00:19:01,609
don't know what you're doing wrong John

457
00:18:57,798 --> 00:19:04,369
and Jamal says well let me run it works

458
00:19:01,609 --> 00:19:06,918
again stays there for two days

459
00:19:04,369 --> 00:19:08,778
works fine and during that time I got to

460
00:19:06,919 --> 00:19:10,340
know him we he smoked cigarettes a lot

461
00:19:08,778 --> 00:19:12,200
of milk not allowed to smoke at Walter

462
00:19:10,339 --> 00:19:14,028
Reed which is where this was so we'd go

463
00:19:12,200 --> 00:19:16,549
outside and I got to talking with him he

464
00:19:14,028 --> 00:19:19,789
speaks French Spanish Italian

465
00:19:16,549 --> 00:19:22,279
the Egyptian whatever the 20 languages I

466
00:19:19,789 --> 00:19:24,170
speak English so we had a we had a slow

467
00:19:22,279 --> 00:19:31,940
but but growing friendship and

468
00:19:24,170 --> 00:19:34,670
conversation so turns out that Jamal so

469
00:19:31,940 --> 00:19:37,940
Jamal why do you have two PhDs oh I

470
00:19:34,670 --> 00:19:44,029
don't like telling people this but I'm

471
00:19:37,940 --> 00:19:48,769
the firstborn tenth generation male for

472
00:19:44,029 --> 00:19:51,619
the energy healers in my community I'll

473
00:19:48,769 --> 00:19:53,509
go really the other thing I noticed that

474
00:19:51,619 --> 00:19:55,250
he's smoking a cigarette so I actually

475
00:19:53,509 --> 00:19:57,019
think maybe cigarettes are doing this I

476
00:19:55,250 --> 00:20:01,430
tried I actually light a cigarette in

477
00:19:57,019 --> 00:20:03,950
there try that doesn't do it so I'm

478
00:20:01,430 --> 00:20:06,080
thinking this is interesting and Jamal

479
00:20:03,950 --> 00:20:07,580
thinks this is unimpressive and I said

480
00:20:06,079 --> 00:20:09,109
well how did you get the homeopathy and

481
00:20:07,579 --> 00:20:11,179
he said well I was studying with under

482
00:20:09,109 --> 00:20:12,589
shock for a while and I got my second

483
00:20:11,180 --> 00:20:13,850
PhD and I he got interested in

484
00:20:12,589 --> 00:20:16,519
homeopathy I said I followed along with

485

00:20:13,849 --> 00:20:17,719
it and I said well how does it work

486
00:20:16,519 --> 00:20:19,039
whatever you're around he said I don't

487
00:20:17,720 --> 00:20:20,900
know he said the only thing we have been

488
00:20:19,039 --> 00:20:23,269
able to find his people who can

489
00:20:20,900 --> 00:20:25,550
interfere with the process so this woman

490
00:20:23,269 --> 00:20:30,799
is a Korean woman who'd come to Jacques

491
00:20:25,549 --> 00:20:33,049
wanted to do homeopathy and she if she

492
00:20:30,799 --> 00:20:34,129
was within six feet of the experiment it

493
00:20:33,049 --> 00:20:41,149
wouldn't work

494
00:20:34,130 --> 00:20:43,610
and they noted this so they these right

495
00:20:41,150 --> 00:20:45,890
there are made out of mule metal they

496
00:20:43,609 --> 00:20:47,689
discovered that if the if they made the

497
00:20:45,890 --> 00:20:48,590
containers out of new metal it would

498
00:20:47,690 --> 00:20:54,410
even block

499
00:20:48,589 --> 00:20:56,959

Suz effect so I call up Jacques and I

500

00:20:54,410 --> 00:20:59,960

say I think you're right

501

00:20:56,960 --> 00:21:02,990

I think the person is involved here and

502

00:20:59,960 --> 00:21:05,390

he said ah you know John I thought that

503

00:21:02,990 --> 00:21:06,230

because I because we're looking Fridays

504

00:21:05,390 --> 00:21:08,780

I don't think so anymore

505

00:21:06,230 --> 00:21:11,630

and I learned from Jamal from these

506

00:21:08,779 --> 00:21:14,299

cigarette excursions we had done that

507

00:21:11,630 --> 00:21:16,310

his wife was getting her CPA and she'd

508

00:21:14,299 --> 00:21:18,109

gone to Spain to do this and she'd been

509

00:21:16,309 --> 00:21:20,359

gone for two years and he basically been

510

00:21:18,109 --> 00:21:22,759

living in the lab and I said how close

511

00:21:20,359 --> 00:21:24,199

is Jamal to the machine because they we

512

00:21:22,759 --> 00:21:24,799

bought one and put it in Walter Reed and

513

00:21:24,200 --> 00:21:26,450

they kept

514
00:21:24,799 --> 00:21:30,319
one of their own there they're very

515
00:21:26,450 --> 00:21:32,059
expensive \$45,000 and he said oh it sits

516
00:21:30,319 --> 00:21:33,980
on his desk and I said send him on a

517
00:21:32,059 --> 00:21:36,679
vacation and he said he won't go and I

518
00:21:33,980 --> 00:21:39,490
said I don't care override him five days

519
00:21:36,680 --> 00:21:42,560
later Jacques calls me up go sacre bleu

520
00:21:39,490 --> 00:21:45,799
the damn thing stopped working I said

521
00:21:42,559 --> 00:21:49,460
yeah you have built yourself a bioenergy

522
00:21:45,799 --> 00:21:51,980
tester unfortunately shortly thereafter

523
00:21:49,460 --> 00:21:54,170
he died as I say and people have

524
00:21:51,980 --> 00:21:57,319
forgotten this paper because we said

525
00:21:54,170 --> 00:21:59,840
this we called it the Jamaal effect it's

526
00:21:57,319 --> 00:22:01,369
actually in our paper we don't get to

527
00:21:59,839 --> 00:22:02,629
overboard about it cuz I don't didn't

528
00:22:01,369 --> 00:22:04,129
know what to do with it I didn't I

529
00:22:02,630 --> 00:22:06,560
wanted to get publishing fascism so I

530
00:22:04,130 --> 00:22:07,820
didn't want to get too crazy but we

531
00:22:06,559 --> 00:22:09,740
started worrying that you know our

532
00:22:07,819 --> 00:22:11,990
statistician started worrying about it

533
00:22:09,740 --> 00:22:13,220
and by the way statistician was insane

534
00:22:11,990 --> 00:22:15,410
because remember he's a member of the

535
00:22:13,220 --> 00:22:17,329
skeptical Society trained by Randy the

536
00:22:15,410 --> 00:22:19,610
magician as a magician in addition to

537
00:22:17,329 --> 00:22:22,129
being a statistician and I said well I'm

538
00:22:19,609 --> 00:22:24,319
sure Jamal did not do any trickery and

539
00:22:22,130 --> 00:22:26,240
he said I guarantee you Jon you put me

540
00:22:24,319 --> 00:22:29,029
in that room I'll do it right in front

541
00:22:26,240 --> 00:22:30,500
of you you'll never even see it so one

542

00:22:29,029 --> 00:22:31,609
of the things that we realized we needed

543
00:22:30,500 --> 00:22:33,200
to do was we should have video to

544
00:22:31,609 --> 00:22:34,609
videotape it but we didn't make the

545
00:22:33,200 --> 00:22:38,420
premise that we were looking for fraud

546
00:22:34,609 --> 00:22:41,679
we were testing the ability our ability

547
00:22:38,420 --> 00:22:48,070
to replicate jacque's claim that's it

548
00:22:41,680 --> 00:22:51,830
clear concise and thought out that way

549
00:22:48,069 --> 00:22:54,829
so one of the things that we learned was

550
00:22:51,829 --> 00:22:57,189
that the team that you put together is

551
00:22:54,829 --> 00:23:00,559
extremely important you want a

552
00:22:57,190 --> 00:23:04,279
multidisciplinary team a team that

553
00:23:00,559 --> 00:23:07,069
consists of a statistician a skeptic if

554
00:23:04,279 --> 00:23:10,609
at all possible somebody who is not

555
00:23:07,069 --> 00:23:12,049
gonna sabotage the experiment but

556
00:23:10,609 --> 00:23:15,740

somebody that comes in with I don't

557

00:23:12,049 --> 00:23:18,769

believe this somebody from Missouri show

558

00:23:15,740 --> 00:23:20,120

me right you want somebody on that team

559

00:23:18,769 --> 00:23:21,980

now in our case the statistician and

560

00:23:20,119 --> 00:23:25,099

that person were the same one we also

561

00:23:21,980 --> 00:23:26,390

had a social psychologist it's one of

562

00:23:25,099 --> 00:23:27,709

the best it turns out he's world-famous

563

00:23:26,390 --> 00:23:29,540

and I don't want to bring him up because

564

00:23:27,710 --> 00:23:29,930

he's actually doing ID of people from

565

00:23:29,539 --> 00:23:33,769

there

566

00:23:29,930 --> 00:23:36,080

he's a profiler right so his job his one

567

00:23:33,769 --> 00:23:38,009

job was to take contemporaneous notes

568

00:23:36,079 --> 00:23:39,960

every time we met

569

00:23:38,009 --> 00:23:42,240

as a team either was Jacques there or

570

00:23:39,960 --> 00:23:43,559

not there take contemporaneous notes you

571
00:23:42,240 --> 00:23:45,569
would type them up that night he would

572
00:23:43,559 --> 00:23:47,220
send him out by email and we would sign

573
00:23:45,569 --> 00:23:49,889
virtually or sign physically and we'd

574
00:23:47,220 --> 00:23:52,890
turn it back to him within 48 hours very

575
00:23:49,890 --> 00:23:55,680
very important because when you go

576
00:23:52,890 --> 00:23:57,750
through this anybody who believes in the

577
00:23:55,680 --> 00:24:01,289
work they've done and who doesn't right

578
00:23:57,750 --> 00:24:03,599
and you're testing them they will start

579
00:24:01,289 --> 00:24:06,720
it's up it's a human phenomenon

580
00:24:03,599 --> 00:24:09,329
you will start wiggling out you will

581
00:24:06,720 --> 00:24:12,600
start the wiggle in a way to indicate

582
00:24:09,329 --> 00:24:13,879
that you the tester have done something

583
00:24:12,599 --> 00:24:16,679
that's not right

584
00:24:13,880 --> 00:24:18,390
so as it became clear we could not

585
00:24:16,680 --> 00:24:19,920
replicate this without and by the way

586
00:24:18,390 --> 00:24:21,180
they came back twice and every time

587
00:24:19,920 --> 00:24:22,680
Jamal was in the room it worked and

588
00:24:21,180 --> 00:24:24,539
every time he wasn't it didn't and I

589
00:24:22,680 --> 00:24:26,009
brought in certified buyer energy

590
00:24:24,539 --> 00:24:27,359
healers and I'm gonna show you in one of

591
00:24:26,009 --> 00:24:29,279
those experiments

592
00:24:27,359 --> 00:24:31,049
I had Wayne do it I did it none of us

593
00:24:29,279 --> 00:24:32,309
could make it happen had to be Jamal for

594
00:24:31,049 --> 00:24:35,159
some reasons I think he was entangled

595
00:24:32,309 --> 00:24:36,750
and maybe in the quantum sense with the

596
00:24:35,160 --> 00:24:39,390
machine but he was certainly entangled

597
00:24:36,750 --> 00:24:41,279
with the experiment and was he

598
00:24:39,390 --> 00:24:42,780
committing fraud it's certainly possible

599

00:24:41,279 --> 00:24:46,829
because I didn't test it but I don't

600
00:24:42,779 --> 00:24:48,779
think so but more importantly Jacque was

601
00:24:46,829 --> 00:24:50,939
very unhappy with this outcome he'd

602
00:24:48,779 --> 00:24:54,299
started a company digi bio which is

603
00:24:50,940 --> 00:24:56,370
still alive by the way and he did not

604
00:24:54,299 --> 00:24:59,250
like the way this was going so his

605
00:24:56,369 --> 00:25:01,829
memory of the meetings started to shift

606
00:24:59,250 --> 00:25:04,250
and so the sociologists would bring out

607
00:25:01,829 --> 00:25:06,509
the notes that Jacque had signed

608
00:25:04,250 --> 00:25:09,990
contemporaneously and Schalk would go

609
00:25:06,509 --> 00:25:11,160
I'll be I remembered that conversation

610
00:25:09,990 --> 00:25:13,049
differently but you're right that's my

611
00:25:11,160 --> 00:25:15,840
signature now that I've seen the written

612
00:25:13,049 --> 00:25:18,000
document I recall doing that and so this

613
00:25:15,839 --> 00:25:21,659

turned out to be a good study published

614

00:25:18,000 --> 00:25:23,250

in fab we gave it to DARPA DARPA who I

615

00:25:21,660 --> 00:25:25,920

thought was gonna laugh us out of the

616

00:25:23,250 --> 00:25:29,250

room said yeah we've seen this before

617

00:25:25,920 --> 00:25:30,990

I go say what and you go oh yeah yeah we

618

00:25:29,250 --> 00:25:32,099

know about 12 men and women around the

619

00:25:30,990 --> 00:25:36,150

world that can do this kind of thing

620

00:25:32,099 --> 00:25:38,549

what I why didn't you tell me this all

621

00:25:36,150 --> 00:25:41,160

because it's of no interest what how can

622

00:25:38,549 --> 00:25:44,069

this not be of interest well it seems to

623

00:25:41,160 --> 00:25:47,400

be unique it's only found in special

624

00:25:44,069 --> 00:25:48,629

people and I'm like so and they look at

625

00:25:47,400 --> 00:25:50,250

me and they go do you know how it works

626

00:25:48,630 --> 00:25:52,620

I said no but

627

00:25:50,250 --> 00:25:55,410

me the money and I'll figure it out no

628
00:25:52,619 --> 00:25:57,359
not interested we're only interested and

629
00:25:55,410 --> 00:25:59,009
if you know how to train somebody to do

630
00:25:57,359 --> 00:26:01,259
it then we're really paying attention or

631
00:25:59,009 --> 00:26:03,150
better yet you know how to put it into

632
00:26:01,259 --> 00:26:04,950
some sort of device or machine DARPA

633
00:26:03,150 --> 00:26:07,440
loves machines so Bill's going to talk

634
00:26:04,950 --> 00:26:10,350
about trying to get the healer out of

635
00:26:07,440 --> 00:26:13,710
the healing and I'm sorry I'm angle diz

636
00:26:10,349 --> 00:26:15,269
his title but unfortunately I have to

637
00:26:13,710 --> 00:26:18,240
I've got other commitments so I won't be

638
00:26:15,269 --> 00:26:20,819
able to hear it but again DARPA was only

639
00:26:18,240 --> 00:26:22,799
interest in that and they didn't laugh

640
00:26:20,819 --> 00:26:24,059
at us at all they had no problem with it

641
00:26:22,799 --> 00:26:27,119
they were disappointed because they

642
00:26:24,059 --> 00:26:28,679
thought they had something else and when

643
00:26:27,119 --> 00:26:33,509
it turned out it was what we call the

644
00:26:28,680 --> 00:26:35,160
jamal effect the least bit surprised we

645
00:26:33,509 --> 00:26:39,079
did this in a secured room by the way I

646
00:26:35,160 --> 00:26:42,480
mean they very serious guys okay

647
00:26:39,079 --> 00:26:45,960
bioenergy what the hell is bioenergy

648
00:26:42,480 --> 00:26:47,430
this is bioenergy right so bioenergy in

649
00:26:45,960 --> 00:26:48,809
this case I mean something that where

650
00:26:47,430 --> 00:26:51,000
you don't physically touch it and you

651
00:26:48,809 --> 00:26:54,329
cause a phenomenon as a guy named Mia

652
00:26:51,000 --> 00:26:58,259
Tech variks wir que us he's world famous

653
00:26:54,329 --> 00:27:00,269
BBC and BR he's had a practice here in

654
00:26:58,259 --> 00:27:04,440
Rockville I think he's retired now good

655
00:27:00,269 --> 00:27:06,180
friend I know him very well very

656

00:27:04,440 --> 00:27:07,740
interesting guy and I've got stories

657
00:27:06,180 --> 00:27:10,710
that were they're really kind of

658
00:27:07,740 --> 00:27:13,529
interesting and again I'm being told by

659
00:27:10,710 --> 00:27:18,210
my boss Wayne Jonas that this man can

660
00:27:13,529 --> 00:27:19,399
heal people just by generating bio

661
00:27:18,210 --> 00:27:21,660
injury oh come on

662
00:27:19,400 --> 00:27:23,100
well let's put him in a laboratory John

663
00:27:21,660 --> 00:27:25,230
you're you're claiming to be this good

664
00:27:23,099 --> 00:27:27,539
scientist I said yeah I'll take this guy

665
00:27:25,230 --> 00:27:29,519
apart we'll put him in the lab and we

666
00:27:27,539 --> 00:27:32,730
will have him do his thing

667
00:27:29,519 --> 00:27:34,369
to jerkhead cells these are jerk cat

668
00:27:32,730 --> 00:27:38,509
cells sitting in here in a cuvette and

669
00:27:34,369 --> 00:27:41,639
it's loaded with fear fluo 3 which is a

670
00:27:38,509 --> 00:27:44,220

calcium ion of not an iota for calcium

671

00:27:41,640 --> 00:27:48,180

fluorescent it it lights up when there's

672

00:27:44,220 --> 00:27:49,799

free calcium and I I asked me attack can

673

00:27:48,180 --> 00:27:51,570

he work with these cells and can he

674

00:27:49,799 --> 00:27:53,609

increase their calcium flux and he said

675

00:27:51,569 --> 00:27:56,700

ok let me go talk to them

676

00:27:53,609 --> 00:27:57,669

right and he goes and he puts his hands

677

00:27:56,700 --> 00:27:59,289

around the dish and

678

00:27:57,670 --> 00:28:01,720

talks with him and he says sure I can do

679

00:27:59,289 --> 00:28:02,980

this I'm going on great this is gonna be

680

00:28:01,720 --> 00:28:04,839

great by the way I bring in the same

681

00:28:02,980 --> 00:28:07,569

team again and the psychologist looking

682

00:28:04,839 --> 00:28:09,579

at me going John no you're setting the

683

00:28:07,569 --> 00:28:11,139

wrong tone I'm going okay and he said

684

00:28:09,579 --> 00:28:13,720

okay I've talked to them I can work with

685
00:28:11,140 --> 00:28:15,850
and he said now explain calcium to me so

686
00:28:13,720 --> 00:28:17,319
we do a crash course and in cell biology

687
00:28:15,849 --> 00:28:19,119
and he said okay what do you mean by

688
00:28:17,319 --> 00:28:21,159
free calcium so I explained cyclic AMP

689
00:28:19,119 --> 00:28:22,449
I explained calcium stores I explained

690
00:28:21,160 --> 00:28:24,250
calcium anaphors about an hour and a

691
00:28:22,450 --> 00:28:27,840
half later says okay I got it I'm going

692
00:28:24,250 --> 00:28:27,839
boy this is gonna be a short experiment

693
00:28:27,960 --> 00:28:33,160
two years every Wednesday except when it

694
00:28:31,630 --> 00:28:36,310
hit a crisp Christmas in the Easter he's

695
00:28:33,160 --> 00:28:38,650
Catholic or and once when he was sick

696
00:28:36,309 --> 00:28:40,029
and once when his dogs got sick every

697
00:28:38,650 --> 00:28:42,480
Wednesday morning he came in at ten

698
00:28:40,029 --> 00:28:47,019
o'clock and worked until twelve o'clock

699
00:28:42,480 --> 00:28:49,750
every time he put his hand around jerk

700
00:28:47,019 --> 00:28:50,259
pet cells 15 minutes baseline before he

701
00:28:49,750 --> 00:28:53,190
shows up

702
00:28:50,259 --> 00:28:56,079
there's the baseline 15 minutes

703
00:28:53,190 --> 00:28:57,789
bioenergy treatment we followed by sham

704
00:28:56,079 --> 00:29:05,490
with Noah and we did sham no treatment

705
00:28:57,789 --> 00:29:09,159
controls and every time he produced this

706
00:29:05,490 --> 00:29:12,099
15 to 25 percent change in calcium every

707
00:29:09,160 --> 00:29:16,810
time every Wednesday for two years

708
00:29:12,099 --> 00:29:18,129
again military lab I really am getting

709
00:29:16,809 --> 00:29:20,259
ready to pull my fingernails out I mean

710
00:29:18,130 --> 00:29:22,540
how can this be this is this is totally

711
00:29:20,259 --> 00:29:24,609
weird to me but I am convinced this is

712
00:29:22,539 --> 00:29:26,440
real because it's reproducible at least

713

00:29:24,609 --> 00:29:29,769
in my lab and other people have claimed

714
00:29:26,440 --> 00:29:31,480
this and we actually did it with heat

715
00:29:29,769 --> 00:29:35,319
shock protein because I got interested

716
00:29:31,480 --> 00:29:38,319
in underlying mechanism so we asked him

717
00:29:35,319 --> 00:29:41,649
to we asked him to block heat shock

718
00:29:38,319 --> 00:29:43,179
protein which he effectively did and you

719
00:29:41,650 --> 00:29:46,030
know basically once he understood the

720
00:29:43,180 --> 00:29:47,200
cells and after he'd talked with him he

721
00:29:46,029 --> 00:29:48,399
can do almost anything I wanted him to

722
00:29:47,200 --> 00:29:50,259
do with him it was the most

723
00:29:48,400 --> 00:29:53,380
extraordinary thing I had ever seen

724
00:29:50,259 --> 00:29:58,720
and I said so how do you do this and so

725
00:29:53,380 --> 00:30:01,180
he goes well I passed God's love through

726
00:29:58,720 --> 00:30:03,190
my heart chakra and I'm going boy how am

727
00:30:01,180 --> 00:30:06,730

I going to test that

728

00:30:03,190 --> 00:30:09,519

and so I say well you know about Jesus

729

00:30:06,730 --> 00:30:11,410

Christ article of course and I said well

730

00:30:09,519 --> 00:30:13,240

you know Jesus is said to have done some

731

00:30:11,410 --> 00:30:15,550

of those things what what do you do

732

00:30:13,240 --> 00:30:16,210

that's related to that he said oh Jesus

733

00:30:15,549 --> 00:30:18,639

was like this

734

00:30:16,210 --> 00:30:20,170

I of course burst out laughing right he

735

00:30:18,640 --> 00:30:22,060

was literally doing that and I don't

736

00:30:20,170 --> 00:30:23,620

think he meant to do quite that but I

737

00:30:22,059 --> 00:30:24,789

burst out laughing and he sort of looks

738

00:30:23,619 --> 00:30:27,459

at me and he said but what I do is just

739

00:30:24,789 --> 00:30:28,930

like this and they said thinking I got a

740

00:30:27,460 --> 00:30:30,549

joke or a little bit of laughing I said

741

00:30:28,930 --> 00:30:37,930

- have you ever tried to change water

742
00:30:30,549 --> 00:30:40,409
into wine he goes yes it just smells

743
00:30:37,930 --> 00:30:40,410
like roses

744
00:30:41,329 --> 00:30:48,419
so this this man I don't think he has a

745
00:30:45,450 --> 00:30:51,000
clue how he does it he also claimed that

746
00:30:48,420 --> 00:30:54,060
he could do it anywhere anytime the time

747
00:30:51,000 --> 00:30:57,299
and space were irrelevant and I do have

748
00:30:54,059 --> 00:31:01,319
a problem with that because it turns out

749
00:30:57,299 --> 00:31:05,700
in my lab under these conditions his

750
00:31:01,319 --> 00:31:07,439
hands that affect his hands have to be

751
00:31:05,700 --> 00:31:09,809
within 18 inches of the cuvette with the

752
00:31:07,440 --> 00:31:13,289
cells if his hands were behind his back

753
00:31:09,809 --> 00:31:16,799
the effect went away if he was more than

754
00:31:13,289 --> 00:31:19,500
9 feet from the cells the effect went

755
00:31:16,799 --> 00:31:23,039
away and obeyed and earned verse square

756
00:31:19,500 --> 00:31:25,230
law his hands are emitting something

757
00:31:23,039 --> 00:31:27,750
those are the almost perfect criteria

758
00:31:25,230 --> 00:31:29,430
for some emission I have since I think

759
00:31:27,750 --> 00:31:31,079
figured out how but I haven't done the

760
00:31:29,430 --> 00:31:31,920
experiments I did the obvious one

761
00:31:31,079 --> 00:31:33,629
because everybody said it was

762
00:31:31,920 --> 00:31:35,610
electromagnetic radiation while I'm a

763
00:31:33,630 --> 00:31:38,250
neurophysiologist so I built a Faraday

764
00:31:35,609 --> 00:31:40,229
cage and it only partially have impacted

765
00:31:38,250 --> 00:31:42,420
it but he claimed he could do it

766
00:31:40,230 --> 00:31:44,880
anywhere anytime and I said from your

767
00:31:42,420 --> 00:31:46,650
home and he said of course so I said ok

768
00:31:44,880 --> 00:31:50,160
next Wednesday don't come in 10 o'clock

769
00:31:46,650 --> 00:31:51,330
start the experiment nothing he so he

770

00:31:50,160 --> 00:31:52,830
calls me up an hour and said so how'd it

771
00:31:51,329 --> 00:31:54,119
work it didn't work and he said I don't

772
00:31:52,829 --> 00:31:56,039
have good communication with him I'm

773
00:31:54,119 --> 00:31:57,509
going right and I said how do you need

774
00:31:56,039 --> 00:31:59,069
that he said send me a digital picture I

775
00:31:57,509 --> 00:32:00,299
sent him a digital picture we run the

776
00:31:59,069 --> 00:32:01,319
experiment again this experiment ran

777
00:32:00,299 --> 00:32:05,159
till about 4:00 in the afternoon because

778
00:32:01,319 --> 00:32:07,279
it never worked so he said that didn't

779
00:32:05,160 --> 00:32:09,960
work so he needed a live video feed and

780
00:32:07,279 --> 00:32:12,359
none of that worked I am absolutely

781
00:32:09,960 --> 00:32:14,039
convinced this man's the real thing I'm

782
00:32:12,359 --> 00:32:17,099
absolutely convinced these things really

783
00:32:14,039 --> 00:32:18,750
happen Jamal was one neotec was one by

784
00:32:17,099 --> 00:32:20,579

the way both of them were born with it

785

00:32:18,750 --> 00:32:22,230

the other phenomenon that probably many

786

00:32:20,579 --> 00:32:24,029

of you know is that some sort of

787

00:32:22,230 --> 00:32:26,789

near-death experience can sometimes

788

00:32:24,029 --> 00:32:28,470

bring this on but the attack was

789

00:32:26,789 --> 00:32:30,089

identified when he was about 6 years old

790

00:32:28,470 --> 00:32:36,390

I don't want to digress to that story

791

00:32:30,089 --> 00:32:37,919

and Jamal as I told you first born tenth

792

00:32:36,390 --> 00:32:40,200

generation healer right

793

00:32:37,920 --> 00:32:44,490

he had the force with him he's clearly a

794

00:32:40,200 --> 00:32:47,490

Jedi and so those guys were born with it

795

00:32:44,490 --> 00:32:49,380

and they're super powerful I actually

796

00:32:47,490 --> 00:32:50,849

can if you're interested I could talk a

797

00:32:49,380 --> 00:32:53,450

little bit about what I think is going

798

00:32:50,849 --> 00:32:55,908

on but at the time I didn't know

799

00:32:53,450 --> 00:32:57,710

and as we all know we suffer from

800

00:32:55,909 --> 00:32:59,120

funding in time you got you only have so

801

00:32:57,710 --> 00:33:02,149

much time I spent two years on this I

802

00:32:59,119 --> 00:33:03,589

spent all my NIH money and we published

803

00:33:02,148 --> 00:33:06,918

it and I'd haven't had a chance to go

804

00:33:03,589 --> 00:33:08,418

back and test my current theory on how

805

00:33:06,919 --> 00:33:10,460

it works although I will tell you what

806

00:33:08,419 --> 00:33:11,720

it is and I'll show you some data in

807

00:33:10,460 --> 00:33:12,980

regard to that and somebody else is

808

00:33:11,720 --> 00:33:18,440

talking about this very subject

809

00:33:12,980 --> 00:33:20,450

biophotons a little later so so this one

810

00:33:18,440 --> 00:33:22,850

is a little story I love I tell this

811

00:33:20,450 --> 00:33:27,919

story to my graduate students in medical

812

00:33:22,849 --> 00:33:29,599

school at Georgetown they only do one at

813
00:33:27,919 --> 00:33:32,090
a time okay you're gonna have to do a

814
00:33:29,599 --> 00:33:33,949
visual memory so remember this side and

815
00:33:32,089 --> 00:33:35,808
I want you to look at the light the

816
00:33:33,950 --> 00:33:38,899
cells and how they're lighting up this

817
00:33:35,808 --> 00:33:40,519
is the fuehrer fluo 3 it's sensitive to

818
00:33:38,898 --> 00:33:43,099
calcium concentration more calcium

819
00:33:40,519 --> 00:33:45,109
brighter lights right so every one of

820
00:33:43,099 --> 00:33:47,058
these cells I've got a calcium free and

821
00:33:45,109 --> 00:33:49,009
every one of them that pops is to just

822
00:33:47,058 --> 00:33:50,210
suddenly release calcium okay if you go

823
00:33:49,009 --> 00:33:54,019
back and do the other one work for me

824
00:33:50,210 --> 00:33:56,389
thank you yeah whoops now you get them

825
00:33:54,019 --> 00:33:59,630
both going okay perfect so you get a

826
00:33:56,388 --> 00:34:02,058
real-time comparison 20 seconds laser

827

00:33:59,630 --> 00:34:03,830
interference microscopy military lab

828
00:34:02,058 --> 00:34:05,778
best laser interference might think you

829
00:34:03,829 --> 00:34:07,849
work best laser interference microscope

830
00:34:05,778 --> 00:34:14,300
you can buy it's got its own software to

831
00:34:07,849 --> 00:34:16,818
analyze what's going on and on and I

832
00:34:14,300 --> 00:34:18,500
want you to memorize or remember what

833
00:34:16,818 --> 00:34:20,838
you saw and see if you see any

834
00:34:18,500 --> 00:34:21,858
difference between them you guys see a

835
00:34:20,838 --> 00:34:25,759
difference between the left and the

836
00:34:21,858 --> 00:34:28,608
right come on don't be afraid somebody

837
00:34:25,760 --> 00:34:30,679
say yes or no yeah

838
00:34:28,608 --> 00:34:33,049
the one on the left has fewer cells

839
00:34:30,679 --> 00:34:35,088
lighting up I'd never have published

840
00:34:33,050 --> 00:34:36,980
this because I didn't replicate it and

841
00:34:35,088 --> 00:34:41,358

because there's some problems with this

842

00:34:36,980 --> 00:34:43,280

system bla bla bla but the one on

843

00:34:41,358 --> 00:34:47,239

the left is before me a techie entered

844

00:34:43,280 --> 00:34:48,560

the room same cells same dish same

845

00:34:47,239 --> 00:34:50,598

situation I was just setting it up I was

846

00:34:48,559 --> 00:34:52,039

just doing the baseline this is 60

847

00:34:50,599 --> 00:34:55,030

seconds after he enters the cell enters

848

00:34:52,039 --> 00:34:57,800

the room all he's done is enter the room

849

00:34:55,030 --> 00:35:01,099

and I'm running it because I was running

850

00:34:57,800 --> 00:35:02,839

this my baseline and he walked in 60

851

00:35:01,099 --> 00:35:05,599

seconds after he's in there these things

852

00:35:02,838 --> 00:35:06,539

start popping so he's radiating

853

00:35:05,599 --> 00:35:10,350

something that they respond

854

00:35:06,539 --> 00:35:12,509

- okay it's kind of cool and you know I

855

00:35:10,349 --> 00:35:13,980

was thinking about repeating it but

856
00:35:12,510 --> 00:35:16,020
turns out that time on this microscope

857
00:35:13,980 --> 00:35:18,059
super expensive and I didn't do it I got

858
00:35:16,019 --> 00:35:19,860
interested another phenomenon I have a

859
00:35:18,059 --> 00:35:21,029
good friend went to graduate school with

860
00:35:19,860 --> 00:35:23,880
him one of the world's best

861
00:35:21,030 --> 00:35:25,050
neuroscientist and met Mia Tech knew

862
00:35:23,880 --> 00:35:27,960
what I was doing thought it was all

863
00:35:25,050 --> 00:35:30,120
garbage and I said so I need some help

864
00:35:27,960 --> 00:35:31,980
with analyzing these these images I

865
00:35:30,119 --> 00:35:34,170
already I already run them through the

866
00:35:31,980 --> 00:35:37,590
computer the computer it said there's

867
00:35:34,170 --> 00:35:39,809
25% difference between the two and I'd

868
00:35:37,590 --> 00:35:43,500
like to know what you think John his

869
00:35:39,809 --> 00:35:44,909
name's John - and john spends 25 minutes

870
00:35:43,500 --> 00:35:46,980
because i start timeing it after the

871
00:35:44,909 --> 00:35:50,399
first few he goes back and forth back to

872
00:35:46,980 --> 00:35:53,280
study again looking at he said there is

873
00:35:50,400 --> 00:35:54,630
a difference I said really I said God

874
00:35:53,280 --> 00:35:56,250
can you tell me what you think it is and

875
00:35:54,630 --> 00:35:59,039
he said well I'm gonna guess this is

876
00:35:56,250 --> 00:36:00,840
about 25% brighter right on the button

877
00:35:59,039 --> 00:36:04,050
agrees with the computer completely he

878
00:36:00,840 --> 00:36:06,120
said what was the treatment so he knew

879
00:36:04,050 --> 00:36:08,400
when me attack was so I say me attack

880
00:36:06,119 --> 00:36:10,859
burkas because let me see those again to

881
00:36:08,400 --> 00:36:12,119
this day four years later he denies

882
00:36:10,860 --> 00:36:16,590
there's any difference between those two

883
00:36:12,119 --> 00:36:21,059
images this is such a threat to his

884

00:36:16,590 --> 00:36:22,559
worldview that I don't I believe him he

885
00:36:21,059 --> 00:36:26,579
doesn't he doesn't see the difference

886
00:36:22,559 --> 00:36:28,679
anymore this is why it is so important

887
00:36:26,579 --> 00:36:33,029
that we published negative and the

888
00:36:28,679 --> 00:36:36,629
positive data okay so if we've got these

889
00:36:33,030 --> 00:36:38,160
phenomenon homeopathy bioenergy and you

890
00:36:36,630 --> 00:36:40,079
all have seen this I think bill was even

891
00:36:38,159 --> 00:36:42,539
talking about it you know we we got this

892
00:36:40,079 --> 00:36:47,309
outcome we got this input and we have no

893
00:36:42,539 --> 00:36:49,800
idea what the mechanism is so this is a

894
00:36:47,309 --> 00:36:51,420
Dean's work from 2000 elsens and Dean's

895
00:36:49,800 --> 00:36:54,420
work from from 2000 those of you

896
00:36:51,420 --> 00:36:56,130
familiar with it this is the the random

897
00:36:54,420 --> 00:36:59,280
number generator work I think this is

898
00:36:56,130 --> 00:37:00,869

our ng work yeah this is the R&G work

899

00:36:59,280 --> 00:37:03,900

and you'll notice these highly

900

00:37:00,869 --> 00:37:05,819

significant shift in our ng work and yet

901

00:37:03,900 --> 00:37:08,550

it is still denied that people can

902

00:37:05,820 --> 00:37:10,590

interact with our Ang's extreme this is

903

00:37:08,550 --> 00:37:13,050

a systematic review this is extremely

904

00:37:10,590 --> 00:37:14,309

good data for some reason Dean has

905

00:37:13,050 --> 00:37:17,580

pointed this out it's always a curiosity

906

00:37:14,309 --> 00:37:19,289

to both of us there was a huge jump in

907

00:37:17,579 --> 00:37:23,880

the 70s and then it sort of died

908

00:37:19,289 --> 00:37:27,210

as did the funding nothing is so firmly

909

00:37:23,880 --> 00:37:29,309

believed that which is least known when

910

00:37:27,210 --> 00:37:30,929

we bring a prejudice to the to this to

911

00:37:29,309 --> 00:37:33,509

the stage and we bring a Dogma to the

912

00:37:30,929 --> 00:37:36,119

stage we will defend that my colleague

913
00:37:33,510 --> 00:37:38,100
my student my friend best one of the

914
00:37:36,119 --> 00:37:40,589
best neuroscientists on the planet can

915
00:37:38,099 --> 00:37:45,650
no longer see the difference in the

916
00:37:40,590 --> 00:37:47,460
images because it makes no sense to him

917
00:37:45,650 --> 00:37:49,530
so what does this have to do with

918
00:37:47,460 --> 00:37:52,829
biophotons I only spend a few seconds on

919
00:37:49,530 --> 00:37:55,080
this and it's not bill who is talking

920
00:37:52,829 --> 00:37:58,139
about biophotons tomorrow

921
00:37:55,079 --> 00:38:00,690
John John Kruk is going to talk about

922
00:37:58,139 --> 00:38:03,480
healing and biophotons so I don't know

923
00:38:00,690 --> 00:38:05,340
John if you're here stick with that man

924
00:38:03,480 --> 00:38:06,570
there's something in biophotons

925
00:38:05,340 --> 00:38:08,190
so I've been doing a lot of work in this

926
00:38:06,570 --> 00:38:11,580
I built a couple of labs written a few

927
00:38:08,190 --> 00:38:14,550
papers the labs in the Netherlands this

928
00:38:11,579 --> 00:38:17,549
is this this is natural light whoops

929
00:38:14,550 --> 00:38:19,410
this is natural light and in a darkroom

930
00:38:17,550 --> 00:38:23,460
and this is 60 minutes later with a

931
00:38:19,409 --> 00:38:26,069
high-capacity CCD which shows the light

932
00:38:23,460 --> 00:38:29,250
coming from the back of his neck we've

933
00:38:26,070 --> 00:38:32,550
done all kinds of experiments meditators

934
00:38:29,250 --> 00:38:34,230
really wanted to serious yoga meditators

935
00:38:32,550 --> 00:38:35,400
really and I do this I don't mean to

936
00:38:34,230 --> 00:38:37,500
denigrate them at all I'd do the same

937
00:38:35,400 --> 00:38:39,090
thing wanted to show that they had light

938
00:38:37,500 --> 00:38:40,469
radiating from them everywhere and in

939
00:38:39,090 --> 00:38:41,910
fact they're almost totally dark if

940
00:38:40,469 --> 00:38:43,799
they're really good at it and that's

941

00:38:41,909 --> 00:38:45,899
because the light is related to reactive

942
00:38:43,800 --> 00:38:47,700
oxygen species when they get a deep

943
00:38:45,900 --> 00:38:50,000
meditation all their inflammatory

944
00:38:47,699 --> 00:38:55,169
markers go down and the light goes down

945
00:38:50,000 --> 00:38:57,480
so on and in the fact that that's just a

946
00:38:55,170 --> 00:38:59,519
result of the high energy reactions

947
00:38:57,480 --> 00:39:01,199
doesn't bother me at all I still think

948
00:38:59,519 --> 00:39:03,659
there is information in those and I

949
00:39:01,199 --> 00:39:05,789
think that's what neotec was doing

950
00:39:03,659 --> 00:39:09,059
that's what's coming from his hands and

951
00:39:05,789 --> 00:39:10,670
I want somebody to do that experiment so

952
00:39:09,059 --> 00:39:12,840
we have started some of this work and

953
00:39:10,670 --> 00:39:16,170
hopefully this one mark I'll be able to

954
00:39:12,840 --> 00:39:17,680
do but I want you to hear the sound of

955
00:39:16,170 --> 00:39:20,840

light

956

00:39:17,679 --> 00:39:24,329
[Music]

957

00:39:20,840 --> 00:39:28,250
so we this is recorded from the hands

958

00:39:24,329 --> 00:39:31,980
cuz it turns out we can diagnose

959

00:39:28,250 --> 00:39:34,889
diabetes pre-diabetes two forms of

960

00:39:31,980 --> 00:39:36,179
arthritis whether you're asleep or awake

961

00:39:34,889 --> 00:39:38,069
without looking at you and your

962

00:39:36,179 --> 00:39:39,599
meditation state just by looking at the

963

00:39:38,070 --> 00:39:41,250
differential between the light coming

964

00:39:39,599 --> 00:39:42,779
from your palms and the lights coming

965

00:39:41,250 --> 00:39:44,039
from the back your hands and the

966

00:39:42,780 --> 00:39:48,090
difference between the left and the

967

00:39:44,039 --> 00:39:52,170
right and all we did is capture that

968

00:39:48,090 --> 00:39:54,240
from one of us and then bin it there's

969

00:39:52,170 --> 00:39:56,130
nothing there's no manipulation here

970
00:39:54,239 --> 00:39:59,609
this has just been bending to either

971
00:39:56,130 --> 00:40:02,340
0.05 second Bins 0.25 second bins or

972
00:39:59,610 --> 00:40:08,190
five second bins that's all this is

973
00:40:02,340 --> 00:40:13,590
spontaneous ultra low frequency light

974
00:40:08,190 --> 00:40:17,840
emission nothing does anybody notice

975
00:40:13,590 --> 00:40:17,840
anything interesting about this I

976
00:40:18,389 --> 00:40:27,779
[Music]

977
00:40:19,429 --> 00:40:32,129
thought it would be noise its music the

978
00:40:27,780 --> 00:40:35,220
heck is that about and I'm going and I'm

979
00:40:32,130 --> 00:40:36,360
being dragged off now in these are the

980
00:40:35,219 --> 00:40:38,309
lessons learned interpolation

981
00:40:36,360 --> 00:40:40,140
interdisciplinary team specialist

982
00:40:38,309 --> 00:40:43,980
statistician skeptic social management

983
00:40:40,139 --> 00:40:45,960
do not under sorry about that folks do

984
00:40:43,980 --> 00:40:47,519
not underestimate this the importance of

985
00:40:45,960 --> 00:40:49,559
this for doing controversial stuff

986
00:40:47,519 --> 00:40:51,570
systematic literature reviews the

987
00:40:49,559 --> 00:40:52,889
Institute my Institute's become experts

988
00:40:51,570 --> 00:40:55,070
in this we have something called a real

989
00:40:52,889 --> 00:40:57,869
which is rapid we have a search one

990
00:40:55,070 --> 00:41:00,600
these are the usual suspects file drawer

991
00:40:57,869 --> 00:41:02,099
nothing no reason that we shouldn't pay

992
00:41:00,599 --> 00:41:04,019
attention to that and of course the

993
00:41:02,099 --> 00:41:07,289
publishing bias who wants to publish

994
00:41:04,019 --> 00:41:10,259
negative data we need to get over that

995
00:41:07,289 --> 00:41:12,869
publishing bias this is Bill Taylor's

996
00:41:10,260 --> 00:41:19,620
stuff and we were unable to replicate

997
00:41:12,869 --> 00:41:23,699
Bill's work why I'm not sure but this

998

00:41:19,619 --> 00:41:25,109
phenomenon is amazing and I'm now

999
00:41:23,699 --> 00:41:26,639
participating in a group out of Santa

1000
00:41:25,110 --> 00:41:31,340
Barbara that's taking a good hard close

1001
00:41:26,639 --> 00:41:33,710
look at this leonetti's showed the

1002
00:41:31,340 --> 00:41:36,230
first in applause in 2005 where he did

1003
00:41:33,710 --> 00:41:39,130
statistics showing that most studies are

1004
00:41:36,230 --> 00:41:44,619
unreplicated none really talk anymore

1005
00:41:39,130 --> 00:41:47,619
replicable in mainstream science then

1006
00:41:44,619 --> 00:41:50,929
this was done in Bayer HealthCare

1007
00:41:47,619 --> 00:41:52,929
replicated two-thirds of 67 researchers

1008
00:41:50,929 --> 00:41:56,179
in the fields of oncology women's and

1009
00:41:52,929 --> 00:41:57,289
they failed to replicate two-thirds of

1010
00:41:56,179 --> 00:42:00,769
them I didn't say that right but you can

1011
00:41:57,289 --> 00:42:02,539
read it faster and I can say it farmer

1012
00:42:00,769 --> 00:42:05,300

this is pharmaceutical industry these

1013

00:42:02,539 --> 00:42:07,130

guys make trillions of dollars based

1014

00:42:05,300 --> 00:42:10,970

upon their basic research and they can't

1015

00:42:07,130 --> 00:42:12,440

replicate it the most interest are the

1016

00:42:10,969 --> 00:42:16,000

newest one that I'm aware of and there

1017

00:42:12,440 --> 00:42:19,250

may be new stuff now is in nature 2012

1018

00:42:16,000 --> 00:42:20,840

Amgen tried to replicate 53 studies that

1019

00:42:19,250 --> 00:42:22,730

considered landmarks to the basic

1020

00:42:20,840 --> 00:42:25,970

science of cancer and we're only repla

1021

00:42:22,730 --> 00:42:28,550

able to replicate six so just because

1022

00:42:25,969 --> 00:42:30,619

you're an anomalous work and you have

1023

00:42:28,550 --> 00:42:34,160

difficulty replicating it don't let

1024

00:42:30,619 --> 00:42:36,589

anybody knock you down for that this is

1025

00:42:34,159 --> 00:42:38,989

a problem that reality this is a problem

1026

00:42:36,590 --> 00:42:43,280

of science I'm not sure what that's

1027
00:42:38,989 --> 00:42:44,869
about but it is through out science this

1028
00:42:43,280 --> 00:42:46,610
is not unique to our field

1029
00:42:44,869 --> 00:42:52,819
thank you very much little ladies and

1030
00:42:46,610 --> 00:42:55,430
gentlemen thank you John

1031
00:42:52,820 --> 00:42:57,680
quick anecdote a couple months before he

1032
00:42:55,429 --> 00:43:00,559
died Jacques and I were having lunch in

1033
00:42:57,679 --> 00:43:04,190
Paris still yelling and bitching about

1034
00:43:00,559 --> 00:43:05,779
your mom and I said to him but doesn't

1035
00:43:04,190 --> 00:43:08,300
that make it more interesting and he

1036
00:43:05,780 --> 00:43:11,720
said no I want

1037
00:43:08,300 --> 00:43:13,430
replicable simple straightforward and by

1038
00:43:11,719 --> 00:43:15,289
the way I just think he was mistaken on

1039
00:43:13,429 --> 00:43:19,129
the the EEM part of it

1040
00:43:15,289 --> 00:43:21,920
a homeopathy is is the summary evidence

1041
00:43:19,130 --> 00:43:24,619
that basically sloppy pharmacology it is

1042
00:43:21,920 --> 00:43:27,470
nano pharmacology and them in the

1043
00:43:24,619 --> 00:43:29,359
industry the pharmaceutical industry not

1044
00:43:27,469 --> 00:43:31,489
through homeopathy but has realized that

1045
00:43:29,360 --> 00:43:33,559
Nano pharmacology is the future and

1046
00:43:31,489 --> 00:43:36,079
that's what Hahnemann discovered my

1047
00:43:33,559 --> 00:43:37,969
accident was essentially now and finally

1048
00:43:36,079 --> 00:43:40,519
because I have the mic we have to talk

1049
00:43:37,969 --> 00:43:42,829
on the side because I'm not finding a

1050
00:43:40,519 --> 00:43:46,550
difference with distance but we'll talk

1051
00:43:42,829 --> 00:43:48,289
yeah yes John I'm wondering if you could

1052
00:43:46,550 --> 00:43:50,690
go back your early slide because I'm

1053
00:43:48,289 --> 00:43:54,170
thinking with the one with the waves

1054
00:43:50,690 --> 00:44:06,349
that you pointed out or the real early

1055

00:43:54,170 --> 00:44:08,180
one no keep going just that one and I

1056
00:44:06,349 --> 00:44:11,269
think most people probably unfamiliar

1057
00:44:08,179 --> 00:44:12,919
with the the horizontal axis and just

1058
00:44:11,269 --> 00:44:14,300
how high the concentrations are oh you

1059
00:44:12,920 --> 00:44:17,300
might want to point thank you I jump

1060
00:44:14,300 --> 00:44:21,740
right through that so just this is

1061
00:44:17,300 --> 00:44:25,130
called 59 C which means Sentinel so it's

1062
00:44:21,739 --> 00:44:28,369
59 100-fold dilutions which translates

1063
00:44:25,130 --> 00:44:32,240
to 10 to the minus 120 a--the molar

1064
00:44:28,369 --> 00:44:33,739
there is statistically zero probability

1065
00:44:32,239 --> 00:44:36,109
of there being an active molecule there

1066
00:44:33,739 --> 00:44:38,629
so that would be remind if you go from

1067
00:44:36,110 --> 00:44:41,090
the 10 to 10 to 12 see where the

1068
00:44:38,630 --> 00:44:43,970
molecules end yeah so so all the

1069
00:44:41,090 --> 00:44:45,019

molecules are gone as you point out

1070

00:44:43,969 --> 00:44:47,449
right here

1071

00:44:45,019 --> 00:44:51,800
if Avogadro is right I'm not questioning

1072

00:44:47,449 --> 00:44:54,799
Avogadro but and yet it appears on this

1073

00:44:51,800 --> 00:44:57,769
rhythmic phenomenon going back to your

1074

00:44:54,800 --> 00:44:59,000
your allusion to early biophoton

1075

00:44:57,769 --> 00:45:00,820
research I'm wondering if you're

1076

00:44:59,000 --> 00:45:03,210
familiar that

1077

00:45:00,820 --> 00:45:06,100
grrrrr witches work was confirmed by

1078

00:45:03,210 --> 00:45:08,230
two people paid by Siemens one of whom

1079

00:45:06,099 --> 00:45:10,839
was dennis gabor who won a nobel prize

1080

00:45:08,230 --> 00:45:13,269
for a holography in 1970 I believe it

1081

00:45:10,840 --> 00:45:16,900
was yeah biophotons

1082

00:45:13,269 --> 00:45:19,420
they're gonna be the future folks it's

1083

00:45:16,900 --> 00:45:23,980
this figure I wanted to ask about I've

1084
00:45:19,420 --> 00:45:28,480
never seen possible explanations for the

1085
00:45:23,980 --> 00:45:31,929
alternation yes and I don't have a good

1086
00:45:28,480 --> 00:45:35,289
one for that but when we look at the

1087
00:45:31,929 --> 00:45:37,029
silica that is present in that and it

1088
00:45:35,289 --> 00:45:40,679
comes from the chambers that they're

1089
00:45:37,030 --> 00:45:44,860
made from the silica seems to change its

1090
00:45:40,679 --> 00:45:47,079
configuration and apparent free solution

1091
00:45:44,860 --> 00:45:49,720
concentration with this rhythm and I

1092
00:45:47,079 --> 00:45:51,549
have no idea why that is so and that's

1093
00:45:49,719 --> 00:45:55,059
it could be an epiphenomenon it's the

1094
00:45:51,550 --> 00:45:57,100
same mystery yes there there I do not

1095
00:45:55,059 --> 00:45:58,420
claim that they're still mystery here

1096
00:45:57,099 --> 00:45:59,710
folks don't don't worry about there's a

1097
00:45:58,420 --> 00:46:01,840
lifetime's worth of work here if you

1098
00:45:59,710 --> 00:46:03,610
want to go too into it just be ready for

1099
00:46:01,840 --> 00:46:05,269
the slings and arrows thank you very

1100
00:46:03,610 --> 00:46:09,289
much John thank you

1101
00:46:05,269 --> 00:46:09,288
[Applause]