

1
00:00:00,480 --> 00:00:08,429
[Music]

2
00:00:09,400 --> 00:00:15,230
so I'm gonna tonight just kind of do a

3
00:00:12,820 --> 00:00:17,629
high-level overview of kind of the type

4
00:00:15,230 --> 00:00:18,830
of stuff we do I think that's for a lot

5
00:00:17,629 --> 00:00:21,379
of you probably your first introduction

6
00:00:18,829 --> 00:00:23,509
to our work what we're probably best

7
00:00:21,379 --> 00:00:25,939
known for is our work in heart brain

8
00:00:23,509 --> 00:00:29,559
communication at the Institute of heart

9
00:00:25,939 --> 00:00:31,849
math and just a couple of high-level

10
00:00:29,559 --> 00:00:35,539
concepts here that might be surprising

11
00:00:31,849 --> 00:00:37,939
to some folks first we now know that the

12
00:00:35,539 --> 00:00:39,200
heart has its own intrinsic nervous

13
00:00:37,939 --> 00:00:41,269
system called the intrinsic cardiac

14
00:00:39,200 --> 00:00:43,160
nervous system and that's given rise to

15
00:00:41,270 --> 00:00:45,710
a new field in medicine called neural

16
00:00:43,159 --> 00:00:47,839
Cardiology and there's quite a few

17
00:00:45,710 --> 00:00:50,240
neural Cardiology groups around actually

18
00:00:47,840 --> 00:00:52,220
the world internationally and it's so it

19
00:00:50,240 --> 00:00:53,989
was really in 1991 I think the first

20
00:00:52,219 --> 00:00:56,000
official publication kind of came out

21
00:00:53,988 --> 00:00:57,229
and the academic literature claiming

22
00:00:56,000 --> 00:00:59,780
that the heart has its own intrinsic

23
00:00:57,229 --> 00:01:01,279
brain though the heart brain and this is

24
00:00:59,780 --> 00:01:04,489
not metaphorically they mean it's quite

25
00:01:01,280 --> 00:01:06,409
literally the other thing that's

26
00:01:04,489 --> 00:01:08,960
actually been known since the late 1800s

27
00:01:06,409 --> 00:01:10,159
might surprise some folks is that the

28
00:01:08,959 --> 00:01:12,618
heart if we're looking at the nervous

29

00:01:10,159 --> 00:01:13,939
system neroli the heart sends far more

30
00:01:12,618 --> 00:01:16,700
information to the brain and the brain

31
00:01:13,938 --> 00:01:19,908
sends to the heart so we all know that

32
00:01:16,700 --> 00:01:21,740
the perceptions at the brain level you

33
00:01:19,909 --> 00:01:23,478
know we see a dog jumping at us or an

34
00:01:21,739 --> 00:01:26,118
ear car accident held on that affects

35
00:01:23,478 --> 00:01:27,498
the heart in the body of course that's

36
00:01:26,118 --> 00:01:29,299
all true through the vertical the

37
00:01:27,498 --> 00:01:33,078
efferent pathways in the nervous system

38
00:01:29,299 --> 00:01:34,459
but the afferents we look at the

39
00:01:33,078 --> 00:01:37,188
parasympathetic side of the autonomic

40
00:01:34,459 --> 00:01:39,259
nervous system mighty percent of the

41
00:01:37,188 --> 00:01:41,328
fibers into the two vagal nerves which

42
00:01:39,259 --> 00:01:43,459
are very large nervous over 3,000 fibers

43
00:01:41,328 --> 00:01:46,368

in each one ninety percent of those are

44

00:01:43,459 --> 00:01:48,528

afferent or ascending pathways and the

45

00:01:46,368 --> 00:01:50,049

majority of those come from the heart so

46

00:01:48,528 --> 00:01:52,968

the signals that the heart seems to the

47

00:01:50,049 --> 00:01:55,310

to the brain profoundly affect brain

48

00:01:52,968 --> 00:01:56,809

function perception they actually give

49

00:01:55,310 --> 00:01:58,819

rise to a lot to a great deal to

50

00:01:56,810 --> 00:02:01,659

emotional experience these kind of

51

00:01:58,819 --> 00:02:04,159

things so that's a lot of what of our

52

00:02:01,659 --> 00:02:07,490

work in psychophysiology has been about

53

00:02:04,159 --> 00:02:09,618

over the last 20 years so here's just

54

00:02:07,489 --> 00:02:10,879

some photos for those that are view that

55

00:02:09,618 --> 00:02:13,759

it might be from Azura like I am

56

00:02:10,879 --> 00:02:16,280

originally in the show-me-state right of

57

00:02:13,759 --> 00:02:17,929

the intrinsic cardiac nervous system in

58
00:02:16,280 --> 00:02:21,060
the human heart so here we're looking at

59
00:02:17,930 --> 00:02:23,969
cardiac ganglia I've got a oh it's

60
00:02:21,060 --> 00:02:27,180
here in my hand these little blobs here

61
00:02:23,969 --> 00:02:28,109
and at this level of magnification main

62
00:02:27,180 --> 00:02:30,810
thing is to see is that they're

63
00:02:28,110 --> 00:02:32,640
interconnected now ganglia if you're not

64
00:02:30,810 --> 00:02:34,860
familiar with the neural neurology side

65
00:02:32,639 --> 00:02:37,139
of things is just a term given to a

66
00:02:34,860 --> 00:02:38,640
functional group of neurons that are all

67
00:02:37,139 --> 00:02:41,009
wired together that process information

68
00:02:38,639 --> 00:02:43,318
and do functional things they're found

69
00:02:41,009 --> 00:02:45,269
outside of the brain that same blob and

70
00:02:43,318 --> 00:02:47,369
neurons it was up here in her head it

71
00:02:45,269 --> 00:02:49,080
could be an inner laminate nuclei or the

72
00:02:47,370 --> 00:02:51,030
central core of the amygdala or any of

73
00:02:49,080 --> 00:02:53,730
the other brain centers written that we

74
00:02:51,030 --> 00:02:56,640
talked about so now we go in another

75
00:02:53,729 --> 00:02:58,829
level of magnification into one of these

76
00:02:56,639 --> 00:03:01,199
cardiac ganglia so each one of the

77
00:02:58,830 --> 00:03:03,840
little round things is a neuron right

78
00:03:01,199 --> 00:03:05,518
now it's interesting the same recording

79
00:03:03,840 --> 00:03:07,080
techniques used to demonstrate both

80
00:03:05,519 --> 00:03:09,390
short and long term memory like in

81
00:03:07,080 --> 00:03:12,719
hippocampal neurons for example have

82
00:03:09,389 --> 00:03:15,479
been used in these cardiac neurons have

83
00:03:12,719 --> 00:03:16,799
both short and long term memory and have

84
00:03:15,479 --> 00:03:18,598
all the basic kind of information

85
00:03:16,799 --> 00:03:20,700
processing characteristics of the

86

00:03:18,598 --> 00:03:22,889
neurons we find in most of the neurons

87
00:03:20,699 --> 00:03:25,619
in the brain fact a lot of these neurons

88
00:03:22,889 --> 00:03:28,039
were named after cranial neurons because

89
00:03:25,620 --> 00:03:31,409
they're basically the same neuron

90
00:03:28,039 --> 00:03:33,900
actually look like little brains now the

91
00:03:31,409 --> 00:03:35,189
next I don't have that slide I'm having

92
00:03:33,900 --> 00:03:37,230
to cut a lot out of my normal

93
00:03:35,189 --> 00:03:39,659
presentation here so this just shows you

94
00:03:37,229 --> 00:03:41,759
the distribution so all these dots are

95
00:03:39,659 --> 00:03:43,620
the location of these cardiac intrinsic

96
00:03:41,759 --> 00:03:45,149
cardiac ganglia again that are all

97
00:03:43,620 --> 00:03:47,759
distributed so that's the brain part

98
00:03:45,150 --> 00:03:50,639
that we're talking about Dan there's

99
00:03:47,759 --> 00:03:53,370
about 40,000 sensory neurons again these

100
00:03:50,639 --> 00:03:55,920

have been known about for for many many

101

00:03:53,370 --> 00:03:59,579
many years since the late 1800s

102

00:03:55,919 --> 00:04:01,768
these are sensory neurons so some of you

103

00:03:59,579 --> 00:04:04,019
that have a physiology background might

104

00:04:01,769 --> 00:04:05,579
know it borrow receptors that a familiar

105

00:04:04,019 --> 00:04:07,709
term some of you borrow meaning pressure

106

00:04:05,579 --> 00:04:10,230
so these are the types of neurons that

107

00:04:07,709 --> 00:04:12,060
were talked about for years and a lot of

108

00:04:10,229 --> 00:04:14,939
hypotheses and so on and so on about

109

00:04:12,060 --> 00:04:16,918
heart brain communication what we now

110

00:04:14,939 --> 00:04:18,089
know is that only about out of these

111

00:04:16,918 --> 00:04:19,949
40,000 neurons

112

00:04:18,089 --> 00:04:22,409
only 20% are what are now called

113

00:04:19,949 --> 00:04:23,939
mechanosensitive neurons looking at

114

00:04:22,410 --> 00:04:27,320
pressure rhythm rate these kinds of

115
00:04:23,939 --> 00:04:30,209
mechanical functions the other 80% are

116
00:04:27,319 --> 00:04:33,610
sensitive to biochemistry a chemo

117
00:04:30,209 --> 00:04:35,019
receptive neurons so each one is a multi

118
00:04:33,610 --> 00:04:37,330
functional neuron so you have a certain

119
00:04:35,019 --> 00:04:38,649
biochemical whether it's a hormone or a

120
00:04:37,329 --> 00:04:40,538
neurotransmitter or whatever in the

121
00:04:38,649 --> 00:04:42,519
blood flow these neurons give a very

122
00:04:40,538 --> 00:04:43,990
specific output but it in a different

123
00:04:42,519 --> 00:04:46,180
hormone or neurotransmitter if you get a

124
00:04:43,990 --> 00:04:49,269
very different specific output from the

125
00:04:46,180 --> 00:04:50,468
same neuron so it's a far more complex

126
00:04:49,269 --> 00:04:53,198
picture than what was previously

127
00:04:50,468 --> 00:04:54,759
understood or believed and there's also

128
00:04:53,199 --> 00:04:55,810
a lot of evidence now as I'll get to in

129
00:04:54,759 --> 00:04:57,788
the second part of what I'm going to

130
00:04:55,810 --> 00:05:00,699
talk about that these neurons are not

131
00:04:57,788 --> 00:05:04,228
only sensitive to rhythm rate mechanical

132
00:05:00,699 --> 00:05:15,158
forces and chemical type things but also

133
00:05:04,228 --> 00:05:17,378
magnetic fields okay so the heart is by

134
00:05:15,158 --> 00:05:20,468
far the largest source of rhythmic

135
00:05:17,379 --> 00:05:22,150
activity in the human body and it's

136
00:05:20,468 --> 00:05:23,889
there's really four primary ways that

137
00:05:22,149 --> 00:05:26,378
the heart communicates with the brain

138
00:05:23,889 --> 00:05:28,449
and body neurologically I was just

139
00:05:26,379 --> 00:05:32,500
talking about through the the autonomic

140
00:05:28,449 --> 00:05:33,550
nervous system biochemically so in 1984

141
00:05:32,500 --> 00:05:35,110
I think it was the heart was

142
00:05:33,550 --> 00:05:37,960
reclassified as part of the endocrine

143

00:05:35,110 --> 00:05:40,419
system the first hormone discovered is

144
00:05:37,959 --> 00:05:43,359
now called atrial peptide used to be

145
00:05:40,418 --> 00:05:46,500
called ANF A&P nicknamed the balanced

146
00:05:43,360 --> 00:05:48,490
hormone as wide pretty wide-ranging

147
00:05:46,500 --> 00:05:50,829
receptors throughout the body brain and

148
00:05:48,490 --> 00:05:52,210
body adrenal glands and so on then it

149
00:05:50,829 --> 00:05:54,609
was discovered at the heart secretes the

150
00:05:52,209 --> 00:05:56,439
catecholamines dopamine epinephrine

151
00:05:54,610 --> 00:05:58,180
norepinephrine and so on are actually

152
00:05:56,439 --> 00:06:03,639
created and produced by the heart

153
00:05:58,180 --> 00:06:06,038
most recently oxytocin is the most

154
00:06:03,639 --> 00:06:07,509
recent one to be discovered that goes

155
00:06:06,038 --> 00:06:10,088
back about four or five years now I

156
00:06:07,509 --> 00:06:11,919
guess time's going pretty fast it's hard

157
00:06:10,088 --> 00:06:14,848

to keep track of it but anyway the heart

158

00:06:11,918 --> 00:06:17,859

produces as much oxytocin as the brain

159

00:06:14,848 --> 00:06:19,628

so I think it's pretty cool we find that

160

00:06:17,860 --> 00:06:21,610

the hardest a source of oxytocin of

161

00:06:19,629 --> 00:06:23,408

course the media loves to call oxytocin

162

00:06:21,610 --> 00:06:26,588

a bonding hormone the love hormone and

163

00:06:23,408 --> 00:06:30,098

so on and a lot of leased research don't

164

00:06:26,588 --> 00:06:33,759

on an oxytocin these days fourth pathway

165

00:06:30,098 --> 00:06:35,649

is energetically again I'll talk more

166

00:06:33,759 --> 00:06:38,889

about that but the electromagnetic and

167

00:06:35,649 --> 00:06:41,228

magnetic fields so the heart is

168

00:06:38,889 --> 00:06:44,288

basically uniquely positioned to act as

169

00:06:41,228 --> 00:06:46,409

a global coordinator if you will in the

170

00:06:44,288 --> 00:06:48,240

body sympathy of all the functions

171

00:06:46,410 --> 00:06:49,500

so it helps bind and synchronize the

172
00:06:48,240 --> 00:06:51,210
activity across to all the different

173
00:06:49,500 --> 00:06:54,060
systems in a body because here we have a

174
00:06:51,209 --> 00:06:56,759
single organ that's the primary system

175
00:06:54,060 --> 00:06:58,079
in the neurological system right sending

176
00:06:56,759 --> 00:07:00,329
more information to the brain and all

177
00:06:58,079 --> 00:07:03,750
the way around screening hormones also

178
00:07:00,329 --> 00:07:05,939
sensitive to hormones by a physical

179
00:07:03,750 --> 00:07:07,290
aspect is the pulse and when we feel the

180
00:07:05,939 --> 00:07:09,209
pulse you're feeling the pressure wave

181
00:07:07,290 --> 00:07:11,550
not the flow of blood so that pressure

182
00:07:09,209 --> 00:07:13,859
wave has a synchronizing effect of all

183
00:07:11,550 --> 00:07:15,689
the cells in the body as well like if we

184
00:07:13,860 --> 00:07:18,270
do EEG s and synchronize to that you can

185
00:07:15,689 --> 00:07:20,009
see very clear effects of the pulse wave

186
00:07:18,269 --> 00:07:23,189
synchronizing neural activity for

187
00:07:20,009 --> 00:07:24,420
example well it turns out being a very

188
00:07:23,189 --> 00:07:26,699
useful measure and I heard somebody

189
00:07:24,420 --> 00:07:28,379
mention this in a presentation earlier

190
00:07:26,699 --> 00:07:31,019
today I forget who it was about heart

191
00:07:28,379 --> 00:07:32,759
rate variability it used to be thought

192
00:07:31,019 --> 00:07:34,740
that a sign of good health was a steady

193
00:07:32,759 --> 00:07:36,329
heart rhythm so physicians not that many

194
00:07:34,740 --> 00:07:38,660
years ago we're taught that if you want

195
00:07:36,329 --> 00:07:41,099
a steady heart rate rhythm you know

196
00:07:38,660 --> 00:07:42,330
unless you do some exercise climb the

197
00:07:41,100 --> 00:07:45,000
stairs and your heart rate it'll kind of

198
00:07:42,329 --> 00:07:48,359
slowly change and all that completely

199
00:07:45,000 --> 00:07:50,550
wrong well we now know is that a healthy

200

00:07:48,360 --> 00:07:52,560
individual our heart rate changes with

201
00:07:50,550 --> 00:07:56,160
every heartbeat it's going on right now

202
00:07:52,560 --> 00:07:58,550
setting this administration trinsic beat

203
00:07:56,160 --> 00:08:01,770
to beat variability turns out to be a

204
00:07:58,550 --> 00:08:04,590
fundamental and key reflector of

205
00:08:01,769 --> 00:08:07,379
resilience vitality or overall kind of

206
00:08:04,589 --> 00:08:08,489
health status it's a loss of this heart

207
00:08:07,379 --> 00:08:10,769
rate variability this intrinsic

208
00:08:08,490 --> 00:08:14,610
variability is a better predictor of

209
00:08:10,769 --> 00:08:17,310
future adverse health comes like death

210
00:08:14,610 --> 00:08:19,650
pretty good adverse then what your blood

211
00:08:17,310 --> 00:08:23,040
pressure is whether you smoke or not

212
00:08:19,649 --> 00:08:26,750
what your exercise level is okay so it's

213
00:08:23,040 --> 00:08:29,610
a very powerful predictive measure so

214
00:08:26,750 --> 00:08:31,199

pretty simple it's you measure the beat

215

00:08:29,610 --> 00:08:32,909

between the time between each and every

216

00:08:31,199 --> 00:08:34,500

heartbeat okay now that's a completely

217

00:08:32,909 --> 00:08:35,668

different than heart rate right which is

218

00:08:34,500 --> 00:08:38,309

just how many times did it beat in a

219

00:08:35,668 --> 00:08:40,019

minute the average of all that so then

220

00:08:38,309 --> 00:08:41,759

you measure that in milliseconds and

221

00:08:40,019 --> 00:08:43,348

then I plotted it here in beats per

222

00:08:41,759 --> 00:08:44,460

minute just because our brains work

223

00:08:43,349 --> 00:08:46,470

better and beats per minute than

224

00:08:44,460 --> 00:08:48,930

milliseconds and plot that beat per

225

00:08:46,470 --> 00:08:50,370

minute equivalent okay then do that for

226

00:08:48,929 --> 00:08:51,889

each beat and connect the dots and

227

00:08:50,370 --> 00:08:55,860

that's what creates the heart rhythm

228

00:08:51,889 --> 00:08:59,279

makes sense okay so again you want

229
00:08:55,860 --> 00:09:00,250
variability so this is what it looks

230
00:08:59,279 --> 00:09:01,600
like that was just a few

231
00:09:00,250 --> 00:09:05,710
seconds now here we're looking at a few

232
00:09:01,600 --> 00:09:08,830
minutes of it so when the range of it or

233
00:09:05,710 --> 00:09:10,750
the amplitude okay how this intrinsic

234
00:09:08,830 --> 00:09:12,639
this is resting state here by the way

235
00:09:10,750 --> 00:09:14,740
both of these and these two graphs are

236
00:09:12,639 --> 00:09:17,860
from the same individual so the

237
00:09:14,740 --> 00:09:19,360
amplitude of it that's age dependent we

238
00:09:17,860 --> 00:09:21,610
have more of it when we're young and it

239
00:09:19,360 --> 00:09:24,250
gets less as we age in fact if we bring

240
00:09:21,610 --> 00:09:26,620
you into the lab or out clinically major

241
00:09:24,250 --> 00:09:29,230
you're HRV I can tell within about two

242
00:09:26,620 --> 00:09:31,870
years how old you are if you're on a

243
00:09:29,230 --> 00:09:33,279
healthy trajectory all right of course

244
00:09:31,870 --> 00:09:34,539
you got a lot of stress and wear and

245
00:09:33,279 --> 00:09:37,929
tear going on and that's gonna be lower

246
00:09:34,539 --> 00:09:43,199
than it should be I'm for your for your

247
00:09:37,929 --> 00:09:46,359
age so the two graphs same person so of

248
00:09:43,200 --> 00:09:48,370
course we're interested in amplitude but

249
00:09:46,360 --> 00:09:50,500
there's something else quite different

250
00:09:48,370 --> 00:09:52,539
here you know this is the same person in

251
00:09:50,500 --> 00:09:55,950
fact the amount of variability the range

252
00:09:52,539 --> 00:09:58,449
of it is identical in these two graphs

253
00:09:55,950 --> 00:09:59,740
and in this particular study that in

254
00:09:58,450 --> 00:10:01,090
fact this was a study published in the

255
00:09:59,740 --> 00:10:04,560
American Journal Cardiology's where this

256
00:10:01,090 --> 00:10:06,580
data came from back in the early 90s the

257

00:10:04,559 --> 00:10:08,229
we just have a lot of fun in the lab

258
00:10:06,580 --> 00:10:10,360
finding new creative ways to get people

259
00:10:08,230 --> 00:10:13,180
frustrated and irritated and things like

260
00:10:10,360 --> 00:10:14,620
that or in positive states they kept

261
00:10:13,179 --> 00:10:16,929
getting on to us you know and we had to

262
00:10:14,620 --> 00:10:18,220
come up with new ways to do it but on

263
00:10:16,929 --> 00:10:19,809
the top when all we did was get them

264
00:10:18,220 --> 00:10:22,210
frustrated kind of irritated and

265
00:10:19,809 --> 00:10:24,189
frustrated and once you see happen is

266
00:10:22,210 --> 00:10:26,200
that the the heart's rhythm the pattern

267
00:10:24,190 --> 00:10:29,110
becomes very chaotic looking very edgy

268
00:10:26,200 --> 00:10:30,520
and jerky looking okay so if you're just

269
00:10:29,110 --> 00:10:32,050
looking at changes in how much

270
00:10:30,519 --> 00:10:33,610
variability goes on which a lot of

271
00:10:32,049 --> 00:10:36,099

people as all people had done till that

272

00:10:33,610 --> 00:10:38,529

time versus having a mental loving or

273

00:10:36,100 --> 00:10:40,870

caring compassionate state for example

274

00:10:38,529 --> 00:10:43,659

you come away with the answer of no

275

00:10:40,870 --> 00:10:46,240

difference is the amount of variability

276

00:10:43,659 --> 00:10:50,169

is not what was changing right but it's

277

00:10:46,240 --> 00:10:52,180

the pattern okay so in that top graph

278

00:10:50,169 --> 00:10:54,579

with frustration what that's reflecting

279

00:10:52,179 --> 00:10:57,549

or telling us about the physiology is

280

00:10:54,580 --> 00:10:58,870

that the activity in the autonomic

281

00:10:57,549 --> 00:11:01,809

nervous system is sympathetic and the

282

00:10:58,870 --> 00:11:03,100

parasympathetic is that a sync it's like

283

00:11:01,809 --> 00:11:04,359

driving your car with one foot and a

284

00:11:03,100 --> 00:11:06,550

brake and you're an accelerator at the

285

00:11:04,360 --> 00:11:08,919

same time not a good idea that your

286
00:11:06,549 --> 00:11:11,289
drive your car that way right can use a

287
00:11:08,919 --> 00:11:12,278
lot more gas but more stress and strain

288
00:11:11,289 --> 00:11:14,509
on the drug

289
00:11:12,278 --> 00:11:18,370
drivetrain breaks and so on we're I'm

290
00:11:14,509 --> 00:11:21,919
out faster same thing is true in us okay

291
00:11:18,370 --> 00:11:23,328
so that's why these types of emotions

292
00:11:21,919 --> 00:11:25,699
that have a depleting effect on our

293
00:11:23,328 --> 00:11:29,120
psychophysiology and and over time lead

294
00:11:25,700 --> 00:11:30,649
to lowered variability same person just

295
00:11:29,120 --> 00:11:33,649
switched here we just had them use a

296
00:11:30,649 --> 00:11:35,360
technique it's one of the calm heart

297
00:11:33,649 --> 00:11:37,970
focused techniques allow you to shift

298
00:11:35,360 --> 00:11:40,370
into what we call a coherent state now

299
00:11:37,970 --> 00:11:43,009
many years later which is this sine wave

300
00:11:40,370 --> 00:11:45,289
pattern it's about a 10-second rhythm so

301
00:11:43,009 --> 00:11:45,740
the frequency of that rhythm is 0.1

302
00:11:45,289 --> 00:11:48,169
Hertz

303
00:11:45,740 --> 00:11:50,690
I mentioned X that's going to come back

304
00:11:48,169 --> 00:11:53,299
again later in the presentation but here

305
00:11:50,690 --> 00:11:54,500
you have nice high variability like

306
00:11:53,299 --> 00:11:55,849
you'd want to see but it's that

307
00:11:54,500 --> 00:11:58,028
reciprocal action that you talked about

308
00:11:55,850 --> 00:12:00,740
in the textbooks and autonomic function

309
00:11:58,028 --> 00:12:02,539
okay what it turns out many studies

310
00:12:00,740 --> 00:12:05,509
later is that this ends up being the

311
00:12:02,539 --> 00:12:07,189
really the optimal the rhythm if you

312
00:12:05,509 --> 00:12:09,708
will or the physiology of optimal

313
00:12:07,190 --> 00:12:11,329
function so we now know that if you're

314

00:12:09,708 --> 00:12:13,518
in this just switching between a normal

315
00:12:11,328 --> 00:12:15,769
state not even this chaotic in this

316
00:12:13,519 --> 00:12:17,480
coherent state that recruit increases

317
00:12:15,769 --> 00:12:20,028
your reaction times by about 37

318
00:12:17,480 --> 00:12:21,949
milliseconds so the brain is a big

319
00:12:20,028 --> 00:12:24,409
winner right I'll show you some of the

320
00:12:21,948 --> 00:12:28,370
pathways shortly on that back here they

321
00:12:24,409 --> 00:12:30,259
are so again we've had the Hartson and

322
00:12:28,370 --> 00:12:32,750
all the stuff this a French or sending

323
00:12:30,259 --> 00:12:36,230
information stops off at the brain stem

324
00:12:32,750 --> 00:12:38,750
here but there's a very direct strong

325
00:12:36,230 --> 00:12:40,579
neural pathway directly to its called

326
00:12:38,750 --> 00:12:43,519
the thalamus the very core of our brain

327
00:12:40,578 --> 00:12:46,099
Thomas has many roles century of

328
00:12:43,519 --> 00:12:48,230

distribution for perception these kinds

329

00:12:46,100 --> 00:12:49,970
of things but another role of the

330

00:12:48,230 --> 00:12:53,269
thalamus is that it's the center that

331

00:12:49,970 --> 00:12:57,079
synchronizes the electrical activity of

332

00:12:53,269 --> 00:13:00,198
all the neurons in our cortex okay and

333

00:12:57,078 --> 00:13:02,479
of course we have to have a system has

334

00:13:00,198 --> 00:13:04,099
to be in sync type what we call global

335

00:13:02,480 --> 00:13:06,860
coherence to really perform optimally

336

00:13:04,100 --> 00:13:08,810
so if we're in this desynchronized state

337

00:13:06,860 --> 00:13:10,519
this rhythm here that's the rhythm

338

00:13:08,809 --> 00:13:14,119
that's directly impinging on the

339

00:13:10,519 --> 00:13:16,639
thalamus simply said it inhibits the

340

00:13:14,120 --> 00:13:19,250
thalamus ability to synchronize all the

341

00:13:16,639 --> 00:13:21,230
neurons in our cortex easiest way to

342

00:13:19,250 --> 00:13:23,419
measure this in laboratory type settings

343
00:13:21,230 --> 00:13:25,430
is reaction time cast coordination tasks

344
00:13:23,419 --> 00:13:26,059
things like this Ben dental labs all

345
00:13:25,429 --> 00:13:28,459
over the world

346
00:13:26,059 --> 00:13:31,449
and not just ours and that in fact the

347
00:13:28,460 --> 00:13:34,220
term given to this effect in the 1970s

348
00:13:31,450 --> 00:13:36,470
by the Lacy's a very famous

349
00:13:34,220 --> 00:13:38,779
psychophysiology research couple a man

350
00:13:36,470 --> 00:13:40,220
and wife team was cortical inhibition to

351
00:13:38,779 --> 00:13:42,709
describe the effect that the heart was

352
00:13:40,220 --> 00:13:44,960
having on the brain so it's a global

353
00:13:42,710 --> 00:13:47,540
effect so that we can measure it easily

354
00:13:44,960 --> 00:13:49,280
these reaction-time tests and so on that

355
00:13:47,539 --> 00:13:50,269
doesn't mean that that's the part of the

356
00:13:49,279 --> 00:13:52,909
brain that's the most profoundly

357
00:13:50,269 --> 00:13:54,470
affected or the most important so we've

358
00:13:52,909 --> 00:13:56,899
got all this frontal cortical stuff up

359
00:13:54,470 --> 00:13:59,750
here right which gives rise to things

360
00:13:56,899 --> 00:14:01,909
like foresight right the ability to

361
00:13:59,750 --> 00:14:03,950
understand what our actions and the now

362
00:14:01,909 --> 00:14:06,019
are going to do in the future it's what

363
00:14:03,950 --> 00:14:07,009
our animal friends don't have right they

364
00:14:06,019 --> 00:14:10,429
have hindsight memory but not

365
00:14:07,009 --> 00:14:12,259
necessarily foresight so goal setting

366
00:14:10,429 --> 00:14:15,049
planning discrimination of appropriate

367
00:14:12,259 --> 00:14:17,419
behavior abstract thinking all these

368
00:14:15,049 --> 00:14:20,539
functions are from the frontal part of

369
00:14:17,419 --> 00:14:22,990
the brain for those functions to perform

370
00:14:20,539 --> 00:14:25,899
optimally they need a pretty

371

00:14:22,990 --> 00:14:28,070
well-defined degree of synchronization

372
00:14:25,899 --> 00:14:31,220
so when we're in this D synchronized

373
00:14:28,070 --> 00:14:35,379
state they're the ones that are kind of

374
00:14:31,220 --> 00:14:37,370
taken offline first you know make sense

375
00:14:35,379 --> 00:14:40,129
probably no one in here has ever had the

376
00:14:37,370 --> 00:14:42,139
experience I'll admit I did once where

377
00:14:40,129 --> 00:14:44,210
you're talking with maybe your spouse or

378
00:14:42,139 --> 00:14:45,230
a colleague or something and they say or

379
00:14:44,210 --> 00:14:48,500
do something that gets you a little

380
00:14:45,230 --> 00:14:52,009
upset and then you say or do something

381
00:14:48,500 --> 00:14:54,470
that a minute later you're going oh my

382
00:14:52,009 --> 00:14:56,569
god I can't believe I just did that or

383
00:14:54,470 --> 00:15:00,529
said dad nobody's ever done that right

384
00:14:56,570 --> 00:15:03,710
yeah I'll bet loud you know people yeah

385
00:15:00,529 --> 00:15:04,909

who've done that yes right so that's

386

00:15:03,710 --> 00:15:06,710

what I just described is really

387

00:15:04,909 --> 00:15:09,199

simplifies the physiology of that effect

388

00:15:06,710 --> 00:15:11,120

and we get upset or we get into a day

389

00:15:09,200 --> 00:15:14,379

synchronized state cortical inhibition

390

00:15:11,120 --> 00:15:16,970

and then we say or do the dumb thing

391

00:15:14,379 --> 00:15:20,059

that usually costs a lot more stress and

392

00:15:16,970 --> 00:15:24,529

a lot more time waste and and so on so

393

00:15:20,059 --> 00:15:26,239

the point of what I have a lot less

394

00:15:24,529 --> 00:15:28,539

slides in here my thought is to be able

395

00:15:26,240 --> 00:15:31,629

to shift into that coherent state before

396

00:15:28,539 --> 00:15:34,399

we do the thing that we later regret

397

00:15:31,629 --> 00:15:36,439

okay that's what a lot of the hard math

398

00:15:34,399 --> 00:15:37,970

tools and techniques are about is to

399

00:15:36,440 --> 00:15:38,740

allow us to self-regulate to get more

400
00:15:37,970 --> 00:15:40,820
coherent

401
00:15:38,740 --> 00:15:43,639
to bring in what we call heart

402
00:15:40,820 --> 00:15:45,290
intelligence so what I don't have time

403
00:15:43,639 --> 00:15:47,509
to show you tonight is following up on

404
00:15:45,289 --> 00:15:50,569
some of Dien studies with precognition

405
00:15:47,509 --> 00:15:53,299
as he called it we also looked at a eg

406
00:15:50,570 --> 00:15:55,820
heart heart brain dynamics in the study

407
00:15:53,299 --> 00:15:57,500
world we showed photographs you know and

408
00:15:55,820 --> 00:15:59,480
found that at least in our study it was

409
00:15:57,500 --> 00:16:00,710
the heart that shifted first sent

410
00:15:59,480 --> 00:16:02,990
literally a different neurological

411
00:16:00,710 --> 00:16:05,030
message to the brain and then you saw a

412
00:16:02,990 --> 00:16:07,370
brain response all this many seconds

413
00:16:05,029 --> 00:16:08,829
before the photo so I think it's some

414
00:16:07,370 --> 00:16:10,789
pretty good evidence that the

415
00:16:08,830 --> 00:16:13,129
philosophers and great religions have

416
00:16:10,789 --> 00:16:14,959
been right all along you know they talk

417
00:16:13,129 --> 00:16:17,090
about the heart being the primary center

418
00:16:14,960 --> 00:16:20,480
or access to wisdom to the intuition and

419
00:16:17,090 --> 00:16:22,250
these types of things okay so kind of

420
00:16:20,480 --> 00:16:24,620
switching gears now into the other half

421
00:16:22,250 --> 00:16:27,799
of what I was asked to talk about in my

422
00:16:24,620 --> 00:16:30,169
invitation letter we've done a fair

423
00:16:27,799 --> 00:16:31,699
amount of work really looking at

424
00:16:30,169 --> 00:16:34,309
interconnectivity that's really where

425
00:16:31,700 --> 00:16:35,900
our passions are these days I mean I'm

426
00:16:34,309 --> 00:16:37,369
actually funded now I do I've got three

427
00:16:35,899 --> 00:16:39,319
different military contracts that we're

428

00:16:37,370 --> 00:16:40,820
doing pre deployment studies and this

429
00:16:39,320 --> 00:16:43,490
kinds of things measuring hormones and

430
00:16:40,820 --> 00:16:45,170
all kinds of neat stuff but that pays

431
00:16:43,490 --> 00:16:48,049
the bills but really our passions are

432
00:16:45,169 --> 00:16:50,299
about interconnectivity it's where we're

433
00:16:48,049 --> 00:16:52,909
really about so we've done some stuff

434
00:16:50,299 --> 00:16:57,229
over the years that look at how the

435
00:16:52,909 --> 00:16:58,100
heart radiates magnetic signals now of

436
00:16:57,230 --> 00:16:59,269
course when we measure the

437
00:16:58,100 --> 00:17:01,399
electrocardiogram you're putting

438
00:16:59,269 --> 00:17:02,899
electrodes on the body and you're

439
00:17:01,399 --> 00:17:05,539
measuring the electrical component

440
00:17:02,899 --> 00:17:06,859
whether that's EEG or whatever but of

441
00:17:05,539 --> 00:17:08,420
course whenever there's a flow of ions

442
00:17:06,859 --> 00:17:13,039

or electrical current you create a

443

00:17:08,420 --> 00:17:14,660

magnetic field and human tissue is

444

00:17:13,039 --> 00:17:17,359

pretty transparent to magnetic fields

445

00:17:14,660 --> 00:17:19,610

and the magnetic field of the heart

446

00:17:17,359 --> 00:17:22,099

radiates out into space with a squid

447

00:17:19,609 --> 00:17:24,919

based magnetometer you can measure the

448

00:17:22,099 --> 00:17:26,480

cardiac field just under three feet from

449

00:17:24,920 --> 00:17:28,340

the body we can do electrostatic

450

00:17:26,480 --> 00:17:30,589

measurements in our own lab almost that

451

00:17:28,339 --> 00:17:32,599

far with things that are much less

452

00:17:30,589 --> 00:17:35,149

expensive in squid based magnetometers

453

00:17:32,599 --> 00:17:38,119

this is the shape of the magnetic field

454

00:17:35,150 --> 00:17:40,250

it is a toroidal shape course it doesn't

455

00:17:38,119 --> 00:17:42,049

really stop at the knees or nor is this

456

00:17:40,250 --> 00:17:45,799

the right orientation exactly very

457
00:17:42,049 --> 00:17:48,169
complex kind of spiraling field but step

458
00:17:45,799 --> 00:17:50,419
two of what we then did to say okay well

459
00:17:48,170 --> 00:17:52,100
if we look at these fields is there

460
00:17:50,420 --> 00:17:53,960
information

461
00:17:52,099 --> 00:17:55,189
coated in these fields that is related

462
00:17:53,960 --> 00:17:58,100
back to the heart rhythm and our

463
00:17:55,190 --> 00:18:01,580
emotions and sure enough we found it

464
00:17:58,099 --> 00:18:03,409
there was and I have to give also credit

465
00:18:01,579 --> 00:18:05,569
I see Gary's here tonight we were kind

466
00:18:03,410 --> 00:18:08,750
of doing the same stuff at the same time

467
00:18:05,569 --> 00:18:11,240
without each other knowing it it's kind

468
00:18:08,750 --> 00:18:14,089
of neat to have it and I figured out

469
00:18:11,240 --> 00:18:16,269
simultaneously I'm not sure who actually

470
00:18:14,089 --> 00:18:18,859
did it first but then really matter

471
00:18:16,269 --> 00:18:20,750
anyway if you look there is a

472
00:18:18,859 --> 00:18:23,000
mathematical relationship between the

473
00:18:20,750 --> 00:18:24,169
heart's rhythm the HRV patterns I was

474
00:18:23,000 --> 00:18:25,940
showing you earlier and these

475
00:18:24,169 --> 00:18:29,179
information patterns as I call them in

476
00:18:25,940 --> 00:18:31,970
the magnetic field okay

477
00:18:29,179 --> 00:18:33,380
just reading by the heart and everything

478
00:18:31,970 --> 00:18:34,400
goes on in between but you can kind of

479
00:18:33,380 --> 00:18:35,960
see that and when you're in that

480
00:18:34,400 --> 00:18:38,990
frustrated or incoherent state you've

481
00:18:35,960 --> 00:18:41,329
got a pretty flat KN chaotic spectrum

482
00:18:38,990 --> 00:18:43,370
and in the coherent state you get a nice

483
00:18:41,329 --> 00:18:44,589
series of standing waves and and

484
00:18:43,369 --> 00:18:47,149
actually if you look at different

485

00:18:44,589 --> 00:18:48,589
specific emotions you can actually start

486
00:18:47,150 --> 00:18:53,210
seeing different frequency structures

487
00:18:48,589 --> 00:18:54,649
that are rather emotion specific so

488
00:18:53,210 --> 00:18:56,450
we've done a bunch of things I'm just

489
00:18:54,650 --> 00:18:58,610
gonna just do the time show you a couple

490
00:18:56,450 --> 00:19:00,080
a lot of you've seen the experiments

491
00:18:58,609 --> 00:19:01,490
that we did with my son and his dog it's

492
00:19:00,079 --> 00:19:03,019
kind of gotten famous so I'm not gonna

493
00:19:01,490 --> 00:19:05,179
show that one tonight

494
00:19:03,019 --> 00:19:07,190
but here's Ellen and Tonopah so this is

495
00:19:05,179 --> 00:19:10,788
looking at the connectivity between

496
00:19:07,190 --> 00:19:12,169
humans and horses so this is the heart

497
00:19:10,788 --> 00:19:13,669
rate variability the heart rhythm of

498
00:19:12,169 --> 00:19:15,919
Ellen that we're seeing up here and then

499
00:19:13,669 --> 00:19:17,360

here's Tonopah the horse and this is an

500

00:19:15,919 --> 00:19:19,880
energetic experiment there is no

501

00:19:17,359 --> 00:19:22,548
physical contact anything like that it's

502

00:19:19,880 --> 00:19:24,409
in a Corral so Tonopah is over tied up

503

00:19:22,548 --> 00:19:26,389
over here and Ellen goes and sets down

504

00:19:24,409 --> 00:19:28,490
and does what we call a heart lock in

505

00:19:26,390 --> 00:19:32,659
and that's where you basically focus in

506

00:19:28,490 --> 00:19:34,038
the heart heart focus breathing help

507

00:19:32,659 --> 00:19:35,919
shift into coherence and then you have

508

00:19:34,038 --> 00:19:38,690
to activate a positive feeling

509

00:19:35,919 --> 00:19:40,700
appreciation care compassion and then

510

00:19:38,690 --> 00:19:42,890
consciously send that radiate that into

511

00:19:40,700 --> 00:19:44,750
the environment or focus it to a place

512

00:19:42,890 --> 00:19:48,259
person whatever in this case it was to

513

00:19:44,750 --> 00:19:51,019
the horse and we see a pretty dramatic

514
00:19:48,259 --> 00:19:52,490
state shift in the horse here I should

515
00:19:51,019 --> 00:19:54,288
say we did a lot of work leading up to

516
00:19:52,490 --> 00:19:55,400
this to know what horses HRV looked like

517
00:19:54,288 --> 00:19:57,470
24 hour

518
00:19:55,400 --> 00:20:00,679
hrbs on a bunch of horses through a

519
00:19:57,470 --> 00:20:03,890
bunch of days and so on this is an

520
00:20:00,679 --> 00:20:06,040
experiment that worked too good in a way

521
00:20:03,890 --> 00:20:08,680
we did first time we did it we did four

522
00:20:06,039 --> 00:20:11,849
horse humans three out of the four had

523
00:20:08,680 --> 00:20:14,259
almost identical shifts just like that

524
00:20:11,849 --> 00:20:15,699
and the one that didn't we found out we

525
00:20:14,259 --> 00:20:17,589
were kind of blind during the analysis

526
00:20:15,700 --> 00:20:19,809
found out later but the one the horse

527
00:20:17,589 --> 00:20:21,159
that didn't have this shift was a horse

528
00:20:19,809 --> 00:20:22,179
that was well known for not whining

529
00:20:21,160 --> 00:20:24,460
angry with humans

530
00:20:22,180 --> 00:20:26,950
it was very standoffish and that kind of

531
00:20:24,460 --> 00:20:30,549
kind of horse so of course horses are

532
00:20:26,950 --> 00:20:32,950
well known for having being tuned into

533
00:20:30,549 --> 00:20:34,539
humans in our emotional states as our

534
00:20:32,950 --> 00:20:36,910
dogs and we've done the same thing with

535
00:20:34,539 --> 00:20:38,950
dogs and rabbits actually as well and

536
00:20:36,910 --> 00:20:42,430
animals are really tuned in to our

537
00:20:38,950 --> 00:20:44,110
emotional state so here's a using

538
00:20:42,430 --> 00:20:46,840
another type of technique called signal

539
00:20:44,109 --> 00:20:48,250
averaging with mothers and infants in

540
00:20:46,839 --> 00:20:51,220
this case again it's an energetic

541
00:20:48,250 --> 00:20:52,720
experiment no physical contact so here

542

00:20:51,220 --> 00:20:55,089
we're looking at mom's brainwaves and

543
00:20:52,720 --> 00:20:56,740
the infant baby's heartbeats now this

544
00:20:55,089 --> 00:20:58,149
doesn't look for those of you know EEG

545
00:20:56,740 --> 00:21:00,250
it doesn't look normal that's because

546
00:20:58,150 --> 00:21:01,810
it's signal average so we're using the R

547
00:21:00,250 --> 00:21:03,220
wave of the baby the signal average the

548
00:21:01,809 --> 00:21:05,579
moms brainwaves - I know Gary you've

549
00:21:03,220 --> 00:21:08,019
done some of this stuff as well and

550
00:21:05,579 --> 00:21:11,919
mom's brainwaves synchronize right up to

551
00:21:08,019 --> 00:21:14,529
the baby well we didn't expect Bubba

552
00:21:11,920 --> 00:21:16,660
should have but hindsight was that mom's

553
00:21:14,529 --> 00:21:18,819
attention modulates this effect it's

554
00:21:16,660 --> 00:21:20,620
when mom was paying attention to the

555
00:21:18,819 --> 00:21:22,269
baby that her brain waves would sink we

556
00:21:20,619 --> 00:21:23,949

would distract her you know thinking

557

00:21:22,269 --> 00:21:25,680

about something else it would go away

558

00:21:23,950 --> 00:21:28,390

which is kind of an important finding

559

00:21:25,680 --> 00:21:31,990

it's not just a raw physics coupling

560

00:21:28,390 --> 00:21:33,490

kind of things going on here all right

561

00:21:31,990 --> 00:21:34,900

so now I'm going to shift into the

562

00:21:33,490 --> 00:21:36,700

second part that I was asked to talk

563

00:21:34,900 --> 00:21:39,670

about this is the global coherence

564

00:21:36,700 --> 00:21:40,750

initiative so this is kind of taking a

565

00:21:39,670 --> 00:21:43,539

little bit of what I was talking about

566

00:21:40,750 --> 00:21:45,940

earlier from the living room like where

567

00:21:43,539 --> 00:21:48,190

we know if sometimes we can walk into a

568

00:21:45,940 --> 00:21:50,410

friend's house before we catch body

569

00:21:48,190 --> 00:21:51,970

language cues this kind of thing voice

570

00:21:50,410 --> 00:21:54,370

tones that we just feel or since

571
00:21:51,970 --> 00:21:55,900
something's off sure enough find out

572
00:21:54,369 --> 00:21:58,119
they got a bad you know call got some

573
00:21:55,900 --> 00:21:59,710
bad news and or some people just feels

574
00:21:58,119 --> 00:22:01,659
really good to be around well I think

575
00:21:59,710 --> 00:22:03,279
what I'm talking about in terms of the

576
00:22:01,660 --> 00:22:05,080
Hartsfield and the information patterns

577
00:22:03,279 --> 00:22:08,589
can explain that at least at a local

578
00:22:05,079 --> 00:22:10,449
conventional physics level so let's why

579
00:22:08,589 --> 00:22:14,709
not take that globally that kind of an

580
00:22:10,450 --> 00:22:16,569
idea so

581
00:22:14,710 --> 00:22:17,890
again I'm doing about half of what I

582
00:22:16,569 --> 00:22:20,740
would like to have done here on both of

583
00:22:17,890 --> 00:22:22,540
these topics but the there's a lot of

584
00:22:20,740 --> 00:22:25,390
research showing that humans are

585
00:22:22,539 --> 00:22:27,759
affected by changes in the Earth's

586
00:22:25,390 --> 00:22:29,259
energetic fields and I'll explain what I

587
00:22:27,759 --> 00:22:31,809
mean by that in the second way energetic

588
00:22:29,259 --> 00:22:36,220
fields actually a surprising amount of

589
00:22:31,809 --> 00:22:37,659
literature so we know that if the river

590
00:22:36,220 --> 00:22:40,890
there's actually rhythms in the Earth's

591
00:22:37,660 --> 00:22:43,450
fields and of course disturbances that

592
00:22:40,890 --> 00:22:45,030
are well correlated now with changes in

593
00:22:43,450 --> 00:22:47,650
our brain and nervous system activity

594
00:22:45,029 --> 00:22:49,660
performance of tasks our number of

595
00:22:47,650 --> 00:22:52,720
different types of tasks blood pressure

596
00:22:49,660 --> 00:22:53,920
heart rate hormones fact dependent on

597
00:22:52,720 --> 00:22:55,720
where we are on the planet and which

598
00:22:53,920 --> 00:22:57,310
rhythm is kind of dominant our heart

599

00:22:55,720 --> 00:22:59,259
rate literally synchronizes to the

600
00:22:57,309 --> 00:23:01,389
planetary rhythms or our blood pressure

601
00:22:59,259 --> 00:23:03,009
rhythms one can be synced to one and

602
00:23:01,390 --> 00:23:06,370
another to another it's an amazing

603
00:23:03,009 --> 00:23:09,359
sympathy of what goes on traffic

604
00:23:06,369 --> 00:23:11,889
accidents violations tickets and things

605
00:23:09,359 --> 00:23:13,809
sink quite well number of hospital

606
00:23:11,890 --> 00:23:16,660
missions for actually pretty wide range

607
00:23:13,809 --> 00:23:18,970
of diseases it could actually add cancer

608
00:23:16,660 --> 00:23:21,370
that list societal complex criminal

609
00:23:18,970 --> 00:23:24,059
activity these kinds of things really

610
00:23:21,369 --> 00:23:25,989
interesting one of the strongest

611
00:23:24,059 --> 00:23:28,569
reflections of changes into your

612
00:23:25,990 --> 00:23:30,370
magnetic activity is changes in in

613
00:23:28,569 --> 00:23:31,929

humans anyway is in our heart rate

614

00:23:30,369 --> 00:23:35,169

variability and the rhythms of the heart

615

00:23:31,930 --> 00:23:36,880

a lot of this work comes from a guy that

616

00:23:35,170 --> 00:23:39,700

you probably won't know the name

617

00:23:36,880 --> 00:23:42,340

Franz Hallberg anybody know that name in

618

00:23:39,700 --> 00:23:44,890

here don't love you yeah probably know

619

00:23:42,339 --> 00:23:47,519

the term circadian rhythm though Franz

620

00:23:44,890 --> 00:23:50,860

coined the terms for King rhythm in 1948

621

00:23:47,519 --> 00:23:52,029

Franz is still with us he's 92 goes to

622

00:23:50,859 --> 00:23:53,919

work seven days a week

623

00:23:52,029 --> 00:23:56,079

University of Minnesota has a floor the

624

00:23:53,920 --> 00:23:58,509

old male building a Colberg tunnel

625

00:23:56,079 --> 00:24:00,129

biology Center Franz is a wonderful guy

626

00:23:58,509 --> 00:24:01,839

were even publishing a few papers

627

00:24:00,130 --> 00:24:03,730

together he's on our board and very

628
00:24:01,839 --> 00:24:06,399
excited about very involved in our in

629
00:24:03,730 --> 00:24:08,529
our project here but he's done a lot of

630
00:24:06,400 --> 00:24:11,440
the work especially on blood pressure

631
00:24:08,529 --> 00:24:13,059
and hormones and so on whoops timing to

632
00:24:11,440 --> 00:24:17,230
back up here sorry you didn't see that

633
00:24:13,059 --> 00:24:19,869
yeah so a lot of ancient cultures

634
00:24:17,230 --> 00:24:21,039
believe that solar effects and I know

635
00:24:19,869 --> 00:24:23,199
this is probably been talked about the

636
00:24:21,039 --> 00:24:25,480
conference here before affected humanity

637
00:24:23,200 --> 00:24:27,880
in a mass way the first person to really

638
00:24:25,480 --> 00:24:28,539
look at that scientifically was a

639
00:24:27,880 --> 00:24:32,020
Russian

640
00:24:28,539 --> 00:24:33,099
physicist Alexander Tchaikovsky and the

641
00:24:32,019 --> 00:24:35,230
data I'm gonna show you in this next

642
00:24:33,099 --> 00:24:37,539
slide is his data that was published in

643
00:24:35,230 --> 00:24:38,910
1926 and then immediately written off by

644
00:24:37,539 --> 00:24:41,109
the scientific community at that time

645
00:24:38,910 --> 00:24:44,740
and then rediscovered and he was offered

646
00:24:41,109 --> 00:24:47,109
a Nobel Prize for it true story so what

647
00:24:44,740 --> 00:24:49,450
he did during World War one he observed

648
00:24:47,109 --> 00:24:51,399
that it seemed like there were just

649
00:24:49,450 --> 00:24:54,309
crazier bloodier battles just a lot of

650
00:24:51,400 --> 00:24:56,380
nonsense that went on during periods of

651
00:24:54,309 --> 00:24:58,539
high solar activity that's what got him

652
00:24:56,380 --> 00:24:59,590
curious about all this I've actually

653
00:24:58,539 --> 00:25:01,240
been reading a lot of his stuff

654
00:24:59,589 --> 00:25:03,250
translations of his original work and

655
00:25:01,240 --> 00:25:05,109
it's amazing what he was able to do

656

00:25:03,250 --> 00:25:07,470
before we had Internet's and stuff he

657
00:25:05,109 --> 00:25:10,659
did an exhaustive study of human history

658
00:25:07,470 --> 00:25:12,819
looking at major societal geopolitical

659
00:25:10,660 --> 00:25:14,560
events and things like this start of a

660
00:25:12,819 --> 00:25:16,059
war revolution major scientific

661
00:25:14,559 --> 00:25:19,569
discovery that a global implications

662
00:25:16,059 --> 00:25:21,849
these kinds of things so there's this

663
00:25:19,569 --> 00:25:24,009
graph starting back at 1749 the blue

664
00:25:21,849 --> 00:25:27,459
line is each year this plotting the

665
00:25:24,009 --> 00:25:30,220
number of major global implicit events

666
00:25:27,460 --> 00:25:32,319
that had a global implication so then we

667
00:25:30,220 --> 00:25:35,740
plot that up here all the way down here

668
00:25:32,319 --> 00:25:38,109
to 1926 ok so that's the number of

669
00:25:35,740 --> 00:25:43,690
global major events the red line on the

670
00:25:38,109 --> 00:25:49,419

bottom is the solar cycle think there

671

00:25:43,690 --> 00:25:51,850

might be some correlation there pretty

672

00:25:49,420 --> 00:25:54,460

amazing in it my mouth fell open the

673

00:25:51,849 --> 00:25:55,839

first time I saw this this has been

674

00:25:54,460 --> 00:25:58,480

verified by a number of different

675

00:25:55,839 --> 00:26:00,789

researchers and extended many times it's

676

00:25:58,480 --> 00:26:02,860

been that's very probably one of the

677

00:26:00,789 --> 00:26:07,569

most studied things since then in this

678

00:26:02,859 --> 00:26:09,209

kind of space now more I'm not planning

679

00:26:07,569 --> 00:26:12,129

a lot of the events here a bit more

680

00:26:09,210 --> 00:26:16,150

locally or in more recent times

681

00:26:12,130 --> 00:26:17,620

here's solar cycle 22 winter rack right

682

00:26:16,150 --> 00:26:19,330

in the center of it Iraq invades Kuwait

683

00:26:17,619 --> 00:26:22,289

and we know the play out of that right

684

00:26:19,329 --> 00:26:28,029

and then almost exactly 1 solar cycle

685
00:26:22,289 --> 00:26:31,299
later the peak of solar cycle 23 9/11

686
00:26:28,029 --> 00:26:32,829
occurred that's kind of what we mean by

687
00:26:31,299 --> 00:26:36,099
these major human events

688
00:26:32,829 --> 00:26:38,139
now Sun here we are we're right here now

689
00:26:36,099 --> 00:26:41,439
the Sun took two years off it was a

690
00:26:38,140 --> 00:26:41,950
solar quiet period that somebody forgot

691
00:26:41,440 --> 00:26:43,808
to tell us

692
00:26:41,950 --> 00:26:45,308
I was supposed to do first time that's

693
00:26:43,808 --> 00:26:47,288
happened in several hundred years at a

694
00:26:45,308 --> 00:26:50,589
2-year quiet like this between cycles

695
00:26:47,288 --> 00:26:52,210
occurred I was kind of a and a lot of

696
00:26:50,589 --> 00:26:54,278
people are now predicting from NASA and

697
00:26:52,210 --> 00:26:57,159
so on at solar cycle 24 what's we're

698
00:26:54,278 --> 00:27:01,319
just going into is going to be a doozy

699
00:26:57,159 --> 00:27:03,549
so to speak so right here as we see the

700
00:27:01,319 --> 00:27:05,558
I'm not showing you the slide I don't

701
00:27:03,548 --> 00:27:07,388
think there's a time but as these Peaks

702
00:27:05,558 --> 00:27:10,769
are starting to kick up is exactly in

703
00:27:07,388 --> 00:27:13,209
time with the libyan egyptian japanese

704
00:27:10,769 --> 00:27:14,470
earthquakes are all boom boom right with

705
00:27:13,210 --> 00:27:16,990
these these peaks that are occurring now

706
00:27:14,470 --> 00:27:22,298
so we're just getting started guys on

707
00:27:16,990 --> 00:27:23,980
the next solar cycle the media and

708
00:27:22,298 --> 00:27:27,190
unfortunately the scientific community

709
00:27:23,980 --> 00:27:28,509
as well loves to focus on good Lord five

710
00:27:27,190 --> 00:27:31,570
minutes okay I got to speed up here on

711
00:27:28,509 --> 00:27:33,069
the negative events and that's true 80%

712
00:27:31,569 --> 00:27:34,359
of the onset of wars and recorded

713

00:27:33,069 --> 00:27:35,369
history have started in a very narrow

714
00:27:34,359 --> 00:27:38,379
part of the solar cycle

715
00:27:35,369 --> 00:27:40,418
what's also just as true is the greatest

716
00:27:38,380 --> 00:27:42,250
periods of human flourishing also

717
00:27:40,419 --> 00:27:45,639
synchronized with that same period of

718
00:27:42,250 --> 00:27:48,130
the solar cycle the greatest scientific

719
00:27:45,638 --> 00:27:51,129
discoveries flourishing of the Arts and

720
00:27:48,130 --> 00:27:52,600
the sciences all ride the same cycle so

721
00:27:51,130 --> 00:27:56,230
basically one I'm staying here this is

722
00:27:52,599 --> 00:27:58,028
an energetic influx great and what's

723
00:27:56,230 --> 00:28:00,788
estas he called it was a index of mass

724
00:27:58,028 --> 00:28:03,240
human excitability in fact so one things

725
00:28:00,788 --> 00:28:05,500
humans don't do well with is change

726
00:28:03,240 --> 00:28:07,659
especially if it's energetic change we

727
00:28:05,500 --> 00:28:09,720

don't understand it so dependent upon

728

00:28:07,659 --> 00:28:12,070

how well we're able to self-regulate

729

00:28:09,720 --> 00:28:14,679

right we either take that energy and get

730

00:28:12,069 --> 00:28:16,298

all frustrated and start creating you

731

00:28:14,679 --> 00:28:19,419

know conflicts with our family and

732

00:28:16,298 --> 00:28:20,740

friends and so on right that's why you

733

00:28:19,419 --> 00:28:24,250

see the increase in traffic accidents

734

00:28:20,740 --> 00:28:26,169

and hospital admissions and so on or we

735

00:28:24,250 --> 00:28:27,700

take that energy and use it in

736

00:28:26,169 --> 00:28:30,759

constructive ways to create more

737

00:28:27,700 --> 00:28:33,580

cooperative relationships these kinds of

738

00:28:30,759 --> 00:28:36,819

things right solve the problems that we

739

00:28:33,579 --> 00:28:38,648

have so basically our main message from

740

00:28:36,819 --> 00:28:40,240

the global coherence initiative is it

741

00:28:38,648 --> 00:28:42,219

let's wake up it's time to take

742
00:28:40,240 --> 00:28:45,308
responsibility for our energy to use

743
00:28:42,220 --> 00:28:47,679
these creative influxes to manage our

744
00:28:45,308 --> 00:28:50,259
day to day challenges because of the way

745
00:28:47,679 --> 00:28:52,179
that this stuff hits us these change

746
00:28:50,259 --> 00:28:55,028
these energetic you know fluxes is in

747
00:28:52,179 --> 00:28:56,950
our emotional body I mean that's how it

748
00:28:55,028 --> 00:28:59,859
plays out it's in frustration it's an

749
00:28:56,950 --> 00:29:01,480
irritation these kinds of things anxiety

750
00:28:59,859 --> 00:29:03,009
and it really gets down to the

751
00:29:01,480 --> 00:29:05,349
management of those on a day to day

752
00:29:03,009 --> 00:29:05,888
level and that's the greatest thing we

753
00:29:05,349 --> 00:29:08,109
can do

754
00:29:05,888 --> 00:29:11,378
from my perspective to really shift the

755
00:29:08,109 --> 00:29:13,449
same old cycle so part of the project

756
00:29:11,378 --> 00:29:15,878
there's really two halves of global

757
00:29:13,450 --> 00:29:18,038
coherence one is education public

758
00:29:15,878 --> 00:29:20,259
education there's a membership or thanks

759
00:29:18,038 --> 00:29:22,329
around 35,000 members now that are

760
00:29:20,259 --> 00:29:24,069
consciously sending care out to places

761
00:29:22,329 --> 00:29:25,349
in need on the planet you know our

762
00:29:24,069 --> 00:29:28,450
prayers and meditations

763
00:29:25,349 --> 00:29:31,509
the other part is the science side and

764
00:29:28,450 --> 00:29:33,509
this is the the goal excuse me to have a

765
00:29:31,509 --> 00:29:36,398
global network of monitoring stations

766
00:29:33,509 --> 00:29:38,138
right now we have three one in

767
00:29:36,398 --> 00:29:42,038
California one in Saudi Arabia

768
00:29:38,138 --> 00:29:43,869
one one in the UK and one's going to New

769
00:29:42,038 --> 00:29:48,038
Zealand and upstate New York later in

770

00:29:43,869 --> 00:29:51,069
the year this is the picture of the one

771
00:29:48,038 --> 00:29:52,808
in California it's an underground

772
00:29:51,069 --> 00:29:54,158
magnetometer I don't have good timing

773
00:29:52,808 --> 00:29:57,519
I'm only got four minutes left here

774
00:29:54,159 --> 00:29:58,059
today so the energetic fields that I'm

775
00:29:57,519 --> 00:30:00,700
talking about

776
00:29:58,058 --> 00:30:02,259
one is the geomagnetic field of course

777
00:30:00,700 --> 00:30:04,450
the geomagnetic field is critical for

778
00:30:02,259 --> 00:30:06,158
life on Earth it's the main shield from

779
00:30:04,450 --> 00:30:07,720
the solar wind and the solar wind

780
00:30:06,159 --> 00:30:10,240
pressure which travels solar minutes

781
00:30:07,720 --> 00:30:11,829
about a million miles per hour as enough

782
00:30:10,240 --> 00:30:13,599
force that it pushes the magnetic field

783
00:30:11,829 --> 00:30:16,288
in on the daytime side of the planet it

784
00:30:13,599 --> 00:30:19,269

stretches it out on the nighttime side

785

00:30:16,288 --> 00:30:22,750

okay but if you think of the geomagnetic

786

00:30:19,269 --> 00:30:25,120

field this static field what it's called

787

00:30:22,750 --> 00:30:27,909

right the geomagnetic field it is

788

00:30:25,119 --> 00:30:29,768

stationary it's like a bar magnet but if

789

00:30:27,909 --> 00:30:32,889

you think of those flux lines as guitar

790

00:30:29,769 --> 00:30:35,169

strings right even though the magnitude

791

00:30:32,888 --> 00:30:36,609

may not be changing the field lines get

792

00:30:35,169 --> 00:30:39,009

plucked as they interact to the solar

793

00:30:36,609 --> 00:30:41,109

wind and they vibrate and they depend

794

00:30:39,009 --> 00:30:44,230

upon these dynamics they have different

795

00:30:41,109 --> 00:30:45,939

resonant frequencies and our sensors are

796

00:30:44,230 --> 00:30:47,980

designed to measure though that's one of

797

00:30:45,940 --> 00:30:50,460

the things we look at as it turns out

798

00:30:47,980 --> 00:30:53,679

these are called field line resonances

799

00:30:50,460 --> 00:30:56,490
one of the primary frequencies is 0.1

800

00:30:53,679 --> 00:30:58,899
Hertz you remember that from earlier and

801

00:30:56,490 --> 00:31:01,210
is the same frequency as the coherent

802

00:30:58,898 --> 00:31:03,009
heart with them all of these frequencies

803

00:31:01,210 --> 00:31:05,528
of these field line residences overlap

804

00:31:03,009 --> 00:31:07,700
the human cardiovascular system here the

805

00:31:05,528 --> 00:31:09,250
other set of energetic frequencies are

806

00:31:07,700 --> 00:31:11,808
what are called the Schumann resonances

807

00:31:09,250 --> 00:31:13,069
okay and that's a resonant cavity

808

00:31:11,808 --> 00:31:15,408
between the surface of the earth and the

809

00:31:13,069 --> 00:31:17,200
bottom of the ionosphere sorry I don't

810

00:31:15,409 --> 00:31:19,580
have time to explain how this more of it

811

00:31:17,200 --> 00:31:23,630
there's eight primary resonance

812

00:31:19,579 --> 00:31:25,189
frequencies first 17.8 hertz so a lot of

813
00:31:23,630 --> 00:31:26,630
you should be going aha and haven't

814
00:31:25,190 --> 00:31:28,610
heard this before that's the Alpha

815
00:31:26,630 --> 00:31:30,230
rhythm of the human brain wave is that

816
00:31:28,609 --> 00:31:33,379
all of them overlap human brainwave

817
00:31:30,230 --> 00:31:35,778
frequencies okay so here's a graph on

818
00:31:33,380 --> 00:31:37,190
this graph one of these is an EEG and

819
00:31:35,778 --> 00:31:39,798
the other is right out of our

820
00:31:37,190 --> 00:31:41,149
magnetometers which one is the

821
00:31:39,798 --> 00:31:44,210
magnetometer and which one's the brain

822
00:31:41,148 --> 00:31:46,278
wave okay let's do a vote how many the

823
00:31:44,210 --> 00:31:49,700
top on the top think it's the EEG raise

824
00:31:46,278 --> 00:31:51,230
your hand not very many how many you

825
00:31:49,700 --> 00:31:53,840
think the top ones done but Earth's

826
00:31:51,230 --> 00:31:58,009
magnetic field a lot of you are not

827

00:31:53,839 --> 00:32:01,970
voting yeah it's pretty hard to tell

828
00:31:58,009 --> 00:32:03,798
isn't it well here's the answer it's

829
00:32:01,970 --> 00:32:07,610
kind of the point I can't tell and I

830
00:32:03,798 --> 00:32:10,369
know a lot about EEG s and stuff so as

831
00:32:07,609 --> 00:32:12,798
the fields get disturbed these these are

832
00:32:10,369 --> 00:32:16,069
globally propagating waves that are 24/7

833
00:32:12,798 --> 00:32:18,019
so one of the primary theories is that

834
00:32:16,069 --> 00:32:19,579
these resonant frequencies are pulling

835
00:32:18,019 --> 00:32:21,740
interacting with the our brain and heart

836
00:32:19,579 --> 00:32:24,288
and cardiovascular system this is a

837
00:32:21,740 --> 00:32:26,720
spectrogram right let's go really fast

838
00:32:24,288 --> 00:32:27,980
here so these are that's the seven point

839
00:32:26,720 --> 00:32:28,880
eight Hertz these are your Schumann

840
00:32:27,980 --> 00:32:30,380
resonances and these are those

841
00:32:28,880 --> 00:32:33,169

structural field line of resonances down

842

00:32:30,380 --> 00:32:34,250

here so if you become a member of the

843

00:32:33,169 --> 00:32:36,259

global coherence initiative being

844

00:32:34,250 --> 00:32:38,269

actually go see the live data from the

845

00:32:36,259 --> 00:32:41,599

different sites on a website that a lot

846

00:32:38,269 --> 00:32:44,120

of other data so alright part two is

847

00:32:41,599 --> 00:32:45,500

where I - enough I guess to suggest that

848

00:32:44,119 --> 00:32:48,589

not only are we affected by these

849

00:32:45,500 --> 00:32:50,599

Earth's fields but we can affect those

850

00:32:48,589 --> 00:32:53,509

that human and humanity does especially

851

00:32:50,599 --> 00:32:55,548

emotionality does affect the the global

852

00:32:53,509 --> 00:32:57,740

energetic fields I think it's a great

853

00:32:55,548 --> 00:33:00,558

Roger can talk more about that in his

854

00:32:57,740 --> 00:33:04,638

presentation we're suggesting kind of

855

00:33:00,558 --> 00:33:06,408

simply said here that an attention goes

856
00:33:04,638 --> 00:33:07,969
out from a coherent heart and coherent

857
00:33:06,409 --> 00:33:10,278
being key because that's what creates

858
00:33:07,970 --> 00:33:12,019
those standing waves that goes out like

859
00:33:10,278 --> 00:33:14,148
a radio wave and resonates with

860
00:33:12,019 --> 00:33:17,028
modulates and parts information if you

861
00:33:14,148 --> 00:33:18,558
will on the Earth's magnetic fields to

862
00:33:17,028 --> 00:33:19,549
create more coherence in the global

863
00:33:18,558 --> 00:33:22,009
field environment

864
00:33:19,549 --> 00:33:24,829
so then that can be amplified if we do

865
00:33:22,009 --> 00:33:26,299
it in groups especially we like each

866
00:33:24,829 --> 00:33:30,470
other have a shared intention I know

867
00:33:26,299 --> 00:33:32,629
it's been discussed here earlier one I'm

868
00:33:30,470 --> 00:33:36,170
a little bit over time at all just be a

869
00:33:32,630 --> 00:33:38,360
minute it's okay we have a thing at the

870
00:33:36,170 --> 00:33:40,610
end so a global care room is another

871
00:33:38,359 --> 00:33:42,469
aspect of the site if you become a

872
00:33:40,609 --> 00:33:44,209
member and you log in and you want to

873
00:33:42,470 --> 00:33:46,759
participate in the energetic radiations

874
00:33:44,210 --> 00:33:49,519
two places in need little dots shows up

875
00:33:46,759 --> 00:33:50,660
on the globe that is you so you get to

876
00:33:49,519 --> 00:33:51,950
see all the other people that are there

877
00:33:50,660 --> 00:33:53,779
doing the same thing with you at the

878
00:33:51,950 --> 00:33:58,069
same time to help create that

879
00:33:53,779 --> 00:34:00,940
amplification effect it's really fun so

880
00:33:58,069 --> 00:34:03,619
basically what I'm suggesting is that

881
00:34:00,940 --> 00:34:06,860
what we do at the individual level does

882
00:34:03,619 --> 00:34:08,779
count a lot of people think what can I

883
00:34:06,859 --> 00:34:10,819
do I'm just one person but really it

884

00:34:08,780 --> 00:34:12,440
doesn't matter how wealthy you are or

885
00:34:10,820 --> 00:34:16,550
how smart you are or anything like that

886
00:34:12,440 --> 00:34:19,429
what we feed the field emotionally we're

887
00:34:16,550 --> 00:34:20,899
all the same so what a thing I like to

888
00:34:19,429 --> 00:34:22,550
ask myself at the end of the day or end

889
00:34:20,898 --> 00:34:24,398
of the week is what I feed the field

890
00:34:22,550 --> 00:34:26,929
today how much of my time was really

891
00:34:24,398 --> 00:34:29,389
being compassionate to my co-workers and

892
00:34:26,929 --> 00:34:31,820
caring and really experiencing that

893
00:34:29,389 --> 00:34:34,009
versus being tied wrapped up in my to-do

894
00:34:31,820 --> 00:34:36,200
list right and irritated because I

895
00:34:34,010 --> 00:34:38,440
didn't get enough done and so on but as

896
00:34:36,199 --> 00:34:40,398
we become more individually coherent

897
00:34:38,440 --> 00:34:43,130
self-regulated we are literally creating

898
00:34:40,398 --> 00:34:45,949

a more coherent field that helps others

899

00:34:43,130 --> 00:34:47,390

in our personal space as we move towards

900

00:34:45,949 --> 00:34:50,329

creating more coherent classrooms

901

00:34:47,389 --> 00:34:51,859

workplaces communities it's a lot of

902

00:34:50,329 --> 00:34:53,809

what global coherence initiative is

903

00:34:51,860 --> 00:34:56,390

about then we move to social coherence

904

00:34:53,809 --> 00:34:59,239

and enough communities around the planet

905

00:34:56,389 --> 00:35:00,289

becoming socially coherent that's what

906

00:34:59,239 --> 00:35:02,689

it's going to take to move us to a

907

00:35:00,289 --> 00:35:05,599

global coherence a lot more I'd like to

908

00:35:02,690 --> 00:35:08,809

say but I'm over time so thank you I

909

00:35:05,599 --> 00:35:11,299

appreciate your attention and invite you

910

00:35:08,809 --> 00:35:14,750

to become a member it's free go to jail

911

00:35:11,300 --> 00:35:19,280

coherence org become a member we have a

912

00:35:14,750 --> 00:35:21,769

minute for two short questions yes I

913
00:35:19,280 --> 00:35:24,790
have a short one about the Earth's

914
00:35:21,769 --> 00:35:27,230
magnetic field and so forth are they

915
00:35:24,789 --> 00:35:29,929
what you were showing it how the cycle

916
00:35:27,230 --> 00:35:31,760
it seems like if you anything to say

917
00:35:29,929 --> 00:35:32,250
about the Great Recession where that

918
00:35:31,760 --> 00:35:34,560
occurred

919
00:35:32,250 --> 00:35:36,659
during this low period and seems like

920
00:35:34,559 --> 00:35:38,549
that was a great dislocation yeah

921
00:35:36,659 --> 00:35:40,589
there's actually a whole several groups

922
00:35:38,550 --> 00:35:42,600
of people that just look at correlations

923
00:35:40,590 --> 00:35:46,140
between the geomagnetic and solar to

924
00:35:42,599 --> 00:35:50,549
magnetic fields and economic cycles it's

925
00:35:46,139 --> 00:35:54,179
strongly correlated yeah what do you

926
00:35:50,550 --> 00:35:56,940
think happens to the heart when a person

927
00:35:54,179 --> 00:36:01,500
undergoes a very popular procedure for

928
00:35:56,940 --> 00:36:04,470
atrial fibrillation and they burn the AV

929
00:36:01,500 --> 00:36:07,309
node ablation yes the coronary ablation

930
00:36:04,469 --> 00:36:11,399
what does that do to the ability to

931
00:36:07,309 --> 00:36:13,829
receive the magnetic fields well

932
00:36:11,400 --> 00:36:16,050
probably not much but communicating in

933
00:36:13,829 --> 00:36:17,759
information back into the system it may

934
00:36:16,050 --> 00:36:19,920
because that's not the sensory neurons

935
00:36:17,760 --> 00:36:22,080
are bleeding by the way the current work

936
00:36:19,920 --> 00:36:24,480
in neuro cardiology is pretty clear now

937
00:36:22,079 --> 00:36:26,099
that Deacon Hart's conduction system is

938
00:36:24,480 --> 00:36:29,039
actually under the control of the carts

939
00:36:26,099 --> 00:36:31,349
nervous system so ablations may be a

940
00:36:29,039 --> 00:36:32,759
thing of the past it's not too far in

941

00:36:31,349 --> 00:36:34,589
the future in other words we're treating

942
00:36:32,760 --> 00:36:36,720
the wrong thing for a lot of arrhythmias

943
00:36:34,590 --> 00:36:39,300
that's a whole other topic we can maybe

944
00:36:36,719 --> 00:36:41,639
have an offline discussion on yeah I was

945
00:36:39,300 --> 00:36:44,000
wondering if you are aware of the work

946
00:36:41,639 --> 00:36:47,429
of omarama

947
00:36:44,000 --> 00:36:52,349
Michael Ivanov who had this theory that

948
00:36:47,429 --> 00:36:54,539
the Sun is an intelligent star and as I

949
00:36:52,349 --> 00:36:57,269
as much as I believe any intelligence at

950
00:36:54,539 --> 00:37:00,590
all level is that that just you know

951
00:36:57,269 --> 00:37:04,590
impressed me and he has unbelievable

952
00:37:00,590 --> 00:37:08,820
arguments so his the work is translated

953
00:37:04,590 --> 00:37:10,410
in English so but I would like to be I I

954
00:37:08,820 --> 00:37:12,120
have no problem with that idea

955
00:37:10,409 --> 00:37:13,829

I understand like I'd like to learn more

956

00:37:12,119 --> 00:37:15,989

about the name yeah I'm actually just

957

00:37:13,829 --> 00:37:17,909

starting to get into a lot of more in

958

00:37:15,989 --> 00:37:19,319

the last month I've had more Russians

959

00:37:17,909 --> 00:37:20,969

contact me than in the last two years

960

00:37:19,320 --> 00:37:26,160

and I'm really glad because their

961

00:37:20,969 --> 00:37:30,929

literature is hard to get in France

962

00:37:26,159 --> 00:37:33,239

great alright I definitely want to this

963

00:37:30,929 --> 00:37:35,039

is a great reason for us to get our

964

00:37:33,239 --> 00:37:36,719

website translated into different

965

00:37:35,039 --> 00:37:39,239

languages because one things that came

966

00:37:36,719 --> 00:37:40,739

up at the member meeting was that oh if

967

00:37:39,239 --> 00:37:43,229

we translate in Russia we can reach out

968

00:37:40,739 --> 00:37:45,000

to 16 countries

969

00:37:43,230 --> 00:37:47,639

in Russia with a lot of work like this

970
00:37:45,000 --> 00:37:50,239
and hopefully start translating to other

971
00:37:47,639 --> 00:37:52,519
languages as well so let's give our

972
00:37:50,239 --> 00:37:54,639
speaker great round of applause

973
00:37:52,519 --> 00:37:59,630
[Applause]

974
00:37:54,639 --> 00:37:59,629
[Music]

975
00:37:59,759 --> 00:38:01,818
you