



1  
00:00:00,480 --> 00:00:09,390

[Music]

2  
00:00:15,220 --> 00:00:12,810

so I'm gonna tonight just kind of do a

3  
00:00:17,620 --> 00:00:15,230

high-level overview of kind of the type

4  
00:00:18,820 --> 00:00:17,630

of stuff we do I think that's for a lot

5  
00:00:21,370 --> 00:00:18,830

of you probably your first introduction

6  
00:00:23,499 --> 00:00:21,380

to our work what we're probably best

7  
00:00:25,929 --> 00:00:23,509

known for is our work in heart brain

8  
00:00:29,549 --> 00:00:25,939

communication at the Institute of heart

9  
00:00:31,839 --> 00:00:29,559

math and just a couple of high-level

10  
00:00:35,530 --> 00:00:31,849

concepts here that might be surprising

11  
00:00:37,930 --> 00:00:35,540

to some folks first we now know that the

12  
00:00:39,190 --> 00:00:37,940

heart has its own intrinsic nervous

13  
00:00:41,260 --> 00:00:39,200

system called the intrinsic cardiac

14

00:00:43,150 --> 00:00:41,270

nervous system and that's given rise to

15

00:00:45,700 --> 00:00:43,160

a new field in medicine called neural

16

00:00:47,830 --> 00:00:45,710

Cardiology and there's quite a few

17

00:00:50,230 --> 00:00:47,840

neural Cardiology groups around actually

18

00:00:52,210 --> 00:00:50,240

the world internationally and it's so it

19

00:00:53,979 --> 00:00:52,220

was really in 1991 I think the first

20

00:00:55,990 --> 00:00:53,989

official publication kind of came out

21

00:00:57,220 --> 00:00:56,000

and the academic literature claiming

22

00:00:59,770 --> 00:00:57,230

that the heart has its own intrinsic

23

00:01:01,270 --> 00:00:59,780

brain though the heart brain and this is

24

00:01:04,479 --> 00:01:01,280

not metaphorically they mean it's quite

25

00:01:06,399 --> 00:01:04,489

literally the other thing that's

26  
00:01:08,950 --> 00:01:06,409  
actually been known since the late 1800s

27  
00:01:10,149 --> 00:01:08,960  
might surprise some folks is that the

28  
00:01:12,609 --> 00:01:10,159  
heart if we're looking at the nervous

29  
00:01:13,929 --> 00:01:12,619  
system neroli the heart sends far more

30  
00:01:16,690 --> 00:01:13,939  
information to the brain and the brain

31  
00:01:19,899 --> 00:01:16,700  
sends to the heart so we all know that

32  
00:01:21,730 --> 00:01:19,909  
the perceptions at the brain level you

33  
00:01:23,469 --> 00:01:21,740  
know we see a dog jumping at us or an

34  
00:01:26,109 --> 00:01:23,479  
ear car accident held on that affects

35  
00:01:27,489 --> 00:01:26,119  
the heart in the body of course that's

36  
00:01:29,289 --> 00:01:27,499  
all true through the vertical the

37  
00:01:33,069 --> 00:01:29,299  
efferent pathways in the nervous system

38  
00:01:34,449 --> 00:01:33,079

but the afferents we look at the

39

00:01:37,179 --> 00:01:34,459

parasympathetic side of the autonomic

40

00:01:39,249 --> 00:01:37,189

nervous system might percent of the

41

00:01:41,319 --> 00:01:39,259

fibers into the two vagal nerves which

42

00:01:43,449 --> 00:01:41,329

are very large nervous over 3,000 fibers

43

00:01:46,359 --> 00:01:43,459

in each one ninety percent of those are

44

00:01:48,519 --> 00:01:46,369

afferent or ascending pathways and the

45

00:01:50,039 --> 00:01:48,529

majority of those come from the heart so

46

00:01:52,959 --> 00:01:50,049

the signals that the heart seems to the

47

00:01:55,300 --> 00:01:52,969

to the brain profoundly affect brain

48

00:01:56,800 --> 00:01:55,310

function perception they actually give

49

00:01:58,809 --> 00:01:56,810

rise to a lot to a great deal to

50

00:02:01,649 --> 00:01:58,819

emotional experience these kind of

51  
00:02:04,149 --> 00:02:01,659  
things so that's a lot of what of our

52  
00:02:07,480 --> 00:02:04,159  
work in psychophysiology has been about

53  
00:02:09,609 --> 00:02:07,490  
over the last 20 years so here's just

54  
00:02:10,870 --> 00:02:09,619  
some photos for those that are view that

55  
00:02:13,750 --> 00:02:10,880  
it might be from Azura like I am

56  
00:02:16,270 --> 00:02:13,760  
originally in the show-me-state right of

57  
00:02:17,920 --> 00:02:16,280  
the intrinsic cardiac nervous system in

58  
00:02:21,050 --> 00:02:17,930  
the human heart so here we're looking at

59  
00:02:23,960 --> 00:02:21,060  
cardiac ganglia I've got a oh it's

60  
00:02:27,170 --> 00:02:23,970  
here in my hand these little blobs here

61  
00:02:28,100 --> 00:02:27,180  
and at this level of magnification main

62  
00:02:30,800 --> 00:02:28,110  
thing is to see is that they're

63  
00:02:32,630 --> 00:02:30,810

interconnected now ganglia if you're not

64

00:02:34,850 --> 00:02:32,640

familiar with the neural neurology side

65

00:02:37,130 --> 00:02:34,860

of things is just a term given to a

66

00:02:38,630 --> 00:02:37,140

functional group of neurons that are all

67

00:02:41,000 --> 00:02:38,640

wired together that process information

68

00:02:43,309 --> 00:02:41,010

and do functional things they're found

69

00:02:45,259 --> 00:02:43,319

outside of the brain that same blob and

70

00:02:47,360 --> 00:02:45,269

neurons it was up here in her head it

71

00:02:49,070 --> 00:02:47,370

could be an inner laminate nuclei or the

72

00:02:51,020 --> 00:02:49,080

central core of the amygdala or any of

73

00:02:53,720 --> 00:02:51,030

the other brain centers written that we

74

00:02:56,630 --> 00:02:53,730

talked about so now we go in another

75

00:02:58,820 --> 00:02:56,640

level of magnification into one of these

76

00:03:01,190 --> 00:02:58,830

cardiac ganglia so each one of the

77

00:03:03,830 --> 00:03:01,200

little round things is a neuron right

78

00:03:05,509 --> 00:03:03,840

now it's interesting the same recording

79

00:03:07,070 --> 00:03:05,519

techniques used to demonstrate both

80

00:03:09,380 --> 00:03:07,080

short and long term memory like in

81

00:03:12,710 --> 00:03:09,390

hippocampal neurons for example have

82

00:03:15,470 --> 00:03:12,720

been used in these cardiac neurons have

83

00:03:16,789 --> 00:03:15,480

both short and long term memory and have

84

00:03:18,589 --> 00:03:16,799

all the basic kind of information

85

00:03:20,690 --> 00:03:18,599

processing characteristics of the

86

00:03:22,880 --> 00:03:20,700

neurons we find in most of the neurons

87

00:03:25,610 --> 00:03:22,890

in the brain fact a lot of these neurons

88

00:03:28,030 --> 00:03:25,620

were named after cranial neurons because

89

00:03:31,400 --> 00:03:28,040

they're basically the same neuron

90

00:03:33,890 --> 00:03:31,410

actually look like little brains now the

91

00:03:35,180 --> 00:03:33,900

next I don't have that slide I'm having

92

00:03:37,220 --> 00:03:35,190

to cut a lot out of my normal

93

00:03:39,650 --> 00:03:37,230

presentation here so this just shows you

94

00:03:41,750 --> 00:03:39,660

the distribution so all these dots are

95

00:03:43,610 --> 00:03:41,760

the location of these cardiac intrinsic

96

00:03:45,140 --> 00:03:43,620

cardiac ganglia again that are all

97

00:03:47,750 --> 00:03:45,150

distributed so that's the brain part

98

00:03:50,629 --> 00:03:47,760

that we're talking about Dan there's

99

00:03:53,360 --> 00:03:50,639

about 40,000 sensory neurons again these

100

00:03:55,910 --> 00:03:53,370

have been known about for for many many

101

00:03:59,569 --> 00:03:55,920

many years since the late 1800s

102

00:04:01,759 --> 00:03:59,579

these are sensory neurons so some of you

103

00:04:04,009 --> 00:04:01,769

that have a physiology background might

104

00:04:05,569 --> 00:04:04,019

know it borrow receptors that a familiar

105

00:04:07,699 --> 00:04:05,579

term some of you borrow meaning pressure

106

00:04:10,220 --> 00:04:07,709

so these are the types of neurons that

107

00:04:12,050 --> 00:04:10,230

were talked about for years and a lot of

108

00:04:14,930 --> 00:04:12,060

hypotheses and so on and so on about

109

00:04:16,909 --> 00:04:14,940

heart brain communication what we now

110

00:04:18,080 --> 00:04:16,919

know is that only about out of these

111

00:04:19,940 --> 00:04:18,090

40,000 neurons

112

00:04:22,400 --> 00:04:19,950

only 20% are what are now called

113

00:04:23,930 --> 00:04:22,410

mechanosensitive neurons looking at

114

00:04:27,310 --> 00:04:23,940

pressure rhythm rate these kinds of

115

00:04:30,200 --> 00:04:27,320

mechanical functions the other 80% are

116

00:04:33,600 --> 00:04:30,210

sensitive to biochemistry a chemo

117

00:04:35,010 --> 00:04:33,610

receptive neurons so each one is a multi

118

00:04:37,320 --> 00:04:35,020

functional neuron so you have a certain

119

00:04:38,640 --> 00:04:37,330

biochemical whether it's a hormone or a

120

00:04:40,529 --> 00:04:38,650

neurotransmitter or whatever in the

121

00:04:42,510 --> 00:04:40,539

blood flow these neurons give a very

122

00:04:43,980 --> 00:04:42,520

specific output but it in a different

123

00:04:46,170 --> 00:04:43,990

hormone or neurotransmitter if you get a

124

00:04:49,260 --> 00:04:46,180

very different specific output from the

125

00:04:50,459 --> 00:04:49,270

same neuron so it's a far more complex

126

00:04:53,189 --> 00:04:50,469

picture than what was previously

127

00:04:54,749 --> 00:04:53,199

understood or believed and there's also

128

00:04:55,800 --> 00:04:54,759

a lot of evidence now as I'll get to in

129

00:04:57,779 --> 00:04:55,810

the second part of what I'm going to

130

00:05:00,689 --> 00:04:57,789

talk about that these neurons are not

131

00:05:04,219 --> 00:05:00,699

only sensitive to rhythm rate mechanical

132

00:05:15,149 --> 00:05:04,229

forces and chemical type things but also

133

00:05:17,369 --> 00:05:15,159

magnetic fields okay so the heart is by

134

00:05:20,459 --> 00:05:17,379

far the largest source of rhythmic

135

00:05:22,140 --> 00:05:20,469

activity in the human body and it's

136

00:05:23,879 --> 00:05:22,150

there's really four primary ways that

137

00:05:26,369 --> 00:05:23,889

the heart communicates with the brain

138

00:05:28,439 --> 00:05:26,379

and body neurologically I was just

139

00:05:32,490 --> 00:05:28,449

talking about through the the autonomic

140

00:05:33,540 --> 00:05:32,500

nervous system biochemically so in 1984

141

00:05:35,100 --> 00:05:33,550

I think it was the heart was

142

00:05:37,950 --> 00:05:35,110

reclassified as part of the endocrine

143

00:05:40,409 --> 00:05:37,960

system the first hormone discovered is

144

00:05:43,350 --> 00:05:40,419

now called atrial peptide used to be

145

00:05:46,490 --> 00:05:43,360

called ANF A&P nicknamed the balanced

146

00:05:48,480 --> 00:05:46,500

hormone as wide pretty wide-ranging

147

00:05:50,820 --> 00:05:48,490

receptors throughout the body brain and

148

00:05:52,200 --> 00:05:50,830

body adrenal glands and so on then it

149

00:05:54,600 --> 00:05:52,210

was discovered at the heart secretes the

150

00:05:56,430 --> 00:05:54,610

catecholamines dopamine epinephrine

151  
00:05:58,170 --> 00:05:56,440  
norepinephrine and so on are actually

152  
00:06:03,629 --> 00:05:58,180  
created and produced by the heart

153  
00:06:06,029 --> 00:06:03,639  
most recently oxytocin is the most

154  
00:06:07,499 --> 00:06:06,039  
recent one to be discovered that goes

155  
00:06:10,079 --> 00:06:07,509  
back about four or five years now I

156  
00:06:11,909 --> 00:06:10,089  
guess time's going pretty fast it's hard

157  
00:06:14,839 --> 00:06:11,919  
to keep track of it but anyway the heart

158  
00:06:17,850 --> 00:06:14,849  
produces as much oxytocin as the brain

159  
00:06:19,619 --> 00:06:17,860  
so I think it's pretty cool we find that

160  
00:06:21,600 --> 00:06:19,629  
the hardest a source of oxytocin of

161  
00:06:23,399 --> 00:06:21,610  
course the media loves to call oxytocin

162  
00:06:26,579 --> 00:06:23,409  
a bonding hormone the love hormone and

163  
00:06:30,089 --> 00:06:26,589

so on and a lot of leased research don't

164

00:06:33,749 --> 00:06:30,099

on an oxytocin these days fourth pathway

165

00:06:35,640 --> 00:06:33,759

is energetically again I'll talk more

166

00:06:38,879 --> 00:06:35,650

about that but the electromagnetic and

167

00:06:41,219 --> 00:06:38,889

magnetic fields so the heart is

168

00:06:44,279 --> 00:06:41,229

basically uniquely positioned to act as

169

00:06:46,400 --> 00:06:44,289

a global coordinator if you will in the

170

00:06:48,230 --> 00:06:46,410

body sympathy of all the functions

171

00:06:49,490 --> 00:06:48,240

so it helps bind and synchronize the

172

00:06:51,200 --> 00:06:49,500

activity across to all the different

173

00:06:54,050 --> 00:06:51,210

systems in a body because here we have a

174

00:06:56,750 --> 00:06:54,060

single organ that's the primary system

175

00:06:58,070 --> 00:06:56,760

in the neurological system right sending

176

00:07:00,320 --> 00:06:58,080

more information to the brain and all

177

00:07:03,740 --> 00:07:00,330

the way around screening hormones also

178

00:07:05,930 --> 00:07:03,750

sensitive to hormones by a physical

179

00:07:07,280 --> 00:07:05,940

aspect is the pulse and when we feel the

180

00:07:09,200 --> 00:07:07,290

pulse you're feeling the pressure wave

181

00:07:11,540 --> 00:07:09,210

not the flow of blood so that pressure

182

00:07:13,850 --> 00:07:11,550

wave has a synchronizing effect of all

183

00:07:15,680 --> 00:07:13,860

the cells in the body as well like if we

184

00:07:18,260 --> 00:07:15,690

do EEG s and synchronize to that you can

185

00:07:20,000 --> 00:07:18,270

see very clear effects of the pulse wave

186

00:07:23,180 --> 00:07:20,010

synchronizing neural activity for

187

00:07:24,410 --> 00:07:23,190

example well it turns out being a very

188

00:07:26,690 --> 00:07:24,420

useful measure and I heard somebody

189

00:07:28,370 --> 00:07:26,700

mention this in a presentation earlier

190

00:07:31,010 --> 00:07:28,380

today I forget who it was about heart

191

00:07:32,750 --> 00:07:31,020

rate variability it used to be thought

192

00:07:34,730 --> 00:07:32,760

that a sign of good health was a steady

193

00:07:36,320 --> 00:07:34,740

heart rhythm so physicians not that many

194

00:07:38,650 --> 00:07:36,330

years ago we're taught that if you want

195

00:07:41,090 --> 00:07:38,660

a steady heart rate rhythm you know

196

00:07:42,320 --> 00:07:41,100

unless you do some exercise climb the

197

00:07:44,990 --> 00:07:42,330

stairs and your heart rate it'll kind of

198

00:07:48,350 --> 00:07:45,000

slowly change and all that completely

199

00:07:50,540 --> 00:07:48,360

wrong well we now know is that a healthy

200

00:07:52,550 --> 00:07:50,550

individual our heart rate changes with

201  
00:07:56,150 --> 00:07:52,560  
every heartbeat it's going on right now

202  
00:07:58,540 --> 00:07:56,160  
setting this administration trinsic beat

203  
00:08:01,760 --> 00:07:58,550  
to beat variability turns out to be a

204  
00:08:04,580 --> 00:08:01,770  
fundamental and key reflector of

205  
00:08:07,370 --> 00:08:04,590  
resilience vitality or overall kind of

206  
00:08:08,480 --> 00:08:07,380  
health status it's a loss of this heart

207  
00:08:10,760 --> 00:08:08,490  
rate variability this intrinsic

208  
00:08:14,600 --> 00:08:10,770  
variability is a better predictor of

209  
00:08:17,300 --> 00:08:14,610  
future adverse health comes like death

210  
00:08:19,640 --> 00:08:17,310  
pretty good adverse then what your blood

211  
00:08:23,030 --> 00:08:19,650  
pressure is whether you smoke or not

212  
00:08:26,740 --> 00:08:23,040  
what your exercise level is okay so it's

213  
00:08:29,600 --> 00:08:26,750

a very powerful predictive measure so

214

00:08:31,190 --> 00:08:29,610

pretty simple it's you measure the beat

215

00:08:32,900 --> 00:08:31,200

between the time between each and every

216

00:08:34,490 --> 00:08:32,910

heartbeat okay now that's a completely

217

00:08:35,659 --> 00:08:34,500

different than heart rate right which is

218

00:08:38,300 --> 00:08:35,669

just how many times did it beat in a

219

00:08:40,010 --> 00:08:38,310

minute the average of all that so then

220

00:08:41,750 --> 00:08:40,020

you measure that in milliseconds and

221

00:08:43,339 --> 00:08:41,760

then I plotted it here in beats per

222

00:08:44,450 --> 00:08:43,349

minute just because our brains work

223

00:08:46,460 --> 00:08:44,460

better and beats per minute than

224

00:08:48,920 --> 00:08:46,470

milliseconds and plot that beat per

225

00:08:50,360 --> 00:08:48,930

minute equivalent okay then do that for

226

00:08:51,880 --> 00:08:50,370

each beat and connect the dots and

227

00:08:55,850 --> 00:08:51,890

that's what creates the heart rhythm

228

00:08:59,270 --> 00:08:55,860

makes sense okay so again you want

229

00:09:00,240 --> 00:08:59,280

variability so this is what it looks

230

00:09:01,590 --> 00:09:00,250

like that was just a few

231

00:09:05,700 --> 00:09:01,600

seconds now here we're looking at a few

232

00:09:08,820 --> 00:09:05,710

minutes of it so when the range of it or

233

00:09:10,740 --> 00:09:08,830

the amplitude okay how this intrinsic

234

00:09:12,630 --> 00:09:10,750

this is resting state here by the way

235

00:09:14,730 --> 00:09:12,640

both of these and these two graphs are

236

00:09:17,850 --> 00:09:14,740

from the same individual so the

237

00:09:19,350 --> 00:09:17,860

amplitude of it that's age dependent we

238

00:09:21,600 --> 00:09:19,360

have more of it when we're young and it

239

00:09:24,240 --> 00:09:21,610

gets less as we age in fact if we bring

240

00:09:26,610 --> 00:09:24,250

you into the lab or out clinically major

241

00:09:29,220 --> 00:09:26,620

you're HRV I can tell within about two

242

00:09:31,860 --> 00:09:29,230

years how old you are if you're on a

243

00:09:33,270 --> 00:09:31,870

healthy trajectory all right of course

244

00:09:34,530 --> 00:09:33,280

you got a lot of stress and wear and

245

00:09:37,920 --> 00:09:34,540

tear going on and that's gonna be lower

246

00:09:43,190 --> 00:09:37,930

than it should be I'm for your for your

247

00:09:46,350 --> 00:09:43,200

age so the two graphs same person so of

248

00:09:48,360 --> 00:09:46,360

course we're interested in amplitude but

249

00:09:50,490 --> 00:09:48,370

there's something else quite different

250

00:09:52,530 --> 00:09:50,500

here you know this is the same person in

251  
00:09:55,940 --> 00:09:52,540  
fact the amount of variability the range

252  
00:09:58,440 --> 00:09:55,950  
of it is identical in these two graphs

253  
00:09:59,730 --> 00:09:58,450  
and in this particular study that in

254  
00:10:01,080 --> 00:09:59,740  
fact this was a study published in the

255  
00:10:04,550 --> 00:10:01,090  
American Journal Cardiology's where this

256  
00:10:06,570 --> 00:10:04,560  
data came from back in the early 90s the

257  
00:10:08,220 --> 00:10:06,580  
we just have a lot of fun in the lab

258  
00:10:10,350 --> 00:10:08,230  
finding new creative ways to get people

259  
00:10:13,170 --> 00:10:10,360  
frustrated and irritated and things like

260  
00:10:14,610 --> 00:10:13,180  
that or in positive states they kept

261  
00:10:16,920 --> 00:10:14,620  
getting on to us you know and we had to

262  
00:10:18,210 --> 00:10:16,930  
come up with new ways to do it but on

263  
00:10:19,800 --> 00:10:18,220

the top when all we did was get them

264

00:10:22,200 --> 00:10:19,810

frustrated kind of irritated and

265

00:10:24,180 --> 00:10:22,210

frustrated and once you see happen is

266

00:10:26,190 --> 00:10:24,190

that the the heart's rhythm the pattern

267

00:10:29,100 --> 00:10:26,200

becomes very chaotic looking very edgy

268

00:10:30,510 --> 00:10:29,110

and jerky looking okay so if you're just

269

00:10:32,040 --> 00:10:30,520

looking at changes in how much

270

00:10:33,600 --> 00:10:32,050

variability goes on which a lot of

271

00:10:36,090 --> 00:10:33,610

people as all people had done till that

272

00:10:38,520 --> 00:10:36,100

time versus having a mental loving or

273

00:10:40,860 --> 00:10:38,530

caring compassionate state for example

274

00:10:43,650 --> 00:10:40,870

you come away with the answer of no

275

00:10:46,230 --> 00:10:43,660

difference is the amount of variability

276

00:10:50,160 --> 00:10:46,240

is not what was changing right but it's

277

00:10:52,170 --> 00:10:50,170

the pattern okay so in that top graph

278

00:10:54,570 --> 00:10:52,180

with frustration what that's reflecting

279

00:10:57,540 --> 00:10:54,580

or telling us about the physiology is

280

00:10:58,860 --> 00:10:57,550

that the activity in the autonomic

281

00:11:01,800 --> 00:10:58,870

nervous system is sympathetic and the

282

00:11:03,090 --> 00:11:01,810

parasympathetic is that a sync it's like

283

00:11:04,350 --> 00:11:03,100

driving your car with one foot and a

284

00:11:06,540 --> 00:11:04,360

brake and you're an accelerator at the

285

00:11:08,910 --> 00:11:06,550

same time not a good idea that your

286

00:11:11,280 --> 00:11:08,920

drive your car that way right can use a

287

00:11:12,269 --> 00:11:11,290

lot more gas but more stress and strain

288

00:11:14,500 --> 00:11:12,279

on the drug

289

00:11:18,360 --> 00:11:14,510

drivetrain breaks and so on we're I'm

290

00:11:21,910 --> 00:11:18,370

out faster same thing is true in us okay

291

00:11:23,319 --> 00:11:21,920

so that's why these types of emotions

292

00:11:25,690 --> 00:11:23,329

that have a depleting effect on our

293

00:11:29,110 --> 00:11:25,700

psychophysiology and and over time lead

294

00:11:30,639 --> 00:11:29,120

to lowered variability same person just

295

00:11:33,639 --> 00:11:30,649

switched here we just had them use a

296

00:11:35,350 --> 00:11:33,649

technique it's one of the calm heart

297

00:11:37,960 --> 00:11:35,360

focused techniques allow you to shift

298

00:11:40,360 --> 00:11:37,970

into what we call a coherent state now

299

00:11:43,000 --> 00:11:40,370

many years later which is this sine wave

300

00:11:45,280 --> 00:11:43,010

pattern it's about a 10-second rhythm so

301  
00:11:45,730 --> 00:11:45,290  
the frequency of that rhythm is 0.1

302  
00:11:48,160 --> 00:11:45,740  
Hertz

303  
00:11:50,680 --> 00:11:48,170  
I mentioned X that's going to come back

304  
00:11:53,290 --> 00:11:50,690  
again later in the presentation but here

305  
00:11:54,490 --> 00:11:53,300  
you have nice high variability like

306  
00:11:55,840 --> 00:11:54,500  
you'd want to see but it's that

307  
00:11:58,019 --> 00:11:55,850  
reciprocal action that you talked about

308  
00:12:00,730 --> 00:11:58,029  
in the textbooks and autonomic function

309  
00:12:02,530 --> 00:12:00,740  
okay what it turns out many studies

310  
00:12:05,500 --> 00:12:02,540  
later is that this ends up being the

311  
00:12:07,180 --> 00:12:05,510  
really the optimal the rhythm if you

312  
00:12:09,699 --> 00:12:07,190  
will or the physiology of optimal

313  
00:12:11,319 --> 00:12:09,709

function so we now know that if you're

314

00:12:13,509 --> 00:12:11,329

in this just switching between a normal

315

00:12:15,759 --> 00:12:13,519

state not even this chaotic in this

316

00:12:17,470 --> 00:12:15,769

coherent state that recruit increases

317

00:12:20,019 --> 00:12:17,480

your reaction times by about 37

318

00:12:21,939 --> 00:12:20,029

milliseconds so the brain is a big

319

00:12:24,400 --> 00:12:21,949

winner right I'll show you some of the

320

00:12:28,360 --> 00:12:24,410

pathways shortly on that back here they

321

00:12:30,250 --> 00:12:28,370

are so again we've had the Hartson and

322

00:12:32,740 --> 00:12:30,260

all the stuff this a French or sending

323

00:12:36,220 --> 00:12:32,750

information stops off at the brain stem

324

00:12:38,740 --> 00:12:36,230

here but there's a very direct strong

325

00:12:40,569 --> 00:12:38,750

neural pathway directly to its called

326

00:12:43,509 --> 00:12:40,579

the thalamus the very core of our brain

327

00:12:46,090 --> 00:12:43,519

Thomas has many roles century of

328

00:12:48,220 --> 00:12:46,100

distribution for perception these kinds

329

00:12:49,960 --> 00:12:48,230

of things but another role of the

330

00:12:53,259 --> 00:12:49,970

thalamus is that it's the center that

331

00:12:57,069 --> 00:12:53,269

synchronizes the electrical activity of

332

00:13:00,189 --> 00:12:57,079

all the neurons in our cortex okay and

333

00:13:02,470 --> 00:13:00,199

of course we have to have a system has

334

00:13:04,090 --> 00:13:02,480

to be in sync type what we call global

335

00:13:06,850 --> 00:13:04,100

coherence to really perform optimally

336

00:13:08,800 --> 00:13:06,860

so if we're in this desynchronized state

337

00:13:10,509 --> 00:13:08,810

this rhythm here that's the rhythm

338

00:13:14,110 --> 00:13:10,519

that's directly impinging on the

339

00:13:16,630 --> 00:13:14,120

thalamus simply said it inhibits the

340

00:13:19,240 --> 00:13:16,640

thalamus ability to synchronize all the

341

00:13:21,220 --> 00:13:19,250

neurons in our cortex easiest way to

342

00:13:23,410 --> 00:13:21,230

measure this in laboratory type settings

343

00:13:25,420 --> 00:13:23,420

is reaction time cast coordination tasks

344

00:13:26,050 --> 00:13:25,430

things like this Ben dental labs all

345

00:13:28,450 --> 00:13:26,060

over the world

346

00:13:31,440 --> 00:13:28,460

and not just ours and that in fact the

347

00:13:34,210 --> 00:13:31,450

term given to this effect in the 1970s

348

00:13:36,460 --> 00:13:34,220

by the Lacy's a very famous

349

00:13:38,770 --> 00:13:36,470

psychophysiology research couple a man

350

00:13:40,210 --> 00:13:38,780

and wife team was cortical inhibition to

351

00:13:42,700 --> 00:13:40,220

describe the effect that the heart was

352

00:13:44,950 --> 00:13:42,710

having on the brain so it's a global

353

00:13:47,530 --> 00:13:44,960

effect so that we can measure it easily

354

00:13:49,270 --> 00:13:47,540

these reaction-time tests and so on that

355

00:13:50,260 --> 00:13:49,280

doesn't mean that that's the part of the

356

00:13:52,900 --> 00:13:50,270

brain that's the most profoundly

357

00:13:54,460 --> 00:13:52,910

affected or the most important so we've

358

00:13:56,890 --> 00:13:54,470

got all this frontal cortical stuff up

359

00:13:59,740 --> 00:13:56,900

here right which gives rise to things

360

00:14:01,900 --> 00:13:59,750

like foresight right the ability to

361

00:14:03,940 --> 00:14:01,910

understand what our actions and the now

362

00:14:06,010 --> 00:14:03,950

are going to do in the future it's what

363

00:14:07,000 --> 00:14:06,020

our animal friends don't have right they

364

00:14:10,420 --> 00:14:07,010

have hindsight memory but not

365

00:14:12,250 --> 00:14:10,430

necessarily foresight so goal setting

366

00:14:15,040 --> 00:14:12,260

planning discrimination of appropriate

367

00:14:17,410 --> 00:14:15,050

behavior abstract thinking all these

368

00:14:20,530 --> 00:14:17,420

functions are from the frontal part of

369

00:14:22,980 --> 00:14:20,540

the brain for those functions to perform

370

00:14:25,890 --> 00:14:22,990

optimally they need a pretty

371

00:14:28,060 --> 00:14:25,900

well-defined degree of synchronization

372

00:14:31,210 --> 00:14:28,070

so when we're in this D synchronized

373

00:14:35,370 --> 00:14:31,220

state they're the ones that are kind of

374

00:14:37,360 --> 00:14:35,380

taken offline first you know make sense

375

00:14:40,120 --> 00:14:37,370

probably no one in here has ever had the

376

00:14:42,130 --> 00:14:40,130

experience I'll admit I did once where

377

00:14:44,200 --> 00:14:42,140

you're talking with maybe your spouse or

378

00:14:45,220 --> 00:14:44,210

a colleague or something and they say or

379

00:14:48,490 --> 00:14:45,230

do something that gets you a little

380

00:14:52,000 --> 00:14:48,500

upset and then you say or do something

381

00:14:54,460 --> 00:14:52,010

that a minute later you're going oh my

382

00:14:56,560 --> 00:14:54,470

god I can't believe I just did that or

383

00:15:00,520 --> 00:14:56,570

said dad nobody's ever done that right

384

00:15:03,700 --> 00:15:00,530

yeah I'll bet loud you know people yeah

385

00:15:04,900 --> 00:15:03,710

who've done that yes right so that's

386

00:15:06,700 --> 00:15:04,910

what I just described is really

387

00:15:09,190 --> 00:15:06,710

simplifies the physiology of that effect

388

00:15:11,110 --> 00:15:09,200

and we get upset or we get into a day

389

00:15:14,370 --> 00:15:11,120

synchronized state cortical inhibition

390

00:15:16,960 --> 00:15:14,380

and then we say or do the dumb thing

391

00:15:20,050 --> 00:15:16,970

that usually costs a lot more stress and

392

00:15:24,520 --> 00:15:20,060

a lot more time waste and and so on so

393

00:15:26,230 --> 00:15:24,530

the point of what I have a lot less

394

00:15:28,530 --> 00:15:26,240

slides in here my thought is to be able

395

00:15:31,620 --> 00:15:28,540

to shift into that coherent state before

396

00:15:34,390 --> 00:15:31,630

we do the thing that we later regret

397

00:15:36,430 --> 00:15:34,400

okay that's what a lot of the hard math

398

00:15:37,960 --> 00:15:36,440

tools and techniques are about is to

399

00:15:38,730 --> 00:15:37,970

allow us to self-regulate to get more

400

00:15:40,810 --> 00:15:38,740

coherent

401  
00:15:43,630 --> 00:15:40,820  
to bring in what we call heart

402  
00:15:45,280 --> 00:15:43,640  
intelligence so what I don't have time

403  
00:15:47,500 --> 00:15:45,290  
to show you tonight is following up on

404  
00:15:50,560 --> 00:15:47,510  
some of Dien studies with precognition

405  
00:15:53,290 --> 00:15:50,570  
as he called it we also looked at a eg

406  
00:15:55,810 --> 00:15:53,300  
heart heart brain dynamics in the study

407  
00:15:57,490 --> 00:15:55,820  
world we showed photographs you know and

408  
00:15:59,470 --> 00:15:57,500  
found that at least in our study it was

409  
00:16:00,700 --> 00:15:59,480  
the heart that shifted first sent

410  
00:16:02,980 --> 00:16:00,710  
literally a different neurological

411  
00:16:05,020 --> 00:16:02,990  
message to the brain and then you saw a

412  
00:16:07,360 --> 00:16:05,030  
brain response all this many seconds

413  
00:16:08,820 --> 00:16:07,370

before the photo so I think it's some

414

00:16:10,780 --> 00:16:08,830

pretty good evidence that the

415

00:16:13,120 --> 00:16:10,790

philosophers and great religions have

416

00:16:14,950 --> 00:16:13,130

been right all along you know they talk

417

00:16:17,080 --> 00:16:14,960

about the heart being the primary center

418

00:16:20,470 --> 00:16:17,090

or access to wisdom to the intuition and

419

00:16:22,240 --> 00:16:20,480

these types of things okay so kind of

420

00:16:24,610 --> 00:16:22,250

switching gears now into the other half

421

00:16:27,790 --> 00:16:24,620

of what I was asked to talk about in my

422

00:16:30,160 --> 00:16:27,800

invitation letter we've done a fair

423

00:16:31,690 --> 00:16:30,170

amount of work really looking at

424

00:16:34,300 --> 00:16:31,700

interconnectivity that's really where

425

00:16:35,890 --> 00:16:34,310

our passions are these days I mean I'm

426

00:16:37,360 --> 00:16:35,900

actually funded now I do I've got three

427

00:16:39,310 --> 00:16:37,370

different military contracts that we're

428

00:16:40,810 --> 00:16:39,320

doing pre deployment studies and this

429

00:16:43,480 --> 00:16:40,820

kinds of things measuring hormones and

430

00:16:45,160 --> 00:16:43,490

all kinds of neat stuff but that pays

431

00:16:48,040 --> 00:16:45,170

the bills but really our passions are

432

00:16:50,290 --> 00:16:48,050

about interconnectivity it's where we're

433

00:16:52,900 --> 00:16:50,300

really about so we've done some stuff

434

00:16:57,220 --> 00:16:52,910

over the years that look at how the

435

00:16:58,090 --> 00:16:57,230

heart radiates magnetic signals now of

436

00:16:59,260 --> 00:16:58,100

course when we measure the

437

00:17:01,390 --> 00:16:59,270

electrocardiogram you're putting

438

00:17:02,890 --> 00:17:01,400

electrodes on the body and you're

439

00:17:05,530 --> 00:17:02,900

measuring the electrical component

440

00:17:06,850 --> 00:17:05,540

whether that's EEG or whatever but of

441

00:17:08,410 --> 00:17:06,860

course whenever there's a flow of ions

442

00:17:13,030 --> 00:17:08,420

or electrical current you create a

443

00:17:14,650 --> 00:17:13,040

magnetic field and human tissue is

444

00:17:17,350 --> 00:17:14,660

pretty transparent to magnetic fields

445

00:17:19,600 --> 00:17:17,360

and the magnetic field of the heart

446

00:17:22,090 --> 00:17:19,610

radiates out into space with a squid

447

00:17:24,910 --> 00:17:22,100

based magnetometer you can measure the

448

00:17:26,470 --> 00:17:24,920

cardiac field just under three feet from

449

00:17:28,330 --> 00:17:26,480

the body we can do electrostatic

450

00:17:30,580 --> 00:17:28,340

measurements in our own lab almost that

451  
00:17:32,590 --> 00:17:30,590  
far with things that are much less

452  
00:17:35,140 --> 00:17:32,600  
expensive in squid based magnetometers

453  
00:17:38,110 --> 00:17:35,150  
this is the shape of the magnetic field

454  
00:17:40,240 --> 00:17:38,120  
it is a toroidal shape course it doesn't

455  
00:17:42,040 --> 00:17:40,250  
really stop at the knees or nor is this

456  
00:17:45,790 --> 00:17:42,050  
the right orientation exactly very

457  
00:17:48,160 --> 00:17:45,800  
complex kind of spiraling field but step

458  
00:17:50,410 --> 00:17:48,170  
two of what we then did to say okay well

459  
00:17:52,090 --> 00:17:50,420  
if we look at these fields is there

460  
00:17:53,950 --> 00:17:52,100  
information

461  
00:17:55,180 --> 00:17:53,960  
coated in these fields that is related

462  
00:17:58,090 --> 00:17:55,190  
back to the heart rhythm and our

463  
00:18:01,570 --> 00:17:58,100

emotions and sure enough we found it

464

00:18:03,400 --> 00:18:01,580

there was and I have to give also credit

465

00:18:05,560 --> 00:18:03,410

I see Gary's here tonight we were kind

466

00:18:08,740 --> 00:18:05,570

of doing the same stuff at the same time

467

00:18:11,230 --> 00:18:08,750

without each other knowing it it's kind

468

00:18:14,080 --> 00:18:11,240

of neat to have it and I figured out

469

00:18:16,260 --> 00:18:14,090

simultaneously I'm not sure who actually

470

00:18:18,850 --> 00:18:16,270

did it first but then really matter

471

00:18:20,740 --> 00:18:18,860

anyway if you look there is a

472

00:18:22,990 --> 00:18:20,750

mathematical relationship between the

473

00:18:24,159 --> 00:18:23,000

heart's rhythm the HRV patterns I was

474

00:18:25,930 --> 00:18:24,169

showing you earlier and these

475

00:18:29,169 --> 00:18:25,940

information patterns as I call them in

476

00:18:31,960 --> 00:18:29,179

the magnetic field okay

477

00:18:33,370 --> 00:18:31,970

just reading by the heart and everything

478

00:18:34,390 --> 00:18:33,380

goes on in between but you can kind of

479

00:18:35,950 --> 00:18:34,400

see that and when you're in that

480

00:18:38,980 --> 00:18:35,960

frustrated or incoherent state you've

481

00:18:41,320 --> 00:18:38,990

got a pretty flat KN chaotic spectrum

482

00:18:43,360 --> 00:18:41,330

and in the coherent state you get a nice

483

00:18:44,580 --> 00:18:43,370

series of standing waves and and

484

00:18:47,140 --> 00:18:44,590

actually if you look at different

485

00:18:48,580 --> 00:18:47,150

specific emotions you can actually start

486

00:18:53,200 --> 00:18:48,590

seeing different frequency structures

487

00:18:54,640 --> 00:18:53,210

that are rather emotion specific so

488

00:18:56,440 --> 00:18:54,650

we've done a bunch of things I'm just

489

00:18:58,600 --> 00:18:56,450

gonna just do the time show you a couple

490

00:19:00,070 --> 00:18:58,610

a lot of you've seen the experiments

491

00:19:01,480 --> 00:19:00,080

that we did with my son and his dog it's

492

00:19:03,010 --> 00:19:01,490

kind of gotten famous so I'm not gonna

493

00:19:05,169 --> 00:19:03,020

show that one tonight

494

00:19:07,180 --> 00:19:05,179

but here's Ellen and Tonopah so this is

495

00:19:10,779 --> 00:19:07,190

looking at the connectivity between

496

00:19:12,159 --> 00:19:10,789

humans and horses so this is the heart

497

00:19:13,659 --> 00:19:12,169

rate variability the heart rhythm of

498

00:19:15,909 --> 00:19:13,669

Ellen that we're seeing up here and then

499

00:19:17,350 --> 00:19:15,919

here's Tonopah the horse and this is an

500

00:19:19,870 --> 00:19:17,360

energetic experiment there is no

501  
00:19:22,539 --> 00:19:19,880  
physical contact anything like that it's

502  
00:19:24,399 --> 00:19:22,549  
in a Corral so Tonopah is over tied up

503  
00:19:26,380 --> 00:19:24,409  
over here and Ellen goes and sets down

504  
00:19:28,480 --> 00:19:26,390  
and does what we call a heart lock in

505  
00:19:32,649 --> 00:19:28,490  
and that's where you basically focus in

506  
00:19:34,029 --> 00:19:32,659  
the heart heart focus breathing help

507  
00:19:35,909 --> 00:19:34,039  
shift into coherence and then you have

508  
00:19:38,680 --> 00:19:35,919  
to activate a positive feeling

509  
00:19:40,690 --> 00:19:38,690  
appreciation care compassion and then

510  
00:19:42,880 --> 00:19:40,700  
consciously send that radiate that into

511  
00:19:44,740 --> 00:19:42,890  
the environment or focus it to a place

512  
00:19:48,250 --> 00:19:44,750  
person whatever in this case it was to

513  
00:19:51,010 --> 00:19:48,260

the horse and we see a pretty dramatic

514

00:19:52,480 --> 00:19:51,020

state shift in the horse here I should

515

00:19:54,279 --> 00:19:52,490

say we did a lot of work leading up to

516

00:19:55,390 --> 00:19:54,289

this to know what horses HRV looked like

517

00:19:57,460 --> 00:19:55,400

24 hour

518

00:20:00,669 --> 00:19:57,470

hrbs on a bunch of horses through a

519

00:20:03,880 --> 00:20:00,679

bunch of days and so on this is an

520

00:20:06,030 --> 00:20:03,890

experiment that worked too good in a way

521

00:20:08,670 --> 00:20:06,040

we did first time we did it we did four

522

00:20:11,840 --> 00:20:08,680

horse humans three out of the four had

523

00:20:14,250 --> 00:20:11,850

almost identical shifts just like that

524

00:20:15,690 --> 00:20:14,260

and the one that didn't we found out we

525

00:20:17,580 --> 00:20:15,700

were kind of blind during the analysis

526

00:20:19,800 --> 00:20:17,590

found out later but the one the horse

527

00:20:21,150 --> 00:20:19,810

that didn't have this shift was a horse

528

00:20:22,170 --> 00:20:21,160

that was well known for not whining

529

00:20:24,450 --> 00:20:22,180

angry with humans

530

00:20:26,940 --> 00:20:24,460

it was very standoffish and that kind of

531

00:20:30,540 --> 00:20:26,950

kind of horse so of course horses are

532

00:20:32,940 --> 00:20:30,550

well known for having being tuned into

533

00:20:34,530 --> 00:20:32,950

humans in our emotional states as our

534

00:20:36,900 --> 00:20:34,540

dogs and we've done the same thing with

535

00:20:38,940 --> 00:20:36,910

dogs and rabbits actually as well and

536

00:20:42,420 --> 00:20:38,950

animals are really tuned in to our

537

00:20:44,100 --> 00:20:42,430

emotional state so here's a using

538

00:20:46,830 --> 00:20:44,110

another type of technique called signal

539

00:20:48,240 --> 00:20:46,840

averaging with mothers and infants in

540

00:20:51,210 --> 00:20:48,250

this case again it's an energetic

541

00:20:52,710 --> 00:20:51,220

experiment no physical contact so here

542

00:20:55,080 --> 00:20:52,720

we're looking at mom's brainwaves and

543

00:20:56,730 --> 00:20:55,090

the infant baby's heartbeats now this

544

00:20:58,140 --> 00:20:56,740

doesn't look for those of you know EEG

545

00:21:00,240 --> 00:20:58,150

it doesn't look normal that's because

546

00:21:01,800 --> 00:21:00,250

it's signal average so we're using the R

547

00:21:03,210 --> 00:21:01,810

wave of the baby the signal average the

548

00:21:05,570 --> 00:21:03,220

moms brainwaves - I know Gary you've

549

00:21:08,010 --> 00:21:05,580

done some of this stuff as well and

550

00:21:11,910 --> 00:21:08,020

mom's brainwaves synchronize right up to

551  
00:21:14,520 --> 00:21:11,920  
the baby well we didn't expect Bubba

552  
00:21:16,650 --> 00:21:14,530  
should have but hindsight was that mom's

553  
00:21:18,810 --> 00:21:16,660  
attention modulates this effect it's

554  
00:21:20,610 --> 00:21:18,820  
when mom was paying attention to the

555  
00:21:22,260 --> 00:21:20,620  
baby that her brain waves would sink we

556  
00:21:23,940 --> 00:21:22,270  
would distract her you know thinking

557  
00:21:25,670 --> 00:21:23,950  
about something else it would go away

558  
00:21:28,380 --> 00:21:25,680  
which is kind of an important finding

559  
00:21:31,980 --> 00:21:28,390  
it's not just a raw physics coupling

560  
00:21:33,480 --> 00:21:31,990  
kind of things going on here all right

561  
00:21:34,890 --> 00:21:33,490  
so now I'm going to shift into the

562  
00:21:36,690 --> 00:21:34,900  
second part that I was asked to talk

563  
00:21:39,660 --> 00:21:36,700

about this is the global coherence

564

00:21:40,740 --> 00:21:39,670

initiative so this is kind of taking a

565

00:21:43,530 --> 00:21:40,750

little bit of what I was talking about

566

00:21:45,930 --> 00:21:43,540

earlier from the living room like where

567

00:21:48,180 --> 00:21:45,940

we know if sometimes we can walk into a

568

00:21:50,400 --> 00:21:48,190

friend's house before we catch body

569

00:21:51,960 --> 00:21:50,410

language cues this kind of thing voice

570

00:21:54,360 --> 00:21:51,970

tones that we just feel or since

571

00:21:55,890 --> 00:21:54,370

something's off sure enough find out

572

00:21:58,110 --> 00:21:55,900

they got a bad you know call got some

573

00:21:59,700 --> 00:21:58,120

bad news and or some people just feels

574

00:22:01,650 --> 00:21:59,710

really good to be around well I think

575

00:22:03,270 --> 00:22:01,660

what I'm talking about in terms of the

576  
00:22:05,070 --> 00:22:03,280  
Hartsfield and the information patterns

577  
00:22:08,580 --> 00:22:05,080  
can explain that at least at a local

578  
00:22:10,440 --> 00:22:08,590  
conventional physics level so let's why

579  
00:22:14,700 --> 00:22:10,450  
not take that globally that kind of an

580  
00:22:16,560 --> 00:22:14,710  
idea so

581  
00:22:17,880 --> 00:22:16,570  
again I'm doing about half of what I

582  
00:22:20,730 --> 00:22:17,890  
would like to have done here on both of

583  
00:22:22,530 --> 00:22:20,740  
these topics but the there's a lot of

584  
00:22:25,380 --> 00:22:22,540  
research showing that humans are

585  
00:22:27,750 --> 00:22:25,390  
affected by changes in the Earth's

586  
00:22:29,250 --> 00:22:27,760  
energetic fields and I'll explain what I

587  
00:22:31,800 --> 00:22:29,260  
mean by that in the second way energetic

588  
00:22:36,210 --> 00:22:31,810

fields actually a surprising amount of

589

00:22:37,650 --> 00:22:36,220

literature so we know that if the river

590

00:22:40,880 --> 00:22:37,660

there's actually rhythms in the Earth's

591

00:22:43,440 --> 00:22:40,890

fields and of course disturbances that

592

00:22:45,020 --> 00:22:43,450

are well correlated now with changes in

593

00:22:47,640 --> 00:22:45,030

our brain and nervous system activity

594

00:22:49,650 --> 00:22:47,650

performance of tasks our number of

595

00:22:52,710 --> 00:22:49,660

different types of tasks blood pressure

596

00:22:53,910 --> 00:22:52,720

heart rate hormones fact dependent on

597

00:22:55,710 --> 00:22:53,920

where we are on the planet and which

598

00:22:57,300 --> 00:22:55,720

rhythm is kind of dominant our heart

599

00:22:59,250 --> 00:22:57,310

rate literally synchronizes to the

600

00:23:01,380 --> 00:22:59,260

planetary rhythms or our blood pressure

601  
00:23:03,000 --> 00:23:01,390  
rhythms one can be synced to one and

602  
00:23:06,360 --> 00:23:03,010  
another to another it's an amazing

603  
00:23:09,350 --> 00:23:06,370  
sympathy of what goes on traffic

604  
00:23:11,880 --> 00:23:09,360  
accidents violations tickets and things

605  
00:23:13,800 --> 00:23:11,890  
sink quite well number of hospital

606  
00:23:16,650 --> 00:23:13,810  
missions for actually pretty wide range

607  
00:23:18,960 --> 00:23:16,660  
of diseases it could actually add cancer

608  
00:23:21,360 --> 00:23:18,970  
that list societal complex criminal

609  
00:23:24,050 --> 00:23:21,370  
activity these kinds of things really

610  
00:23:25,980 --> 00:23:24,060  
interesting one of the strongest

611  
00:23:28,560 --> 00:23:25,990  
reflections of changes into your

612  
00:23:30,360 --> 00:23:28,570  
magnetic activity is changes in in

613  
00:23:31,920 --> 00:23:30,370

humans anyway is in our heart rate

614

00:23:35,160 --> 00:23:31,930

variability and the rhythms of the heart

615

00:23:36,870 --> 00:23:35,170

a lot of this work comes from a guy that

616

00:23:39,690 --> 00:23:36,880

you probably won't know the name

617

00:23:42,330 --> 00:23:39,700

Franz Hallberg anybody know that name in

618

00:23:44,880 --> 00:23:42,340

here don't love you yeah probably know

619

00:23:47,510 --> 00:23:44,890

the term circadian rhythm though Franz

620

00:23:50,850 --> 00:23:47,520

coined the terms for King rhythm in 1948

621

00:23:52,020 --> 00:23:50,860

Franz is still with us he's 92 goes to

622

00:23:53,910 --> 00:23:52,030

work seven days a week

623

00:23:56,070 --> 00:23:53,920

University of Minnesota has a floor the

624

00:23:58,500 --> 00:23:56,080

old male building a Colberg tunnel

625

00:24:00,120 --> 00:23:58,510

biology Center Franz is a wonderful guy

626

00:24:01,830 --> 00:24:00,130

were even publishing a few papers

627

00:24:03,720 --> 00:24:01,840

together he's on our board and very

628

00:24:06,390 --> 00:24:03,730

excited about very involved in our in

629

00:24:08,520 --> 00:24:06,400

our project here but he's done a lot of

630

00:24:11,430 --> 00:24:08,530

the work especially on blood pressure

631

00:24:13,050 --> 00:24:11,440

and hormones and so on whoops timing to

632

00:24:17,220 --> 00:24:13,060

back up here sorry you didn't see that

633

00:24:19,860 --> 00:24:17,230

yeah so a lot of ancient cultures

634

00:24:21,030 --> 00:24:19,870

believe that solar effects and I know

635

00:24:23,190 --> 00:24:21,040

this is probably been talked about the

636

00:24:25,470 --> 00:24:23,200

conference here before affected humanity

637

00:24:27,870 --> 00:24:25,480

in a mass way the first person to really

638

00:24:28,530 --> 00:24:27,880

look at that scientifically was a

639

00:24:32,010 --> 00:24:28,540

Russian

640

00:24:33,090 --> 00:24:32,020

physicist Alexander Tchaikovsky and the

641

00:24:35,220 --> 00:24:33,100

data I'm gonna show you in this next

642

00:24:37,530 --> 00:24:35,230

slide is his data that was published in

643

00:24:38,900 --> 00:24:37,540

1926 and then immediately written off by

644

00:24:41,100 --> 00:24:38,910

the scientific community at that time

645

00:24:44,730 --> 00:24:41,110

and then rediscovered and he was offered

646

00:24:47,100 --> 00:24:44,740

a Nobel Prize for it true story so what

647

00:24:49,440 --> 00:24:47,110

he did during World War one he observed

648

00:24:51,390 --> 00:24:49,450

that it seemed like there were just

649

00:24:54,300 --> 00:24:51,400

crazier bloodier battles just a lot of

650

00:24:56,370 --> 00:24:54,310

nonsense that went on during periods of

651  
00:24:58,530 --> 00:24:56,380  
high solar activity that's what got him

652  
00:24:59,580 --> 00:24:58,540  
curious about all this I've actually

653  
00:25:01,230 --> 00:24:59,590  
been reading a lot of his stuff

654  
00:25:03,240 --> 00:25:01,240  
translations of his original work and

655  
00:25:05,100 --> 00:25:03,250  
it's amazing what he was able to do

656  
00:25:07,460 --> 00:25:05,110  
before we had Internet's and stuff he

657  
00:25:10,650 --> 00:25:07,470  
did an exhaustive study of human history

658  
00:25:12,810 --> 00:25:10,660  
looking at major societal geopolitical

659  
00:25:14,550 --> 00:25:12,820  
events and things like this start of a

660  
00:25:16,050 --> 00:25:14,560  
war revolution major scientific

661  
00:25:19,560 --> 00:25:16,060  
discovery that a global implications

662  
00:25:21,840 --> 00:25:19,570  
these kinds of things so there's this

663  
00:25:24,000 --> 00:25:21,850

graph starting back at 1749 the blue

664

00:25:27,450 --> 00:25:24,010

line is each year this plotting the

665

00:25:30,210 --> 00:25:27,460

number of major global implicit events

666

00:25:32,310 --> 00:25:30,220

that had a global implication so then we

667

00:25:35,730 --> 00:25:32,320

plot that up here all the way down here

668

00:25:38,100 --> 00:25:35,740

to 1926 ok so that's the number of

669

00:25:43,680 --> 00:25:38,110

global major events the red line on the

670

00:25:49,410 --> 00:25:43,690

bottom is the solar cycle think there

671

00:25:51,840 --> 00:25:49,420

might be some correlation there pretty

672

00:25:54,450 --> 00:25:51,850

amazing in it my mouth fell open the

673

00:25:55,830 --> 00:25:54,460

first time I saw this this has been

674

00:25:58,470 --> 00:25:55,840

verified by a number of different

675

00:26:00,780 --> 00:25:58,480

researchers and extended many times it's

676

00:26:02,850 --> 00:26:00,790

been that's very probably one of the

677

00:26:07,560 --> 00:26:02,860

most studied things since then in this

678

00:26:09,200 --> 00:26:07,570

kind of space now more I'm not planning

679

00:26:12,120 --> 00:26:09,210

a lot of the events here a bit more

680

00:26:16,140 --> 00:26:12,130

locally or in more recent times

681

00:26:17,610 --> 00:26:16,150

here's solar cycle 22 winter rack right

682

00:26:19,320 --> 00:26:17,620

in the center of it Iraq invades Kuwait

683

00:26:22,280 --> 00:26:19,330

and we know the play out of that right

684

00:26:28,020 --> 00:26:22,290

and then almost exactly 1 solar cycle

685

00:26:31,290 --> 00:26:28,030

later the peak of solar cycle 23 9/11

686

00:26:32,820 --> 00:26:31,300

occurred that's kind of what we mean by

687

00:26:36,090 --> 00:26:32,830

these major human events

688

00:26:38,130 --> 00:26:36,100

now Sun here we are we're right here now

689

00:26:41,430 --> 00:26:38,140

the Sun took two years off it was a

690

00:26:41,940 --> 00:26:41,440

solar quiet period that somebody forgot

691

00:26:43,799 --> 00:26:41,950

to tell us

692

00:26:45,299 --> 00:26:43,809

I was supposed to do first time that's

693

00:26:47,279 --> 00:26:45,309

happened in several hundred years at a

694

00:26:50,580 --> 00:26:47,289

2-year quiet like this between cycles

695

00:26:52,200 --> 00:26:50,590

occurred I was kind of a and a lot of

696

00:26:54,269 --> 00:26:52,210

people are now predicting from NASA and

697

00:26:57,149 --> 00:26:54,279

so on at solar cycle 24 what's we're

698

00:27:01,310 --> 00:26:57,159

just going into is going to be a doozy

699

00:27:03,539 --> 00:27:01,320

so to speak so right here as we see the

700

00:27:05,549 --> 00:27:03,549

I'm not showing you the slide I don't

701  
00:27:07,379 --> 00:27:05,559  
think there's a time but as these Peaks

702  
00:27:10,759 --> 00:27:07,389  
are starting to kick up is exactly in

703  
00:27:13,200 --> 00:27:10,769  
time with the libyan egyptian japanese

704  
00:27:14,460 --> 00:27:13,210  
earthquakes are all boom boom right with

705  
00:27:16,980 --> 00:27:14,470  
these these peaks that are occurring now

706  
00:27:22,289 --> 00:27:16,990  
so we're just getting started guys on

707  
00:27:23,970 --> 00:27:22,299  
the next solar cycle the media and

708  
00:27:27,180 --> 00:27:23,980  
unfortunately the scientific community

709  
00:27:28,500 --> 00:27:27,190  
as well loves to focus on good Lord five

710  
00:27:31,560 --> 00:27:28,510  
minutes okay I got to speed up here on

711  
00:27:33,060 --> 00:27:31,570  
the negative events and that's true 80%

712  
00:27:34,350 --> 00:27:33,070  
of the onset of wars and recorded

713  
00:27:35,360 --> 00:27:34,360

history have started in a very narrow

714

00:27:38,370 --> 00:27:35,370

part of the solar cycle

715

00:27:40,409 --> 00:27:38,380

what's also just as true is the greatest

716

00:27:42,240 --> 00:27:40,419

periods of human flourishing also

717

00:27:45,629 --> 00:27:42,250

synchronized with that same period of

718

00:27:48,120 --> 00:27:45,639

the solar cycle the greatest scientific

719

00:27:51,120 --> 00:27:48,130

discoveries flourishing of the Arts and

720

00:27:52,590 --> 00:27:51,130

the sciences all ride the same cycle so

721

00:27:56,220 --> 00:27:52,600

basically one I'm staying here this is

722

00:27:58,019 --> 00:27:56,230

an energetic influx great and what's

723

00:28:00,779 --> 00:27:58,029

estas he called it was a index of mass

724

00:28:03,230 --> 00:28:00,789

human excitability in fact so one things

725

00:28:05,490 --> 00:28:03,240

humans don't do well with is change

726

00:28:07,649 --> 00:28:05,500

especially if it's energetic change we

727

00:28:09,710 --> 00:28:07,659

don't understand it so dependent upon

728

00:28:12,060 --> 00:28:09,720

how well we're able to self-regulate

729

00:28:14,669 --> 00:28:12,070

right we either take that energy and get

730

00:28:16,289 --> 00:28:14,679

all frustrated and start creating you

731

00:28:19,409 --> 00:28:16,299

know conflicts with our family and

732

00:28:20,730 --> 00:28:19,419

friends and so on right that's why you

733

00:28:24,240 --> 00:28:20,740

see the increase in traffic accidents

734

00:28:26,159 --> 00:28:24,250

and hospital admissions and so on or we

735

00:28:27,690 --> 00:28:26,169

take that energy and use it in

736

00:28:30,750 --> 00:28:27,700

constructive ways to create more

737

00:28:33,570 --> 00:28:30,760

cooperative relationships these kinds of

738

00:28:36,810 --> 00:28:33,580

things right solve the problems that we

739

00:28:38,639 --> 00:28:36,820

have so basically our main message from

740

00:28:40,230 --> 00:28:38,649

the global coherence initiative is it

741

00:28:42,210 --> 00:28:40,240

let's wake up it's time to take

742

00:28:45,299 --> 00:28:42,220

responsibility for our energy to use

743

00:28:47,669 --> 00:28:45,309

these creative influxes to manage our

744

00:28:50,250 --> 00:28:47,679

day to day challenges because of the way

745

00:28:52,169 --> 00:28:50,260

that this stuff hits us these change

746

00:28:55,019 --> 00:28:52,179

these energetic you know fluxes is in

747

00:28:56,940 --> 00:28:55,029

our emotional body I mean that's how it

748

00:28:59,850 --> 00:28:56,950

plays out it's in frustration it's an

749

00:29:01,470 --> 00:28:59,860

irritation these kinds of things anxiety

750

00:29:03,000 --> 00:29:01,480

and it really gets down to the

751  
00:29:05,340 --> 00:29:03,010  
management of those on a day to day

752  
00:29:05,879 --> 00:29:05,350  
level and that's the greatest thing we

753  
00:29:08,100 --> 00:29:05,889  
can do

754  
00:29:11,369 --> 00:29:08,110  
from my perspective to really shift the

755  
00:29:13,440 --> 00:29:11,379  
same old cycle so part of the project

756  
00:29:15,869 --> 00:29:13,450  
there's really two halves of global

757  
00:29:18,029 --> 00:29:15,879  
coherence one is education public

758  
00:29:20,250 --> 00:29:18,039  
education there's a membership or thanks

759  
00:29:22,320 --> 00:29:20,260  
around 35,000 members now that are

760  
00:29:24,060 --> 00:29:22,330  
consciously sending care out to places

761  
00:29:25,340 --> 00:29:24,070  
in need on the planet you know our

762  
00:29:28,440 --> 00:29:25,350  
prayers and meditations

763  
00:29:31,500 --> 00:29:28,450

the other part is the science side and

764

00:29:33,500 --> 00:29:31,510

this is the the goal excuse me to have a

765

00:29:36,389 --> 00:29:33,510

global network of monitoring stations

766

00:29:38,129 --> 00:29:36,399

right now we have three one in

767

00:29:42,029 --> 00:29:38,139

California one in Saudi Arabia

768

00:29:43,860 --> 00:29:42,039

one one in the UK and one's going to New

769

00:29:48,029 --> 00:29:43,870

Zealand and upstate New York later in

770

00:29:51,060 --> 00:29:48,039

the year this is the picture of the one

771

00:29:52,799 --> 00:29:51,070

in California it's an underground

772

00:29:54,149 --> 00:29:52,809

magnetometer I don't have good timing

773

00:29:57,509 --> 00:29:54,159

I'm only got four minutes left here

774

00:29:58,049 --> 00:29:57,519

today so the energetic fields that I'm

775

00:30:00,690 --> 00:29:58,059

talking about

776

00:30:02,250 --> 00:30:00,700

one is the geomagnetic field of course

777

00:30:04,440 --> 00:30:02,260

the geomagnetic field is critical for

778

00:30:06,149 --> 00:30:04,450

life on Earth it's the main shield from

779

00:30:07,710 --> 00:30:06,159

the solar wind and the solar wind

780

00:30:10,230 --> 00:30:07,720

pressure which travels solar minutes

781

00:30:11,820 --> 00:30:10,240

about a million miles per hour as enough

782

00:30:13,590 --> 00:30:11,830

force that it pushes the magnetic field

783

00:30:16,279 --> 00:30:13,600

in on the daytime side of the planet it

784

00:30:19,259 --> 00:30:16,289

stretches it out on the nighttime side

785

00:30:22,740 --> 00:30:19,269

okay but if you think of the geomagnetic

786

00:30:25,110 --> 00:30:22,750

field this static field what it's called

787

00:30:27,899 --> 00:30:25,120

right the geomagnetic field it is

788

00:30:29,759 --> 00:30:27,909

stationary it's like a bar magnet but if

789

00:30:32,879 --> 00:30:29,769

you think of those flux lines as guitar

790

00:30:35,159 --> 00:30:32,889

strings right even though the magnitude

791

00:30:36,600 --> 00:30:35,169

may not be changing the field lines get

792

00:30:39,000 --> 00:30:36,610

plucked as they interact to the solar

793

00:30:41,100 --> 00:30:39,010

wind and they vibrate and they depend

794

00:30:44,220 --> 00:30:41,110

upon these dynamics they have different

795

00:30:45,930 --> 00:30:44,230

resonant frequencies and our sensors are

796

00:30:47,970 --> 00:30:45,940

designed to measure though that's one of

797

00:30:50,450 --> 00:30:47,980

the things we look at as it turns out

798

00:30:53,669 --> 00:30:50,460

these are called field line resonances

799

00:30:56,480 --> 00:30:53,679

one of the primary frequencies is 0.1

800

00:30:58,889 --> 00:30:56,490

Hertz you remember that from earlier and

801  
00:31:01,200 --> 00:30:58,899  
is the same frequency as the coherent

802  
00:31:03,000 --> 00:31:01,210  
heart with them all of these frequencies

803  
00:31:05,519 --> 00:31:03,010  
of these field line residences overlap

804  
00:31:07,690 --> 00:31:05,529  
the human cardiovascular system here the

805  
00:31:09,240 --> 00:31:07,700  
other set of energetic frequencies are

806  
00:31:11,799 --> 00:31:09,250  
what are called the Schumann resonances

807  
00:31:13,060 --> 00:31:11,809  
okay and that's a resonant cavity

808  
00:31:15,399 --> 00:31:13,070  
between the surface of the earth and the

809  
00:31:17,190 --> 00:31:15,409  
bottom of the ionosphere sorry I don't

810  
00:31:19,570 --> 00:31:17,200  
have time to explain how this more of it

811  
00:31:23,620 --> 00:31:19,580  
there's eight primary resonance

812  
00:31:25,180 --> 00:31:23,630  
frequencies first 17.8 hertz so a lot of

813  
00:31:26,620 --> 00:31:25,190

you should be going aha and haven't

814

00:31:28,600 --> 00:31:26,630

heard this before that's the Alpha

815

00:31:30,220 --> 00:31:28,610

rhythm of the human brain wave is that

816

00:31:33,370 --> 00:31:30,230

all of them overlap human brainwave

817

00:31:35,769 --> 00:31:33,380

frequencies okay so here's a graph on

818

00:31:37,180 --> 00:31:35,779

this graph one of these is an EEG and

819

00:31:39,789 --> 00:31:37,190

the other is right out of our

820

00:31:41,139 --> 00:31:39,799

magnetometers which one is the

821

00:31:44,200 --> 00:31:41,149

magnetometer and which one's the brain

822

00:31:46,269 --> 00:31:44,210

wave okay let's do a vote how many the

823

00:31:49,690 --> 00:31:46,279

top on the top think it's the EEG raise

824

00:31:51,220 --> 00:31:49,700

your hand not very many how many you

825

00:31:53,830 --> 00:31:51,230

think the top ones done but Earth's

826  
00:31:58,000 --> 00:31:53,840  
magnetic field a lot of you are not

827  
00:32:01,960 --> 00:31:58,010  
voting yeah it's pretty hard to tell

828  
00:32:03,789 --> 00:32:01,970  
isn't it well here's the answer it's

829  
00:32:07,600 --> 00:32:03,799  
kind of the point I can't tell and I

830  
00:32:10,360 --> 00:32:07,610  
know a lot about EEG s and stuff so as

831  
00:32:12,789 --> 00:32:10,370  
the fields get disturbed these these are

832  
00:32:16,060 --> 00:32:12,799  
globally propagating waves that are 24/7

833  
00:32:18,009 --> 00:32:16,070  
so one of the primary theories is that

834  
00:32:19,570 --> 00:32:18,019  
these resonant frequencies are pulling

835  
00:32:21,730 --> 00:32:19,580  
interacting with the our brain and heart

836  
00:32:24,279 --> 00:32:21,740  
and cardiovascular system this is a

837  
00:32:26,710 --> 00:32:24,289  
spectrogram right let's go really fast

838  
00:32:27,970 --> 00:32:26,720

here so these are that's the seven point

839

00:32:28,870 --> 00:32:27,980

eight Hertz these are your Schumann

840

00:32:30,370 --> 00:32:28,880

resonances and these are those

841

00:32:33,159 --> 00:32:30,380

structural field line of resonances down

842

00:32:34,240 --> 00:32:33,169

here so if you become a member of the

843

00:32:36,250 --> 00:32:34,250

global coherence initiative being

844

00:32:38,259 --> 00:32:36,260

actually go see the live data from the

845

00:32:41,590 --> 00:32:38,269

different sites on a website that a lot

846

00:32:44,110 --> 00:32:41,600

of other data so alright part two is

847

00:32:45,490 --> 00:32:44,120

where I - enough I guess to suggest that

848

00:32:48,580 --> 00:32:45,500

not only are we affected by these

849

00:32:50,590 --> 00:32:48,590

Earth's fields but we can affect those

850

00:32:53,500 --> 00:32:50,600

that human and humanity does especially

851  
00:32:55,539 --> 00:32:53,510  
emotionality does affect the the global

852  
00:32:57,730 --> 00:32:55,549  
energetic fields I think it's a great

853  
00:33:00,549 --> 00:32:57,740  
Roger can talk more about that in his

854  
00:33:04,629 --> 00:33:00,559  
presentation we're suggesting kind of

855  
00:33:06,399 --> 00:33:04,639  
simply said here that an attention goes

856  
00:33:07,960 --> 00:33:06,409  
out from a coherent heart and coherent

857  
00:33:10,269 --> 00:33:07,970  
being key because that's what creates

858  
00:33:12,009 --> 00:33:10,279  
those standing waves that goes out like

859  
00:33:14,139 --> 00:33:12,019  
a radio wave and resonates with

860  
00:33:17,019 --> 00:33:14,149  
modulates and parts information if you

861  
00:33:18,549 --> 00:33:17,029  
will on the Earth's magnetic fields to

862  
00:33:19,540 --> 00:33:18,559  
create more coherence in the global

863  
00:33:22,000 --> 00:33:19,550

field environment

864

00:33:24,820 --> 00:33:22,010

so then that can be amplified if we do

865

00:33:26,290 --> 00:33:24,830

it in groups especially we like each

866

00:33:30,460 --> 00:33:26,300

other have a shared intention I know

867

00:33:32,620 --> 00:33:30,470

it's been discussed here earlier one I'm

868

00:33:36,160 --> 00:33:32,630

a little bit over time at all just be a

869

00:33:38,350 --> 00:33:36,170

minute it's okay we have a thing at the

870

00:33:40,600 --> 00:33:38,360

end so a global care room is another

871

00:33:42,460 --> 00:33:40,610

aspect of the site if you become a

872

00:33:44,200 --> 00:33:42,470

member and you log in and you want to

873

00:33:46,750 --> 00:33:44,210

participate in the energetic radiations

874

00:33:49,510 --> 00:33:46,760

two places in need little dots shows up

875

00:33:50,650 --> 00:33:49,520

on the globe that is you so you get to

876

00:33:51,940 --> 00:33:50,660

see all the other people that are there

877

00:33:53,770 --> 00:33:51,950

doing the same thing with you at the

878

00:33:58,060 --> 00:33:53,780

same time to help create that

879

00:34:00,930 --> 00:33:58,070

amplification effect it's really fun so

880

00:34:03,610 --> 00:34:00,940

basically what I'm suggesting is that

881

00:34:06,850 --> 00:34:03,620

what we do at the individual level does

882

00:34:08,770 --> 00:34:06,860

count a lot of people think what can I

883

00:34:10,810 --> 00:34:08,780

do I'm just one person but really it

884

00:34:12,430 --> 00:34:10,820

doesn't matter how wealthy you are or

885

00:34:16,540 --> 00:34:12,440

how smart you are or anything like that

886

00:34:19,419 --> 00:34:16,550

what we feed the field emotionally we're

887

00:34:20,889 --> 00:34:19,429

all the same so what a thing I like to

888

00:34:22,540 --> 00:34:20,899

ask myself at the end of the day or end

889

00:34:24,389 --> 00:34:22,550

of the week is what I feed the field

890

00:34:26,919 --> 00:34:24,399

today how much of my time was really

891

00:34:29,380 --> 00:34:26,929

being compassionate to my co-workers and

892

00:34:31,810 --> 00:34:29,390

caring and really experiencing that

893

00:34:34,000 --> 00:34:31,820

versus being tied wrapped up in my to-do

894

00:34:36,190 --> 00:34:34,010

list right and irritated because I

895

00:34:38,430 --> 00:34:36,200

didn't get enough done and so on but as

896

00:34:40,389 --> 00:34:38,440

we become more individually coherent

897

00:34:43,120 --> 00:34:40,399

self-regulated we are literally creating

898

00:34:45,940 --> 00:34:43,130

a more coherent field that helps others

899

00:34:47,380 --> 00:34:45,950

in our personal space as we move towards

900

00:34:50,320 --> 00:34:47,390

creating more coherent classrooms

901  
00:34:51,850 --> 00:34:50,330  
workplaces communities it's a lot of

902  
00:34:53,800 --> 00:34:51,860  
what global coherence initiative is

903  
00:34:56,380 --> 00:34:53,810  
about then we move to social coherence

904  
00:34:59,230 --> 00:34:56,390  
and enough communities around the planet

905  
00:35:00,280 --> 00:34:59,240  
becoming socially coherent that's what

906  
00:35:02,680 --> 00:35:00,290  
it's going to take to move us to a

907  
00:35:05,590 --> 00:35:02,690  
global coherence a lot more I'd like to

908  
00:35:08,800 --> 00:35:05,600  
say but I'm over time so thank you I

909  
00:35:11,290 --> 00:35:08,810  
appreciate your attention and invite you

910  
00:35:14,740 --> 00:35:11,300  
to become a member it's free go to jail

911  
00:35:19,270 --> 00:35:14,750  
coherence org become a member we have a

912  
00:35:21,760 --> 00:35:19,280  
minute for two short questions yes I

913  
00:35:24,780 --> 00:35:21,770

have a short one about the Earth's

914

00:35:27,220 --> 00:35:24,790

magnetic field and so forth are they

915

00:35:29,920 --> 00:35:27,230

what you were showing it how the cycle

916

00:35:31,750 --> 00:35:29,930

it seems like if you anything to say

917

00:35:32,240 --> 00:35:31,760

about the Great Recession where that

918

00:35:34,550 --> 00:35:32,250

occurred

919

00:35:36,650 --> 00:35:34,560

during this low period and seems like

920

00:35:38,540 --> 00:35:36,660

that was a great dislocation yeah

921

00:35:40,580 --> 00:35:38,550

there's actually a whole several groups

922

00:35:42,590 --> 00:35:40,590

of people that just look at correlations

923

00:35:46,130 --> 00:35:42,600

between the geomagnetic and solar to

924

00:35:50,540 --> 00:35:46,140

magnetic fields and economic cycles it's

925

00:35:54,170 --> 00:35:50,550

strongly correlated yeah what do you

926  
00:35:56,930 --> 00:35:54,180  
think happens to the heart when a person

927  
00:36:01,490 --> 00:35:56,940  
undergoes a very popular procedure for

928  
00:36:04,460 --> 00:36:01,500  
atrial fibrillation and they burn the AV

929  
00:36:07,300 --> 00:36:04,470  
node ablation yes the coronary ablation

930  
00:36:11,390 --> 00:36:07,310  
what does that do to the ability to

931  
00:36:13,820 --> 00:36:11,400  
receive the magnetic fields well

932  
00:36:16,040 --> 00:36:13,830  
probably not much but communicating in

933  
00:36:17,750 --> 00:36:16,050  
information back into the system it may

934  
00:36:19,910 --> 00:36:17,760  
because that's not the sensory neurons

935  
00:36:22,070 --> 00:36:19,920  
are bleeding by the way the current work

936  
00:36:24,470 --> 00:36:22,080  
in neuro cardiology is pretty clear now

937  
00:36:26,090 --> 00:36:24,480  
that Deacon Hart's conduction system is

938  
00:36:29,030 --> 00:36:26,100

actually under the control of the carts

939

00:36:31,340 --> 00:36:29,040

nervous system so ablations may be a

940

00:36:32,750 --> 00:36:31,350

thing of the past it's not too far in

941

00:36:34,580 --> 00:36:32,760

the future in other words we're treating

942

00:36:36,710 --> 00:36:34,590

the wrong thing for a lot of arrhythmias

943

00:36:39,290 --> 00:36:36,720

that's a whole other topic we can maybe

944

00:36:41,630 --> 00:36:39,300

have an offline discussion on yeah I was

945

00:36:43,990 --> 00:36:41,640

wondering if you are aware of the work

946

00:36:47,420 --> 00:36:44,000

of omarama

947

00:36:52,340 --> 00:36:47,430

Michael Ivanov who had this theory that

948

00:36:54,530 --> 00:36:52,350

the Sun is an intelligent star and as I

949

00:36:57,260 --> 00:36:54,540

as much as I believe any intelligence at

950

00:37:00,580 --> 00:36:57,270

all level is that that just you know

951  
00:37:04,580 --> 00:37:00,590  
impressed me and he has unbelievable

952  
00:37:08,810 --> 00:37:04,590  
arguments so his the work is translated

953  
00:37:10,400 --> 00:37:08,820  
in English so but I would like to be I I

954  
00:37:12,110 --> 00:37:10,410  
have no problem with that idea

955  
00:37:13,820 --> 00:37:12,120  
I understand like I'd like to learn more

956  
00:37:15,980 --> 00:37:13,830  
about the name yeah I'm actually just

957  
00:37:17,900 --> 00:37:15,990  
starting to get into a lot of more in

958  
00:37:19,310 --> 00:37:17,910  
the last month I've had more Russians

959  
00:37:20,960 --> 00:37:19,320  
contact me than in the last two years

960  
00:37:26,150 --> 00:37:20,970  
and I'm really glad because their

961  
00:37:30,920 --> 00:37:26,160  
literature is hard to get in France

962  
00:37:33,230 --> 00:37:30,930  
great alright I definitely want to this

963  
00:37:35,030 --> 00:37:33,240

is a great reason for us to get our

964

00:37:36,710 --> 00:37:35,040

website translated into different

965

00:37:39,230 --> 00:37:36,720

languages because one things that came

966

00:37:40,730 --> 00:37:39,240

up at the member meeting was that oh if

967

00:37:43,220 --> 00:37:40,740

we translate in Russia we can reach out

968

00:37:44,990 --> 00:37:43,230

to 16 countries

969

00:37:47,630 --> 00:37:45,000

in Russia with a lot of work like this

970

00:37:50,230 --> 00:37:47,640

and hopefully start translating to other

971

00:37:52,510 --> 00:37:50,240

languages as well so let's give our

972

00:37:54,630 --> 00:37:52,520

speaker great round of applause