

1
00:00:17,350 --> 00:00:23,330
the science delusion is the belief that

2
00:00:20,809 --> 00:00:26,269
science already understands the nature

3
00:00:23,329 --> 00:00:32,028
of reality and principle leaving only

4
00:00:26,269 --> 00:00:35,060
the details to be filled in this is very

5
00:00:32,029 --> 00:00:38,079
widely believed by people in our society

6
00:00:35,060 --> 00:00:44,239
in fact it's the universal default

7
00:00:38,079 --> 00:00:46,600
worldview of educated people and science

8
00:00:44,238 --> 00:00:51,039
is of course extremely prestigious

9
00:00:46,600 --> 00:00:54,500
because it works so well all of us

10
00:00:51,039 --> 00:00:58,189
depend on science and technology every

11
00:00:54,500 --> 00:01:01,399
day of our lives through the

12
00:00:58,189 --> 00:01:06,349
technologies in which we live and also

13
00:01:01,399 --> 00:01:10,640
through modern medicine but there's now

14
00:01:06,349 --> 00:01:13,969
a conflict between science as a

15
00:01:10,640 --> 00:01:19,420
worldview and science as a method of

16
00:01:13,969 --> 00:01:22,789
inquiry the scientific method is

17
00:01:19,420 --> 00:01:24,950
enquiring through hypothesis and

18
00:01:22,789 --> 00:01:28,849
experimental evidence and critical

19
00:01:24,950 --> 00:01:31,670
discussion and it's a liberating way of

20
00:01:28,849 --> 00:01:35,959
inquiring into nature that's why science

21
00:01:31,670 --> 00:01:39,140
as a progressive system of discovery but

22
00:01:35,959 --> 00:01:41,718
science has also become a worldview a

23
00:01:39,140 --> 00:01:46,280
way of seeing the world which has become

24
00:01:41,718 --> 00:01:48,468
increasingly dogmatic since the 19th

25
00:01:46,280 --> 00:01:51,409
century the so-called scientific

26
00:01:48,468 --> 00:01:55,280
worldview has been dominated by the

27
00:01:51,409 --> 00:01:57,319
philosophy of materialism the doctrine

28
00:01:55,280 --> 00:02:01,909
that the only reality is matter or

29

00:01:57,319 --> 00:02:05,269
physical reality and this has now become

30
00:02:01,909 --> 00:02:08,599
a restrictive framework for scientific

31
00:02:05,269 --> 00:02:10,818
inquiry increasingly constricting what

32
00:02:08,599 --> 00:02:17,329
questions can be asked and what research

33
00:02:10,818 --> 00:02:20,229
can be done in think-tanks in London and

34
00:02:17,330 --> 00:02:23,569
in Washington and elsewhere in the world

35
00:02:20,229 --> 00:02:28,238
policymakers are now very concerned with

36
00:02:23,568 --> 00:02:28,238
a problem that they call the innovation

37
00:02:28,490 --> 00:02:33,990
their argument is that the West can only

38
00:02:31,379 --> 00:02:37,919
compete with the rising Eastern

39
00:02:33,990 --> 00:02:40,080
economies by being more innovative but

40
00:02:37,919 --> 00:02:42,389
in science and technology we're not

41
00:02:40,080 --> 00:02:45,000
being very innovative there have been

42
00:02:42,389 --> 00:02:48,299
almost no breakthroughs in the last 20

43
00:02:45,000 --> 00:02:51,449

or 30 years there's been incremental

44

00:02:48,300 --> 00:02:55,680

improvement gradual improvement but our

45

00:02:51,449 --> 00:02:59,099

present research system is not friendly

46

00:02:55,680 --> 00:03:01,849

towards radical change it's extremely

47

00:02:59,099 --> 00:03:06,000

conservative and this has led to this

48

00:03:01,849 --> 00:03:08,489

innovation deficit this is now a matter

49

00:03:06,000 --> 00:03:11,849

of serious concern to politicians and

50

00:03:08,489 --> 00:03:14,159

policymakers part of the reason for it

51

00:03:11,849 --> 00:03:18,469

is the institutional framework of

52

00:03:14,159 --> 00:03:23,639

science which deters originality and

53

00:03:18,469 --> 00:03:26,639

heresy but part of it is the restrictive

54

00:03:23,639 --> 00:03:28,589

framework of thought that the philosophy

55

00:03:26,639 --> 00:03:36,449

of materialism has imposed on the

56

00:03:28,590 --> 00:03:40,890

sciences in my book what I don't need to

57

00:03:36,449 --> 00:03:45,599

hold it okay in my book the science

58
00:03:40,889 --> 00:03:48,629
delusion what I do is take the ten basic

59
00:03:45,599 --> 00:03:52,560
dogmas of materialism and turn them into

60
00:03:48,629 --> 00:03:54,780
questions and I examine these dogmas not

61
00:03:52,560 --> 00:03:56,449
as if they're truths but as if they're

62
00:03:54,780 --> 00:03:59,069
hypotheses that can be tested

63
00:03:56,449 --> 00:04:03,238
scientifically and I asked what is the

64
00:03:59,069 --> 00:04:06,269
evidence usually these dogmas are simply

65
00:04:03,239 --> 00:04:08,759
taken for granted people think that

66
00:04:06,269 --> 00:04:10,860
they're simply the truth most

67
00:04:08,759 --> 00:04:13,769
materialists don't realize that their

68
00:04:10,860 --> 00:04:15,780
belief system is a belief system they

69
00:04:13,769 --> 00:04:20,639
think other people have belief systems

70
00:04:15,780 --> 00:04:22,850
but they know the truth and say what I'm

71
00:04:20,639 --> 00:04:26,370
doing is taking these ten dogmas and

72
00:04:22,850 --> 00:04:32,430
looking at them scientifically this is a

73
00:04:26,370 --> 00:04:35,668
purely scientific exercise so first I'm

74
00:04:32,430 --> 00:04:37,590
going to summarize the ten dogmas then I

75
00:04:35,668 --> 00:04:38,839
shall look at two or three of them this

76
00:04:37,589 --> 00:04:43,369
morning and the

77
00:04:38,839 --> 00:04:46,269
afternoon look at some more of them the

78
00:04:43,370 --> 00:04:50,810
first Dogma is that nature is mechanical

79
00:04:46,269 --> 00:04:53,478
machine like the only valid metaphor for

80
00:04:50,810 --> 00:04:55,910
looking at nature is the machine the

81
00:04:53,478 --> 00:04:58,909
universe's are machine animals and

82
00:04:55,910 --> 00:05:00,520
machines plants and machines we are

83
00:04:58,910 --> 00:05:04,130
machines

84
00:05:00,519 --> 00:05:06,469
according to Richard Dawkins we are

85
00:05:04,129 --> 00:05:08,689
lumbering robots

86

00:05:06,470 --> 00:05:10,430
we're simply machines and our brains are

87
00:05:08,689 --> 00:05:15,019
nothing but genetically programmed

88
00:05:10,430 --> 00:05:18,259
computers the second Dogma is that

89
00:05:15,019 --> 00:05:20,120
matter is unconscious the whole universe

90
00:05:18,259 --> 00:05:22,579
is made of matter and matters

91
00:05:20,120 --> 00:05:24,728
unconscious the stars the planets the

92
00:05:22,579 --> 00:05:27,050
entire universe has come into being

93
00:05:24,728 --> 00:05:30,168
completely without consciousness and

94
00:05:27,050 --> 00:05:33,379
then on this earth at some stage in the

95
00:05:30,168 --> 00:05:35,329
past for reasons uh turley unknown the

96
00:05:33,379 --> 00:05:37,668
lightbulb of consciousness was switched

97
00:05:35,329 --> 00:05:39,680
on in human brains maybe in animal

98
00:05:37,668 --> 00:05:44,120
brains but the rest of the universe is

99
00:05:39,680 --> 00:05:47,720
totally unconscious the third Dogma is

100
00:05:44,120 --> 00:05:50,449

that the laws of nature are fixed all

101

00:05:47,720 --> 00:05:52,580

the laws of nature were established at

102

00:05:50,449 --> 00:05:56,360

the moment of the Big Bang exactly as

103

00:05:52,579 --> 00:05:59,598

they are today and they're rather like a

104

00:05:56,360 --> 00:06:02,449

kind of cosmic Napoleonic Code that was

105

00:05:59,598 --> 00:06:04,870

fixed right from the outset and will

106

00:06:02,449 --> 00:06:07,699

remain the same forever

107

00:06:04,870 --> 00:06:10,189

the fourth Dogma is that the total

108

00:06:07,699 --> 00:06:12,288

amount of matter and energy is always

109

00:06:10,189 --> 00:06:14,660

the same this is the principle of

110

00:06:12,288 --> 00:06:17,810

conservation of matter and energy all of

111

00:06:14,660 --> 00:06:19,729

us learned it at school and if the total

112

00:06:17,810 --> 00:06:22,250

amount of matter and energy is always at

113

00:06:19,728 --> 00:06:24,199

the same except at the moment of the Big

114

00:06:22,250 --> 00:06:28,370

Bang when all the mass and energy

115
00:06:24,199 --> 00:06:30,949
suddenly appeared as my friend Terence

116
00:06:28,370 --> 00:06:33,410
Mckenna used to say modern science is

117
00:06:30,949 --> 00:06:36,310
based on the principle give us one free

118
00:06:33,410 --> 00:06:38,960
miracle and we'll explain the rest and

119
00:06:36,310 --> 00:06:40,459
the one free miracle is the appearance

120
00:06:38,959 --> 00:06:42,560
of all the matter and energy in the

121
00:06:40,459 --> 00:06:47,478
universe and all the laws that govern it

122
00:06:42,560 --> 00:06:50,519
from nothing in a single instant the

123
00:06:47,478 --> 00:06:53,279
fifth Dogma is that nature is purpose

124
00:06:50,519 --> 00:06:56,219
there are no purposes in nature animals

125
00:06:53,279 --> 00:06:57,679
and plants are not teleological they're

126
00:06:56,220 --> 00:07:01,050
just brought come about by chance

127
00:06:57,680 --> 00:07:03,569
mutations and evolution has no purpose

128
00:07:01,050 --> 00:07:08,670
or direction the entire universe is

129
00:07:03,569 --> 00:07:12,949
blindly going nowhere the sixth Dogma is

130
00:07:08,670 --> 00:07:15,569
that biological inheritance is material

131
00:07:12,949 --> 00:07:19,430
everything you inherit biologically is

132
00:07:15,569 --> 00:07:22,310
inherited in chemical genes DNA in

133
00:07:19,430 --> 00:07:25,290
epigenetic modifications of the genes

134
00:07:22,310 --> 00:07:29,850
chemical changes associated with the

135
00:07:25,290 --> 00:07:35,040
genes or in cytoplasmic inheritance but

136
00:07:29,850 --> 00:07:37,860
it's all material dogma 7 is that

137
00:07:35,040 --> 00:07:40,860
memories are stored materially inside

138
00:07:37,860 --> 00:07:45,210
your brains everything we can remember

139
00:07:40,860 --> 00:07:47,939
is inside our head no one knows how it

140
00:07:45,209 --> 00:07:50,389
works but it's assumed that it must be

141
00:07:47,939 --> 00:07:53,250
because of phosphorylated proteins

142
00:07:50,389 --> 00:07:58,050
modified nerve endings or some other

143

00:07:53,250 --> 00:08:00,509
material changes in the brain number

144
00:07:58,050 --> 00:08:03,569
eight is that your mind is nothing but

145
00:08:00,509 --> 00:08:06,509
the activity of your brain your mind is

146
00:08:03,569 --> 00:08:08,790
inside your head the mind is entirely

147
00:08:06,509 --> 00:08:13,680
concerned considered confined to the

148
00:08:08,790 --> 00:08:16,370
inside of the skull Dogma 9 is a

149
00:08:13,680 --> 00:08:19,680
consequence of Dogma 8 it says that

150
00:08:16,370 --> 00:08:23,819
psychic phenomena like telepathy are

151
00:08:19,680 --> 00:08:25,530
illusory they may appear to happen but

152
00:08:23,819 --> 00:08:28,560
they can't really happen because they're

153
00:08:25,529 --> 00:08:30,359
impossible your mind is totally confined

154
00:08:28,560 --> 00:08:33,019
to the inside of your head so it can't

155
00:08:30,360 --> 00:08:35,580
possibly have any effects at a distance

156
00:08:33,019 --> 00:08:38,009
so even though there may be some

157
00:08:35,580 --> 00:08:39,780

evidence for telepathy we know in

158

00:08:38,009 --> 00:08:42,418

advance that that evidence must be

159

00:08:39,779 --> 00:08:46,559

either flawed or fraudulent because it's

160

00:08:42,418 --> 00:08:48,659

simply impossible and Dogma 10 is that

161

00:08:46,559 --> 00:08:51,839

mechanistic medicine is the only kind

162

00:08:48,659 --> 00:08:54,120

that really works complementary and

163

00:08:51,840 --> 00:08:56,340

alternative medicines may appear to work

164

00:08:54,120 --> 00:08:58,830

but that's just because people would

165

00:08:56,340 --> 00:09:01,440

have got better anyway or it's nothing

166

00:08:58,830 --> 00:09:02,910

but the placebo effect the only kind

167

00:09:01,440 --> 00:09:05,010

that really works

168

00:09:02,909 --> 00:09:06,689

we're medicine that works on machinery

169

00:09:05,009 --> 00:09:09,299

of the body the body is of

170

00:09:06,690 --> 00:09:11,070

physico-chemical machine so the only

171

00:09:09,299 --> 00:09:14,000

kind of medicine that can really work is

172
00:09:11,070 --> 00:09:16,650
physical or chemical surgery or drugs

173
00:09:14,000 --> 00:09:20,970
and of course surgery and drugs do work

174
00:09:16,649 --> 00:09:22,559
for many conditions but the the there

175
00:09:20,970 --> 00:09:25,860
are many other forms of therapy that

176
00:09:22,559 --> 00:09:28,229
indeed do seem to work as well but

177
00:09:25,860 --> 00:09:29,759
because the dogma that mechanistic

178
00:09:28,230 --> 00:09:32,190
medicine is the only kind that really

179
00:09:29,759 --> 00:09:34,319
works it means that most government

180
00:09:32,190 --> 00:09:36,390
health funding and most research funding

181
00:09:34,320 --> 00:09:39,390
for medicine in some countries almost

182
00:09:36,389 --> 00:09:41,399
all of it is devoted only to mechanistic

183
00:09:39,389 --> 00:09:44,850
medicine and all other forms of therapy

184
00:09:41,399 --> 00:09:46,470
are ignored they're not ignored by

185
00:09:44,850 --> 00:09:48,149
ordinary people of course there are

186
00:09:46,470 --> 00:09:51,029
millions and hundreds of millions of

187
00:09:48,149 --> 00:09:53,039
people who go to alternative therapists

188
00:09:51,029 --> 00:09:57,089
of one kind or another but they're

189
00:09:53,039 --> 00:09:59,599
ignored by the official worldview now

190
00:09:57,090 --> 00:10:02,240
these ten dogmas constitute the default

191
00:09:59,600 --> 00:10:05,149
worldview which is the standard

192
00:10:02,240 --> 00:10:08,519
orthodoxy of politics business

193
00:10:05,149 --> 00:10:10,709
government and education all of us have

194
00:10:08,519 --> 00:10:15,449
been brought up within that framework of

195
00:10:10,710 --> 00:10:18,629
thought of course not all scientists are

196
00:10:15,450 --> 00:10:21,660
totally convinced by this in every area

197
00:10:18,629 --> 00:10:24,539
of science there are dissidents radicals

198
00:10:21,659 --> 00:10:28,589
heretics who are questioning these

199
00:10:24,539 --> 00:10:30,929
dogmas but this basic materialist

200

00:10:28,590 --> 00:10:33,990
worldview is still the default standard

201
00:10:30,929 --> 00:10:38,449
worldview against the background of

202
00:10:33,990 --> 00:10:38,450
which any deviation is treated as heresy

203
00:10:38,929 --> 00:10:45,689
but science itself has now undermined

204
00:10:42,440 --> 00:10:48,600
indeed overthrown every one of these

205
00:10:45,690 --> 00:10:52,050
dogmas not one of them stands up to

206
00:10:48,600 --> 00:10:54,269
serious scientific scrutiny and what I'm

207
00:10:52,049 --> 00:10:57,419
going to do today I haven't time to talk

208
00:10:54,269 --> 00:11:01,649
about all ten of them but I'm going to

209
00:10:57,419 --> 00:11:03,870
start with nature being mechanical this

210
00:11:01,649 --> 00:11:05,490
is familiar so I shall do it briefly and

211
00:11:03,870 --> 00:11:08,970
then I'll go on to the dogma that

212
00:11:05,490 --> 00:11:13,039
matters unconscious and I'll speak more

213
00:11:08,970 --> 00:11:13,040
about consciousness this morning

214
00:11:13,299 --> 00:11:17,979

the doubler that nature is mechanical

215

00:11:15,549 --> 00:11:21,490

was the foundational step that gave rise

216

00:11:17,980 --> 00:11:23,470

to modern science in the 17th century

217

00:11:21,490 --> 00:11:26,500

the Scientific Revolution was a

218

00:11:23,470 --> 00:11:28,570

revolution because it overthrew the

219

00:11:26,500 --> 00:11:30,669

older view of nature which was taught in

220

00:11:28,570 --> 00:11:33,820

all the unit European universities and

221

00:11:30,669 --> 00:11:35,709

monasteries in the Middle Ages the

222

00:11:33,820 --> 00:11:39,370

medieval view of nature based on

223

00:11:35,710 --> 00:11:42,610

Aristotle and st. Thomas Aquinas was

224

00:11:39,370 --> 00:11:44,919

that nature is organic the universe is a

225

00:11:42,610 --> 00:11:48,399

living universe the earth is Mother

226

00:11:44,919 --> 00:11:52,750

Earth and animals and plants are truly

227

00:11:48,399 --> 00:11:55,509

alive plants have souls the soul of the

228

00:11:52,750 --> 00:11:58,600

plant gives form or shape to the plant

229

00:11:55,509 --> 00:12:00,519
it's the form of the body and what

230

00:11:58,600 --> 00:12:03,220
Aristotle and st. Thomas called the

231

00:12:00,519 --> 00:12:07,360
vegetative soul is what shapes each

232

00:12:03,220 --> 00:12:10,240
plant species the oak tree has a soul

233

00:12:07,360 --> 00:12:13,000
that gives form or shape to the tree the

234

00:12:10,240 --> 00:12:15,310
seedling the a acorn germinates and

235

00:12:13,000 --> 00:12:17,620
gives a seedling and the seedling is

236

00:12:15,309 --> 00:12:22,750
attracted towards the mature form of the

237

00:12:17,620 --> 00:12:25,899
oak by the soul of the oak animals also

238

00:12:22,750 --> 00:12:29,019
have vegetative souls that shape the

239

00:12:25,899 --> 00:12:31,449
body and in addition they have animal

240

00:12:29,019 --> 00:12:34,500
souls that give rise to the instincts

241

00:12:31,450 --> 00:12:37,390
coordinate sensations and movements and

242

00:12:34,500 --> 00:12:39,220
of course the English word animal comes

243
00:12:37,389 --> 00:12:44,529
from the latin word anima which means

244
00:12:39,220 --> 00:12:47,470
soul humans on this medieval view have a

245
00:12:44,529 --> 00:12:49,750
vegetative soul that shapes the body an

246
00:12:47,470 --> 00:12:52,690
animal soul that gives us our animal

247
00:12:49,750 --> 00:12:55,779
nature largely unconscious but in

248
00:12:52,690 --> 00:12:58,090
addition the rational or intellectual

249
00:12:55,779 --> 00:13:03,870
soul which underlies rational thought

250
00:12:58,090 --> 00:13:07,450
reason language mathematics and so on

251
00:13:03,870 --> 00:13:09,129
this was the medieval view and this was

252
00:13:07,450 --> 00:13:13,180
exactly the view that the scientific

253
00:13:09,129 --> 00:13:16,720
revolution overthrew it abolished the

254
00:13:13,179 --> 00:13:19,389
idea of souls in nature nature was made

255
00:13:16,720 --> 00:13:22,690
up not of organisms which have their own

256
00:13:19,389 --> 00:13:25,269
purposes and are self-organizing instead

257

00:13:22,690 --> 00:13:28,370
nature was made of machine

258
00:13:25,269 --> 00:13:30,198
machines and like organisms in that they

259
00:13:28,370 --> 00:13:33,828
have parts that work together

260
00:13:30,198 --> 00:13:35,688
but unlike organisms they don't organize

261
00:13:33,828 --> 00:13:38,659
themselves they don't form themselves

262
00:13:35,688 --> 00:13:41,269
that's why we need factories to make

263
00:13:38,659 --> 00:13:43,639
them and they don't design themselves

264
00:13:41,269 --> 00:13:47,419
they need engineers and designers to

265
00:13:43,639 --> 00:13:49,490
design them in the 17th century the

266
00:13:47,419 --> 00:13:51,889
founding fathers of modern science were

267
00:13:49,490 --> 00:13:54,318
devout Christians and they thought that

268
00:13:51,889 --> 00:13:56,480
by creating a mechanistic theory of

269
00:13:54,318 --> 00:13:58,240
nature they could create a new kind of

270
00:13:56,480 --> 00:14:01,009
theology which they did create

271
00:13:58,240 --> 00:14:03,379

mechanistic theology where God was

272

00:14:01,009 --> 00:14:06,499

conceived of as a machine maker an

273

00:14:03,379 --> 00:14:08,509

engineer and a mathematician so all the

274

00:14:06,499 --> 00:14:11,120

designs of animals and plants were not

275

00:14:08,509 --> 00:14:12,499

designed by nature they they were not

276

00:14:11,120 --> 00:14:14,870

designed by the animals and plants

277

00:14:12,499 --> 00:14:17,509

themselves the purposes were not

278

00:14:14,870 --> 00:14:20,870

inherent in nature as they were before

279

00:14:17,509 --> 00:14:23,480

instead all designs purposes ideas were

280

00:14:20,870 --> 00:14:25,730

in God so they thought they were

281

00:14:23,480 --> 00:14:28,188

increasing the importance and role of

282

00:14:25,730 --> 00:14:34,370

God and diminishing the importance of

283

00:14:28,188 --> 00:14:38,328

nature so this led to a mechanical

284

00:14:34,370 --> 00:14:42,230

worldview it also meant that Nature had

285

00:14:38,328 --> 00:14:44,979

no purposes of its own that's why in

286
00:14:42,230 --> 00:14:47,959
nineteenth-century evolutionary thought

287
00:14:44,980 --> 00:14:50,420
evolution has no purpose the universe is

288
00:14:47,958 --> 00:14:54,169
a machine a machine has no purpose of

289
00:14:50,419 --> 00:14:57,229
its own you can see the difference if

290
00:14:54,169 --> 00:14:59,328
you think of a car you get into a car

291
00:14:57,230 --> 00:15:01,220
and if as long as the cars working it

292
00:14:59,328 --> 00:15:03,109
will go wherever you want it to go it

293
00:15:01,220 --> 00:15:06,740
doesn't have any desire or purpose of

294
00:15:03,110 --> 00:15:08,839
its own if you get onto a horse it might

295
00:15:06,740 --> 00:15:11,509
be a very different story the horse

296
00:15:08,839 --> 00:15:13,399
might easily have ideas of its own about

297
00:15:11,509 --> 00:15:17,178
what it wants to do that's because it's

298
00:15:13,399 --> 00:15:19,730
an organism not a machine so this idea

299
00:15:17,178 --> 00:15:22,458
that nature's a machine is stripped-out

300
00:15:19,730 --> 00:15:25,209
purpose from nature dogma v nature is

301
00:15:22,458 --> 00:15:27,649
purposeless is nothing but our

302
00:15:25,208 --> 00:15:29,659
consequence of dogma one nature is

303
00:15:27,649 --> 00:15:33,919
mechanical it's simply part of the

304
00:15:29,659 --> 00:15:37,169
metaphor but this is not a testable

305
00:15:33,919 --> 00:15:40,128
scientific theory it's only a metaphor

306
00:15:37,169 --> 00:15:43,229
it's not something you can prove with

307
00:15:40,129 --> 00:15:45,269
too many places of decimals by precise

308
00:15:43,230 --> 00:15:47,489
experiments it's simply a way of

309
00:15:45,269 --> 00:15:50,249
thinking and there's no reason whatever

310
00:15:47,489 --> 00:15:53,160
that we have to adopt only one metaphor

311
00:15:50,249 --> 00:15:57,089
one size fits all for the whole universe

312
00:15:53,159 --> 00:15:59,129
and everything within it I think that

313
00:15:57,089 --> 00:16:00,689
what we can easily do is adopt the

314

00:15:59,129 --> 00:16:03,749
radical point-of-view that living

315
00:16:00,688 --> 00:16:06,868
organisms are organisms that the

316
00:16:03,749 --> 00:16:09,389
universe is an organism in fact the

317
00:16:06,869 --> 00:16:11,369
universe it's now conceived we're

318
00:16:09,389 --> 00:16:13,259
starting with the Big Bang which is

319
00:16:11,369 --> 00:16:16,528
rather like the hatching of the cosmic

320
00:16:13,259 --> 00:16:20,449
egg and then growing and cooling and

321
00:16:16,528 --> 00:16:23,730
expanding and as it grows and cools the

322
00:16:20,448 --> 00:16:25,678
structure within universe increases that

323
00:16:23,730 --> 00:16:28,970
is much more like a developing organism

324
00:16:25,678 --> 00:16:28,970
than like a machine

325
00:16:34,169 --> 00:16:41,169
well one consequence of this way of

326
00:16:38,080 --> 00:16:43,720
thinking it is that matters unconscious

327
00:16:41,169 --> 00:16:47,919
and this is the second Dogma which I'm

328
00:16:43,720 --> 00:16:50,649

now coming on to this was simply a

329

00:16:47,919 --> 00:16:54,360

definition in the 17th century by a

330

00:16:50,649 --> 00:16:57,549

Frenchman René Descartes and Descartes

331

00:16:54,360 --> 00:17:00,159

separated matter and mind he got rid of

332

00:16:57,549 --> 00:17:03,958

soul from nature and that left any

333

00:17:00,159 --> 00:17:06,789

rational minds and inanimate matter and

334

00:17:03,958 --> 00:17:11,139

so he created the famous car to Z

335

00:17:06,789 --> 00:17:13,299

Cartesian dualism matter was defined as

336

00:17:11,140 --> 00:17:16,150

unconscious he didn't prove it by

337

00:17:13,299 --> 00:17:19,659

experiment he simply assumed that all

338

00:17:16,150 --> 00:17:23,679

matter is unconscious and mechanical

339

00:17:19,660 --> 00:17:25,630

including human bodies then minds are

340

00:17:23,679 --> 00:17:27,519

something completely different they're

341

00:17:25,630 --> 00:17:30,330

not in space they're not in time

342

00:17:27,519 --> 00:17:33,009

they're immaterial they're eternal and

343
00:17:30,329 --> 00:17:35,949
minds are confined to human beings

344
00:17:33,009 --> 00:17:40,058
the spirit of human beings human beings

345
00:17:35,950 --> 00:17:42,759
angels and God so this creates an

346
00:17:40,058 --> 00:17:45,970
extreme dualism in humans between mind

347
00:17:42,759 --> 00:17:48,549
and body the mind is immaterial the

348
00:17:45,970 --> 00:17:51,069
body's material and the to interact

349
00:17:48,549 --> 00:17:54,639
according to Descartes in a small region

350
00:17:51,069 --> 00:17:56,799
of the brain the pineal gland modern

351
00:17:54,640 --> 00:17:58,690
theories of dualism are similar except

352
00:17:56,799 --> 00:18:01,509
the supposed seat of interaction has

353
00:17:58,690 --> 00:18:06,429
moved three or four centimeters into the

354
00:18:01,509 --> 00:18:07,839
cerebral cortex and so at this

355
00:18:06,429 --> 00:18:10,030
conception of the body is completely

356
00:18:07,839 --> 00:18:13,119
mechanical is the basis of modern

357
00:18:10,029 --> 00:18:15,779
medicine as I said there's also a

358
00:18:13,119 --> 00:18:18,519
duality between humans and animals

359
00:18:15,779 --> 00:18:21,009
animals don't have rational minds

360
00:18:18,519 --> 00:18:23,289
they're just machines that's why it's

361
00:18:21,009 --> 00:18:25,799
alright to vivisect animals Descartes

362
00:18:23,289 --> 00:18:28,178
himself practice vivisection on dogs

363
00:18:25,799 --> 00:18:30,190
because they're just machines they can't

364
00:18:28,179 --> 00:18:32,550
feel pain they can't think they don't

365
00:18:30,190 --> 00:18:35,350
have emotions they're just machines and

366
00:18:32,549 --> 00:18:38,349
that's the basis of modern industrial

367
00:18:35,349 --> 00:18:40,959
agriculture and factory farming animals

368
00:18:38,349 --> 00:18:45,789
are just machines our whole modern

369
00:18:40,960 --> 00:18:47,298
economy is based on this assumption it

370
00:18:45,789 --> 00:18:50,089
also creates a separ

371

00:18:47,298 --> 00:18:53,628
raishin between religion and science and

372
00:18:50,089 --> 00:18:57,199
God and nature because religion in this

373
00:18:53,628 --> 00:19:00,918
division got human morality human souls

374
00:18:57,200 --> 00:19:03,259
angels and God science got the whole of

375
00:19:00,919 --> 00:19:07,669
the universe all of nature and the human

376
00:19:03,259 --> 00:19:09,769
body and by separating these realms for

377
00:19:07,669 --> 00:19:12,710
most of the history of science

378
00:19:09,769 --> 00:19:15,470
religion and science were kept separate

379
00:19:12,710 --> 00:19:18,139
people could be devout Christians or

380
00:19:15,470 --> 00:19:20,538
Jews and practicing mechanistic

381
00:19:18,138 --> 00:19:21,918
scientists without any conflict because

382
00:19:20,538 --> 00:19:27,288
they were set kept in separate

383
00:19:21,919 --> 00:19:30,859
compartments but by the 19th century

384
00:19:27,288 --> 00:19:34,999
many people came to dislike this extreme

385
00:19:30,858 --> 00:19:38,358

dualism most people don't like dual isms

386

00:19:34,999 --> 00:19:41,989

and so the question was what to do about

387

00:19:38,358 --> 00:19:44,628

it well one way of dealing with the

388

00:19:41,989 --> 00:19:47,298

dualism is to say that two is too few

389

00:19:44,628 --> 00:19:49,849

and we need to move to an understanding

390

00:19:47,298 --> 00:19:52,819

that has at least three aspects to it a

391

00:19:49,849 --> 00:19:54,408

Trinitarian understanding that I think

392

00:19:52,819 --> 00:19:56,298

is the best way of going that the

393

00:19:54,409 --> 00:19:59,440

ultimate reality has a triple or

394

00:19:56,298 --> 00:20:02,298

threefold at least a three-fold nature

395

00:19:59,440 --> 00:20:05,239

but most people in the 19th century

396

00:20:02,298 --> 00:20:07,220

thought that too was too many and that

397

00:20:05,239 --> 00:20:09,999

we should go down to one basic principle

398

00:20:07,220 --> 00:20:13,460

and there were two ways of dealing with

399

00:20:09,999 --> 00:20:15,858

Cartesian dualism one was to say matter

400
00:20:13,460 --> 00:20:18,440
doesn't exist the only thing that exists

401
00:20:15,858 --> 00:20:21,739
is spirit or mind and that's the

402
00:20:18,440 --> 00:20:23,808
philosophy of idealism spirit is the

403
00:20:21,739 --> 00:20:26,389
only reality consciousness is the only

404
00:20:23,808 --> 00:20:31,249
reality matter is kind of dumbed down

405
00:20:26,388 --> 00:20:34,519
mind but most people in the 19th century

406
00:20:31,249 --> 00:20:37,339
went the other way the dominant ethos of

407
00:20:34,519 --> 00:20:40,519
19th century intellectual shifted to

408
00:20:37,339 --> 00:20:44,058
materialism spirit doesn't exist matters

409
00:20:40,519 --> 00:20:46,548
the only reality one reason that they

410
00:20:44,058 --> 00:20:49,069
took this step was not because of

411
00:20:46,548 --> 00:20:51,079
scientific data it was because many

412
00:20:49,069 --> 00:20:53,509
intellectuals were alienated from the

413
00:20:51,079 --> 00:20:56,778
Christian tradition the Enlightenment in

414
00:20:53,509 --> 00:20:58,970
France and elsewhere in Europe was

415
00:20:56,778 --> 00:21:01,779
profoundly anti-christian

416
00:20:58,970 --> 00:21:03,620
and it was associated with

417
00:21:01,779 --> 00:21:07,460
anti-clericalism and the growth of

418
00:21:03,619 --> 00:21:09,918
atheism communism early socialism were

419
00:21:07,460 --> 00:21:12,110
essentially atheistic and for the

420
00:21:09,919 --> 00:21:14,630
reasons of polemics against the church

421
00:21:12,109 --> 00:21:17,479
and the liberation of secular society

422
00:21:14,630 --> 00:21:21,169
from religious control materialism was a

423
00:21:17,480 --> 00:21:23,870
very attractive dogma it gave all the

424
00:21:21,169 --> 00:21:26,330
prestige of science to this new view it

425
00:21:23,869 --> 00:21:28,219
enabled propagandists to say science

426
00:21:26,329 --> 00:21:30,109
represents the future and progress

427
00:21:28,220 --> 00:21:31,460
religion holds people back it's

428

00:21:30,109 --> 00:21:34,038
superstition

429
00:21:31,460 --> 00:21:36,769
people are dominated by priests and so

430
00:21:34,038 --> 00:21:39,558
on so for various reasons to do with

431
00:21:36,769 --> 00:21:42,500
anti religious polemic materialism

432
00:21:39,558 --> 00:21:45,319
became the preferred philosophy of many

433
00:21:42,500 --> 00:21:47,298
intellectuals and it gave an enormous

434
00:21:45,319 --> 00:21:49,308
authority to science which now became

435
00:21:47,298 --> 00:21:53,029
like the new religion and scientists the

436
00:21:49,308 --> 00:21:55,158
new priests anyway for a variety of this

437
00:21:53,029 --> 00:21:57,079
is a complex social pattern that went on

438
00:21:55,159 --> 00:21:59,270
in the nineteenth century but by the end

439
00:21:57,079 --> 00:22:03,079
of the 19th century the default

440
00:21:59,269 --> 00:22:06,200
worldview was materialism matters the

441
00:22:03,079 --> 00:22:08,750
only reality at one stroke the whole

442
00:22:06,200 --> 00:22:11,600

world of spirit is removed angels and

443

00:22:08,750 --> 00:22:15,140

God are abolished immediately so you get

444

00:22:11,599 --> 00:22:17,569

instant atheism and and you then have

445

00:22:15,140 --> 00:22:21,320

the idea that the human mind is nothing

446

00:22:17,569 --> 00:22:24,379

but the activity of the brain that of

447

00:22:21,319 --> 00:22:26,869

course is a problem because according to

448

00:22:24,380 --> 00:22:30,020

the materialist doctrine matters the

449

00:22:26,869 --> 00:22:32,329

only reality and matters unconscious yet

450

00:22:30,019 --> 00:22:34,490

human beings are conscious it's hardly

451

00:22:32,329 --> 00:22:36,970

possible to not deny that we are

452

00:22:34,490 --> 00:22:40,038

conscious and yet we ought not to be

453

00:22:36,970 --> 00:22:43,909

this is the most fundamental problem for

454

00:22:40,038 --> 00:22:46,690

materialism in the 20th century in the

455

00:22:43,909 --> 00:22:49,580

english-speaking world the majority of

456

00:22:46,690 --> 00:22:51,620

psychologists in universities belong to

457
00:22:49,579 --> 00:22:54,288
the behaviorist school which said that

458
00:22:51,619 --> 00:22:56,869
the only valid scientific objective

459
00:22:54,288 --> 00:22:59,089
reality is measurable behavior the

460
00:22:56,869 --> 00:23:02,629
movements of muscles and the secretions

461
00:22:59,089 --> 00:23:05,538
of glands and that consciousness is

462
00:23:02,630 --> 00:23:08,299
nothing but an illusory concept designed

463
00:23:05,538 --> 00:23:10,029
to confuse people that it's subjective

464
00:23:08,298 --> 00:23:12,408
it's therefore it doesn't exist

465
00:23:10,029 --> 00:23:12,740
objective reality is the only thing that

466
00:23:12,409 --> 00:23:15,080
sign

467
00:23:12,740 --> 00:23:16,730
Vivek and therefore psychology should

468
00:23:15,079 --> 00:23:19,669
proceed with no reference to

469
00:23:16,730 --> 00:23:23,000
consciousness in the British

470
00:23:19,670 --> 00:23:26,660
Psychological Society about 15 years ago

471
00:23:23,000 --> 00:23:29,029
a radical branch set up a minority group

472
00:23:26,660 --> 00:23:30,650
within the psychological city called the

473
00:23:29,029 --> 00:23:33,859
conscious a consciousness studies

474
00:23:30,650 --> 00:23:35,750
research group and this was considered

475
00:23:33,859 --> 00:23:37,129
heretical and radical at the time that

476
00:23:35,750 --> 00:23:42,589
psychologists should discuss

477
00:23:37,130 --> 00:23:44,929
consciousness and so philosophers of

478
00:23:42,589 --> 00:23:47,720
mind in the english-speaking world were

479
00:23:44,929 --> 00:23:49,940
and still are mainly materialists so

480
00:23:47,720 --> 00:23:51,319
their job is to prove that the mind is

481
00:23:49,940 --> 00:23:54,860
nothing but the brain and that

482
00:23:51,319 --> 00:23:57,619
consciousness is an illusion I went to a

483
00:23:54,859 --> 00:23:59,899
debate only three weeks ago in London

484
00:23:57,619 --> 00:24:01,759
between Daniel Dennett a leading

485

00:23:59,900 --> 00:24:04,220
materialist philosopher and Nicolas

486
00:24:01,759 --> 00:24:06,710
Humphrey a leading materialist

487
00:24:04,220 --> 00:24:09,950
psychologists about the nature of the

488
00:24:06,710 --> 00:24:11,569
mind then it said the mind is a pure

489
00:24:09,950 --> 00:24:13,779
illusion does nothing but nervous

490
00:24:11,569 --> 00:24:16,879
activity all the way through the brain

491
00:24:13,779 --> 00:24:18,230
and so then of course the question is

492
00:24:16,880 --> 00:24:20,559
how do you explain the fact we're

493
00:24:18,230 --> 00:24:22,910
conscious well it's just an illusion

494
00:24:20,558 --> 00:24:24,829
Humphrey put forward a different theory

495
00:24:22,910 --> 00:24:28,130
he said it's not just an illusion it's

496
00:24:24,829 --> 00:24:29,990
the appearance of an illusion and so

497
00:24:28,130 --> 00:24:32,000
they argued for the whole of this debate

498
00:24:29,990 --> 00:24:35,179
about whether it was an illusion or the

499
00:24:32,000 --> 00:24:37,130

appearance of an illusion but of course

500

00:24:35,179 --> 00:24:39,650

neither of this really answers the

501

00:24:37,130 --> 00:24:42,710

question because illusion is itself a

502

00:24:39,650 --> 00:24:45,769

mode of consciousness it presupposes

503

00:24:42,710 --> 00:24:48,319

rather than explains consciousness now

504

00:24:45,769 --> 00:24:50,029

it's amazing that grown men for

505

00:24:48,319 --> 00:24:51,769

generations could spend their time

506

00:24:50,029 --> 00:24:53,750

trying to disprove the fact that they

507

00:24:51,769 --> 00:24:56,450

themselves are conscious all that they

508

00:24:53,750 --> 00:24:58,640

have free choice because they after all

509

00:24:56,450 --> 00:25:00,789

try to persuade you of materialism on

510

00:24:58,640 --> 00:25:03,800

the basis of science reason and evidence

511

00:25:00,789 --> 00:25:05,659

but actually the only way you can be a

512

00:25:03,799 --> 00:25:07,159

materialist from the materialist point

513

00:25:05,660 --> 00:25:09,558

of view is because your brain makes you

514
00:25:07,160 --> 00:25:12,890
do it and you don't really have any

515
00:25:09,558 --> 00:25:14,889
choice in the matter so there's all

516
00:25:12,890 --> 00:25:17,780
these inconsistencies

517
00:25:14,890 --> 00:25:20,420
they've become intolerable to some

518
00:25:17,779 --> 00:25:23,539
philosophers and in the english-speaking

519
00:25:20,420 --> 00:25:26,058
world does now a movement against

520
00:25:23,539 --> 00:25:28,219
materialism or at least going beyond it

521
00:25:26,058 --> 00:25:31,098
Galen Strawson is one of our leading

522
00:25:28,219 --> 00:25:32,929
British philosophers and he came out a

523
00:25:31,098 --> 00:25:34,878
few years ago by saying that the only

524
00:25:32,929 --> 00:25:37,219
way consciousness could be explained is

525
00:25:34,878 --> 00:25:40,248
by assuming that matter even at the

526
00:25:37,219 --> 00:25:42,830
electron or atomic level has some kind

527
00:25:40,249 --> 00:25:45,169
of mental activity in other words he's

528

00:25:42,829 --> 00:25:47,148

adopting a form of Pan psychism the

529

00:25:45,169 --> 00:25:49,489

doctrine that there's a kind of psyche

530

00:25:47,148 --> 00:25:51,798

or mind throughout the material world

531

00:25:49,489 --> 00:25:56,028

not just in human brains or animal

532

00:25:51,798 --> 00:25:57,798

brains a few months ago Thomas Nagel one

533

00:25:56,028 --> 00:26:01,868

of the leading American philosophers of

534

00:25:57,798 --> 00:26:05,710

mind wrote a book called mind and cosmos

535

00:26:01,868 --> 00:26:09,288

why the materialist neo-darwinian

536

00:26:05,710 --> 00:26:12,858

conception of nature is almost certainly

537

00:26:09,288 --> 00:26:15,710

false this book caused a tremendous stir

538

00:26:12,858 --> 00:26:18,798

in intellectual circles in America and

539

00:26:15,710 --> 00:26:21,889

in Britain and was denounced as heresy

540

00:26:18,798 --> 00:26:25,278

by some of the leading materialists but

541

00:26:21,888 --> 00:26:29,088

Nagel like strossen is now advocating a

542

00:26:25,278 --> 00:26:31,519
form of Pan psychism of course Pan

543
00:26:29,088 --> 00:26:33,319
psychism is not a new philosophy it's

544
00:26:31,519 --> 00:26:37,519
what most people believed in the Middle

545
00:26:33,319 --> 00:26:39,710
Ages and in the 17th century after

546
00:26:37,519 --> 00:26:43,069
Descartes put forward his extreme

547
00:26:39,710 --> 00:26:45,739
dualism two major philosophers in Europe

548
00:26:43,069 --> 00:26:48,439
came out with Penn cyclist views one was

549
00:26:45,739 --> 00:26:51,798
light nets and light nets argued that

550
00:26:48,440 --> 00:26:55,159
every self-organizing unit or monad has

551
00:26:51,798 --> 00:26:57,259
both a body and a mind and each monad

552
00:26:55,159 --> 00:27:00,710
reflects the universe from its own point

553
00:26:57,259 --> 00:27:02,598
of view just like in this room each one

554
00:27:00,710 --> 00:27:04,819
of us is in a different place where each

555
00:27:02,598 --> 00:27:07,069
seeing this room from our own point of

556
00:27:04,819 --> 00:27:08,509

view none of us is seeing it from the

557

00:27:07,069 --> 00:27:10,338

same point of view as anyone else

558

00:27:08,509 --> 00:27:12,288

because by definition that were in

559

00:27:10,338 --> 00:27:14,329

different places being in bodies which

560

00:27:12,288 --> 00:27:18,138

can't occupy the same place at the same

561

00:27:14,329 --> 00:27:20,298

time and he argued that monads including

562

00:27:18,138 --> 00:27:22,248

non biological monads throughout all

563

00:27:20,298 --> 00:27:26,418

nature reflect the whole universe from

564

00:27:22,249 --> 00:27:28,700

their end point of view Spinoza took the

565

00:27:26,419 --> 00:27:31,549

view that nature the material world is

566

00:27:28,700 --> 00:27:34,129

the body of God God is the mind of

567

00:27:31,548 --> 00:27:36,138

nature and that nature and God are the

568

00:27:34,128 --> 00:27:39,089

body and mind of an intrinsic

569

00:27:36,138 --> 00:27:42,178

fundamental unity

570

00:27:39,089 --> 00:27:44,849

in the 20th century the most interesting

571
00:27:42,179 --> 00:27:48,298
pants I kissed philosopher in my opinion

572
00:27:44,849 --> 00:27:49,849
was Alfred North Whitehead a British

573
00:27:48,298 --> 00:27:53,038
philosopher

574
00:27:49,849 --> 00:27:55,079
Whitehead was a mathematician as well as

575
00:27:53,038 --> 00:27:56,700
a philosopher and he was the first

576
00:27:55,079 --> 00:27:58,918
philosopher to appreciate the

577
00:27:56,700 --> 00:28:03,600
significance of quantum theory in the

578
00:27:58,919 --> 00:28:05,460
1920s Whitehead realized that quantum

579
00:28:03,599 --> 00:28:08,699
theory meant that matter could no longer

580
00:28:05,460 --> 00:28:11,879
be seen as just stuff solid stuff like

581
00:28:08,700 --> 00:28:15,749
little billiard balls matter was

582
00:28:11,878 --> 00:28:18,689
wave-like matter meant that this meant

583
00:28:15,749 --> 00:28:22,558
that all material objects are processes

584
00:28:18,690 --> 00:28:26,759
not things and processes take time a

585
00:28:22,558 --> 00:28:29,099
wave takes time to wave you can't have

586
00:28:26,759 --> 00:28:31,679
an instantaneous wave because it takes

587
00:28:29,099 --> 00:28:34,439
time for its wave nature to be expressed

588
00:28:31,679 --> 00:28:36,869
and it can't be confined to a single

589
00:28:34,440 --> 00:28:39,929
point because waves are spread out in

590
00:28:36,868 --> 00:28:41,368
space this is ultimately the reason for

591
00:28:39,929 --> 00:28:44,879
the uncertainty principle in quantum

592
00:28:41,368 --> 00:28:48,990
physics that waves are spread out in

593
00:28:44,878 --> 00:28:53,009
space and time even an electron is

594
00:28:48,990 --> 00:28:55,859
spread out in time whitehead pointed out

595
00:28:53,009 --> 00:28:58,139
that this means that in all bodies in

596
00:28:55,859 --> 00:29:01,798
all material systems including electrons

597
00:28:58,138 --> 00:29:05,638
there's a polarity in time between past

598
00:29:01,798 --> 00:29:09,690
and future that there's a polarity in

599

00:29:05,638 --> 00:29:11,699
all processes there has to be and he

600
00:29:09,690 --> 00:29:13,499
took a very interesting approach to the

601
00:29:11,700 --> 00:29:17,460
question of the relation of mind and

602
00:29:13,499 --> 00:29:19,499
body all of us are familiar with the

603
00:29:17,460 --> 00:29:21,840
conventional way of thinking about the

604
00:29:19,499 --> 00:29:24,960
relation of mind and body that uses a

605
00:29:21,839 --> 00:29:27,509
spatial metaphor the mind is inside the

606
00:29:24,960 --> 00:29:30,569
bodies outside we have our inner life

607
00:29:27,509 --> 00:29:32,849
and that's the outer world we're used to

608
00:29:30,569 --> 00:29:35,819
this kind of spatial metaphor inner and

609
00:29:32,849 --> 00:29:37,648
outer but whitehead thought a much

610
00:29:35,819 --> 00:29:41,428
better way of thinking about it was in

611
00:29:37,648 --> 00:29:43,859
terms of time that every process in time

612
00:29:41,429 --> 00:29:47,038
has a polarity between past and future

613
00:29:43,859 --> 00:29:50,878

and the future Pole is the mental pole

614

00:29:47,038 --> 00:29:52,859

the past pole is the physical pole if

615

00:29:50,878 --> 00:29:54,990

you think of an electron

616

00:29:52,859 --> 00:29:57,298

the future of an electron as it's moving

617

00:29:54,990 --> 00:29:59,609

is given by the Schrodinger wave

618

00:29:57,298 --> 00:30:01,440

equation it's an equation which tells

619

00:29:59,609 --> 00:30:04,229

you all the possible things that

620

00:30:01,440 --> 00:30:06,450

electron could do none of them are

621

00:30:04,230 --> 00:30:08,849

physically real yet because they haven't

622

00:30:06,450 --> 00:30:11,159

happened they're just possibilities or

623

00:30:08,849 --> 00:30:14,069

probabilities which don't have a

624

00:30:11,159 --> 00:30:16,140

physical reality but they exist in some

625

00:30:14,069 --> 00:30:18,269

other realm a realm of possibility as

626

00:30:16,140 --> 00:30:20,159

soon as the electron interacts with

627

00:30:18,269 --> 00:30:23,450

something one of those possibilities

628
00:30:20,159 --> 00:30:25,769
comes true and the others disappear

629
00:30:23,450 --> 00:30:29,220
sometimes this is called the collapse of

630
00:30:25,769 --> 00:30:31,769
the wavefunction as soon as it's

631
00:30:29,220 --> 00:30:33,960
happened it's in the past it's a

632
00:30:31,769 --> 00:30:36,210
physical fact it's observable but it's

633
00:30:33,960 --> 00:30:39,028
in the past and immediately a new wave

634
00:30:36,210 --> 00:30:41,038
of possibilities opens up which is that

635
00:30:39,028 --> 00:30:45,089
as it were the mental pole of the

636
00:30:41,038 --> 00:30:47,579
electron in a similar way in our own

637
00:30:45,089 --> 00:30:51,119
being our minds our conscious minds are

638
00:30:47,579 --> 00:30:52,769
concerned with possibilities many of the

639
00:30:51,119 --> 00:30:55,288
things that happen in our minds are

640
00:30:52,769 --> 00:30:57,419
going through different possible actions

641
00:30:55,288 --> 00:31:00,720
and our minds help us choose between

642
00:30:57,419 --> 00:31:04,940
them the possibilities are to do with

643
00:31:00,720 --> 00:31:08,009
future actions future possibilities

644
00:31:04,940 --> 00:31:09,630
they're not measurable physically

645
00:31:08,009 --> 00:31:12,388
because their possibilities they don't

646
00:31:09,630 --> 00:31:13,980
have a physical observable objective

647
00:31:12,388 --> 00:31:16,678
existence possibilities are of a

648
00:31:13,980 --> 00:31:18,778
different order of thing but as soon as

649
00:31:16,679 --> 00:31:20,759
we make a decision and do something that

650
00:31:18,778 --> 00:31:23,480
becomes an observable fact and it's

651
00:31:20,759 --> 00:31:26,158
immediately in the past for example

652
00:31:23,480 --> 00:31:29,130
every one of us is in this room today

653
00:31:26,159 --> 00:31:31,100
because we decided to come here we could

654
00:31:29,130 --> 00:31:34,409
have done many other things this morning

655
00:31:31,099 --> 00:31:37,709
all of us had alternative possibilities

656

00:31:34,409 --> 00:31:39,600
but when we decided to come here out of

657
00:31:37,710 --> 00:31:41,940
the many possibilities we decided on

658
00:31:39,599 --> 00:31:44,189
this particular possibility and when we

659
00:31:41,940 --> 00:31:46,200
push it into action and arrive here it's

660
00:31:44,190 --> 00:31:48,179
an observable fact that we're in this

661
00:31:46,200 --> 00:31:50,340
room we can be photographed we can move

662
00:31:48,179 --> 00:31:52,470
weighed measured it's a physical fact

663
00:31:50,339 --> 00:31:54,898
but when it was at the realm of

664
00:31:52,470 --> 00:31:57,778
possibility it was about a choice among

665
00:31:54,898 --> 00:32:00,898
virtual futures which weren't physical

666
00:31:57,778 --> 00:32:03,200
facts so this polarity of past and

667
00:32:00,898 --> 00:32:05,879
future I think is particularly

668
00:32:03,200 --> 00:32:08,640
interesting as a way of thinking

669
00:32:05,880 --> 00:32:11,510
of the relation of body and mind it

670
00:32:08,640 --> 00:32:14,310

implies a two-way flow of causation

671

00:32:11,509 --> 00:32:15,150

physical causation moves from the past

672

00:32:14,309 --> 00:32:19,319

to the present

673

00:32:15,150 --> 00:32:22,950

it pushes from the past mental causation

674

00:32:19,319 --> 00:32:25,919

pulls from the future and these two

675

00:32:22,950 --> 00:32:27,930

overlap in the present one is pulling

676

00:32:25,920 --> 00:32:30,330

towards the future the others pushing

677

00:32:27,930 --> 00:32:32,130

from the past another way you can think

678

00:32:30,329 --> 00:32:34,559

of it is the causal influence of the

679

00:32:32,130 --> 00:32:37,020

mind works backwards from future towards

680

00:32:34,559 --> 00:32:40,950

the past physical causation works from

681

00:32:37,019 --> 00:32:42,509

past towards the future so this I think

682

00:32:40,950 --> 00:32:48,559

provides us with a new way of thinking

683

00:32:42,509 --> 00:32:52,789

about the relation of mind and body and

684

00:32:48,559 --> 00:32:55,529

it goes beyond the problem that regular

685
00:32:52,789 --> 00:32:57,180
materialist philosophy has of the nature

686
00:32:55,529 --> 00:32:59,730
of consciousness which is usually called

687
00:32:57,180 --> 00:33:02,400
the hard problem because it simply can't

688
00:32:59,730 --> 00:33:05,130
be solved by materialism but if we have

689
00:33:02,400 --> 00:33:08,490
a more pan psychist approach then it's

690
00:33:05,130 --> 00:33:10,170
not really materialism anymore some pan

691
00:33:08,490 --> 00:33:12,059
cyclists today call themselves

692
00:33:10,170 --> 00:33:17,279
materialist but it goes way beyond

693
00:33:12,059 --> 00:33:19,980
old-style materialism most of the debate

694
00:33:17,279 --> 00:33:25,680
about pan psychism focuses on electrons

695
00:33:19,980 --> 00:33:27,299
and on atoms now it's a bit hard for us

696
00:33:25,680 --> 00:33:29,640
to imagine the consciousness of an

697
00:33:27,299 --> 00:33:31,379
electron or an atom and indeed it may

698
00:33:29,640 --> 00:33:33,870
not be conscious it may be mental

699
00:33:31,380 --> 00:33:36,060
without being conscious for most of the

700
00:33:33,869 --> 00:33:38,459
time most of our n mental activity is

701
00:33:36,059 --> 00:33:40,730
unconscious we don't need to assume that

702
00:33:38,460 --> 00:33:43,200
all mental activity is conscious

703
00:33:40,730 --> 00:33:46,410
ninety-five percent of RN is not it's

704
00:33:43,200 --> 00:33:47,730
unconscious but it's still mental and so

705
00:33:46,410 --> 00:33:49,470
there's a question as to how much

706
00:33:47,730 --> 00:33:55,140
consciousness would actually be present

707
00:33:49,470 --> 00:33:57,120
in an atom but the whole of this

708
00:33:55,140 --> 00:33:59,250
discussion becomes more interesting when

709
00:33:57,119 --> 00:34:01,339
we think about big things instead of

710
00:33:59,250 --> 00:34:03,960
little things there are many

711
00:34:01,339 --> 00:34:05,639
self-organizing systems in nature and

712
00:34:03,960 --> 00:34:09,648
some of them are very obvious like the

713

00:34:05,640 --> 00:34:12,300
Sun the Sun organizes itself it

714
00:34:09,648 --> 00:34:14,519
coordinates the entire solar system the

715
00:34:12,300 --> 00:34:16,780
solar system is in a sense its body it's

716
00:34:14,519 --> 00:34:19,000
included within the solar wind

717
00:34:16,780 --> 00:34:20,800
into the solar electromagnetic field and

718
00:34:19,000 --> 00:34:23,289
all around the edge of the solar system

719
00:34:20,800 --> 00:34:25,659
is something called the helio pause like

720
00:34:23,289 --> 00:34:27,820
a kind of membrane that separates off

721
00:34:25,659 --> 00:34:28,510
the entire solar system from the rest of

722
00:34:27,820 --> 00:34:31,330
the galaxy

723
00:34:28,510 --> 00:34:32,280
this in a sense is the body of the solar

724
00:34:31,329 --> 00:34:35,369
system

725
00:34:32,280 --> 00:34:37,929
now if material bodies that are

726
00:34:35,369 --> 00:34:41,168
self-organizing can have minds or

727
00:34:37,929 --> 00:34:44,289

consciousness what about the Sun could

728

00:34:41,168 --> 00:34:47,829

the Sun be conscious well personally I

729

00:34:44,289 --> 00:34:49,679

think it probably is and if the sun's

730

00:34:47,829 --> 00:34:53,230

conscious what about the other stars

731

00:34:49,679 --> 00:34:54,970

well why not and if the stars are

732

00:34:53,230 --> 00:34:57,940

conscious what about the entire galaxy

733

00:34:54,969 --> 00:35:00,009

which is a huge organism containing many

734

00:34:57,940 --> 00:35:02,590

stars which are like the cells in the

735

00:35:00,010 --> 00:35:05,710

body of the galaxy could there be a

736

00:35:02,590 --> 00:35:10,960

galactic mind I think that probably is

737

00:35:05,710 --> 00:35:12,579

and and again why not but all of you

738

00:35:10,960 --> 00:35:15,010

realized that as soon as you ask the

739

00:35:12,579 --> 00:35:17,409

question can the Sun think is the Sun

740

00:35:15,010 --> 00:35:19,690

conscious this question is not allowed

741

00:35:17,409 --> 00:35:23,319

by the materialist philosophy it's

742
00:35:19,690 --> 00:35:25,240
completely taboo the fact is that most

743
00:35:23,320 --> 00:35:28,300
people in most cultures think the Sun is

744
00:35:25,239 --> 00:35:32,199
conscious in India Surya the Sun Goddess

745
00:35:28,300 --> 00:35:34,480
consciousness Gary is the subject of the

746
00:35:32,199 --> 00:35:36,369
Gayatri mantra a fundamental mantra of

747
00:35:34,480 --> 00:35:38,349
Hinduism where the Sun is asked to

748
00:35:36,369 --> 00:35:42,849
illuminate our meditation this great

749
00:35:38,349 --> 00:35:47,019
mind of the Sun the in Japan the Sun is

750
00:35:42,849 --> 00:35:50,579
a goddess in many parts of the world the

751
00:35:47,019 --> 00:35:54,699
Sun is an animate being a god or goddess

752
00:35:50,579 --> 00:35:56,920
or a living being for children in our

753
00:35:54,699 --> 00:35:59,939
culture the Sun is alive when they draw

754
00:35:56,920 --> 00:36:03,220
the Sun they have a smiley face on it

755
00:35:59,940 --> 00:36:05,260
but precisely because almost all of

756
00:36:03,219 --> 00:36:07,209
humanity has thought the sun's alive and

757
00:36:05,260 --> 00:36:09,100
conscious and that children think so

758
00:36:07,210 --> 00:36:11,530
this is the exact reason why

759
00:36:09,099 --> 00:36:13,029
materialists feel that they're smarter

760
00:36:11,530 --> 00:36:16,200
and cleverer than everyone else in

761
00:36:13,030 --> 00:36:19,750
saying it's not conscious it's childish

762
00:36:16,199 --> 00:36:21,699
superstitious primitive and stupid to

763
00:36:19,750 --> 00:36:23,679
think that the sun's conscious whereas

764
00:36:21,699 --> 00:36:26,349
people used to think the Sun is

765
00:36:23,679 --> 00:36:28,940
conscious but we now know it's nothing

766
00:36:26,349 --> 00:36:31,639
but a giant hydrogen bomb

767
00:36:28,940 --> 00:36:33,349
now that's the common attitude of the

768
00:36:31,639 --> 00:36:36,589
materialism we've risen above these

769
00:36:33,349 --> 00:36:38,779
other ways of thinking but there's no

770

00:36:36,590 --> 00:36:40,640
evidence for that at all it's simply an

771
00:36:38,780 --> 00:36:44,480
assumption that follows from the machine

772
00:36:40,639 --> 00:36:46,279
doctrine of nature so I think we can

773
00:36:44,480 --> 00:36:48,530
entertain the idea that the Sun is

774
00:36:46,280 --> 00:36:51,019
conscious I think it's a completely open

775
00:36:48,530 --> 00:36:52,970
question and if the Sun and the stars

776
00:36:51,019 --> 00:36:55,070
and the galaxies are conscious we can

777
00:36:52,969 --> 00:36:58,459
regain a sense that the whole universe

778
00:36:55,070 --> 00:37:00,950
is alive not just alive but has a

779
00:36:58,460 --> 00:37:04,099
conscious life now of course we don't

780
00:37:00,949 --> 00:37:06,859
know what the Sun thinks about I imagine

781
00:37:04,099 --> 00:37:09,079
that if it thinks it probably thinks a

782
00:37:06,860 --> 00:37:10,970
lot about its body the solar system and

783
00:37:09,079 --> 00:37:13,489
of course it can modulate the solar

784
00:37:10,969 --> 00:37:16,399

system through solar flares coronal mass

785

00:37:13,489 --> 00:37:18,889

ejections it's constantly affecting the

786

00:37:16,400 --> 00:37:21,170

whole solar system it probably also

787

00:37:18,889 --> 00:37:26,000

thinks about its peer group the other

788

00:37:21,170 --> 00:37:29,000

stars and so these things I think are

789

00:37:26,000 --> 00:37:31,159

possible now I can't prove that the Sun

790

00:37:29,000 --> 00:37:34,639

is conscious but you can't prove that

791

00:37:31,159 --> 00:37:37,579

it's not conscious and it's I think an

792

00:37:34,639 --> 00:37:41,299

open question but it's not permissible

793

00:37:37,579 --> 00:37:43,069

within dogmatic materialism if we raise

794

00:37:41,300 --> 00:37:46,519

the good as soon as we question the

795

00:37:43,070 --> 00:37:49,070

doctrine that matters unconscious we

796

00:37:46,519 --> 00:37:52,400

arrive at first at Pan psychism then

797

00:37:49,070 --> 00:37:54,830

that extends to considering large as

798

00:37:52,400 --> 00:38:00,050

well as small material objects including

799
00:37:54,829 --> 00:38:02,900
stars and galaxies I want to turn now to

800
00:38:00,050 --> 00:38:04,640
the dogma that the mind is nothing but

801
00:38:02,900 --> 00:38:11,090
the activity of the brain it's all

802
00:38:04,639 --> 00:38:12,650
inside the head and the mind is supposed

803
00:38:11,090 --> 00:38:15,200
to be nothing but the activity of the

804
00:38:12,650 --> 00:38:19,220
brain because mental activity is just a

805
00:38:15,199 --> 00:38:21,589
product of nervous activity that means

806
00:38:19,219 --> 00:38:24,889
that all of your mind is inside your

807
00:38:21,590 --> 00:38:27,100
head now for dualists the mind is

808
00:38:24,889 --> 00:38:30,170
completely separable from the brain

809
00:38:27,099 --> 00:38:32,389
old-style dualism sees the mind working

810
00:38:30,170 --> 00:38:35,269
on and and interacting with the brain

811
00:38:32,389 --> 00:38:38,509
but being completely separate in nature

812
00:38:35,269 --> 00:38:40,940
and we've had this dialogue in the West

813
00:38:38,510 --> 00:38:41,660
for the last 300 years dear Liz and

814
00:38:40,940 --> 00:38:44,900
versus

815
00:38:41,659 --> 00:38:46,460
realism but I think there's a way

816
00:38:44,900 --> 00:38:47,930
forward which is neither of those

817
00:38:46,460 --> 00:38:50,838
familiar positions

818
00:38:47,929 --> 00:38:54,529
I think our minds are extended in space

819
00:38:50,838 --> 00:38:58,489
through fields we're familiar with

820
00:38:54,530 --> 00:39:00,380
fields from magnets magnets have fields

821
00:38:58,489 --> 00:39:02,989
within them and around them magnetic

822
00:39:00,380 --> 00:39:06,470
fields the magnetic field is a region of

823
00:39:02,989 --> 00:39:11,659
influence around the magnet that can

824
00:39:06,469 --> 00:39:13,159
affect other magnetic objects somewhere

825
00:39:11,659 --> 00:39:16,129
away from the magnet the earth has a

826
00:39:13,159 --> 00:39:18,409
magnetic field the earth also has a

827

00:39:16,130 --> 00:39:18,798
gravitational field it's inside the

828
00:39:18,409 --> 00:39:21,019
earth

829
00:39:18,798 --> 00:39:24,068
it stretches far beyond it it keeps the

830
00:39:21,019 --> 00:39:27,349
moon in its orbit your mobile telephone

831
00:39:24,068 --> 00:39:29,659
has a magnetic field and electromagnetic

832
00:39:27,349 --> 00:39:31,670
field it's inside the telephone and it

833
00:39:29,659 --> 00:39:34,818
stretches invisibly beyond it which is

834
00:39:31,670 --> 00:39:38,000
why the telephone works and I think our

835
00:39:34,818 --> 00:39:40,460
minds are based on fields that are in

836
00:39:38,000 --> 00:39:44,929
our brains at least most of the time and

837
00:39:40,460 --> 00:39:47,210
that also stretch out beyond them so I

838
00:39:44,929 --> 00:39:50,419
think our minds are much more extensive

839
00:39:47,210 --> 00:39:53,900
than our brains or than our bodies they

840
00:39:50,420 --> 00:39:55,909
stretch out far beyond them the easiest

841
00:39:53,900 --> 00:39:59,329

way to understand this is by thinking

842

00:39:55,909 --> 00:40:03,318

about the nature of vision what happens

843

00:39:59,329 --> 00:40:05,420

when you see something surprisingly no

844

00:40:03,318 --> 00:40:07,608

one really knows this is now a very

845

00:40:05,420 --> 00:40:10,369

active topic of debate within the field

846

00:40:07,608 --> 00:40:12,739

of consciousness studies but you all

847

00:40:10,369 --> 00:40:15,920

know the familiar conventional answer

848

00:40:12,739 --> 00:40:18,108

when you see me standing here now what

849

00:40:15,920 --> 00:40:19,970

happens is light is reflected from me it

850

00:40:18,108 --> 00:40:22,730

goes through the electromagnetic field

851

00:40:19,969 --> 00:40:25,419

enters your eyes inverted images on your

852

00:40:22,730 --> 00:40:28,548

retinas changes in the cone cells

853

00:40:25,420 --> 00:40:32,720

impulses up the optic nerves and changes

854

00:40:28,548 --> 00:40:36,139

in various regions of the brain that's

855

00:40:32,719 --> 00:40:39,288

familiar and we know more detail than we

856
00:40:36,139 --> 00:40:41,598
ever did before because the details of

857
00:40:39,289 --> 00:40:44,000
changes in the brain have been worked

858
00:40:41,599 --> 00:40:46,880
out through brain scanning in more

859
00:40:44,000 --> 00:40:50,630
detail than ever before but does it

860
00:40:46,880 --> 00:40:53,860
explain vision no it simply describes

861
00:40:50,630 --> 00:40:55,450
what happens inside the brain

862
00:40:53,860 --> 00:40:57,370
the first problem is that you're

863
00:40:55,449 --> 00:41:00,009
conscious of what you see there's no

864
00:40:57,369 --> 00:41:04,960
explanation for that in neuroscience or

865
00:41:00,010 --> 00:41:06,910
in materialist physiology none at all

866
00:41:04,960 --> 00:41:09,070
that's another example of the hard

867
00:41:06,909 --> 00:41:12,129
problem the factual conscious has no

868
00:41:09,070 --> 00:41:14,320
explanation but the point that I'm more

869
00:41:12,130 --> 00:41:17,740
interested in here is the question of

870
00:41:14,320 --> 00:41:20,350
where your vision is occurring it's all

871
00:41:17,739 --> 00:41:23,109
inside your brain that's what the theory

872
00:41:20,349 --> 00:41:25,569
says that means that right now is you

873
00:41:23,110 --> 00:41:27,820
see me there must be a little Rupert

874
00:41:25,570 --> 00:41:30,610
somewhere inside your head and the rest

875
00:41:27,820 --> 00:41:32,769
of this room is somehow inside your head

876
00:41:30,610 --> 00:41:36,090
your experience of a three-dimensional

877
00:41:32,769 --> 00:41:39,190
colored world is all inside your head

878
00:41:36,090 --> 00:41:42,039
this debate has been thrown into sharp

879
00:41:39,190 --> 00:41:45,190
relief by a recent paper in the journal

880
00:41:42,039 --> 00:41:50,110
of consciousness studies and that was

881
00:41:45,190 --> 00:41:52,450
called is your skull beyond the sky the

882
00:41:50,110 --> 00:41:54,970
author of the paper whose a materialist

883
00:41:52,449 --> 00:41:57,789
philosopher said everything you see is

884

00:41:54,969 --> 00:42:01,289
inside your brain your brain produces a

885
00:41:57,789 --> 00:42:04,090
mysterious Virtual Reality Display of

886
00:42:01,289 --> 00:42:06,489
everything you're experiencing when you

887
00:42:04,090 --> 00:42:09,430
look at the sky your image of the sky is

888
00:42:06,489 --> 00:42:11,889
inside your head your skull is therefore

889
00:42:09,429 --> 00:42:14,559
beyond the sky this is only a virtual

890
00:42:11,889 --> 00:42:16,809
skull produced as part of your virtual

891
00:42:14,559 --> 00:42:21,070
reality display your real skull is

892
00:42:16,809 --> 00:42:24,029
outside all your experience this is the

893
00:42:21,070 --> 00:42:26,650
official view radical there it is and

894
00:42:24,030 --> 00:42:30,280
absurd though it seems when you think it

895
00:42:26,650 --> 00:42:32,769
through but there's an alternative and

896
00:42:30,280 --> 00:42:35,370
the alternative is much simpler in fact

897
00:42:32,769 --> 00:42:38,829
it's so simple it's hard to understand

898
00:42:35,369 --> 00:42:41,949

that is that your image of me is inside

899

00:42:38,829 --> 00:42:45,299

your mind but it's not inside your brain

900

00:42:41,949 --> 00:42:47,649

it's here exactly where it seems to be

901

00:42:45,300 --> 00:42:49,960

that everything you're looking at the

902

00:42:47,650 --> 00:42:54,090

images are outside your brain where they

903

00:42:49,960 --> 00:42:56,800

seem to be in a spatially extended world

904

00:42:54,090 --> 00:42:59,200

what I'm suggesting is vision involves a

905

00:42:56,800 --> 00:43:01,120

two-way process light comes in changes

906

00:42:59,199 --> 00:43:04,049

happen in the brain and the images are

907

00:43:01,119 --> 00:43:06,219

projected out to where they seem to be

908

00:43:04,050 --> 00:43:07,420

sometimes they're projected to where

909

00:43:06,219 --> 00:43:09,639

they're not

910

00:43:07,420 --> 00:43:12,909

where things aren't and that's an

911

00:43:09,639 --> 00:43:15,308

illusion or a hallucination or a mirror

912

00:43:12,909 --> 00:43:17,230

image when you project when you look at

913
00:43:15,309 --> 00:43:19,059
something in a mirror your projections

914
00:43:17,230 --> 00:43:20,679
are not bent by the glass because

915
00:43:19,059 --> 00:43:22,839
they're not made of light they're not

916
00:43:20,679 --> 00:43:24,969
physical in that same sense they go

917
00:43:22,838 --> 00:43:29,048
straight through it producing virtual

918
00:43:24,969 --> 00:43:31,959
images behind the mirror this is all

919
00:43:29,048 --> 00:43:34,389
projective it's our mind projecting it's

920
00:43:31,960 --> 00:43:36,250
these images out normally they project

921
00:43:34,389 --> 00:43:37,539
out to the correct place which is why

922
00:43:36,250 --> 00:43:42,250
we're able to move around without

923
00:43:37,539 --> 00:43:43,808
bumping into things this is not a new

924
00:43:42,250 --> 00:43:46,179
theory of vision it's the theory that

925
00:43:43,809 --> 00:43:47,950
Plato and Euclid had is the theory

926
00:43:46,179 --> 00:43:50,108
believed in by traditional people all

927
00:43:47,949 --> 00:43:52,960
over the world taught by Buddhist and

928
00:43:50,108 --> 00:43:55,239
Hindu philosophers and it's also the

929
00:43:52,960 --> 00:43:59,289
theory believed by European children up

930
00:43:55,239 --> 00:44:01,899
to the age of 10 or 11 the developmental

931
00:43:59,289 --> 00:44:04,630
psychologist Jean Piaget found that

932
00:44:01,900 --> 00:44:07,740
European children believed that vision

933
00:44:04,630 --> 00:44:10,809
involves an outward projection of images

934
00:44:07,739 --> 00:44:15,039
that's why Superman comics show Ray's

935
00:44:10,809 --> 00:44:17,019
coming out of his eyes and but he said

936
00:44:15,039 --> 00:44:19,329
by the age of 10 or 11 the average

937
00:44:17,019 --> 00:44:21,789
European child learns the correct view

938
00:44:19,329 --> 00:44:24,839
which is that thoughts and images are

939
00:44:21,789 --> 00:44:26,798
invisible things located inside the head

940
00:44:24,838 --> 00:44:29,318
we've all been brought up to believe

941

00:44:26,798 --> 00:44:31,358
that we take it on trust when we're 10

942
00:44:29,318 --> 00:44:33,699
or 11 all these grown-ups must know what

943
00:44:31,358 --> 00:44:36,009
they're talking about but no one's ever

944
00:44:33,699 --> 00:44:38,649
seen a thought or an image inside a head

945
00:44:36,010 --> 00:44:40,809
it's an astonishing hallucination I

946
00:44:38,650 --> 00:44:43,329
think that our entire civilizations been

947
00:44:40,809 --> 00:44:45,250
under for a long time now that it's all

948
00:44:43,329 --> 00:44:49,000
inside the head it goes against our most

949
00:44:45,250 --> 00:44:50,710
immediate experience but of course to

950
00:44:49,000 --> 00:44:54,369
question this is highly controversial

951
00:44:50,710 --> 00:44:56,889
and I myself am a scientist not a

952
00:44:54,369 --> 00:45:00,519
philosopher so I'm interested in looking

953
00:44:56,889 --> 00:45:02,980
for evidence if my mind reaches out to

954
00:45:00,519 --> 00:45:05,130
touch what I'm looking at perhaps I can

955
00:45:02,980 --> 00:45:08,650

affect something just by looking at it

956

00:45:05,130 --> 00:45:09,760

if I look at you from behind and you

957

00:45:08,650 --> 00:45:12,039

don't know I'm there

958

00:45:09,760 --> 00:45:15,190

perhaps I can affect you by looking at

959

00:45:12,039 --> 00:45:18,940

you could you feel when you're being

960

00:45:15,190 --> 00:45:20,780

looked at by somebody behind you as soon

961

00:45:18,940 --> 00:45:23,210

as you ask that you see this is a common

962

00:45:20,780 --> 00:45:26,030

experience surveys show that more than

963

00:45:23,210 --> 00:45:27,860

90% of the population have had that

964

00:45:26,030 --> 00:45:29,750

experience you feel you're being looked

965

00:45:27,860 --> 00:45:32,570

at you turn around and someone's staring

966

00:45:29,750 --> 00:45:35,119

at you or you stare at someone and they

967

00:45:32,570 --> 00:45:37,850

turn around there's a slight sex

968

00:45:35,119 --> 00:45:40,549

difference more men and women have made

969

00:45:37,849 --> 00:45:42,949

people turn around by staring at them

970
00:45:40,550 --> 00:45:47,420
and more women than men have experienced

971
00:45:42,949 --> 00:45:49,460
being stared at and but the majority of

972
00:45:47,420 --> 00:45:51,019
both sexes and I'm sure the majority of

973
00:45:49,460 --> 00:45:55,130
people in this room have had this

974
00:45:51,019 --> 00:45:56,599
experience themselves until 1985 there

975
00:45:55,130 --> 00:45:58,460
was virtually no scientific

976
00:45:56,599 --> 00:46:00,319
investigation of this subject there were

977
00:45:58,460 --> 00:46:02,420
four published papers in the previous

978
00:46:00,320 --> 00:46:05,000
hundred years because it's completely

979
00:46:02,420 --> 00:46:07,700
taboo even though it's such a common

980
00:46:05,000 --> 00:46:09,920
experience it was simply not allowed to

981
00:46:07,699 --> 00:46:12,379
be discussed within science totally

982
00:46:09,920 --> 00:46:14,389
taboo because it ought not to happen so

983
00:46:12,380 --> 00:46:16,430
the materialists say it's just too

984
00:46:14,389 --> 00:46:18,079
coincidence you just forget all the

985
00:46:16,429 --> 00:46:19,369
times you turn around and there's no one

986
00:46:18,079 --> 00:46:21,139
looking at you it's just

987
00:46:19,369 --> 00:46:26,179
selective memory and coincidences

988
00:46:21,139 --> 00:46:28,339
nothing to it it's superstition but now

989
00:46:26,179 --> 00:46:30,859
research has been done on this now for

990
00:46:28,340 --> 00:46:34,430
the last twenty years and it turns out

991
00:46:30,860 --> 00:46:35,780
that in simple tests people really can

992
00:46:34,429 --> 00:46:37,969
tell when they're being looked at from

993
00:46:35,780 --> 00:46:41,180
behind not every time but very

994
00:46:37,969 --> 00:46:42,529
significantly above chance a simple

995
00:46:41,179 --> 00:46:44,750
version of this experiment has been

996
00:46:42,530 --> 00:46:47,450
running in the Amsterdam Science Museum

997
00:46:44,750 --> 00:46:49,610
the name-o Center for the last 20 years

998

00:46:47,449 --> 00:46:51,919
and the results it's one of the biggest

999
00:46:49,610 --> 00:46:53,450
experiments ever conducted the results

1000
00:46:51,920 --> 00:46:55,700
are overwhelmingly significant

1001
00:46:53,449 --> 00:46:57,859
statistically the most sensitive

1002
00:46:55,699 --> 00:46:59,989
subjects are children under the age of 9

1003
00:46:57,860 --> 00:47:03,680
it's interesting that children are

1004
00:46:59,989 --> 00:47:05,209
particularly sensitive to this it even

1005
00:47:03,679 --> 00:47:07,369
seems to work through closed-circuit

1006
00:47:05,210 --> 00:47:09,740
television many experiments have now

1007
00:47:07,369 --> 00:47:12,109
shown that people are physiologically

1008
00:47:09,739 --> 00:47:13,939
affected their skin resistance changes

1009
00:47:12,110 --> 00:47:15,200
when they're being watched by someone in

1010
00:47:13,940 --> 00:47:18,320
another room on a closed-circuit

1011
00:47:15,199 --> 00:47:19,730
television screen even though they don't

1012
00:47:18,320 --> 00:47:25,670

know they're being watched it's an

1013

00:47:19,730 --> 00:47:27,139

unconscious physiological response it

1014

00:47:25,670 --> 00:47:29,059

turns out that animals are also

1015

00:47:27,139 --> 00:47:31,670

sensitive to being looked at many

1016

00:47:29,059 --> 00:47:33,739

animals can tell when they're looked at

1017

00:47:31,670 --> 00:47:34,090

by people and people can tell when they

1018

00:47:33,739 --> 00:47:37,389

look

1019

00:47:34,090 --> 00:47:39,550

by animals and probably animals can tell

1020

00:47:37,389 --> 00:47:42,519

when they looked at by other animals

1021

00:47:39,550 --> 00:47:44,789

I think this ability probably evolved a

1022

00:47:42,519 --> 00:47:48,130

very long time ago in the context of

1023

00:47:44,789 --> 00:47:50,019

predator-prey relationships any prey

1024

00:47:48,130 --> 00:47:52,630

animal that could tell when a predator

1025

00:47:50,019 --> 00:47:54,519

was watching it would escape better than

1026

00:47:52,630 --> 00:47:56,470

one that couldn't tell so I think

1027
00:47:54,519 --> 00:47:57,880
natural selection would have favored

1028
00:47:56,469 --> 00:48:00,730
disability and I think it's probably

1029
00:47:57,880 --> 00:48:01,750
very widespread in the animal kingdom we

1030
00:48:00,730 --> 00:48:03,880
have this ability

1031
00:48:01,750 --> 00:48:06,039
not because it's supernatural or

1032
00:48:03,880 --> 00:48:08,349
paranormal we have it because it's

1033
00:48:06,039 --> 00:48:10,449
natural and normal and it's something we

1034
00:48:08,349 --> 00:48:13,179
share with many many other animal

1035
00:48:10,449 --> 00:48:15,399
species I think all animals with

1036
00:48:13,179 --> 00:48:18,339
image-forming eyes are projecting out a

1037
00:48:15,400 --> 00:48:21,280
visual world the world we're in is full

1038
00:48:18,340 --> 00:48:24,100
of invisible perceptual projections from

1039
00:48:21,280 --> 00:48:26,230
countless animals just as it's full of

1040
00:48:24,099 --> 00:48:30,429
invisible radio and television and

1041
00:48:26,230 --> 00:48:32,590
mobile phone transmissions and so I

1042
00:48:30,429 --> 00:48:35,230
think our minds are extended far beyond

1043
00:48:32,590 --> 00:48:38,079
our bodies in every act of perception if

1044
00:48:35,230 --> 00:48:40,869
we look at a star I think our minds

1045
00:48:38,079 --> 00:48:43,719
stretch out over literally astronomical

1046
00:48:40,869 --> 00:48:45,609
distances to touch that star our minds

1047
00:48:43,719 --> 00:48:48,609
can stretch out right into the universe

1048
00:48:45,610 --> 00:48:51,150
and now through telescopes we've

1049
00:48:48,610 --> 00:48:53,800
discovered galaxies beyond our own

1050
00:48:51,150 --> 00:48:56,320
modern astronomy has opened up a vast

1051
00:48:53,800 --> 00:48:59,019
new vision of the cosmos I think our

1052
00:48:56,320 --> 00:49:01,120
minds are now stretching out into vast

1053
00:48:59,019 --> 00:49:03,550
regions of space that were not even

1054
00:49:01,119 --> 00:49:06,219
imagined by people until the 20th

1055

00:49:03,550 --> 00:49:10,350
century of which no one was aware but

1056
00:49:06,219 --> 00:49:10,349
our minds are now filling the cosmos

1057
00:49:10,769 --> 00:49:17,250
well these I've only had time this

1058
00:49:14,769 --> 00:49:19,780
morning to discuss two of the dogmas

1059
00:49:17,250 --> 00:49:22,090
they well three of them that nature's

1060
00:49:19,780 --> 00:49:23,740
mechanical that matters unconscious and

1061
00:49:22,090 --> 00:49:26,410
that our minds are confined to the

1062
00:49:23,739 --> 00:49:28,239
insides of our brains and as you see

1063
00:49:26,409 --> 00:49:31,659
when you turn these dogmas into

1064
00:49:28,239 --> 00:49:34,689
questions is nature mechanical is matter

1065
00:49:31,659 --> 00:49:38,349
unconscious our our minds confined the

1066
00:49:34,690 --> 00:49:40,269
insides of our brains and then when you

1067
00:49:38,349 --> 00:49:42,699
turn them into questions the evidence

1068
00:49:40,269 --> 00:49:44,750
doesn't support these dogmas in fact it

1069
00:49:42,699 --> 00:49:47,149

opens up a whole new set of question

1070

00:49:44,750 --> 00:49:49,909

new sets of possibilities new kinds of

1071

00:49:47,150 --> 00:49:52,010

science become possible the same is true

1072

00:49:49,909 --> 00:49:54,349

of all the other dogmas on which

1073

00:49:52,010 --> 00:49:57,080

materialism is based and I'm going to

1074

00:49:54,349 --> 00:49:59,569

come back this afternoon to discuss some

1075

00:49:57,079 --> 00:50:02,259

of the others but that's enough for now

1076

00:49:59,570 --> 00:50:02,260

thank you

1077

00:50:09,519 --> 00:50:11,579

you