

Logical Fallacies

1 - 20

With **Michelle Bijkersma**
and **Richard Saunders**

As heard on
The Skeptic Zone Podcast



Michelle Bijkersma



Richard Saunders

4 - Appeal to Popularity

0:00:00 1 - Ad Hominem
0:03:54 2 - Appeal to Authority
0:07:33 3 - Appeal to Antiquity
● 0:11:00 4 - Appeal to Popularity
0:13:44 5 - Straw Man

0:17:17 6 - Post Hoc
0:23:23 7 - Begging the Question
0:27:25 8 - Appeal to Ignorance
0:31:34 9 - Special Pleading
0:35:04 10 - Appeal to Nature

0:39:03 11 - False Dilemma
0:43:23 12 - The Middle Ground
0:47:53 13 - The Slippery Slope
0:52:11 14 - False Equivalence
0:56:15 15 - Moving the Goalposts

1:00:36 16 - Non Sequitur
1:04:36 17 - Personal Incredulity
1:09:19 18 - Relative Privation
1:13:05 19 - Tu Quoque
1:16:19 20 - No True Scotsman

1
00:00:23,090 --> 00:00:21,510

[Music]

2
00:00:26,550 --> 00:00:23,100

logical fallacies

3
00:00:29,349 --> 00:00:26,560

[Music]

4
00:00:31,189 --> 00:00:29,359
what are logical fallacies and why is it

5
00:00:33,830 --> 00:00:31,199
important that critical thinkers should

6
00:00:36,150 --> 00:00:33,840
know about them

7
00:00:37,830 --> 00:00:36,160
a logical fallacy is an error we can

8
00:00:39,830 --> 00:00:37,840
make in reasoning

9
00:00:44,229 --> 00:00:39,840
but it usually crops up when we are

10
00:00:46,310 --> 00:00:44,239
discussing or arguing our point of view

11
00:00:48,549 --> 00:00:46,320
some people might even knowingly use

12
00:00:49,430 --> 00:00:48,559
them to try and score cheap points in an

13
00:00:52,709 --> 00:00:49,440

argument

14

00:00:55,270 --> 00:00:52,719

due to intellectual laziness

15

00:00:57,110 --> 00:00:55,280

they are traps we can fall into but if

16

00:00:59,189 --> 00:00:57,120

we know what to look out for

17

00:01:02,820 --> 00:00:59,199

we can spot them when they occur and

18

00:01:04,149 --> 00:01:02,830

stop ourselves from using them

19

00:01:08,789 --> 00:01:04,159

[Music]

20

00:01:15,350 --> 00:01:12,310

the ad hominin fallacy also known as an

21

00:01:17,190 --> 00:01:15,360

ad hominin attack is when you make

22

00:01:19,109 --> 00:01:17,200

negative points or comments about

23

00:01:22,149 --> 00:01:19,119

aspects of your opponent

24

00:01:23,670 --> 00:01:22,159

sometimes personal instead of attacking

25

00:01:27,190 --> 00:01:23,680

their point of view

26

00:01:30,390 --> 00:01:27,200

or their argument the term ad hominem

27

00:01:33,590 --> 00:01:30,400

comes from latin and translates as

28

00:01:34,870 --> 00:01:33,600

against the man you may also have heard

29

00:01:38,630 --> 00:01:34,880

the expression

30

00:01:41,190 --> 00:01:38,640

to play the man and not the ball

31

00:01:43,109 --> 00:01:41,200

so instead of making our argument by

32

00:01:45,830 --> 00:01:43,119

looking at and tackling the points

33

00:01:46,469 --> 00:01:45,840

made by our opponent we might attack

34

00:01:49,270 --> 00:01:46,479

something

35

00:01:50,630 --> 00:01:49,280

about them that we and maybe others

36

00:01:53,350 --> 00:01:50,640

don't like

37

00:01:55,670 --> 00:01:53,360

or try to paint them in a bad light in

38

00:01:57,990 --> 00:01:55,680

the hope of scoring points

39

00:02:00,550 --> 00:01:58,000

you didn't even attend a university or

40

00:02:02,550 --> 00:02:00,560

have any degrees at all

41

00:02:04,389 --> 00:02:02,560

you are in no position to lecture me on

42

00:02:06,709 --> 00:02:04,399

this topic

43

00:02:08,070 --> 00:02:06,719

if your opponent's argument is based on

44

00:02:10,469 --> 00:02:08,080

good grounds

45

00:02:13,110 --> 00:02:10,479

it really doesn't matter if they went to

46

00:02:15,430 --> 00:02:13,120

a university or not

47

00:02:17,030 --> 00:02:15,440

if a person with only a rudimentary

48

00:02:19,270 --> 00:02:17,040

education

49

00:02:20,550 --> 00:02:19,280

says the world is round and the sky is

50

00:02:24,710 --> 00:02:20,560

blue

51
00:02:26,869 --> 00:02:24,720
they are still right but be careful

52
00:02:29,030 --> 00:02:26,879
a lack of education in a particular

53
00:02:30,229 --> 00:02:29,040
topic can weaken your opponent's

54
00:02:35,030 --> 00:02:30,239
argument

55
00:02:37,110 --> 00:02:35,040
expertise

56
00:02:39,110 --> 00:02:37,120
i don't think a person from your

57
00:02:39,910 --> 00:02:39,120
background can really comment on these

58
00:02:41,589 --> 00:02:39,920
matters

59
00:02:43,430 --> 00:02:41,599
what would you know you weren't even

60
00:02:45,670 --> 00:02:43,440
born here

61
00:02:47,990 --> 00:02:45,680
where someone comes from or other

62
00:02:50,070 --> 00:02:48,000
aspects of their life and upbringing

63
00:02:53,030 --> 00:02:50,080

does not mean their point of view is

64

00:02:55,990 --> 00:02:53,040

therefore automatically wrong

65

00:02:57,990 --> 00:02:56,000

listen to the argument itself and don't

66

00:03:01,270 --> 00:02:58,000

let other aspects of the person

67

00:03:03,350 --> 00:03:01,280

making that argument sway you one way or

68

00:03:05,990 --> 00:03:03,360

another

69

00:03:07,830 --> 00:03:06,000

you also support the government or the

70

00:03:10,710 --> 00:03:07,840

president or the prime minister

71

00:03:12,149 --> 00:03:10,720

so of course you would say that

72

00:03:14,309 --> 00:03:12,159

someone's point of view

73

00:03:16,229 --> 00:03:14,319

may well be colored by what political

74

00:03:18,710 --> 00:03:16,239

party they support

75

00:03:19,509 --> 00:03:18,720

but again that does not mean their

76

00:03:22,390 --> 00:03:19,519

arguments

77

00:03:25,509 --> 00:03:22,400

are automatically wrong or automatically

78

00:03:29,670 --> 00:03:28,390

watch out for the ad hominem attack if

79

00:03:33,030 --> 00:03:29,680

somebody attacks

80

00:03:34,949 --> 00:03:33,040

aspects of you and not your arguments

81

00:03:36,630 --> 00:03:34,959

tell them to stick to the question at

82

00:03:38,949 --> 00:03:36,640

hand

83

00:03:40,309 --> 00:03:38,959

if you find yourself attacking something

84

00:03:43,509 --> 00:03:40,319

about your opponent

85

00:03:46,470 --> 00:03:43,519

you don't like it might be time to stop

86

00:03:51,130 --> 00:03:46,480

and wonder if your own arguments are on

87

00:03:51,140 --> 00:03:59,350

[Music]

88

00:04:03,030 --> 00:04:01,190

this week we'll look at the appeal to

89

00:04:05,670 --> 00:04:03,040

authority

90

00:04:06,949 --> 00:04:05,680

the use of the perceived knowledge or

91

00:04:09,670 --> 00:04:06,959

expertise

92

00:04:10,630 --> 00:04:09,680

or even celebrity of someone or an

93

00:04:12,789 --> 00:04:10,640

institution

94

00:04:15,509 --> 00:04:12,799

to add weight to your argument or to

95

00:04:17,830 --> 00:04:15,519

justify your decisions

96

00:04:19,349 --> 00:04:17,840

in science there are no ultimate

97

00:04:22,390 --> 00:04:19,359

authorities

98

00:04:25,430 --> 00:04:22,400

now what do i mean by this

99

00:04:27,749 --> 00:04:25,440

no one no matter how qualified they

100

00:04:29,350 --> 00:04:27,759

are in their special field of knowledge

101
00:04:33,350 --> 00:04:29,360
is regarded as having

102
00:04:35,590 --> 00:04:33,360
all the answers and always being right

103
00:04:38,950 --> 00:04:35,600
there may well be other experts in the

104
00:04:41,510 --> 00:04:38,960
same area of knowledge who disagree

105
00:04:43,350 --> 00:04:41,520
like the rest of us even experts can

106
00:04:46,710 --> 00:04:43,360
make mistakes

107
00:04:48,950 --> 00:04:46,720
as science is an ongoing process no one

108
00:04:52,070 --> 00:04:48,960
could ever have the final answers in a

109
00:04:54,710 --> 00:04:52,080
field of knowledge or study

110
00:04:56,550 --> 00:04:54,720
also someone who is regarded as an

111
00:04:59,670 --> 00:04:56,560
authority or expert

112
00:05:01,350 --> 00:04:59,680
in one area of knowledge astronomy for

113
00:05:03,270 --> 00:05:01,360

example

114

00:05:04,469 --> 00:05:03,280

may not be qualified to comment on

115

00:05:07,830 --> 00:05:04,479

climate science

116

00:05:11,749 --> 00:05:07,840

or geology and so on

117

00:05:14,950 --> 00:05:11,759

i know homeopathy works it's based on

118

00:05:17,029 --> 00:05:14,960

energy frequencies even albert einstein

119

00:05:18,950 --> 00:05:17,039

knew this when he said

120

00:05:20,230 --> 00:05:18,960

everything is energy and that's all

121

00:05:22,790 --> 00:05:20,240

there is to it

122

00:05:24,070 --> 00:05:22,800

match the frequency of the reality you

123

00:05:26,950 --> 00:05:24,080

want and you cannot

124

00:05:27,749 --> 00:05:26,960

help but get that reality it can be no

125

00:05:30,790 --> 00:05:27,759

other way

126

00:05:33,670 --> 00:05:30,800

this is not philosophy this is physics

127

00:05:35,909 --> 00:05:33,680

poor old einstein his name has been used

128

00:05:36,629 --> 00:05:35,919

so many times over the decades to

129

00:05:40,230 --> 00:05:36,639

justify

130

00:05:42,790 --> 00:05:40,240

all sorts of claims not only did

131

00:05:43,590 --> 00:05:42,800

einstein never say this classic fake

132

00:05:49,270 --> 00:05:43,600

quote

133

00:05:50,070 --> 00:05:49,280

it is just a bunch of science-sounding

134

00:05:52,230 --> 00:05:50,080

words

135

00:05:54,150 --> 00:05:52,240

mashed together in something we call a

136

00:05:56,710 --> 00:05:54,160

word salad

137

00:05:58,070 --> 00:05:56,720

the important thing to remember is that

138

00:06:01,430 --> 00:05:58,080

invoking the name of

139

00:06:04,309 --> 00:06:01,440

einstein or anyone else does not

140

00:06:07,430 --> 00:06:04,319

therefore mean your point is correct

141

00:06:08,230 --> 00:06:07,440

i always eat mint ice biscuits in the

142

00:06:10,469 --> 00:06:08,240

evening

143

00:06:11,590 --> 00:06:10,479

i know they're good as world uphill

144

00:06:14,710 --> 00:06:11,600

skiing champion

145

00:06:17,270 --> 00:06:14,720

mary boyd endorses them or

146

00:06:17,909 --> 00:06:17,280

i believe in the new age healing power

147

00:06:20,790 --> 00:06:17,919

of

148

00:06:22,710 --> 00:06:20,800

reconnected energy spirits i mean if

149

00:06:23,590 --> 00:06:22,720

it's good enough for movie star alfreda

150

00:06:26,550 --> 00:06:23,600

parks

151
00:06:27,749 --> 00:06:26,560
it's good enough for me just because

152
00:06:30,550 --> 00:06:27,759
someone famous

153
00:06:32,070 --> 00:06:30,560
or someone you admire advertises or

154
00:06:35,510 --> 00:06:32,080
endorses a product

155
00:06:36,550 --> 00:06:35,520
or even an idea or philosophy it doesn't

156
00:06:39,590 --> 00:06:36,560
mean that the

157
00:06:43,510 --> 00:06:39,600
product or idea is the right one for you

158
00:06:45,909 --> 00:06:43,520
or anyone else many people can be

159
00:06:47,270 --> 00:06:45,919
convinced of the amazing health benefits

160
00:06:49,589 --> 00:06:47,280
of something

161
00:06:51,830 --> 00:06:49,599
only to find out later it was just a

162
00:06:53,749 --> 00:06:51,840
placebo

163
00:06:56,230 --> 00:06:53,759

of course it might be a fine product

164

00:06:59,990 --> 00:06:56,240

after all and really work

165

00:07:02,629 --> 00:07:00,000

but try to judge it on its own merits

166

00:07:03,189 --> 00:07:02,639

mint ice biscuits aren't any better or

167

00:07:05,749 --> 00:07:03,199

worse

168

00:07:07,830 --> 00:07:05,759

just because someone you like promotes

169

00:07:10,150 --> 00:07:07,840

them

170

00:07:12,070 --> 00:07:10,160

it's important to keep in mind that many

171

00:07:14,070 --> 00:07:12,080

times experts in their field

172

00:07:15,990 --> 00:07:14,080

are called experts because they have

173

00:07:19,270 --> 00:07:16,000

studied a subject over many

174

00:07:21,430 --> 00:07:19,280

years and often do indeed know what they

175

00:07:22,950 --> 00:07:21,440

are talking about

176
00:07:26,070 --> 00:07:22,960
they have earned the right to be

177
00:07:30,230 --> 00:07:26,080
listened to but in the end

178
00:07:39,029 --> 00:07:30,240
even they can be wrong

179
00:07:40,870 --> 00:07:39,039
[Music]

180
00:07:43,430 --> 00:07:40,880
this week we'll look at the appeal to

181
00:07:46,710 --> 00:07:43,440
antiquity

182
00:07:49,189 --> 00:07:46,720
also known as the appeal to tradition

183
00:07:50,710 --> 00:07:49,199
this is when you argue an idea or

184
00:07:53,670 --> 00:07:50,720
practice is valid

185
00:07:55,350 --> 00:07:53,680
because it has been in use or even

186
00:07:59,430 --> 00:07:55,360
thought to have been in use

187
00:08:01,510 --> 00:07:59,440
for tens hundreds or thousands of years

188
00:08:02,790 --> 00:08:01,520

many ideas have withstood the test of

189

00:08:05,589 --> 00:08:02,800

time

190

00:08:08,629 --> 00:08:05,599

our ancient ancestors discovered amazing

191

00:08:10,790 --> 00:08:08,639

things that still hold true today

192

00:08:14,070 --> 00:08:10,800

if you eat certain plants they will make

193

00:08:16,550 --> 00:08:14,080

you sick whereas if you eat other plants

194

00:08:18,150 --> 00:08:16,560

they can help make you feel better and

195

00:08:21,189 --> 00:08:18,160

so on

196

00:08:21,749 --> 00:08:21,199

but that doesn't mean that every idea or

197

00:08:24,070 --> 00:08:21,759

practice

198

00:08:26,950 --> 00:08:24,080

used for many years is therefore right

199

00:08:28,629 --> 00:08:26,960

or even real people have been doing it

200

00:08:32,070 --> 00:08:28,639

this way for generations

201

00:08:35,430 --> 00:08:32,080

if it worked for them it must be right

202

00:08:37,110 --> 00:08:35,440

maybe or maybe not for many years it was

203

00:08:39,829 --> 00:08:37,120

thought that bloodletting or bleeding

204

00:08:41,829 --> 00:08:39,839

sick people would help cure them

205

00:08:43,509 --> 00:08:41,839

this was done for generation after

206

00:08:46,150 --> 00:08:43,519

generation

207

00:08:48,310 --> 00:08:46,160

however we now know that this was far

208

00:08:50,790 --> 00:08:48,320

more harmful than helpful

209

00:08:53,829 --> 00:08:50,800

raw milk is safe to drink as our

210

00:08:55,430 --> 00:08:53,839

ancestors did so for thousands of years

211

00:08:58,470 --> 00:08:55,440

and they were fine

212

00:08:59,590 --> 00:08:58,480

firstly our ancestors did in fact

213

00:09:03,509 --> 00:08:59,600

sometimes become

214

00:09:05,990 --> 00:09:03,519

sick from drinking raw milk furthermore

215

00:09:06,550 --> 00:09:06,000

the industrial revolution resulted in

216

00:09:09,590 --> 00:09:06,560

increased

217

00:09:11,670 --> 00:09:09,600

transportation and storage times of milk

218

00:09:14,150 --> 00:09:11,680

rendering it less safe than when it was

219

00:09:16,030 --> 00:09:14,160

drunk at the farm of origin

220

00:09:17,269 --> 00:09:16,040

this led to the development of

221

00:09:19,590 --> 00:09:17,279

pasteurization

222

00:09:22,470 --> 00:09:19,600

which helped provide safe milk without

223

00:09:24,949 --> 00:09:22,480

any reduction in nutrition

224

00:09:27,670 --> 00:09:24,959

it has saved countless lives as it kills

225

00:09:28,389 --> 00:09:27,680

harmful organisms responsible for such

226

00:09:31,870 --> 00:09:28,399

diseases

227

00:09:35,190 --> 00:09:31,880

as listeriosis typhoid fever

228

00:09:37,509 --> 00:09:35,200

tuberculosis and diphtheria

229

00:09:39,509 --> 00:09:37,519

foodborne illnesses are particularly

230

00:09:40,389 --> 00:09:39,519

dangerous for anyone with weakened

231

00:09:43,430 --> 00:09:40,399

immunity

232

00:09:45,269 --> 00:09:43,440

such as the elderly young children and

233

00:09:47,430 --> 00:09:45,279

pregnant women

234

00:09:50,310 --> 00:09:47,440

others with more robust immunity will

235

00:09:51,829 --> 00:09:50,320

probably survive food poisoning but it's

236

00:09:54,470 --> 00:09:51,839

an unnecessarily

237

00:09:55,269 --> 00:09:54,480

unpleasant experience that can be

238

00:09:58,230 --> 00:09:55,279

avoided

239

00:10:00,150 --> 00:09:58,240

by drinking pasteurized milk rather than

240

00:10:02,550 --> 00:10:00,160

raw milk

241

00:10:04,470 --> 00:10:02,560

just because a practice has existed for

242

00:10:06,310 --> 00:10:04,480

many generations

243

00:10:08,790 --> 00:10:06,320

that doesn't make the belief in the

244

00:10:11,430 --> 00:10:08,800

practice true

245

00:10:12,389 --> 00:10:11,440

homeopathy is hundreds of years old if

246

00:10:15,509 --> 00:10:12,399

it didn't work

247

00:10:18,310 --> 00:10:15,519

no one would use it yet millions of

248

00:10:20,470 --> 00:10:18,320

people rely on it and use it every day

249

00:10:21,670 --> 00:10:20,480

there is no doubt in the scientific

250

00:10:25,750 --> 00:10:21,680

community that

251
00:10:27,990 --> 00:10:25,760
homeopathy does not work and cannot work

252
00:10:28,949 --> 00:10:28,000
the principles on which it is based have

253
00:10:32,150 --> 00:10:28,959
been shown

254
00:10:35,110 --> 00:10:32,160
over the years to be false to be

255
00:10:37,269 --> 00:10:35,120
fair it was invented at a time when our

256
00:10:41,990 --> 00:10:37,279
knowledge of medicine and biology was

257
00:10:45,670 --> 00:10:44,790
and by the way it does not matter how

258
00:10:47,990 --> 00:10:45,680
many people

259
00:10:49,430 --> 00:10:48,000
think something works or something is

260
00:10:51,590 --> 00:10:49,440
right

261
00:10:53,030 --> 00:10:51,600
that is known as the appeal to

262
00:10:58,829 --> 00:10:53,040
popularity

263
00:10:58,839 --> 00:11:03,690

segment

264

00:11:08,470 --> 00:11:06,310

[Music]

265

00:11:10,790 --> 00:11:08,480

this week we'll look at the appeal to

266

00:11:14,310 --> 00:11:10,800

popularity

267

00:11:16,069 --> 00:11:14,320

also known as being on the bandwagon

268

00:11:17,350 --> 00:11:16,079

this is when you try to add weight to

269

00:11:20,550 --> 00:11:17,360

your point of view by

270

00:11:23,269 --> 00:11:20,560

pointing out that many people also agree

271

00:11:23,910 --> 00:11:23,279

with you we've all seen this sort of

272

00:11:27,269 --> 00:11:23,920

thing

273

00:11:29,590 --> 00:11:27,279

especially from advertisers who claim

274

00:11:30,630 --> 00:11:29,600

thousands of people use our product

275

00:11:33,750 --> 00:11:30,640

every day

276

00:11:36,310 --> 00:11:33,760

and they all can't be wrong well

277

00:11:37,509 --> 00:11:36,320

yes the product might work and be

278

00:11:40,389 --> 00:11:37,519

wonderful

279

00:11:42,790 --> 00:11:40,399

but at other times thousands of people

280

00:11:46,550 --> 00:11:42,800

can indeed be wrong

281

00:11:49,670 --> 00:11:46,560

everyone at school has one come on

282

00:11:51,750 --> 00:11:49,680

i really need this maybe you remember

283

00:11:54,150 --> 00:11:51,760

making this argument to your parents

284

00:11:56,790 --> 00:11:54,160

when you were at school

285

00:11:58,389 --> 00:11:56,800

something would come along a new toy or

286

00:12:02,150 --> 00:11:58,399

device maybe

287

00:12:06,069 --> 00:12:02,160

and it becomes very popular suddenly

288

00:12:09,590 --> 00:12:06,079

you having one as well is very important

289

00:12:10,389 --> 00:12:09,600

whatever it is might not really be that

290

00:12:14,470 --> 00:12:10,399

good

291

00:12:16,629 --> 00:12:14,480

but its popularity makes it desirable

292

00:12:19,509 --> 00:12:16,639

all my friends use homeopathy to treat

293

00:12:22,870 --> 00:12:19,519

everything from rash to insomnia

294

00:12:24,550 --> 00:12:22,880

this discredited medical quackery simply

295

00:12:28,069 --> 00:12:24,560

does not and

296

00:12:30,230 --> 00:12:28,079

cannot work as claimed yet

297

00:12:31,110 --> 00:12:30,240

thousands and thousands of people all

298

00:12:34,550 --> 00:12:31,120

over the world

299

00:12:37,590 --> 00:12:34,560

swear by it just because some

300

00:12:40,790 --> 00:12:37,600

or many people use a product or believe

301
00:12:44,790 --> 00:12:40,800
in something it doesn't mean it works

302
00:12:45,990 --> 00:12:44,800
or it's real if one person can be wrong

303
00:12:48,949 --> 00:12:46,000
about something

304
00:12:51,430 --> 00:12:48,959
then hundreds or thousands or millions

305
00:12:53,350 --> 00:12:51,440
can be as well

306
00:12:54,790 --> 00:12:53,360
by far the majority of climate

307
00:12:57,190 --> 00:12:54,800
scientists agree

308
00:12:58,310 --> 00:12:57,200
that climate change is real and humans

309
00:13:02,069 --> 00:12:58,320
are a major

310
00:13:04,629 --> 00:13:02,079
contributing factor now here's the flip

311
00:13:08,470 --> 00:13:04,639
side of this logical fallacy

312
00:13:11,829 --> 00:13:08,480
sometimes the weight of opinion is right

313
00:13:14,949 --> 00:13:11,839

science can and does change its mind

314

00:13:17,509 --> 00:13:14,959

but it relies largely on consensus

315

00:13:22,710 --> 00:13:17,519

in other words on the conclusion of most

316

00:13:27,430 --> 00:13:25,590

in the end the popularity of an idea

317

00:13:28,949 --> 00:13:27,440

should not determine the validity of

318

00:13:31,750 --> 00:13:28,959

that idea

319

00:13:32,150 --> 00:13:31,760

it must stand or fall on its own merits

320

00:13:34,310 --> 00:13:32,160

but

321

00:13:35,990 --> 00:13:34,320

it is appealing to think that if many

322

00:13:40,570 --> 00:13:36,000

people agree with you

323

00:13:50,710 --> 00:13:47,590

[Music]

324

00:13:53,430 --> 00:13:50,720

this week we'll look at straw man

325

00:13:54,069 --> 00:13:53,440

this is when we substitute a person's

326

00:13:57,670 --> 00:13:54,079

actual

327

00:14:01,110 --> 00:13:57,680

position or argument with a distorted

328

00:14:03,430 --> 00:14:01,120

exaggerated or misrepresented version of

329

00:14:05,670 --> 00:14:03,440

their position or point of view

330

00:14:08,710 --> 00:14:05,680

a straw man or a figure made out of

331

00:14:11,110 --> 00:14:08,720

straw is easy to burn down

332

00:14:13,750 --> 00:14:11,120

it is far easier to attack something

333

00:14:16,150 --> 00:14:13,760

weak even if it has nothing to do with

334

00:14:19,430 --> 00:14:16,160

what your opponent is trying to say

335

00:14:20,550 --> 00:14:19,440

than to attack a strong argument she

336

00:14:22,790 --> 00:14:20,560

said she

337

00:14:24,310 --> 00:14:22,800

briefly saw something that appeared

338

00:14:27,030 --> 00:14:24,320

light and creepy

339

00:14:28,550 --> 00:14:27,040

and she couldn't figure out what it was

340

00:14:32,230 --> 00:14:28,560

why would she resort to

341

00:14:33,990 --> 00:14:32,240

ghosts as an explanation the original

342

00:14:36,949 --> 00:14:34,000

person did not actually

343

00:14:39,269 --> 00:14:36,959

state that she thought she saw a ghost

344

00:14:41,670 --> 00:14:39,279

her point has been taken further

345

00:14:44,870 --> 00:14:41,680

and built up into something more extreme

346

00:14:47,509 --> 00:14:44,880

that is considered nonsense

347

00:14:49,829 --> 00:14:47,519

it's much easier to just knock down a

348

00:14:52,150 --> 00:14:49,839

suggestion that a ghost appeared

349

00:14:54,230 --> 00:14:52,160

than to delve into the possible causes

350

00:14:56,829 --> 00:14:54,240

of what was experienced

351
00:14:58,550 --> 00:14:56,839
especially if no explanations can be

352
00:15:01,269 --> 00:14:58,560
provided

353
00:15:03,590 --> 00:15:01,279
by misrepresenting the original claim it

354
00:15:06,790 --> 00:15:03,600
can then be dismissed outright

355
00:15:07,990 --> 00:15:06,800
rather than addressed the government is

356
00:15:10,470 --> 00:15:08,000
hiding the fact that

357
00:15:12,550 --> 00:15:10,480
aliens are living on earth that air

358
00:15:13,750 --> 00:15:12,560
force testing ranges are off limits and

359
00:15:16,710 --> 00:15:13,760
highly guarded

360
00:15:18,150 --> 00:15:16,720
is evidence that aliens are being held

361
00:15:20,470 --> 00:15:18,160
there

362
00:15:22,949 --> 00:15:20,480
of course the air force range is off

363
00:15:25,030 --> 00:15:22,959

limits and highly guarded

364

00:15:26,310 --> 00:15:25,040

this is true no matter what country

365

00:15:28,550 --> 00:15:26,320

you're in

366

00:15:30,310 --> 00:15:28,560

but this fact has nothing to do with

367

00:15:33,110 --> 00:15:30,320

whether or not aliens or

368

00:15:33,430 --> 00:15:33,120

anything else are being kept a secret

369

00:15:37,030 --> 00:15:33,440

you

370

00:15:40,069 --> 00:15:37,040

abilities

371

00:15:42,710 --> 00:15:40,079

but your tests are impossible to pass

372

00:15:43,749 --> 00:15:42,720

i never said i was one hundred percent

373

00:15:45,990 --> 00:15:43,759

accurate

374

00:15:48,550 --> 00:15:46,000

this excuse from people claiming psychic

375

00:15:50,790 --> 00:15:48,560

powers in order to not be tested

376

00:15:53,189 --> 00:15:50,800

is one we've heard again and again over

377

00:15:55,509 --> 00:15:53,199

the decades

378

00:15:56,710 --> 00:15:55,519

skeptics never impose a condition of

379

00:16:00,069 --> 00:15:56,720

being 100

380

00:16:02,230 --> 00:16:00,079

accurate in a test of paranormal powers

381

00:16:04,150 --> 00:16:02,240

our real position is that we will test

382

00:16:06,230 --> 00:16:04,160

someone based on what they say their

383

00:16:10,069 --> 00:16:06,240

success rate is

384

00:16:14,069 --> 00:16:10,079

maybe they only claim 75 accuracy

385

00:16:17,110 --> 00:16:14,079

that's fine we can test for that

386

00:16:17,670 --> 00:16:17,120

by saying we insist on 100 they are

387

00:16:20,310 --> 00:16:17,680

using a

388

00:16:21,269 --> 00:16:20,320

totally exaggerated and false condition

389

00:16:23,590 --> 00:16:21,279

of a test

390

00:16:26,230 --> 00:16:23,600

to make it appear that skeptics are

391

00:16:28,550 --> 00:16:26,240

unreasonable

392

00:16:29,829 --> 00:16:28,560

many so-called psychics will look for

393

00:16:32,949 --> 00:16:29,839

any excuse

394

00:16:35,590 --> 00:16:32,959

not to take the skeptic's challenge

395

00:16:37,590 --> 00:16:35,600

but you might be interested to know that

396

00:16:39,269 --> 00:16:37,600

many people claiming to be water

397

00:16:41,590 --> 00:16:39,279

diviners

398

00:16:43,670 --> 00:16:41,600

that is to have the power to find

399

00:16:46,790 --> 00:16:43,680

underground water or metals

400

00:16:48,829 --> 00:16:46,800

using divining rods or pendulums often

401

00:16:52,710 --> 00:16:48,839

claim to be a hundred percent

402

00:16:54,790 --> 00:16:52,720

accurate it can be tricky to tell when

403

00:16:56,310 --> 00:16:54,800

your opponent sets up a straw man to

404

00:16:59,189 --> 00:16:56,320

burn down

405

00:17:00,069 --> 00:16:59,199

if you spot it point out that what they

406

00:17:02,310 --> 00:17:00,079

are saying is

407

00:17:03,990 --> 00:17:02,320

not really representative of your point

408

00:17:06,630 --> 00:17:04,000

of view

409

00:17:08,069 --> 00:17:06,640

as always don't get too upset if you

410

00:17:22,230 --> 00:17:08,079

miss it

411

00:17:29,029 --> 00:17:25,750

this week we'll look at post hoc ergo

412

00:17:31,830 --> 00:17:29,039

propter hoc also known as

413

00:17:32,870 --> 00:17:31,840

assuming the cause the faulty causal

414

00:17:35,990 --> 00:17:32,880

assumption

415

00:17:36,390 --> 00:17:36,000

or just post hoc this is when two events

416

00:17:38,789 --> 00:17:36,400

occur

417

00:17:39,990 --> 00:17:38,799

in succession and it is believed that

418

00:17:42,630 --> 00:17:40,000

the first event

419

00:17:43,990 --> 00:17:42,640

must have caused the second event i want

420

00:17:46,470 --> 00:17:44,000

to put it another way

421

00:17:47,669 --> 00:17:46,480

the second event is a result of the

422

00:17:49,590 --> 00:17:47,679

first event

423

00:17:51,750 --> 00:17:49,600

it's the fallacy that applies when

424

00:17:54,470 --> 00:17:51,760

believing in superstition like

425

00:17:55,830 --> 00:17:54,480

positive outcomes due to lucky charms

426
00:17:58,789 --> 00:17:55,840
etc

427
00:17:59,430 --> 00:17:58,799
it also commonly occurs when alternative

428
00:18:02,549 --> 00:17:59,440
medicine

429
00:18:04,870 --> 00:18:02,559
is credited as providing a cure or

430
00:18:07,590 --> 00:18:04,880
science-based medicine is blamed for an

431
00:18:10,150 --> 00:18:07,600
unrelated condition

432
00:18:11,669 --> 00:18:10,160
we all know mother's chicken soup will

433
00:18:14,870 --> 00:18:11,679
cure the common cold

434
00:18:17,110 --> 00:18:14,880
right i mean only a few days

435
00:18:18,390 --> 00:18:17,120
after you eat some the cold will get

436
00:18:20,470 --> 00:18:18,400
better

437
00:18:21,750 --> 00:18:20,480
i put up an umbrella in the house today

438
00:18:24,310 --> 00:18:21,760

and you know what

439

00:18:25,669 --> 00:18:24,320

shortly after i lost my wallet good

440

00:18:28,710 --> 00:18:25,679

things and bad things

441

00:18:31,430 --> 00:18:28,720

happen to us all normally

442

00:18:32,710 --> 00:18:31,440

that's just part of everyday life and we

443

00:18:35,830 --> 00:18:32,720

don't think much about

444

00:18:37,909 --> 00:18:35,840

it once in a while however something

445

00:18:40,789 --> 00:18:37,919

very bad happens to us

446

00:18:42,070 --> 00:18:40,799

and we are left looking for a reason

447

00:18:45,590 --> 00:18:42,080

putting up an umbrella

448

00:18:47,350 --> 00:18:45,600

inside walking under a ladder or a black

449

00:18:50,390 --> 00:18:47,360

cat crossing your path

450

00:18:51,350 --> 00:18:50,400

are all classic superstitions and it's

451
00:18:54,310 --> 00:18:51,360
easy to see

452
00:18:56,150 --> 00:18:54,320
why some people might latch onto these

453
00:18:59,750 --> 00:18:56,160
when looking for a reason

454
00:19:03,190 --> 00:18:59,760
as to why they had bad luck later on

455
00:19:06,630 --> 00:19:03,200
oh and don't forget superstitions

456
00:19:09,110 --> 00:19:06,640
are as webster's dictionary has it

457
00:19:10,470 --> 00:19:09,120
a belief or practice resulting from

458
00:19:14,070 --> 00:19:10,480
ignorance

459
00:19:15,110 --> 00:19:14,080
fear of the unknown trust in magic or

460
00:19:18,789 --> 00:19:15,120
chance

461
00:19:20,789 --> 00:19:18,799
or a false conception of causation

462
00:19:21,909 --> 00:19:20,799
i was perfectly healthy until i started

463
00:19:25,029 --> 00:19:21,919

using a 5g

464

00:19:27,110 --> 00:19:25,039

cell phone now i have cancer

465

00:19:29,669 --> 00:19:27,120

it could be insensitive to start

466

00:19:32,310 --> 00:19:29,679

schooling a person battling cancer on

467

00:19:34,870 --> 00:19:32,320

its possible causes

468

00:19:37,350 --> 00:19:34,880

but i think we can understand how people

469

00:19:39,750 --> 00:19:37,360

need to find a reason for things

470

00:19:41,750 --> 00:19:39,760

especially things they are trying to

471

00:19:43,350 --> 00:19:41,760

come to terms with

472

00:19:45,830 --> 00:19:43,360

even if they come to the wrong

473

00:19:51,430 --> 00:19:45,840

conclusion

474

00:19:55,029 --> 00:19:51,440

none at all

475

00:19:58,070 --> 00:19:55,039

why did this happen to me is a question

476
00:20:01,430 --> 00:19:58,080
as old as our species

477
00:20:03,270 --> 00:20:01,440
in this case the reality is that while

478
00:20:06,870 --> 00:20:03,280
ionizing radiation

479
00:20:09,669 --> 00:20:06,880
is indeed dangerous the non-ionizing

480
00:20:10,950 --> 00:20:09,679
level of radiation we are exposed to via

481
00:20:15,190 --> 00:20:10,960
5g

482
00:20:17,909 --> 00:20:15,200
does not present any known risks to us

483
00:20:19,190 --> 00:20:17,919
the worst we are likely to experience is

484
00:20:22,390 --> 00:20:19,200
warming on the skin

485
00:20:24,070 --> 00:20:22,400
that is so slight that we won't even

486
00:20:26,549 --> 00:20:24,080
notice it

487
00:20:28,789 --> 00:20:26,559
but this fact doesn't stop people from

488
00:20:32,230 --> 00:20:28,799

blaming it for health problems

489

00:20:32,950 --> 00:20:32,240

real or imagined i was suffering from

490

00:20:36,870 --> 00:20:32,960

too many

491

00:20:39,669 --> 00:20:36,880

negative emotions until i tried smudging

492

00:20:41,110 --> 00:20:39,679

since then my mind is clear and i feel

493

00:20:43,669 --> 00:20:41,120

positive

494

00:20:45,110 --> 00:20:43,679

smudging is a practice trending in the

495

00:20:47,350 --> 00:20:45,120

wellness industry

496

00:20:49,110 --> 00:20:47,360

that has been popularized by social

497

00:20:51,990 --> 00:20:49,120

media

498

00:20:54,310 --> 00:20:52,000

in western culture it involves burning

499

00:20:56,870 --> 00:20:54,320

small bundles of foliage containing

500

00:20:59,190 --> 00:20:56,880

white sage that are commercially

501
00:21:01,750 --> 00:20:59,200
available in kits

502
00:21:02,630 --> 00:21:01,760
it is based on the ancient ceremonial

503
00:21:05,590 --> 00:21:02,640
practice

504
00:21:07,430 --> 00:21:05,600
of sage burning by first nations people

505
00:21:10,149 --> 00:21:07,440
in the americas

506
00:21:11,990 --> 00:21:10,159
maybe in some ways smudging does offer

507
00:21:14,149 --> 00:21:12,000
some help

508
00:21:16,390 --> 00:21:14,159
perhaps the act of waving the smoking

509
00:21:18,710 --> 00:21:16,400
sticks around is enjoyable

510
00:21:21,110 --> 00:21:18,720
and negative emotions are replaced with

511
00:21:23,350 --> 00:21:21,120
positive ones

512
00:21:26,549 --> 00:21:23,360
and let's not forget how powerful

513
00:21:29,510 --> 00:21:26,559

rituals are in human societies

514

00:21:30,230 --> 00:21:29,520

however there are no chemical properties

515

00:21:32,789 --> 00:21:30,240

of smoke

516

00:21:33,750 --> 00:21:32,799

that promote emotional and physical

517

00:21:37,270 --> 00:21:33,760

health

518

00:21:39,909 --> 00:21:37,280

in fact inhaling smoke is more likely to

519

00:21:42,870 --> 00:21:39,919

cause harm

520

00:21:45,510 --> 00:21:42,880

therefore it is a fallacy to think the

521

00:21:47,590 --> 00:21:45,520

improvement is caused by the smoky air

522

00:21:50,870 --> 00:21:47,600

per se

523

00:21:51,510 --> 00:21:50,880

it could also be a placebo effect or a

524

00:21:54,950 --> 00:21:51,520

mood that

525

00:21:57,350 --> 00:21:54,960

eventually improves on its own anyway

526

00:21:59,430 --> 00:21:57,360

my child was perfectly fine until they

527

00:22:01,750 --> 00:21:59,440

had the mmr vaccine

528

00:22:03,669 --> 00:22:01,760

then only months later they were

529

00:22:05,909 --> 00:22:03,679

diagnosed with autism

530

00:22:07,270 --> 00:22:05,919

here we see causality assigned

531

00:22:09,909 --> 00:22:07,280

incorrectly

532

00:22:10,470 --> 00:22:09,919

and the vaccines blamed as a cause for

533

00:22:14,149 --> 00:22:10,480

what is

534

00:22:17,190 --> 00:22:14,159

probably a genetic condition

535

00:22:20,310 --> 00:22:17,200

from systematic reviews of studies based

536

00:22:23,909 --> 00:22:20,320

on millions of children around the world

537

00:22:25,110 --> 00:22:23,919

we know that vaccines do not result in

538

00:22:29,190 --> 00:22:25,120

children developing

539

00:22:31,029 --> 00:22:29,200

autism the love and the need you have to

540

00:22:35,669 --> 00:22:31,039

protect your children

541

00:22:38,470 --> 00:22:35,679

can very easily colour your thinking

542

00:22:39,990 --> 00:22:38,480

how satisfying it is when we think we

543

00:22:43,750 --> 00:22:40,000

have found the reason why

544

00:22:45,430 --> 00:22:43,760

something is happening it's a very deep

545

00:22:48,390 --> 00:22:45,440

need within us all

546

00:22:52,830 --> 00:22:48,400

to find out the answer to the age-old

547

00:22:56,870 --> 00:22:54,149

why

548

00:22:58,390 --> 00:22:56,880

jumping to a false conclusion can be

549

00:23:02,230 --> 00:22:58,400

more satisfying

550

00:23:04,549 --> 00:23:02,240

than having no conclusion at all

551
00:23:06,830 --> 00:23:04,559
in the end when assigning credit or

552
00:23:08,230 --> 00:23:06,840
blame to one occurrence that preceded

553
00:23:11,110 --> 00:23:08,240
another be

554
00:23:12,789 --> 00:23:11,120
sure that you have credible evidence

555
00:23:25,990 --> 00:23:12,799
that there really is

556
00:23:30,149 --> 00:23:27,750
[Music]

557
00:23:31,750 --> 00:23:30,159
this week we'll look at begging the

558
00:23:34,710 --> 00:23:31,760
question

559
00:23:36,470 --> 00:23:34,720
also known as circular reasoning this is

560
00:23:37,270 --> 00:23:36,480
when the answer to the question is

561
00:23:39,909 --> 00:23:37,280
implied

562
00:23:41,510 --> 00:23:39,919
in the wording of the question itself

563
00:23:44,149 --> 00:23:41,520

the premise of the question

564

00:23:44,870 --> 00:23:44,159

and the foregone conclusion support each

565

00:23:48,149 --> 00:23:44,880

other in a

566

00:23:51,269 --> 00:23:48,159

circular way without referring to any

567

00:23:53,830 --> 00:23:51,279

external actual evidence we

568

00:23:54,789 --> 00:23:53,840

often hear the term that begs the

569

00:23:57,110 --> 00:23:54,799

question

570

00:24:00,070 --> 00:23:57,120

in tv and radio interviews with

571

00:24:02,390 --> 00:24:00,080

politicians for example

572

00:24:03,269 --> 00:24:02,400

what the interviewer really should say

573

00:24:06,310 --> 00:24:03,279

is

574

00:24:09,510 --> 00:24:06,320

that prompts the question or

575

00:24:12,630 --> 00:24:09,520

that raises the question as that

576
00:24:15,750 --> 00:24:12,640
is what they really mean when using the

577
00:24:17,990 --> 00:24:15,760
term to refer to a logical fallacy

578
00:24:20,710 --> 00:24:18,000
begging the question is not really

579
00:24:23,750 --> 00:24:20,720
asking a valid question at all

580
00:24:25,190 --> 00:24:23,760
but it does imply that the premise of

581
00:24:27,750 --> 00:24:25,200
the statement needs

582
00:24:28,950 --> 00:24:27,760
challenging before a conclusion can be

583
00:24:31,510 --> 00:24:28,960
drawn

584
00:24:33,909 --> 00:24:31,520
a skeptic how do you explain that my

585
00:24:35,350 --> 00:24:33,919
auntie saw a ufo when she was a girl in

586
00:24:38,470 --> 00:24:35,360
the 1970s

587
00:24:40,070 --> 00:24:38,480
it was as plain as day this example is

588
00:24:42,549 --> 00:24:40,080

based on a real question

589

00:24:43,909 --> 00:24:42,559

put to a skeptical investigator during

590

00:24:46,630 --> 00:24:43,919

an interview

591

00:24:47,110 --> 00:24:46,640

within the question itself is the answer

592

00:24:52,310 --> 00:24:47,120

that the

593

00:24:55,190 --> 00:24:52,320

auntie did indeed see a real ufo

594

00:24:56,390 --> 00:24:55,200

not that the auntie said she thought she

595

00:25:02,310 --> 00:24:56,400

saw a ufo

596

00:25:03,029 --> 00:25:02,320

or said she saw something strange in the

597

00:25:06,870 --> 00:25:03,039

sky

598

00:25:09,590 --> 00:25:06,880

but did in fact see a real ufo

599

00:25:10,710 --> 00:25:09,600

and remember that in common usage ufo

600

00:25:13,830 --> 00:25:10,720

does not mean

601
00:25:17,510 --> 00:25:13,840
unidentified flying object it means

602
00:25:19,190 --> 00:25:17,520
alien spaceship it can be hard to try

603
00:25:21,750 --> 00:25:19,200
and answer this question without

604
00:25:24,149 --> 00:25:21,760
pointing out the logical fallacy

605
00:25:24,870 --> 00:25:24,159
a paranormal investigator was sent to

606
00:25:27,990 --> 00:25:24,880
investigate

607
00:25:29,110 --> 00:25:28,000
strange noises in an old house she

608
00:25:31,750 --> 00:25:29,120
looked at the owner and

609
00:25:32,870 --> 00:25:31,760
said ghosts have been known to make

610
00:25:35,990 --> 00:25:32,880
these noises

611
00:25:38,390 --> 00:25:36,000
how long has this house been haunted

612
00:25:40,549 --> 00:25:38,400
here the investigator seems to have made

613
00:25:41,750 --> 00:25:40,559

up her mind that whatever the strange

614

00:25:44,789 --> 00:25:41,760

noises were

615

00:25:47,830 --> 00:25:44,799

they were the result of ghosts the

616

00:25:50,549 --> 00:25:47,840

question she put to the owner assumes

617

00:25:52,310 --> 00:25:50,559

not only the ghosts are real and the

618

00:25:56,070 --> 00:25:52,320

house is haunted

619

00:25:58,149 --> 00:25:56,080

but this is the cause of the noises

620

00:26:00,470 --> 00:25:58,159

i know my favorite alternative medicine

621

00:26:03,430 --> 00:26:00,480

works because it comes from nature

622

00:26:04,230 --> 00:26:03,440

and natural is best there is no reason

623

00:26:06,149 --> 00:26:04,240

to think

624

00:26:08,950 --> 00:26:06,159

that just because something comes from

625

00:26:10,470 --> 00:26:08,960

nature that it therefore works and is

626
00:26:12,710 --> 00:26:10,480
good for you

627
00:26:14,710 --> 00:26:12,720
there are many deadly poisons to be

628
00:26:17,669 --> 00:26:14,720
found in nature

629
00:26:18,390 --> 00:26:17,679
furthermore there is nothing to say that

630
00:26:21,909 --> 00:26:18,400
natural

631
00:26:24,630 --> 00:26:21,919
is better than artificial it's the dose

632
00:26:24,950 --> 00:26:24,640
that determines whether or not something

633
00:26:30,070 --> 00:26:24,960
is

634
00:26:32,549 --> 00:26:30,080
harmful helpful or just inapplicable

635
00:26:33,269 --> 00:26:32,559
declaring that something works or is

636
00:26:35,909 --> 00:26:33,279
good

637
00:26:36,710 --> 00:26:35,919
just because it comes from nature is

638
00:26:40,549 --> 00:26:36,720

indeed

639

00:26:47,510 --> 00:26:40,559

begging the question and is also

640

00:26:50,950 --> 00:26:49,909

as we've said you'll often hear the

641

00:26:53,669 --> 00:26:50,960

phrase

642

00:26:54,710 --> 00:26:53,679

that begs the question when people

643

00:26:57,350 --> 00:26:54,720

really mean

644

00:26:58,870 --> 00:26:57,360

that prompts the question so just

645

00:27:02,470 --> 00:26:58,880

remember that language

646

00:27:03,110 --> 00:27:02,480

is evolving all the time but if you hear

647

00:27:05,029 --> 00:27:03,120

someone

648

00:27:06,149 --> 00:27:05,039

really begging the question in an

649

00:27:08,149 --> 00:27:06,159

argument

650

00:27:09,909 --> 00:27:08,159

you might ask them to rephrase the

651
00:27:14,870 --> 00:27:09,919
question

652
00:27:21,940 --> 00:27:14,880
which is all too easy to do

653
00:27:33,350 --> 00:27:30,870
[Music]

654
00:27:35,190 --> 00:27:33,360
this week we'll look at the argument

655
00:27:37,669 --> 00:27:35,200
from ignorance

656
00:27:39,350 --> 00:27:37,679
also known as the appeal to ignorance

657
00:27:40,789 --> 00:27:39,360
this is when you assert something is

658
00:27:43,750 --> 00:27:40,799
true or could be true

659
00:27:44,789 --> 00:27:43,760
because no one has proved it to be false

660
00:27:47,110 --> 00:27:44,799
this fallacy

661
00:27:48,149 --> 00:27:47,120
wrongly shifts the burden of proof away

662
00:27:51,510 --> 00:27:48,159
from the person

663
00:27:54,870 --> 00:27:51,520

making the claim we all know what a ufo

664

00:27:58,230 --> 00:27:54,880

is don't we what do you think it is

665

00:28:00,630 --> 00:27:58,240

i'll give you a second now

666

00:28:03,350 --> 00:28:00,640

if you are thinking something like an

667

00:28:05,990 --> 00:28:03,360

alien spaceship that is visiting earth

668

00:28:08,470 --> 00:28:06,000

then it could be said you are making an

669

00:28:11,510 --> 00:28:08,480

argument from ignorance

670

00:28:14,950 --> 00:28:11,520

remember that the u in ufo

671

00:28:17,990 --> 00:28:14,960

stands for unidentified

672

00:28:18,950 --> 00:28:18,000

it could be any number of things from a

673

00:28:22,310 --> 00:28:18,960

bird

674

00:28:26,230 --> 00:28:22,320

to a plane to well

675

00:28:27,430 --> 00:28:26,240

you get the idea the fact that no one

676

00:28:30,470 --> 00:28:27,440

has proved something

677

00:28:33,510 --> 00:28:30,480

unidentified in the sky is not an

678

00:28:36,870 --> 00:28:33,520

alien spaceship does not therefore mean

679

00:28:38,789 --> 00:28:36,880

it is one the ancient egyptians had

680

00:28:39,510 --> 00:28:38,799

access to advanced technology and

681

00:28:42,230 --> 00:28:39,520

knowledge

682

00:28:44,630 --> 00:28:42,240

that has been lost for millennia how

683

00:28:47,510 --> 00:28:44,640

else could they have built the pyramids

684

00:28:49,269 --> 00:28:47,520

even today scientists are baffled by how

685

00:28:52,310 --> 00:28:49,279

it could be done

686

00:28:54,789 --> 00:28:52,320

were they helped by advanced aliens this

687

00:28:55,950 --> 00:28:54,799

surely is proof that the earth has been

688

00:28:58,950 --> 00:28:55,960

visited by

689

00:29:00,710 --> 00:28:58,960

extraterrestrials it's certainly true

690

00:29:02,870 --> 00:29:00,720

that there are many aspects of the

691

00:29:04,230 --> 00:29:02,880

construction of the pyramids we don't

692

00:29:06,870 --> 00:29:04,240

yet understand

693

00:29:07,830 --> 00:29:06,880

it does not therefore mean the ancient

694

00:29:11,029 --> 00:29:07,840

egyptians had

695

00:29:12,070 --> 00:29:11,039

access to technology or science far more

696

00:29:16,070 --> 00:29:12,080

advanced than our

697

00:29:19,110 --> 00:29:16,080

own in fact with every passing year

698

00:29:21,830 --> 00:29:19,120

we understand more and more about

699

00:29:22,950 --> 00:29:21,840

how the pyramids were constructed and

700

00:29:26,149 --> 00:29:22,960

never

701
00:29:29,669 --> 00:29:26,159
not once have we discovered evidence of

702
00:29:32,549 --> 00:29:29,679
some amazing alien technology

703
00:29:35,590 --> 00:29:32,559
what we do find is how resourceful and

704
00:29:38,950 --> 00:29:35,600
inventive the ancient egyptians were

705
00:29:40,070 --> 00:29:38,960
remember they were humans just like you

706
00:29:42,070 --> 00:29:40,080
and me

707
00:29:43,590 --> 00:29:42,080
science does not know the limits of the

708
00:29:45,750 --> 00:29:43,600
human brain so

709
00:29:47,350 --> 00:29:45,760
it could be that there is a part of the

710
00:29:50,470 --> 00:29:47,360
brain that is able to send

711
00:29:52,549 --> 00:29:50,480
and receive psychic messages

712
00:29:53,990 --> 00:29:52,559
the first part of this statement is true

713
00:29:57,350 --> 00:29:54,000

enough as science is

714

00:30:00,149 --> 00:29:57,360

still learning about the human brain

715

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

but that does not therefore mean psychic

716

00:30:04,149 --> 00:30:00,720

powers

717

00:30:07,029 --> 00:30:04,159

must or even might exist

718

00:30:09,269 --> 00:30:07,039

no one has proven that invisible

719

00:30:12,310 --> 00:30:09,279

unicorns from another dimension

720

00:30:15,990 --> 00:30:12,320

aren't running around the streets but

721

00:30:18,389 --> 00:30:16,000

that is no reason to think that they are

722

00:30:20,230 --> 00:30:18,399

i went to a reiki practitioner who

723

00:30:23,510 --> 00:30:20,240

cleansed and balanced my

724

00:30:25,510 --> 00:30:23,520

energies which cured my insomnia

725

00:30:26,950 --> 00:30:25,520

just because science hasn't detected

726

00:30:29,510 --> 00:30:26,960

healing energies yet

727

00:30:30,789 --> 00:30:29,520

it doesn't mean they don't exist science

728

00:30:33,830 --> 00:30:30,799

doesn't know everything

729

00:30:34,630 --> 00:30:33,840

there are other ways of knowing it's

730

00:30:37,590 --> 00:30:34,640

just so

731

00:30:38,710 --> 00:30:37,600

easy to accept something like reiki

732

00:30:42,310 --> 00:30:38,720

needless to say an

733

00:30:45,190 --> 00:30:42,320

unproven modality seems to work when you

734

00:30:48,149 --> 00:30:45,200

think it has worked for you

735

00:30:49,110 --> 00:30:48,159

it also makes sense to look for a reason

736

00:30:53,350 --> 00:30:49,120

as to why

737

00:30:56,710 --> 00:30:53,360

it seems to work that the reason given

738

00:30:59,190 --> 00:30:56,720

makes no real sense scientifically

739

00:31:00,789 --> 00:30:59,200

really doesn't matter when someone is

740

00:31:05,269 --> 00:31:00,799

convinced by perceived

741

00:31:07,830 --> 00:31:05,279

outcomes of the modality

742

00:31:09,509 --> 00:31:07,840

you'll often find that people think that

743

00:31:12,630 --> 00:31:09,519

just because something has

744

00:31:13,590 --> 00:31:12,640

not been shown to be false or not the

745

00:31:16,389 --> 00:31:13,600

case

746

00:31:18,789 --> 00:31:16,399

the opposite must be true or at least

747

00:31:21,909 --> 00:31:18,799

could be true

748

00:31:24,630 --> 00:31:21,919

as unsatisfying as it can be

749

00:31:25,909 --> 00:31:24,640

sometimes the best answer a skeptic can

750

00:31:37,300 --> 00:31:25,919

give is

751
00:31:42,950 --> 00:31:39,590

[Music]

752
00:31:45,509 --> 00:31:42,960
this week we'll look at special pleading

753
00:31:47,990 --> 00:31:45,519
this is when instead of admitting your

754
00:31:50,470 --> 00:31:48,000
point of view or argument is wrong

755
00:31:51,669 --> 00:31:50,480
you try to find a loophole that gives

756
00:31:54,230 --> 00:31:51,679
you an out

757
00:31:56,230 --> 00:31:54,240
and saves you from defeat it is also

758
00:31:57,590 --> 00:31:56,240
when a person makes an exception to a

759
00:31:59,990 --> 00:31:57,600
universal principle

760
00:32:01,909 --> 00:32:00,000
because they are holding on tight to a

761
00:32:03,269 --> 00:32:01,919
belief that doesn't align with that

762
00:32:05,750 --> 00:32:03,279
principle

763
00:32:08,230 --> 00:32:05,760

we see this situation so often in

764

00:32:10,470 --> 00:32:08,240

skeptical investigations

765

00:32:11,430 --> 00:32:10,480

from so-called psychics to water

766

00:32:13,750 --> 00:32:11,440

diviners

767

00:32:16,870 --> 00:32:13,760

to people who claim they have invented a

768

00:32:18,950 --> 00:32:16,880

perpetual motion machine

769

00:32:21,350 --> 00:32:18,960

when it comes to the crunch and they

770

00:32:24,149 --> 00:32:21,360

fail to demonstrate their claim

771

00:32:25,110 --> 00:32:24,159

they will always find a way to excuse

772

00:32:28,549 --> 00:32:25,120

the failure

773

00:32:31,669 --> 00:32:28,559

and preserve their worldview normally

774

00:32:34,789 --> 00:32:31,679

i'm 100 successful when i'm

775

00:32:37,669 --> 00:32:34,799

water divining i never miss but when i

776

00:32:39,110 --> 00:32:37,679

was tested by the skeptics my divining

777

00:32:42,070 --> 00:32:39,120

power didn't work

778

00:32:44,389 --> 00:32:42,080

however i know why those skeptics had me

779

00:32:47,509 --> 00:32:44,399

tested on the wrong type of water

780

00:32:50,230 --> 00:32:47,519

and that threw me off believe it or not

781

00:32:51,430 --> 00:32:50,240

this was the actual argument made by a

782

00:32:53,590 --> 00:32:51,440

water diviner

783

00:32:55,110 --> 00:32:53,600

after failing a test of his claimed

784

00:32:57,830 --> 00:32:55,120

ability

785

00:32:59,830 --> 00:32:57,840

of all the people tested by australian

786

00:33:02,230 --> 00:32:59,840

skeptics over the decades

787

00:33:02,950 --> 00:33:02,240

it's the water diviners who come up with

788

00:33:06,470 --> 00:33:02,960

the most

789

00:33:10,630 --> 00:33:06,480

creative examples of special pleading

790

00:33:11,669 --> 00:33:10,640

none of them not one of the hundreds who

791

00:33:14,870 --> 00:33:11,679

have tried

792

00:33:17,350 --> 00:33:14,880

have passed the agreed to tests i

793

00:33:19,029 --> 00:33:17,360

know i failed to find the treasure using

794

00:33:21,909 --> 00:33:19,039

my psychic powers

795

00:33:23,830 --> 00:33:21,919

but it wasn't my fault my spirit guide

796

00:33:24,630 --> 00:33:23,840

led me to the wrong place to teach me a

797

00:33:27,830 --> 00:33:24,640

lesson

798

00:33:30,470 --> 00:33:27,840

in humility once again we have an

799

00:33:32,789 --> 00:33:30,480

example based on a real excuse

800

00:33:34,630 --> 00:33:32,799

given by someone claiming to be a

801
00:33:37,990 --> 00:33:34,640

psychic

802
00:33:41,269 --> 00:33:38,000

a way

803
00:33:43,669 --> 00:33:41,279

to justify their failure they also

804
00:33:46,870 --> 00:33:43,679

found a way to reinforce their belief in

805
00:33:50,710 --> 00:33:46,880

the paranormal at the same time

806
00:33:52,710 --> 00:33:50,720

a for effort it's simply amazing how

807
00:33:54,710 --> 00:33:52,720

well acupuncture works

808
00:33:57,909 --> 00:33:54,720

it doesn't matter that science cannot

809
00:34:00,310 --> 00:33:57,919

identify the mechanism by which it works

810
00:34:02,870 --> 00:34:00,320

we don't need to wait for science to

811
00:34:05,269 --> 00:34:02,880

catch up to what we already know

812
00:34:07,750 --> 00:34:05,279

anyway science clearly isn't able to

813
00:34:10,069 --> 00:34:07,760

discover how acupuncture works

814

00:34:12,389 --> 00:34:10,079

this example of special plating has been

815

00:34:15,710 --> 00:34:12,399

used for many years by those promoting

816

00:34:18,629 --> 00:34:15,720

acupuncture so-called energy healing

817

00:34:20,710 --> 00:34:18,639

homeopathy and many other forms of

818

00:34:23,349 --> 00:34:20,720

alternative medicine

819

00:34:24,310 --> 00:34:23,359

when the scientific evidence is lacking

820

00:34:27,349 --> 00:34:24,320

they will blame

821

00:34:28,230 --> 00:34:27,359

science for not understanding or even

822

00:34:32,950 --> 00:34:28,240

for not being

823

00:34:37,030 --> 00:34:35,030

we humans are very good at doing

824

00:34:40,710 --> 00:34:37,040

everything we can to preserve our

825

00:34:43,030 --> 00:34:40,720

beliefs and our worldview

826
00:34:44,470 --> 00:34:43,040
it could be said to be a form of natural

827
00:34:47,510 --> 00:34:44,480
defense as the mind

828
00:34:49,510 --> 00:34:47,520
looks for ways to protect itself

829
00:34:50,790 --> 00:34:49,520
it is something you should take into

830
00:34:53,030 --> 00:34:50,800
consideration when

831
00:34:56,710 --> 00:34:53,040
arguing with someone who is truly

832
00:34:59,109 --> 00:34:56,720
convinced of their own point of view

833
00:35:09,910 --> 00:34:59,119
rarely will they just change their mind

834
00:35:14,069 --> 00:35:11,990
this week we'll look at the appeal to

835
00:35:16,950 --> 00:35:14,079
nature

836
00:35:18,870 --> 00:35:16,960
this is the false somewhat romantic idea

837
00:35:19,589 --> 00:35:18,880
that just because something comes from

838
00:35:21,829 --> 00:35:19,599

nature

839

00:35:22,630 --> 00:35:21,839

or from a natural source it must

840

00:35:25,990 --> 00:35:22,640

therefore be

841

00:35:29,349 --> 00:35:26,000

pure wholesome beneficial and healthy

842

00:35:29,990 --> 00:35:29,359

basically good for you this fallacy can

843

00:35:32,150 --> 00:35:30,000

often be

844

00:35:33,670 --> 00:35:32,160

seen in the marketing of food and

845

00:35:36,870 --> 00:35:33,680

certain so-called

846

00:35:38,950 --> 00:35:36,880

alternative medicines it plays on our

847

00:35:41,750 --> 00:35:38,960

notion of life in a simpler

848

00:35:43,349 --> 00:35:41,760

more innocent time that really never

849

00:35:46,230 --> 00:35:43,359

existed

850

00:35:48,790 --> 00:35:46,240

when people lived a more natural life

851

00:35:51,430 --> 00:35:48,800

their life expectancy was generally

852

00:35:53,270 --> 00:35:51,440

shorter and plagued with bad health

853

00:35:55,030 --> 00:35:53,280

along the way

854

00:35:57,030 --> 00:35:55,040

i'm going to stick to natural products

855

00:35:58,630 --> 00:35:57,040

only from now on and steer clear of

856

00:36:01,349 --> 00:35:58,640

chemicals

857

00:36:02,230 --> 00:36:01,359

somehow over the last few decades the

858

00:36:05,030 --> 00:36:02,240

idea that

859

00:36:05,750 --> 00:36:05,040

chemicals are artificial and therefore

860

00:36:09,109 --> 00:36:05,760

bad

861

00:36:11,030 --> 00:36:09,119

has become a widely held public opinion

862

00:36:12,150 --> 00:36:11,040

you have no doubt seen the words

863

00:36:14,630 --> 00:36:12,160

chemical free

864

00:36:16,390 --> 00:36:14,640

on everything from food supplements to

865

00:36:19,270 --> 00:36:16,400

shampoo

866

00:36:20,870 --> 00:36:19,280

since even water is a chemical its

867

00:36:24,150 --> 00:36:20,880

formula being the famous

868

00:36:27,750 --> 00:36:24,160

h₂O it's a wonder that this falsehood

869

00:36:30,790 --> 00:36:27,760

ever caught hold chemicals

870

00:36:33,589 --> 00:36:30,800

be they natural or artificial are

871

00:36:36,150 --> 00:36:33,599

neither good nor bad in themselves

872

00:36:37,030 --> 00:36:36,160

it's how they are used and in what

873

00:36:39,510 --> 00:36:37,040

quantity

874

00:36:41,109 --> 00:36:39,520

or in what compound that determines

875

00:36:42,710 --> 00:36:41,119

their effect

876

00:36:45,030 --> 00:36:42,720

i'm not going to risk my children

877

00:36:47,109 --> 00:36:45,040

getting vaccinated it is important that

878

00:36:50,230 --> 00:36:47,119

they get a dose of the measles

879

00:36:52,230 --> 00:36:50,240

to build up their natural immunity one

880

00:36:54,710 --> 00:36:52,240

of the privileges many of us

881

00:36:56,470 --> 00:36:54,720

have is to live in a society with

882

00:36:59,230 --> 00:36:56,480

advanced medical care

883

00:37:01,510 --> 00:36:59,240

which led to vaccination and the near

884

00:37:04,550 --> 00:37:01,520

eradication of diseases like

885

00:37:08,150 --> 00:37:04,560

measles even if a child is

886

00:37:10,630 --> 00:37:08,160

unfortunate enough to contract measles

887

00:37:13,349 --> 00:37:10,640

our health system is ready if that child

888

00:37:15,670 --> 00:37:13,359

becomes seriously ill

889

00:37:16,390 --> 00:37:15,680

in some parts of the world where people

890

00:37:19,349 --> 00:37:16,400

are less

891

00:37:20,310 --> 00:37:19,359

fortunate each year thousands of

892

00:37:23,829 --> 00:37:20,320

children

893

00:37:27,349 --> 00:37:23,839

and even adults die from measles which

894

00:37:31,510 --> 00:37:27,359

after all is a natural disease

895

00:37:33,589 --> 00:37:31,520

even covert 19 is natural

896

00:37:35,270 --> 00:37:33,599

many women these days are opting for

897

00:37:37,510 --> 00:37:35,280

natural childbirth

898

00:37:39,750 --> 00:37:37,520

in the comfort of their own home with

899

00:37:41,670 --> 00:37:39,760

family and a midwife on hand

900

00:37:43,030 --> 00:37:41,680

this means that the child will start

901
00:37:46,150 --> 00:37:43,040
life in a peaceful

902
00:37:47,270 --> 00:37:46,160
and loving environment newborn babies

903
00:37:50,630 --> 00:37:47,280
are incapable of

904
00:37:54,150 --> 00:37:50,640
knowing or caring where they are born

905
00:37:57,670 --> 00:37:54,160
and will not remember the event

906
00:38:00,710 --> 00:37:57,680
while birth is indeed part of nature

907
00:38:01,109 --> 00:38:00,720
so is the alarmingly high death rate for

908
00:38:04,630 --> 00:38:01,119
both

909
00:38:05,109 --> 00:38:04,640
mother and baby where modern medical

910
00:38:07,990 --> 00:38:05,119
care

911
00:38:09,030 --> 00:38:08,000
is not available for most of our

912
00:38:12,069 --> 00:38:09,040
ancestors

913
00:38:14,870 --> 00:38:12,079

going back into the distant past a

914

00:38:16,790 --> 00:38:14,880

natural childbirth was a time of both

915

00:38:18,430 --> 00:38:16,800

great anticipation

916

00:38:22,390 --> 00:38:18,440

and great apprehension

917

00:38:25,589 --> 00:38:22,400

[Music]

918

00:38:26,550 --> 00:38:25,599

nature is neither our enemy nor our

919

00:38:29,349 --> 00:38:26,560

friend

920

00:38:31,109 --> 00:38:29,359

it is simply the ongoing process of the

921

00:38:33,349 --> 00:38:31,119

universe

922

00:38:34,230 --> 00:38:33,359

we can point to much in nature that is

923

00:38:37,990 --> 00:38:34,240

good for us

924

00:38:41,270 --> 00:38:38,000

like fresh air and necessary vitamins

925

00:38:41,750 --> 00:38:41,280

and much that is bad even fatal like

926
00:38:44,470 --> 00:38:41,760
many

927
00:38:45,109 --> 00:38:44,480
natural diseases or natural disasters

928
00:38:49,030 --> 00:38:45,119
such as

929
00:38:51,990 --> 00:38:49,040
earthquakes fires and floods

930
00:38:53,589 --> 00:38:52,000
just keep in mind that nature is a blind

931
00:38:56,790 --> 00:38:53,599
uncaring process

932
00:38:57,510 --> 00:38:56,800
and not some benevolent entity that has

933
00:38:59,870 --> 00:38:57,520
our best

934
00:39:07,430 --> 00:38:59,880
interests at heart

935
00:39:11,109 --> 00:39:09,190
this time we'll look at the false

936
00:39:14,310 --> 00:39:11,119
dilemma

937
00:39:17,430 --> 00:39:14,320
also known as the false dichotomy the

938
00:39:19,910 --> 00:39:17,440

either or and the false

939

00:39:21,030 --> 00:39:19,920

choice this is when an argument is

940

00:39:24,310 --> 00:39:21,040

framed as having

941

00:39:24,710 --> 00:39:24,320

only two options or conclusions when

942

00:39:28,470 --> 00:39:24,720

there

943

00:39:31,109 --> 00:39:28,480

are in fact other logical alternatives

944

00:39:33,190 --> 00:39:31,119

not all black and white situations are

945

00:39:35,510 --> 00:39:33,200

truly black and white

946

00:39:37,990 --> 00:39:35,520

sometimes there are many other

947

00:39:41,990 --> 00:39:38,000

alternatives or shades of grey

948

00:39:44,630 --> 00:39:42,000

between the two extremes being asked to

949

00:39:45,310 --> 00:39:44,640

choose between the extremes can lead you

950

00:39:49,750 --> 00:39:45,320

to an

951
00:39:52,470 --> 00:39:49,760
unsatisfactory and even false conclusion

952
00:39:53,990 --> 00:39:52,480
the tv news show did a sting on a

953
00:39:55,510 --> 00:39:54,000
so-called psychic and

954
00:39:58,470 --> 00:39:55,520
showed that she was nothing more than a

955
00:40:01,589 --> 00:39:58,480
con artist other psychics however

956
00:40:03,750 --> 00:40:01,599
can not be explained away so easily so

957
00:40:06,550 --> 00:40:03,760
they must be real

958
00:40:08,950 --> 00:40:06,560
after many decades of investigations by

959
00:40:10,390 --> 00:40:08,960
australian skeptics and people like

960
00:40:13,430 --> 00:40:10,400
james randy

961
00:40:15,430 --> 00:40:13,440
we know that many maybe the majority of

962
00:40:17,109 --> 00:40:15,440
people claiming to be psychic or

963
00:40:20,630 --> 00:40:17,119

mystical healers

964

00:40:20,950 --> 00:40:20,640

are not con artists per se nor do they

965

00:40:24,790 --> 00:40:20,960

have

966

00:40:28,069 --> 00:40:24,800

genuine psychic powers many are

967

00:40:30,309 --> 00:40:28,079

to one degree or another deluded and

968

00:40:31,589 --> 00:40:30,319

really do think they have the powers

969

00:40:34,870 --> 00:40:31,599

they claim

970

00:40:37,030 --> 00:40:34,880

they can be honest caring people

971

00:40:37,990 --> 00:40:37,040

who only want to share what they

972

00:40:40,950 --> 00:40:38,000

perceive is

973

00:40:42,630 --> 00:40:40,960

their gift there are also performers

974

00:40:45,270 --> 00:40:42,640

known as mentalists

975

00:40:46,309 --> 00:40:45,280

who also use hot and cold reading

976
00:40:48,390 --> 00:40:46,319
techniques

977
00:40:50,870 --> 00:40:48,400
and are good at reading people in a

978
00:40:53,670 --> 00:40:50,880
psychological way

979
00:40:55,750 --> 00:40:53,680
this is a legitimate skill set and is

980
00:40:58,630 --> 00:40:55,760
valid entertainment

981
00:40:59,510 --> 00:40:58,640
these other possibilities however are

982
00:41:02,750 --> 00:40:59,520
one step

983
00:41:04,150 --> 00:41:02,760
too far for most tv or other news

984
00:41:06,150 --> 00:41:04,160
investigations

985
00:41:09,670 --> 00:41:06,160
that need to give their audience a

986
00:41:12,550 --> 00:41:09,680
simple choice and report accordingly

987
00:41:14,230 --> 00:41:12,560
the psychic is either a con artist or

988
00:41:17,750 --> 00:41:14,240

the real deal

989

00:41:20,790 --> 00:41:17,760

never an entertainer such as a mentalist

990

00:41:23,829 --> 00:41:20,800

amateur psychologist or deluded

991

00:41:24,790 --> 00:41:23,839

but well-meaning person if you're not

992

00:41:28,069 --> 00:41:24,800

for me

993

00:41:30,230 --> 00:41:28,079

then you're against me this is a cry

994

00:41:33,349 --> 00:41:30,240

we've heard from politics to religion

995

00:41:35,910 --> 00:41:33,359

and in many other situations

996

00:41:38,790 --> 00:41:35,920

it's an underhanded way of polarizing

997

00:41:40,710 --> 00:41:38,800

people to gain their support

998

00:41:41,829 --> 00:41:40,720

you might agree with much of what

999

00:41:44,390 --> 00:41:41,839

someone says

1000

00:41:45,109 --> 00:41:44,400

but at the same time have concerns or

1001
00:41:48,550 --> 00:41:45,119
issues with

1002
00:41:51,190 --> 00:41:48,560
other things not agreeing with someone

1003
00:41:52,390 --> 00:41:51,200
does not therefore mean you are opposed

1004
00:41:54,630 --> 00:41:52,400
to them

1005
00:41:56,150 --> 00:41:54,640
i reject mainstream medicine because

1006
00:41:59,349 --> 00:41:56,160
lots of people die

1007
00:42:01,589 --> 00:41:59,359
due to medical accidents or misdiagnosis

1008
00:42:02,710 --> 00:42:01,599
and drug companies are just in it for

1009
00:42:05,230 --> 00:42:02,720
the money

1010
00:42:07,109 --> 00:42:05,240
it is true that medical accidents and

1011
00:42:09,670 --> 00:42:07,119
misdiagnosis occur

1012
00:42:12,230 --> 00:42:09,680
human error is a factor in everything

1013
00:42:14,870 --> 00:42:12,240

that involves our input

1014

00:42:15,349 --> 00:42:14,880

drug companies can indeed be profit

1015

00:42:18,630 --> 00:42:15,359

driven

1016

00:42:20,870 --> 00:42:18,640

too however to reject

1017

00:42:22,309 --> 00:42:20,880

all evidence-based medicine on these

1018

00:42:24,630 --> 00:42:22,319

grounds and concede

1019

00:42:26,390 --> 00:42:24,640

none of how often people are cured or

1020

00:42:28,829 --> 00:42:26,400

saved is coming to an

1021

00:42:30,950 --> 00:42:28,839

extreme conclusion based on a false

1022

00:42:33,430 --> 00:42:30,960

dichotomy

1023

00:42:33,990 --> 00:42:33,440

just because science-based medical

1024

00:42:37,030 --> 00:42:34,000

practice

1025

00:42:37,670 --> 00:42:37,040

isn't all good it doesn't mean that it

1026
00:42:40,710 --> 00:42:37,680
must be

1027
00:42:45,430 --> 00:42:40,720
all bad and we should seek alternative

1028
00:42:48,630 --> 00:42:45,440
medical treatments instead

1029
00:42:51,990 --> 00:42:48,640
it's so easy to be given a simple choice

1030
00:42:54,870 --> 00:42:52,000
not too much to consider and with one of

1031
00:42:58,230 --> 00:42:54,880
the choices made out to be the right one

1032
00:43:00,230 --> 00:42:58,240
or the only real one to choose

1033
00:43:02,470 --> 00:43:00,240
there are times when a choice like this

1034
00:43:06,390 --> 00:43:02,480
is obvious for example

1035
00:43:08,870 --> 00:43:06,400
is slavery good yes or no

1036
00:43:13,430 --> 00:43:08,880
but for many situations the false

1037
00:43:15,430 --> 00:43:13,440
dilemma can rob you of the real answer

1038
00:43:16,950 --> 00:43:15,440

next time we'll look at the opposite of

1039

00:43:28,150 --> 00:43:16,960

the false dilemma

1040

00:43:31,349 --> 00:43:29,990

this time we'll look at the middle

1041

00:43:34,069 --> 00:43:31,359

ground

1042

00:43:36,390 --> 00:43:34,079

also known as the false compromise and

1043

00:43:38,470 --> 00:43:36,400

the argument to moderation

1044

00:43:39,670 --> 00:43:38,480

this is when it's asserted that the

1045

00:43:42,550 --> 00:43:39,680

truth of the matter

1046

00:43:43,190 --> 00:43:42,560

lies between two extremes and casts

1047

00:43:45,910 --> 00:43:43,200

doubt

1048

00:43:47,190 --> 00:43:45,920

on a well-reasoned and evidence-based

1049

00:43:49,349 --> 00:43:47,200

conclusion

1050

00:43:51,589 --> 00:43:49,359

this fallacy can come across as being

1051

00:43:54,230 --> 00:43:51,599

very fair-minded or democratic

1052

00:43:55,910 --> 00:43:54,240

as it seems to appeal to an open-minded

1053

00:43:57,829 --> 00:43:55,920

approach

1054

00:43:59,349 --> 00:43:57,839

but there are some issues and topics

1055

00:44:02,069 --> 00:43:59,359

where enough evidence

1056

00:44:03,589 --> 00:44:02,079

has been gathered for us to be very sure

1057

00:44:06,309 --> 00:44:03,599

of the premise

1058

00:44:07,750 --> 00:44:06,319

some say climate change is real and the

1059

00:44:10,069 --> 00:44:07,760

earth is warming

1060

00:44:11,270 --> 00:44:10,079

but others say it's not happening or

1061

00:44:13,670 --> 00:44:11,280

even if it is

1062

00:44:14,630 --> 00:44:13,680

it's just part of a natural cycle of the

1063

00:44:17,109 --> 00:44:14,640

planet

1064

00:44:18,390 --> 00:44:17,119

until they all just make up their mind

1065

00:44:21,430 --> 00:44:18,400

i'm not going to commit

1066

00:44:22,550 --> 00:44:21,440

one way all the other it's good to weigh

1067

00:44:25,270 --> 00:44:22,560

up the arguments on

1068

00:44:26,790 --> 00:44:25,280

any issue and listen to a wide range of

1069

00:44:29,109 --> 00:44:26,800

opinions

1070

00:44:30,790 --> 00:44:29,119

but if you're waiting for everyone to

1071

00:44:33,750 --> 00:44:30,800

make up their minds

1072

00:44:35,190 --> 00:44:33,760

you'll be waiting forever while it could

1073

00:44:38,309 --> 00:44:35,200

be said that science

1074

00:44:39,109 --> 00:44:38,319

never ultimately makes up its mind it

1075

00:44:42,550 --> 00:44:39,119

does reach

1076

00:44:45,430 --> 00:44:42,560

firm if tentative conclusions

1077

00:44:47,829 --> 00:44:45,440

there is no longer any doubt that humans

1078

00:44:51,109 --> 00:44:47,839

contribute to global warming

1079

00:44:53,109 --> 00:44:51,119

however science continues to fine-tune

1080

00:44:54,950 --> 00:44:53,119

our knowledge and understanding of the

1081

00:44:57,750 --> 00:44:54,960

phenomenon

1082

00:44:58,630 --> 00:44:57,760

note too that the consensus on global

1083

00:45:01,190 --> 00:44:58,640

warming

1084

00:45:02,550 --> 00:45:01,200

isn't a middle ground negotiated between

1085

00:45:05,589 --> 00:45:02,560

scientists

1086

00:45:08,230 --> 00:45:05,599

but a consensus of what the data shows

1087

00:45:09,589 --> 00:45:08,240

and the evidence clearly rests on one

1088

00:45:12,230 --> 00:45:09,599

side

1089

00:45:14,470 --> 00:45:12,240

i know some scientists say the earth is

1090

00:45:15,510 --> 00:45:14,480

billions of years old and we evolved

1091

00:45:17,910 --> 00:45:15,520

from apes

1092

00:45:19,750 --> 00:45:17,920

but other scientists say there is proof

1093

00:45:22,230 --> 00:45:19,760

for biblical creation

1094

00:45:23,589 --> 00:45:22,240

with the earth being only six thousand

1095

00:45:25,510 --> 00:45:23,599

years old

1096

00:45:27,990 --> 00:45:25,520

don't you think it's best we teach

1097

00:45:30,710 --> 00:45:28,000

children both points of view and

1098

00:45:32,030 --> 00:45:30,720

let them decide here is a classic

1099

00:45:34,470 --> 00:45:32,040

argument from the young earth

1100

00:45:36,630 --> 00:45:34,480

creationists by saying there are

1101

00:45:38,950 --> 00:45:36,640

scientists on both sides of the

1102

00:45:40,470 --> 00:45:38,960

question implies that the established

1103

00:45:43,670 --> 00:45:40,480

history of the earth

1104

00:45:45,990 --> 00:45:43,680

and the fact of evolution are in doubt

1105

00:45:47,750 --> 00:45:46,000

both are simply not in doubt in the

1106

00:45:49,750 --> 00:45:47,760

scientific community

1107

00:45:51,910 --> 00:45:49,760

but there will always be those who use

1108

00:45:52,710 --> 00:45:51,920

the false balance to push their point of

1109

00:45:56,710 --> 00:45:52,720

view

1110

00:45:58,630 --> 00:45:56,720

in this case creationism

1111

00:45:59,990 --> 00:45:58,640

sometimes there is a concession to the

1112

00:46:02,550 --> 00:46:00,000

religious doctrine by

1113

00:46:04,630 --> 00:46:02,560

using a combination of creationism and

1114

00:46:05,430 --> 00:46:04,640

evolution to reach a hybrid middle

1115

00:46:07,670 --> 00:46:05,440

ground

1116

00:46:10,950 --> 00:46:07,680

and this is also fallacious as the

1117

00:46:13,349 --> 00:46:10,960

positions are diametrically opposed

1118

00:46:14,470 --> 00:46:13,359

also remember that no matter what the

1119

00:46:17,510 --> 00:46:14,480

topic

1120

00:46:18,470 --> 00:46:17,520

even if it's ridiculous you'll always

1121

00:46:20,710 --> 00:46:18,480

find someone

1122

00:46:22,069 --> 00:46:20,720

calling themselves an expert to defend

1123

00:46:24,309 --> 00:46:22,079

it

1124

00:46:25,349 --> 00:46:24,319

i was watching a debate on tv about

1125

00:46:27,030 --> 00:46:25,359

vaccination

1126
00:46:28,870 --> 00:46:27,040
they had a doctor talking about

1127
00:46:30,309 --> 00:46:28,880
preventing whooping cough and measles

1128
00:46:32,630 --> 00:46:30,319
with a vaccine

1129
00:46:33,750 --> 00:46:32,640
but for balance they also had a

1130
00:46:36,710 --> 00:46:33,760
naturopath to

1131
00:46:37,349 --> 00:46:36,720
give the other side of the story again

1132
00:46:40,470 --> 00:46:37,359
and again

1133
00:46:42,950 --> 00:46:40,480
tv shows especially breakfast tv that

1134
00:46:43,829 --> 00:46:42,960
has maybe a five or six minute slot to

1135
00:46:46,150 --> 00:46:43,839
fill

1136
00:46:47,589 --> 00:46:46,160
will cover an issue by getting into

1137
00:46:50,870 --> 00:46:47,599
people who represent

1138
00:46:52,710 --> 00:46:50,880

quote both sides of an issue and let

1139

00:46:55,349 --> 00:46:52,720

them fight it out

1140

00:46:57,349 --> 00:46:55,359

it makes for good tv but leaves the

1141

00:46:59,750 --> 00:46:57,359

viewers with a mistaken impression that

1142

00:47:03,030 --> 00:46:59,760

there are two equal sides to an issue

1143

00:47:06,390 --> 00:47:03,040

in this case vaccination

1144

00:47:08,950 --> 00:47:06,400

during the 2010s medical scientist dr

1145

00:47:11,270 --> 00:47:08,960

rachel dunlop of the australian skeptics

1146

00:47:12,230 --> 00:47:11,280

took a strong stand against this false

1147

00:47:14,950 --> 00:47:12,240

balance

1148

00:47:15,510 --> 00:47:14,960

and refused to be part of any tv or

1149

00:47:17,990 --> 00:47:15,520

radio

1150

00:47:20,069 --> 00:47:18,000

program that would have her appear next

1151

00:47:22,470 --> 00:47:20,079

to an anti-vaxxer

1152

00:47:26,950 --> 00:47:22,480

she did not want to give them undeserved

1153

00:47:30,950 --> 00:47:29,030

there are so many examples where a

1154

00:47:33,990 --> 00:47:30,960

middle ground simply does not

1155

00:47:37,270 --> 00:47:34,000

exist you cannot be half dead

1156

00:47:38,710 --> 00:47:37,280

or a little bit pregnant despite this

1157

00:47:41,589 --> 00:47:38,720

fallacy sounding so

1158

00:47:42,150 --> 00:47:41,599

reasonable as we've seen it is often

1159

00:47:44,470 --> 00:47:42,160

used by

1160

00:47:47,030 --> 00:47:44,480

others with a fringe opinion to try and

1161

00:47:56,140 --> 00:47:47,040

cast doubt on the stronger opinion

1162

00:48:00,390 --> 00:47:58,549

[Music]

1163

00:48:01,100 --> 00:48:00,400

this time we'll look at the slippery

1164

00:48:02,630 --> 00:48:01,110

slope

1165

00:48:05,510 --> 00:48:02,640

[Music]

1166

00:48:06,069 --> 00:48:05,520

also known as the thin edge of the wedge

1167

00:48:08,870 --> 00:48:06,079

or the

1168

00:48:09,750 --> 00:48:08,880

domino fallacy this is where it is

1169

00:48:12,390 --> 00:48:09,760

asserted

1170

00:48:13,829 --> 00:48:12,400

that a relatively small step or action

1171

00:48:16,150 --> 00:48:13,839

in a certain direction

1172

00:48:16,950 --> 00:48:16,160

will lead to a chain of events with a

1173

00:48:20,069 --> 00:48:16,960

larger

1174

00:48:22,069 --> 00:48:20,079

and negative result imagine you were

1175

00:48:25,510 --> 00:48:22,079

standing on top of a mountain

1176
00:48:28,069 --> 00:48:25,520
and the path down is covered with ice

1177
00:48:29,430 --> 00:48:28,079
take one small step on the path and

1178
00:48:32,470 --> 00:48:29,440
before you know it

1179
00:48:35,349 --> 00:48:32,480
you are sliding down unable to stop

1180
00:48:36,230 --> 00:48:35,359
and hit the bottom you end up with

1181
00:48:38,790 --> 00:48:36,240
unforeseen

1182
00:48:40,870 --> 00:48:38,800
injuries and maybe crash into something

1183
00:48:43,109 --> 00:48:40,880
else and cause damage

1184
00:48:44,390 --> 00:48:43,119
that's the basic idea with this logical

1185
00:48:47,190 --> 00:48:44,400
fallacy

1186
00:48:49,670 --> 00:48:47,200
a small action now will inevitably lead

1187
00:48:50,870 --> 00:48:49,680
to a chain of events with a bad result

1188
00:48:52,950 --> 00:48:50,880

at the end

1189

00:48:55,109 --> 00:48:52,960

if they regulate homeopathy the next

1190

00:48:56,309 --> 00:48:55,119

thing you know they'll be regulating and

1191

00:48:59,270 --> 00:48:56,319

eventually banning

1192

00:49:01,109 --> 00:48:59,280

all forms of alternative medicine we see

1193

00:49:03,270 --> 00:49:01,119

this slippery slope argument

1194

00:49:04,870 --> 00:49:03,280

being used by proponents of so-called

1195

00:49:06,790 --> 00:49:04,880

alternative medicine

1196

00:49:09,349 --> 00:49:06,800

to protect their modality from what

1197

00:49:11,829 --> 00:49:09,359

would be normal scrutiny

1198

00:49:13,510 --> 00:49:11,839

homeopathy like any other form of

1199

00:49:16,069 --> 00:49:13,520

alternative medicine

1200

00:49:17,750 --> 00:49:16,079

and even mainstream medicine should

1201

00:49:21,109 --> 00:49:17,760

indeed be regulated

1202

00:49:23,349 --> 00:49:21,119

as it makes very specific health claims

1203

00:49:26,549 --> 00:49:23,359

but that does not mean it will therefore

1204

00:49:28,549 --> 00:49:26,559

end up getting banned from use

1205

00:49:30,150 --> 00:49:28,559

in the case of homeopathy it would be

1206

00:49:33,109 --> 00:49:30,160

very hard to ban sugar

1207

00:49:35,030 --> 00:49:33,119

pills if we don't ban genetically

1208

00:49:38,309 --> 00:49:35,040

modified foods

1209

00:49:41,990 --> 00:49:38,319

we'll end up with franken food

1210

00:49:44,069 --> 00:49:42,000

franken food first appeared in 1992

1211

00:49:46,390 --> 00:49:44,079

in a letter to the new york times by

1212

00:49:47,190 --> 00:49:46,400

english professor paul lewis condemning

1213

00:49:50,470 --> 00:49:47,200

the genetic

1214

00:49:53,510 --> 00:49:50,480

engineering of crops it has continued to

1215

00:49:56,230 --> 00:49:53,520

be used as a scary term by anti-gmo

1216

00:49:57,670 --> 00:49:56,240

interest groups but has no basis in

1217

00:50:00,390 --> 00:49:57,680

reality

1218

00:50:02,470 --> 00:50:00,400

this fear of gmo foods arose in reaction

1219

00:50:05,109 --> 00:50:02,480

to the development of crops that are not

1220

00:50:06,870 --> 00:50:05,119

modified by being selectively cultivated

1221

00:50:09,670 --> 00:50:06,880

in a traditional way

1222

00:50:11,109 --> 00:50:09,680

but are instead modified in a lab

1223

00:50:14,150 --> 00:50:11,119

perhaps the most famous

1224

00:50:14,950 --> 00:50:14,160

example of this is when dna plant

1225

00:50:17,990 --> 00:50:14,960

technology of

1226
00:50:19,430 --> 00:50:18,000
oakland california which has since gone

1227
00:50:22,630 --> 00:50:19,440
out of business

1228
00:50:25,349 --> 00:50:22,640
spliced a fish gene into a tomato

1229
00:50:25,990 --> 00:50:25,359
the aim was to insert an antifreeze gene

1230
00:50:29,109 --> 00:50:26,000
that helps

1231
00:50:32,230 --> 00:50:29,119
flounder survive frigid waters into a

1232
00:50:35,030 --> 00:50:32,240
plant to help its resistance to cold

1233
00:50:35,829 --> 00:50:35,040
the fish gene tomato didn't grow fins

1234
00:50:38,710 --> 00:50:35,839
scales

1235
00:50:40,470 --> 00:50:38,720
or resemble a fish tomato hybrid monster

1236
00:50:43,670 --> 00:50:40,480
in any way

1237
00:50:44,069 --> 00:50:43,680
however the fear-inducing imagery lives

1238
00:50:49,270 --> 00:50:44,079

on

1239

00:50:50,870 --> 00:50:49,280

of a tomato that could have grown well

1240

00:50:53,030 --> 00:50:50,880

in cooler climates

1241

00:50:54,950 --> 00:50:53,040

had it ever been permitted to reach the

1242

00:50:57,430 --> 00:50:54,960

market

1243

00:50:59,670 --> 00:50:57,440

it's understandable to be a bit fearful

1244

00:51:01,990 --> 00:50:59,680

of the potential of new technology that

1245

00:51:04,870 --> 00:51:02,000

we don't understand well

1246

00:51:05,349 --> 00:51:04,880

but improving crops genetically does not

1247

00:51:07,109 --> 00:51:05,359

mean

1248

00:51:09,829 --> 00:51:07,119

that we are sliding towards the

1249

00:51:12,150 --> 00:51:09,839

development of franken foods

1250

00:51:14,710 --> 00:51:12,160

so they want to ban the teaching of

1251
00:51:17,190 --> 00:51:14,720
creation science in schools

1252
00:51:19,109 --> 00:51:17,200
what next soon they'll be trying to

1253
00:51:21,349 --> 00:51:19,119
close down our churches

1254
00:51:23,750 --> 00:51:21,359
we mention so-called creation science in

1255
00:51:25,750 --> 00:51:23,760
the middle ground fallacy

1256
00:51:27,750 --> 00:51:25,760
while there are very good reasons not to

1257
00:51:30,470 --> 00:51:27,760
teach this religion based mythology

1258
00:51:32,230 --> 00:51:30,480
posing as a science in the classroom it

1259
00:51:35,510 --> 00:51:32,240
does not therefore

1260
00:51:37,670 --> 00:51:35,520
mean people should or will be stopped

1261
00:51:41,670 --> 00:51:37,680
from practicing their own religion

1262
00:51:46,150 --> 00:51:43,430
yes there are slippery slopes in this

1263
00:51:47,190 --> 00:51:46,160

world but there are also ways and means

1264

00:51:50,069 --> 00:51:47,200

of avoiding them

1265

00:51:51,270 --> 00:51:50,079

or breaking the chain of events just

1266

00:51:53,349 --> 00:51:51,280

because something you do

1267

00:51:54,390 --> 00:51:53,359

might lead to a larger and negative

1268

00:51:57,430 --> 00:51:54,400

outcome

1269

00:52:00,150 --> 00:51:57,440

it doesn't mean it always will

1270

00:52:01,510 --> 00:52:00,160

small risks you take now can be a step

1271

00:52:05,030 --> 00:52:01,520

in the wrong

1272

00:52:07,800 --> 00:52:05,040

or in the right direction one thing does

1273

00:52:15,750 --> 00:52:07,810

not always lead to another

1274

00:52:17,990 --> 00:52:15,760

[Music]

1275

00:52:19,380 --> 00:52:18,000

this time we'll look at the false

1276
00:52:20,790 --> 00:52:19,390
equivalence fallacy

1277
00:52:22,790 --> 00:52:20,800
[Music]

1278
00:52:25,109 --> 00:52:22,800
this is when it's argued that two

1279
00:52:26,870 --> 00:52:25,119
different things or points of view

1280
00:52:28,710 --> 00:52:26,880
that may have only passing or

1281
00:52:31,990 --> 00:52:28,720
superficial similarities

1282
00:52:34,790 --> 00:52:32,000
are in fact logically equivalent we've

1283
00:52:36,790 --> 00:52:34,800
all heard the saying you are comparing

1284
00:52:40,309 --> 00:52:36,800
apples with oranges

1285
00:52:43,349 --> 00:52:40,319
yes they are both fruit both round

1286
00:52:44,710 --> 00:52:43,359
and both are good to eat but despite

1287
00:52:47,030 --> 00:52:44,720
these similarities

1288
00:52:49,349 --> 00:52:47,040

they are not the same thing and should

1289

00:52:51,589 --> 00:52:49,359

not be compared as such

1290

00:52:53,589 --> 00:52:51,599

medical intuitives those gifted people

1291

00:52:54,390 --> 00:52:53,599

who can sense what is going on in your

1292

00:52:56,710 --> 00:52:54,400

body

1293

00:52:59,430 --> 00:52:56,720

are very caring people who treat

1294

00:53:01,829 --> 00:52:59,440

thousands of patients each year

1295

00:53:04,630 --> 00:53:01,839

yes they can make mistakes from time to

1296

00:53:07,670 --> 00:53:04,640

time but so do mainstream doctors

1297

00:53:10,069 --> 00:53:07,680

so in fact they're much the same

1298

00:53:12,870 --> 00:53:10,079

yes both medical intuitives and

1299

00:53:16,069 --> 00:53:12,880

mainstream doctors are caring people

1300

00:53:19,109 --> 00:53:16,079

who do make mistakes from time to time

1301
00:53:19,910 --> 00:53:19,119
they also probably drive cars listen to

1302
00:53:23,109 --> 00:53:19,920
music

1303
00:53:25,510 --> 00:53:23,119
and brush their teeth however

1304
00:53:27,670 --> 00:53:25,520
all these things do not mean that they

1305
00:53:31,349 --> 00:53:27,680
are similar when it comes to health care

1306
00:53:33,430 --> 00:53:31,359
and advice while mainstream doctors are

1307
00:53:34,390 --> 00:53:33,440
trained in and follow the scientific

1308
00:53:37,030 --> 00:53:34,400
method

1309
00:53:37,990 --> 00:53:37,040
medical intuitives rarely have medical

1310
00:53:40,790 --> 00:53:38,000
training

1311
00:53:42,549 --> 00:53:40,800
and rely on the unproven and frankly

1312
00:53:45,510 --> 00:53:42,559
quite bizarre idea

1313
00:53:48,710 --> 00:53:45,520

that they can use something akin to esp

1314

00:53:50,950 --> 00:53:48,720

to diagnose illnesses

1315

00:53:53,750 --> 00:53:50,960

when it comes to vaccination we have

1316

00:53:56,230 --> 00:53:53,760

experts who say it's safe and effective

1317

00:53:57,670 --> 00:53:56,240

but then again other experts say it's

1318

00:54:00,790 --> 00:53:57,680

not worth the risk

1319

00:54:03,430 --> 00:54:00,800

and has links to autism the term

1320

00:54:04,950 --> 00:54:03,440

expert seems to be used quite a bit

1321

00:54:07,030 --> 00:54:04,960

these days

1322

00:54:08,069 --> 00:54:07,040

just because someone is known as an

1323

00:54:11,109 --> 00:54:08,079

expert or

1324

00:54:13,510 --> 00:54:11,119

even labels themselves as an expert

1325

00:54:16,710 --> 00:54:13,520

it doesn't necessarily mean they have

1326

00:54:19,270 --> 00:54:16,720

valid expert knowledge in a subject

1327

00:54:21,829 --> 00:54:19,280

we even have the situation where people

1328

00:54:23,030 --> 00:54:21,839

refer to themselves as having mastered a

1329

00:54:26,790 --> 00:54:23,040

modality

1330

00:54:27,670 --> 00:54:26,800

for example reiki masters even though

1331

00:54:30,790 --> 00:54:27,680

there is no

1332

00:54:32,549 --> 00:54:30,800

credible evidence that reiki based on

1333

00:54:35,589 --> 00:54:32,559

mystical energies

1334

00:54:37,589 --> 00:54:35,599

exists at all the stars and the planets

1335

00:54:40,549 --> 00:54:37,599

are wonderful and mysterious

1336

00:54:42,630 --> 00:54:40,559

astrologers and astronomers continue to

1337

00:54:44,150 --> 00:54:42,640

study the night sky to learn more about

1338

00:54:46,710 --> 00:54:44,160

our universe

1339

00:54:49,270 --> 00:54:46,720

the science of astrology evolved out of

1340

00:54:51,349 --> 00:54:49,280

the natural wonder and curiosity of our

1341

00:54:53,270 --> 00:54:51,359

ancestors when they looked up at the

1342

00:54:55,670 --> 00:54:53,280

night sky

1343

00:54:56,630 --> 00:54:55,680

it was not surprising they saw patterns

1344

00:54:59,910 --> 00:54:56,640

in the stars

1345

00:55:01,670 --> 00:54:59,920

and made up stories of gods animals and

1346

00:55:04,390 --> 00:55:01,680

great adventures

1347

00:55:07,349 --> 00:55:04,400

and did so all over the world for

1348

00:55:10,470 --> 00:55:07,359

thousands of years

1349

00:55:11,030 --> 00:55:10,480

in australia for example the aboriginal

1350

00:55:13,510 --> 00:55:11,040

people

1351

00:55:15,990 --> 00:55:13,520

use the appearance of stars at various

1352

00:55:19,430 --> 00:55:16,000

times of the year to help them to know

1353

00:55:22,069 --> 00:55:19,440

when to hunt for certain animals

1354

00:55:24,390 --> 00:55:22,079

however today's astrology charts and

1355

00:55:26,950 --> 00:55:24,400

predictions have very little to do with

1356

00:55:29,670 --> 00:55:26,960

the real scientific study of stars

1357

00:55:31,589 --> 00:55:29,680

planets and galaxies that your

1358

00:55:34,230 --> 00:55:31,599

personality or events

1359

00:55:35,190 --> 00:55:34,240

in your future can be read by looking at

1360

00:55:37,910 --> 00:55:35,200

the heavens

1361

00:55:40,150 --> 00:55:37,920

has long since been shown to be nothing

1362

00:55:41,910 --> 00:55:40,160

more than superstition and magical

1363

00:55:44,950 --> 00:55:41,920

thinking

1364

00:55:45,670 --> 00:55:44,960

in the most important ways you cannot

1365

00:55:48,220 --> 00:55:45,680

compare

1366

00:55:51,270 --> 00:55:48,230

astrology with astronomy

1367

00:55:53,829 --> 00:55:51,280

[Music]

1368

00:55:54,630 --> 00:55:53,839

like many other logical fallacies it's

1369

00:55:57,109 --> 00:55:54,640

not always

1370

00:56:00,309 --> 00:55:57,119

easy and obvious to tell when the false

1371

00:56:02,630 --> 00:56:00,319

equivalence fallacy is being used

1372

00:56:05,510 --> 00:56:02,640

sometimes it takes a little thought or

1373

00:56:07,829 --> 00:56:05,520

even research to know for sure

1374

00:56:08,950 --> 00:56:07,839

it's important not to be too critical

1375

00:56:18,200 --> 00:56:08,960

with yourself

1376

00:56:22,710 --> 00:56:20,309

[Music]

1377

00:56:24,309 --> 00:56:22,720

this time we'll look at moving the goal

1378

00:56:27,510 --> 00:56:24,319

posts

1379

00:56:28,230 --> 00:56:27,520

also known as raising the bar and the

1380

00:56:30,870 --> 00:56:28,240

shifting

1381

00:56:31,270 --> 00:56:30,880

sands this is when your opponent does

1382

00:56:33,589 --> 00:56:31,280

not

1383

00:56:34,309 --> 00:56:33,599

accept a successful answer to their

1384

00:56:37,030 --> 00:56:34,319

challenge

1385

00:56:38,710 --> 00:56:37,040

and insists on you answering more and

1386

00:56:41,750 --> 00:56:38,720

more questions

1387

00:56:42,390 --> 00:56:41,760

sometimes people simply cannot accept

1388

00:56:45,030 --> 00:56:42,400

the fact

1389

00:56:45,430 --> 00:56:45,040

that their challenge has been answered

1390

00:56:47,589 --> 00:56:45,440

thus

1391

00:56:49,109 --> 00:56:47,599

showing that their own point of view is

1392

00:56:52,309 --> 00:56:49,119

wrong

1393

00:56:53,589 --> 00:56:52,319

instead of acknowledging this and that

1394

00:56:56,390 --> 00:56:53,599

can be awkward for

1395

00:56:58,470 --> 00:56:56,400

any of us they'll add to their challenge

1396

00:57:01,829 --> 00:56:58,480

with new conditions that makes it

1397

00:57:03,710 --> 00:57:01,839

harder and harder to show them wrong

1398

00:57:06,069 --> 00:57:03,720

a creationist challenged a

1399

00:57:09,030 --> 00:57:06,079

paleontologist to show at least

1400

00:57:11,349 --> 00:57:09,040

one example of a transitional fossil

1401

00:57:14,470 --> 00:57:11,359

that links dinosaurs to birds

1402

00:57:17,349 --> 00:57:14,480

when the paleontologist did just that

1403

00:57:18,710 --> 00:57:17,359

the creationist complained that all this

1404

00:57:21,430 --> 00:57:18,720

new fossil did

1405

00:57:23,109 --> 00:57:21,440

was to create two new gaps on either

1406

00:57:25,670 --> 00:57:23,119

side of the fossil record

1407

00:57:27,430 --> 00:57:25,680

and wanted yet more examples to fill in

1408

00:57:29,750 --> 00:57:27,440

those gaps

1409

00:57:31,750 --> 00:57:29,760

since the creationists worldview and

1410

00:57:34,950 --> 00:57:31,760

religion are to them beyond

1411

00:57:36,950 --> 00:57:34,960

question it would be very hard

1412

00:57:39,190 --> 00:57:36,960

bordering on impossible for them to

1413

00:57:40,470 --> 00:57:39,200

accept evidence that contradicts this

1414

00:57:42,470 --> 00:57:40,480

view

1415

00:57:43,670 --> 00:57:42,480

they often resort to moving the

1416

00:57:46,549 --> 00:57:43,680

goalposts to

1417

00:57:48,230 --> 00:57:46,559

preserve their belief system in fact

1418

00:57:50,470 --> 00:57:48,240

science has discovered

1419

00:57:52,069 --> 00:57:50,480

thousands of examples of transitions in

1420

00:57:54,630 --> 00:57:52,079

the fossil record

1421

00:57:56,950 --> 00:57:54,640

showing clear evolutionary steps within

1422

00:57:58,230 --> 00:57:56,960

a species and from one species to

1423

00:58:00,309 --> 00:57:58,240

another

1424

00:58:01,670 --> 00:58:00,319

i think the moon landings were faked in

1425

00:58:03,670 --> 00:58:01,680

a movie studio

1426
00:58:07,190 --> 00:58:03,680
there was no way the usa had the

1427
00:58:09,630 --> 00:58:07,200
technology to reach the moon in 1969

1428
00:58:12,470 --> 00:58:09,640
i mean look at all the hundreds of

1429
00:58:15,990 --> 00:58:12,480
inconsistencies and impossible things

1430
00:58:18,309 --> 00:58:16,000
we are supposed to believe as each claim

1431
00:58:19,430 --> 00:58:18,319
made by those espousing a moon landing

1432
00:58:22,549 --> 00:58:19,440
conspiracy is

1433
00:58:25,510 --> 00:58:22,559
met and debunked for example the

1434
00:58:28,069 --> 00:58:25,520
multiple light sources on the moon or

1435
00:58:29,270 --> 00:58:28,079
the lack of stars in photos of the lunar

1436
00:58:32,069 --> 00:58:29,280
sky

1437
00:58:34,549 --> 00:58:32,079
they either reject the evidence outright

1438
00:58:37,670 --> 00:58:34,559

or may well accept the evidence

1439

00:58:41,589 --> 00:58:37,680

but then move on to yet another claim

1440

00:58:41,910 --> 00:58:41,599

and another and another there appears to

1441

00:58:44,630 --> 00:58:41,920

be

1442

00:58:45,829 --> 00:58:44,640

no degree of evidence that will finally

1443

00:58:48,710 --> 00:58:45,839

convince them

1444

00:58:51,109 --> 00:58:48,720

that the landings were real and humans

1445

00:58:53,750 --> 00:58:51,119

have been to the moon

1446

00:58:54,549 --> 00:58:53,760

a breatharian someone who claims they

1447

00:58:56,789 --> 00:58:54,559

can live on

1448

00:58:59,589 --> 00:58:56,799

little more than fresh air was

1449

00:59:01,910 --> 00:58:59,599

challenged to prove her amazing claim

1450

00:59:03,430 --> 00:59:01,920

she agreed to be watched day and night

1451
00:59:06,470 --> 00:59:03,440
in a city hotel room

1452
00:59:07,430 --> 00:59:06,480
but after only 48 hours she displayed

1453
00:59:10,789 --> 00:59:07,440
symptoms of

1454
00:59:11,829 --> 00:59:10,799
acute dehydration stress and high blood

1455
00:59:15,270 --> 00:59:11,839
pressure

1456
00:59:17,030 --> 00:59:15,280
she claimed it was due to polluted air

1457
00:59:18,390 --> 00:59:17,040
and was moved to another hotel in the

1458
00:59:22,710 --> 00:59:18,400
countryside

1459
00:59:26,470 --> 00:59:22,720
but didn't improve this really happened

1460
00:59:27,750 --> 00:59:26,480
in the year 2000 the 60 minutes tv show

1461
00:59:30,870 --> 00:59:27,760
in australia

1462
00:59:34,069 --> 00:59:30,880
arranged for breatharian jasmine

1463
00:59:37,270 --> 00:59:34,079

or ellen grieve to be tested

1464

00:59:38,710 --> 00:59:37,280

as per her claim she was happy with the

1465

00:59:40,990 --> 00:59:38,720

test conditions

1466

00:59:43,510 --> 00:59:41,000

but when it became apparent she was

1467

00:59:46,710 --> 00:59:43,520

deteriorating from lack of food

1468

00:59:49,990 --> 00:59:46,720

she changed the conditions of the test

1469

00:59:53,030 --> 00:59:50,000

in effect moving the goal posts

1470

00:59:54,789 --> 00:59:53,040

even though 60 minutes agreed her health

1471

00:59:57,900 --> 00:59:54,799

continued to decline

1472

00:59:59,430 --> 00:59:57,910

and the test was cancelled

1473

01:00:01,910 --> 00:59:59,440

[Music]

1474

01:00:02,950 --> 01:00:01,920

protecting our worldview or belief

1475

01:00:06,069 --> 01:00:02,960

system is a

1476

01:00:08,630 --> 01:00:06,079

very human thing to do and we all do it

1477

01:00:11,430 --> 01:00:08,640

to one degree or another

1478

01:00:12,309 --> 01:00:11,440

it can at times protect us from simply

1479

01:00:15,430 --> 01:00:12,319

believing in

1480

01:00:17,670 --> 01:00:15,440

whatever someone tells us and we should

1481

01:00:20,710 --> 01:00:17,680

not be afraid to ask for more

1482

01:00:23,190 --> 01:00:20,720

information and evidence you might call

1483

01:00:25,270 --> 01:00:23,200

it healthy skepticism

1484

01:00:27,990 --> 01:00:25,280

but there comes a point when moving the

1485

01:00:31,030 --> 01:00:28,000

goal posts is about rejecting evidence

1486

01:00:32,300 --> 01:00:31,040

that conflicts with what we want or need

1487

01:00:41,270 --> 01:00:32,310

to be true

1488

01:00:48,309 --> 01:00:45,349

this time we'll look at non-sequitur

1489

01:00:49,030 --> 01:00:48,319

the term non-sequitur comes to us from

1490

01:00:52,549 --> 01:00:49,040

latin

1491

01:00:54,950 --> 01:00:52,559

and translates as it does not follow

1492

01:00:55,670 --> 01:00:54,960

it is a statement or conclusion that

1493

01:00:57,990 --> 01:00:55,680

doesn't

1494

01:00:58,789 --> 01:00:58,000

logically follow from the previous

1495

01:01:01,190 --> 01:00:58,799

statement

1496

01:01:02,789 --> 01:01:01,200

or the main point of the argument we

1497

01:01:06,069 --> 01:01:02,799

might call this the

1498

01:01:08,789 --> 01:01:06,079

what's that got to do with a fallacy

1499

01:01:09,349 --> 01:01:08,799

many times people will not answer the

1500

01:01:13,270 --> 01:01:09,359

question

1501

01:01:14,390 --> 01:01:13,280

asked or tack on extra unnecessary

1502

01:01:17,750 --> 01:01:14,400

information

1503

01:01:20,549 --> 01:01:17,760

that detracts from the question at hand

1504

01:01:21,430 --> 01:01:20,559

that awful skeptic questioned my psychic

1505

01:01:24,710 --> 01:01:21,440

intuition and

1506

01:01:27,349 --> 01:01:24,720

mediumship but what would he know

1507

01:01:29,990 --> 01:01:27,359

and anyway i had a traumatic childhood

1508

01:01:32,069 --> 01:01:30,000

and have suffered all my life

1509

01:01:33,910 --> 01:01:32,079

this example is based on a real

1510

01:01:36,150 --> 01:01:33,920

complaint made by someone

1511

01:01:40,150 --> 01:01:36,160

claiming to have psychic powers when

1512

01:01:42,549 --> 01:01:40,160

questioned by a skeptical investigator

1513

01:01:44,390 --> 01:01:42,559

while we can sympathise with aspects of

1514

01:01:47,589 --> 01:01:44,400

the psychic's life

1515

01:01:51,109 --> 01:01:47,599

their troubles really have no bearing on

1516

01:01:53,750 --> 01:01:51,119

whether or not they have mystical powers

1517

01:01:56,150 --> 01:01:53,760

it can however have the effect of

1518

01:01:59,109 --> 01:01:56,160

deflecting the valid inquiries or

1519

01:02:01,910 --> 01:01:59,119

criticisms of the skeptic

1520

01:02:03,349 --> 01:02:01,920

it's all too easy to paint a skeptic as

1521

01:02:07,190 --> 01:02:03,359

being negative

1522

01:02:07,910 --> 01:02:07,200

or uncaring the history of mainstream

1523

01:02:10,950 --> 01:02:07,920

medicine

1524

01:02:11,990 --> 01:02:10,960

is littered with bad reactions and side

1525

01:02:14,789 --> 01:02:12,000

effects

1526
01:02:15,190 --> 01:02:14,799
that's why alternative medicine works so

1527
01:02:18,390 --> 01:02:15,200
much

1528
01:02:18,950 --> 01:02:18,400
better there's an old saying if a

1529
01:02:21,910 --> 01:02:18,960
medicine

1530
01:02:24,789 --> 01:02:21,920
doesn't have side effects it doesn't

1531
01:02:27,829 --> 01:02:24,799
have effects to begin with

1532
01:02:29,270 --> 01:02:27,839
however in the case of homeopathy for

1533
01:02:32,470 --> 01:02:29,280
example

1534
01:02:33,510 --> 01:02:32,480
it's clear why it claims to have no side

1535
01:02:35,670 --> 01:02:33,520
effects

1536
01:02:36,950 --> 01:02:35,680
as there is nothing in it to cause

1537
01:02:39,829 --> 01:02:36,960
effects in the first

1538
01:02:42,309 --> 01:02:39,839

place whether or not a particular

1539

01:02:43,750 --> 01:02:42,319

pharmaceutical drug has reactions or

1540

01:02:46,829 --> 01:02:43,760

side effects

1541

01:02:48,870 --> 01:02:46,839

has nothing to do with the efficacy of

1542

01:02:52,710 --> 01:02:48,880

something calling itself

1543

01:02:53,029 --> 01:02:52,720

alternative medicine it's unrelated and

1544

01:02:56,710 --> 01:02:53,039

it

1545

01:02:59,750 --> 01:02:56,720

just doesn't follow science tells us

1546

01:03:03,750 --> 01:02:59,760

that energy can neither be created

1547

01:03:07,109 --> 01:03:03,760

nor destroyed but it can be transformed

1548

01:03:10,870 --> 01:03:07,119

this surely shows that spiritual energy

1549

01:03:13,029 --> 01:03:10,880

is real and reiki healing is possible

1550

01:03:14,390 --> 01:03:13,039

in the skeptical world there is

1551

01:03:17,589 --> 01:03:14,400

something called

1552

01:03:20,630 --> 01:03:17,599

hyman's categorical imperative

1553

01:03:24,630 --> 01:03:20,640

named after skeptical investigator

1554

01:03:27,510 --> 01:03:24,640

professor ray hyman which says

1555

01:03:29,510 --> 01:03:27,520

do not try to explain something until

1556

01:03:30,950 --> 01:03:29,520

you are sure there is something to be

1557

01:03:34,309 --> 01:03:30,960

explained

1558

01:03:37,430 --> 01:03:34,319

in this case we have no reason to think

1559

01:03:39,589 --> 01:03:37,440

that spiritual energy or reiki the

1560

01:03:43,349 --> 01:03:39,599

claimed mystical energy

1561

01:03:44,230 --> 01:03:43,359

even exist despite many people believing

1562

01:03:46,470 --> 01:03:44,240

in them

1563

01:03:48,069 --> 01:03:46,480

talking about the nature of energy as

1564

01:03:51,670 --> 01:03:48,079

discovered and described by

1565

01:03:54,789 --> 01:03:51,680

science and then linking it to unproven

1566

01:03:55,750 --> 01:03:54,799

claims is like an old smoke and mirrors

1567

01:03:58,069 --> 01:03:55,760

trick

1568

01:04:01,270 --> 01:03:58,079

causing you to be distracted from the

1569

01:04:05,589 --> 01:04:03,990

it's easy to see how people might use a

1570

01:04:07,990 --> 01:04:05,599

non-sequitur

1571

01:04:10,150 --> 01:04:08,000

if they truly believe in something like

1572

01:04:13,430 --> 01:04:10,160

mystical energies

1573

01:04:17,029 --> 01:04:13,440

to them the link to real energy

1574

01:04:20,150 --> 01:04:17,039

is not a non-sequitur at all

1575

01:04:23,510 --> 01:04:20,160

and they cannot see why it would not

1576

01:04:25,990 --> 01:04:23,520

follow nor be related this

1577

01:04:26,950 --> 01:04:26,000

commonly occurs when this fallacy is

1578

01:04:29,430 --> 01:04:26,960

used

1579

01:04:40,789 --> 01:04:29,440

and you might have quite a task

1580

01:04:43,670 --> 01:04:40,799

explaining this to your opponent

1581

01:04:46,630 --> 01:04:43,680

this time we'll look at the argument

1582

01:04:49,670 --> 01:04:46,640

from personal incredulity

1583

01:04:53,510 --> 01:04:49,680

also known as the argument from personal

1584

01:04:54,069 --> 01:04:53,520

astonishment this is when someone cannot

1585

01:04:56,150 --> 01:04:54,079

accept

1586

01:04:57,750 --> 01:04:56,160

an argument because they don't believe

1587

01:04:59,910 --> 01:04:57,760

in it or they don't

1588

01:05:01,270 --> 01:04:59,920

understand the premise and the points

1589

01:05:03,750 --> 01:05:01,280

being made

1590

01:05:05,589 --> 01:05:03,760

that is to say they think it's false

1591

01:05:08,870 --> 01:05:05,599

because they cannot see

1592

01:05:10,230 --> 01:05:08,880

how it can be true if someone is

1593

01:05:13,750 --> 01:05:10,240

incredulous

1594

01:05:14,840 --> 01:05:13,760

it means they are unable or unwilling to

1595

01:05:16,390 --> 01:05:14,850

believe something

1596

01:05:19,430 --> 01:05:16,400

[Music]

1597

01:05:23,270 --> 01:05:19,440

this might happen to any of us but

1598

01:05:25,270 --> 01:05:23,280

as ever it pays to keep an open mind

1599

01:05:27,349 --> 01:05:25,280

there is no way the psychic could have

1600

01:05:30,630 --> 01:05:27,359

known the things she did about me

1601

01:05:33,589 --> 01:05:30,640

i didn't tell her anything yet she named

1602

01:05:35,190 --> 01:05:33,599

members of my family by using her gift

1603

01:05:38,230 --> 01:05:35,200

of clairvoyance

1604

01:05:39,190 --> 01:05:38,240

there's just no other explanation one of

1605

01:05:42,230 --> 01:05:39,200

the classic

1606

01:05:42,630 --> 01:05:42,240

red flags for skeptics is when someone

1607

01:05:46,390 --> 01:05:42,640

has

1608

01:05:50,150 --> 01:05:46,400

a so-called psychic reading and says

1609

01:05:53,430 --> 01:05:50,160

it was amazingly accurate they could not

1610

01:05:57,430 --> 01:05:53,440

have known these things about me

1611

01:06:01,109 --> 01:05:57,440

and never told anyone about them

1612

01:06:04,309 --> 01:06:01,119

or that psychic was spot on

1613

01:06:06,870 --> 01:06:04,319

and i'm a skeptic now of course

1614

01:06:07,910 --> 01:06:06,880

not many people make a study of cold

1615

01:06:10,950 --> 01:06:07,920

reading

1616

01:06:13,109 --> 01:06:10,960

which is the most often used method of

1617

01:06:15,109 --> 01:06:13,119

doing what appears to be a psychic

1618

01:06:17,349 --> 01:06:15,119

reading

1619

01:06:18,390 --> 01:06:17,359

as most sitters are ignorant of the

1620

01:06:21,510 --> 01:06:18,400

psychological

1621

01:06:24,630 --> 01:06:21,520

interplay at work they assume

1622

01:06:25,349 --> 01:06:24,640

quite naturally that the person they are

1623

01:06:28,870 --> 01:06:25,359

seeing

1624

01:06:31,589 --> 01:06:28,880

must really be psychic

1625

01:06:32,789 --> 01:06:31,599

think of it this way when you see a

1626

01:06:35,910 --> 01:06:32,799

great magician

1627

01:06:37,589 --> 01:06:35,920

amaze and stun an audience by doing the

1628

01:06:40,630 --> 01:06:37,599

impossible

1629

01:06:45,670 --> 01:06:40,640

you know deep down it is just a trick

1630

01:06:48,549 --> 01:06:45,680

and not real in this case however

1631

01:06:49,589 --> 01:06:48,559

not knowing how the trick works does not

1632

01:06:52,950 --> 01:06:49,599

lead you to think

1633

01:06:55,190 --> 01:06:52,960

magic is real as you know better

1634

01:06:56,150 --> 01:06:55,200

they say that vaccination is safe and

1635

01:06:58,630 --> 01:06:56,160

effective

1636

01:07:00,710 --> 01:06:58,640

but i cannot see how jabbing a poor

1637

01:07:05,029 --> 01:07:00,720

innocent baby with a needle full of

1638

01:07:07,069 --> 01:07:05,039

toxins can be good somewhere in there

1639

01:07:08,950 --> 01:07:07,079

amongst all the emotive language and

1640

01:07:13,270 --> 01:07:08,960

scaremongering

1641

01:07:16,069 --> 01:07:13,280

is an argument from personal incredulity

1642

01:07:16,549 --> 01:07:16,079

if something works it works regardless

1643

01:07:19,349 --> 01:07:16,559

of

1644

01:07:20,309 --> 01:07:19,359

whether we understand it or not and

1645

01:07:23,670 --> 01:07:20,319

regardless

1646

01:07:26,549 --> 01:07:23,680

of whether we are opposed to it or not

1647

01:07:28,390 --> 01:07:26,559

yes we do take a lot of things on trust

1648

01:07:31,670 --> 01:07:28,400

in our society

1649

01:07:34,390 --> 01:07:31,680

when it comes to vaccination we trust

1650

01:07:36,950 --> 01:07:34,400

that the doctors and medical scientists

1651
01:07:38,710 --> 01:07:36,960
know what they are doing and what they

1652
01:07:42,630 --> 01:07:38,720
offer does work

1653
01:07:46,630 --> 01:07:42,640
even if we don't understand it ourselves

1654
01:07:49,829 --> 01:07:46,640
however if we took the time and effort

1655
01:07:52,630 --> 01:07:49,839
we could come to understand it and

1656
01:07:54,710 --> 01:07:52,640
understanding the basic principles of

1657
01:07:58,069 --> 01:07:54,720
how vaccines work

1658
01:08:00,870 --> 01:07:58,079
is really not that difficult how

1659
01:08:01,430 --> 01:08:00,880
crazy it is to believe the world is some

1660
01:08:04,789 --> 01:08:01,440
sort of

1661
01:08:05,589 --> 01:08:04,799
spinning ball in space i can't feel it

1662
01:08:07,910 --> 01:08:05,599
spin

1663
01:08:09,430 --> 01:08:07,920

when i'm flying in a plane the horizon

1664

01:08:12,150 --> 01:08:09,440

still looks flat

1665

01:08:13,510 --> 01:08:12,160

how is that possible if the world was a

1666

01:08:15,589 --> 01:08:13,520

globe

1667

01:08:17,910 --> 01:08:15,599

here we have a case of someone not

1668

01:08:19,189 --> 01:08:17,920

willing or not wanting to believe a

1669

01:08:22,550 --> 01:08:19,199

premise

1670

01:08:25,269 --> 01:08:22,560

in this case the shape of the world

1671

01:08:26,390 --> 01:08:25,279

as it contradicts what they accept to be

1672

01:08:29,430 --> 01:08:26,400

true

1673

01:08:32,550 --> 01:08:29,440

based on their own observations

1674

01:08:35,910 --> 01:08:32,560

in the case of many flat earthers

1675

01:08:38,390 --> 01:08:35,920

also known as globe deniers it's

1676

01:08:39,910 --> 01:08:38,400

also based on the information they get

1677

01:08:43,749 --> 01:08:39,920

from online blogs

1678

01:08:50,550 --> 01:08:43,759

and videos by other flat earthers

1679

01:08:54,870 --> 01:08:53,189

being incredulous might serve you well

1680

01:08:57,510 --> 01:08:54,880

when you first encounter

1681

01:08:58,149 --> 01:08:57,520

an extraordinary claim that flies in the

1682

01:09:02,149 --> 01:08:58,159

face of

1683

01:09:02,870 --> 01:09:02,159

everything you know but as carl sagan

1684

01:09:06,309 --> 01:09:02,880

famously

1685

01:09:09,510 --> 01:09:06,319

said extraordinary claims

1686

01:09:12,630 --> 01:09:09,520

require extraordinary proof

1687

01:09:16,429 --> 01:09:12,640

so don't be afraid to at least

1688

01:09:18,829 --> 01:09:16,439

look at any extraordinary proof that is

1689

01:09:26,870 --> 01:09:18,839

[Music]

1690

01:09:29,430 --> 01:09:26,880

this time we'll look at the relative

1691

01:09:33,669 --> 01:09:29,440

privation fallacy

1692

01:09:36,709 --> 01:09:33,679

this fallacy also known as not as bad as

1693

01:09:39,110 --> 01:09:36,719

can be seen as a type of red herring

1694

01:09:40,709 --> 01:09:39,120

or distraction the fallacy is

1695

01:09:43,430 --> 01:09:40,719

essentially an argument

1696

01:09:46,070 --> 01:09:43,440

that a certain issue is not important or

1697

01:09:48,550 --> 01:09:46,080

does not deserve attention and resources

1698

01:09:50,229 --> 01:09:48,560

because there are other and more

1699

01:09:52,550 --> 01:09:50,239

important issues

1700

01:09:54,229 --> 01:09:52,560

another variation of the relative

1701

01:09:57,270 --> 01:09:54,239

privation fallacy

1702

01:09:59,750 --> 01:09:57,280

is to compare something with the best or

1703

01:10:02,630 --> 01:09:59,760

the worst case scenario

1704

01:10:04,709 --> 01:10:02,640

thus making it seem much better or worse

1705

01:10:07,270 --> 01:10:04,719

by comparison

1706

01:10:09,350 --> 01:10:07,280

as a naturopath i can tell you that

1707

01:10:11,990 --> 01:10:09,360

mistakes are sometimes made by

1708

01:10:13,830 --> 01:10:12,000

practitioners of alternative medicine

1709

01:10:15,669 --> 01:10:13,840

but that is nothing compared to the

1710

01:10:19,510 --> 01:10:15,679

thousands of mistakes and deaths

1711

01:10:21,750 --> 01:10:19,520

each year due to mainstream medicine

1712

01:10:23,430 --> 01:10:21,760

that people die under the care of

1713

01:10:27,510 --> 01:10:23,440

mainstream medicine

1714

01:10:30,390 --> 01:10:27,520

is not in doubt but keep in mind

1715

01:10:33,030 --> 01:10:30,400

that what mainstream medicine does is to

1716

01:10:36,390 --> 01:10:33,040

look after millions of people

1717

01:10:39,750 --> 01:10:36,400

who range from being mildly unwell

1718

01:10:41,910 --> 01:10:39,760

to very unwell to being critically

1719

01:10:45,430 --> 01:10:41,920

unwell

1720

01:10:49,030 --> 01:10:45,440

yes it's not a perfect system

1721

01:10:50,149 --> 01:10:49,040

but that does not justify nor diminish

1722

01:10:53,910 --> 01:10:50,159

the mistakes

1723

01:10:55,750 --> 01:10:53,920

made by so-called alternative medicine

1724

01:10:57,030 --> 01:10:55,760

why should we bother doing something in

1725

01:10:59,510 --> 01:10:57,040

australia for

1726

01:11:00,390 --> 01:10:59,520

climate change and the environment when

1727

01:11:02,229 --> 01:11:00,400

china and

1728

01:11:03,590 --> 01:11:02,239

other countries are much bigger

1729

01:11:05,750 --> 01:11:03,600

polluters

1730

01:11:07,990 --> 01:11:05,760

it may well be that other countries

1731

01:11:09,590 --> 01:11:08,000

contribute a much greater volume of

1732

01:11:12,709 --> 01:11:09,600

greenhouse gases or

1733

01:11:16,870 --> 01:11:12,719

other pollutants in australia but

1734

01:11:18,790 --> 01:11:16,880

that is no reason at all for australia

1735

01:11:20,709 --> 01:11:18,800

especially as one of the highest

1736

01:11:23,750 --> 01:11:20,719

polluters per capita

1737

01:11:26,390 --> 01:11:23,760

if not as a total amount or

1738

01:11:27,669 --> 01:11:26,400

any other country to give up doing

1739

01:11:31,750 --> 01:11:27,679

everything we can

1740

01:11:35,350 --> 01:11:31,760

to combat this worldwide problem

1741

01:11:38,229 --> 01:11:35,360

if every country gave up using the above

1742

01:11:40,310 --> 01:11:38,239

argument as a justification the

1743

01:11:44,070 --> 01:11:40,320

situation would be much

1744

01:11:44,709 --> 01:11:44,080

much worse you skeptics have been trying

1745

01:11:47,510 --> 01:11:44,719

to debunk

1746

01:11:48,550 --> 01:11:47,520

silly things like ufos and psychics for

1747

01:11:50,790 --> 01:11:48,560

years

1748

01:11:51,990 --> 01:11:50,800

and people still believe in them you

1749

01:11:54,390 --> 01:11:52,000

should give up

1750

01:11:55,910 --> 01:11:54,400

and put your time and efforts into being

1751

01:11:58,870 --> 01:11:55,920

skeptical of far more

1752

01:12:02,149 --> 01:11:58,880

important issues this is an argument

1753

01:12:03,910 --> 01:12:02,159

skeptical groups hear from time to time

1754

01:12:05,830 --> 01:12:03,920

that some people don't find

1755

01:12:09,030 --> 01:12:05,840

investigating ufos

1756

01:12:10,310 --> 01:12:09,040

or homeopathy or psychics of interest is

1757

01:12:13,030 --> 01:12:10,320

fine

1758

01:12:16,070 --> 01:12:13,040

but that doesn't mean skeptical groups

1759

01:12:18,550 --> 01:12:16,080

should suddenly change their focus

1760

01:12:19,350 --> 01:12:18,560

we wouldn't expect the local chess club

1761

01:12:21,669 --> 01:12:19,360

to give up

1762

01:12:24,630 --> 01:12:21,679

chess just because someone thinks

1763

01:12:27,990 --> 01:12:24,640

backgammon is a better game

1764

01:12:30,630 --> 01:12:28,000

the implication is that you cannot be

1765

01:12:31,189 --> 01:12:30,640

real skeptics as you are not skeptical

1766

01:12:34,229 --> 01:12:31,199

of what

1767

01:12:35,189 --> 01:12:34,239

i am skeptical of and what i am

1768

01:12:37,910 --> 01:12:35,199

skeptical of

1769

01:12:39,790 --> 01:12:37,920

is more important than what you are

1770

01:12:43,669 --> 01:12:39,800

skeptical of

1771

01:12:46,310 --> 01:12:43,679

[Music]

1772

01:12:47,030 --> 01:12:46,320

the relative privation fallacy can

1773

01:12:49,830 --> 01:12:47,040

easily

1774

01:12:52,630 --> 01:12:49,840

take you away from the argument in hand

1775

01:12:57,030 --> 01:12:52,640

and have you wasting your time down some

1776

01:13:09,910 --> 01:12:57,040

rabbit hole try to keep your opponent

1777

01:13:16,790 --> 01:13:13,510

this time we'll look at tu quo quoi

1778

01:13:20,229 --> 01:13:16,800

also known as the appeal to hypocrisy

1779

01:13:20,709 --> 01:13:20,239

or the look who's talking this is a type

1780

01:13:23,750 --> 01:13:20,719

of

1781

01:13:26,950 --> 01:13:23,760

ad hominem attack and comes into play

1782

01:13:27,910 --> 01:13:26,960

when an inconsistency or hypocrisy from

1783

01:13:31,510 --> 01:13:27,920

your side

1784

01:13:34,550 --> 01:13:31,520

is used by your opponent to justify

1785

01:13:35,669 --> 01:13:34,560

their position or to denigrate your

1786

01:13:38,950 --> 01:13:35,679

position

1787

01:13:42,310 --> 01:13:38,960

this fallacy really is a lazy and cheap

1788

01:13:44,470 --> 01:13:42,320

way of trying to justify a position

1789

01:13:46,310 --> 01:13:44,480

it can be used to avoid the real

1790

01:13:50,070 --> 01:13:46,320

argument at hand

1791

01:13:53,830 --> 01:13:50,080

deflecting attention to the past actions

1792

01:13:56,870 --> 01:13:53,840

it's meeting criticism with criticism

1793

01:13:58,950 --> 01:13:56,880

so what if sometimes creation

1794

01:14:00,149 --> 01:13:58,960

scientists have been called out using

1795

01:14:03,990 --> 01:14:00,159

bad data or

1796

01:14:04,910 --> 01:14:04,000

fudging research just look at mainstream

1797

01:14:08,470 --> 01:14:04,920

science

1798

01:14:11,669 --> 01:14:08,480

skullduggery goes on all the time

1799

01:14:15,189 --> 01:14:11,679

no doubt about it some scientists have

1800

01:14:18,950 --> 01:14:15,199

and still do fudge figures cut corners

1801
01:14:21,510 --> 01:14:18,960
and even produce faulty research

1802
01:14:22,630 --> 01:14:21,520
not good but it does not therefore

1803
01:14:25,750 --> 01:14:22,640
justify

1804
01:14:28,470 --> 01:14:25,760
or somehow make better the bad science

1805
01:14:31,910 --> 01:14:28,480
conducted by creationists or from

1806
01:14:32,790 --> 01:14:31,920
any other field of pseudoscience here in

1807
01:14:35,910 --> 01:14:32,800
australia the

1808
01:14:38,870 --> 01:14:35,920
csiro the commonwealth scientific

1809
01:14:41,189 --> 01:14:38,880
and industrial research organization

1810
01:14:43,750 --> 01:14:41,199
once told us we shouldn't eat eggs due

1811
01:14:47,110 --> 01:14:43,760
to their high cholesterol content

1812
01:14:50,470 --> 01:14:47,120
now they tell us eggs are fine to eat

1813
01:14:53,189 --> 01:14:50,480

how can we trust them with any science

1814

01:14:55,430 --> 01:14:53,199

that science can and does change its

1815

01:14:57,030 --> 01:14:55,440

mind about things is really one of its

1816

01:14:58,550 --> 01:14:57,040

great strengths

1817

01:15:00,630 --> 01:14:58,560

imagine if it was more like

1818

01:15:02,870 --> 01:15:00,640

pseudoscience or religion

1819

01:15:04,070 --> 01:15:02,880

that when in the face of new and better

1820

01:15:06,630 --> 01:15:04,080

information

1821

01:15:07,990 --> 01:15:06,640

it stubbornly refused to accept it was

1822

01:15:10,630 --> 01:15:08,000

wrong

1823

01:15:12,950 --> 01:15:10,640

if that were the case we'd all be back

1824

01:15:15,590 --> 01:15:12,960

in the 14th century

1825

01:15:16,550 --> 01:15:15,600

why should we listen to the skeptics

1826

01:15:20,870 --> 01:15:16,560

weren't they the

1827

01:15:23,669 --> 01:15:20,880

fools who said climate change was a hoax

1828

01:15:24,310 --> 01:15:23,679

the skeptical movement and those in it

1829

01:15:27,350 --> 01:15:24,320

can

1830

01:15:29,910 --> 01:15:27,360

and do change their mind while in the

1831

01:15:32,550 --> 01:15:29,920

early days of the climate change issue

1832

01:15:33,350 --> 01:15:32,560

some skeptics were indeed skeptical of

1833

01:15:36,390 --> 01:15:33,360

it

1834

01:15:36,870 --> 01:15:36,400

these opinions were over time changed as

1835

01:15:40,149 --> 01:15:36,880

more

1836

01:15:42,950 --> 01:15:40,159

evidence was presented these days

1837

01:15:44,470 --> 01:15:42,960

climate change deniers often and

1838

01:15:47,030 --> 01:15:44,480

incorrectly

1839

01:15:51,590 --> 01:15:47,040

use the term skeptic to refer to

1840

01:15:55,510 --> 01:15:54,070

all of us are fallible and there will be

1841

01:15:59,510 --> 01:15:55,520

times when we don't act

1842

01:16:01,590 --> 01:15:59,520

consistently or even rationally

1843

01:16:02,870 --> 01:16:01,600

whether or not someone follows their own

1844

01:16:05,830 --> 01:16:02,880

advice or

1845

01:16:07,110 --> 01:16:05,840

even appears to contradict themselves it

1846

01:16:09,030 --> 01:16:07,120

should be noted

1847

01:16:10,870 --> 01:16:09,040

but don't let that distract from the

1848

01:16:14,149 --> 01:16:10,880

question in hand

1849

01:16:22,300 --> 01:16:14,159

and ultimately it does not justify

1850

01:16:28,070 --> 01:16:23,990

[Music]

1851
01:16:30,470 --> 01:16:28,080
this time we'll look at no true scotsman

1852
01:16:31,830 --> 01:16:30,480
this interesting sounding fallacy comes

1853
01:16:34,870 --> 01:16:31,840
to us from the notion

1854
01:16:37,030 --> 01:16:34,880
that all scotsmen are brave and if one

1855
01:16:40,149 --> 01:16:37,040
turns out to be a coward

1856
01:16:43,110 --> 01:16:40,159
then he cannot really be a true

1857
01:16:44,229 --> 01:16:43,120
scotsman this fallacy can be used by

1858
01:16:46,790 --> 01:16:44,239
your opponent to

1859
01:16:49,510 --> 01:16:46,800
change the parameters of an argument to

1860
01:16:51,830 --> 01:16:49,520
seem to save them from being wrong

1861
01:16:52,550 --> 01:16:51,840
it's a type of moving the goal post

1862
01:16:55,750 --> 01:16:52,560
fallacy

1863
01:16:58,310 --> 01:16:55,760

which we covered in an earlier episode

1864

01:16:58,950 --> 01:16:58,320

an online video showing some of the

1865

01:17:01,830 --> 01:16:58,960

tricks

1866

01:17:04,070 --> 01:17:01,840

behind applied kinesiology had a skeptic

1867

01:17:06,550 --> 01:17:04,080

pushing down on someone's arm

1868

01:17:07,669 --> 01:17:06,560

at different angles to get different

1869

01:17:10,870 --> 01:17:07,679

results

1870

01:17:14,310 --> 01:17:10,880

however according to kinesiologists

1871

01:17:17,990 --> 01:17:14,320

this is not how real applied kinesiology

1872

01:17:19,669 --> 01:17:18,000

is done at all applied kinesiology is a

1873

01:17:21,830 --> 01:17:19,679

modality that claims that

1874

01:17:23,830 --> 01:17:21,840

ailments in the body can be diagnosed

1875

01:17:27,189 --> 01:17:23,840

via muscle testing

1876

01:17:29,830 --> 01:17:27,199

it is considered to be a pseudoscience

1877

01:17:31,110 --> 01:17:29,840

the video referred to as real made by

1878

01:17:33,590 --> 01:17:31,120

richard saunders

1879

01:17:36,310 --> 01:17:33,600

and many of the unhappy comments on this

1880

01:17:39,750 --> 01:17:36,320

video from applied kinesiologists

1881

01:17:42,189 --> 01:17:39,760

use the no true scotsman fallacy

1882

01:17:43,590 --> 01:17:42,199

see for yourself by looking up applied

1883

01:17:46,870 --> 01:17:43,600

kinesiology

1884

01:17:48,950 --> 01:17:46,880

how it's done on youtube

1885

01:17:51,510 --> 01:17:48,960

then watch the countless other videos

1886

01:17:53,430 --> 01:17:51,520

from applied kinesiologists themselves

1887

01:17:55,110 --> 01:17:53,440

doing more or less the same sort of

1888

01:17:58,470 --> 01:17:55,120

thing

1889

01:17:58,950 --> 01:17:58,480

therefore protesting that one example is

1890

01:18:02,070 --> 01:17:58,960

not

1891

01:18:03,669 --> 01:18:02,080

real kinesiology doesn't get the

1892

01:18:06,950 --> 01:18:03,679

modality off the hook

1893

01:18:09,430 --> 01:18:06,960

when it really is all a variation of the

1894

01:18:12,790 --> 01:18:09,440

same basic practice

1895

01:18:14,630 --> 01:18:12,800

so the skeptics tested all these water

1896

01:18:18,470 --> 01:18:14,640

diviners huh

1897

01:18:19,590 --> 01:18:18,480

and they all failed well either the test

1898

01:18:22,229 --> 01:18:19,600

was wrong

1899

01:18:23,430 --> 01:18:22,239

all those diviners were just doing it

1900

01:18:26,630 --> 01:18:23,440

wrong or

1901

01:18:28,870 --> 01:18:26,640

they weren't real diviners at all once

1902

01:18:30,149 --> 01:18:28,880

again we have an example based on a real

1903

01:18:32,470 --> 01:18:30,159

event

1904

01:18:34,870 --> 01:18:32,480

when water divine has failed tests

1905

01:18:35,430 --> 01:18:34,880

conducted by the Australian skeptics or

1906

01:18:38,149 --> 01:18:35,440

similar

1907

01:18:38,790 --> 01:18:38,159

organizations around the world and by

1908

01:18:41,110 --> 01:18:38,800

the way

1909

01:18:42,470 --> 01:18:41,120

that is a hundred percent of the time so

1910

01:18:44,950 --> 01:18:42,480

far

1911

01:18:46,070 --> 01:18:44,960

other definers or believers in divining

1912

01:18:48,550 --> 01:18:46,080

will sometimes

1913

01:18:50,470 --> 01:18:48,560

claim that the participants simply did

1914

01:18:53,430 --> 01:18:50,480
not know what they were doing

1915

01:18:55,430 --> 01:18:53,440
as any real diviner would have passed

1916

01:18:58,229 --> 01:18:55,440
the tests

1917

01:18:59,270 --> 01:18:58,239
i'm sorry but if you believe in a god or

1918

01:19:02,630 --> 01:18:59,280
gods

1919

01:19:04,550 --> 01:19:02,640
then you are not a real skeptic

1920

01:19:06,390 --> 01:19:04,560
some people can get quite worked up if

1921

01:19:08,709 --> 01:19:06,400
they find others in the skeptical

1922

01:19:10,390 --> 01:19:08,719
movement also happen to have a religious

1923

01:19:12,950 --> 01:19:10,400
faith

1924

01:19:14,870 --> 01:19:12,960
but for many skeptical groups one's

1925

01:19:18,149 --> 01:19:14,880
religion or lack thereof

1926

01:19:21,189 --> 01:19:18,159

is simply not of great importance

1927

01:19:21,990 --> 01:19:21,199

they can still be skeptics while many

1928

01:19:24,630 --> 01:19:22,000

skeptics are

1929

01:19:30,229 --> 01:19:24,640

atheists the two movements are not

1930

01:19:33,350 --> 01:19:32,470

sometimes it's easier to dismiss

1931

01:19:35,430 --> 01:19:33,360

something or

1932

01:19:36,550 --> 01:19:35,440

someone who does not live up to our

1933

01:19:39,830 --> 01:19:36,560

ideals

1934

01:19:43,590 --> 01:19:39,840

as not being really part of what makes

1935

01:19:46,790 --> 01:19:43,600

those ideals important to us

1936

01:19:47,830 --> 01:19:46,800

as with many logical fallacies this one

1937

01:19:50,870 --> 01:19:47,840

revolves around

1938

01:19:53,480 --> 01:19:50,880

us keeping our particular worldview safe

1939

01:19:56,310 --> 01:19:53,490
from contradictory information

1940

01:19:58,390 --> 01:19:56,320
[Music]

1941

01:19:59,350 --> 01:19:58,400
knowing a logical fallacy when you hear

1942

01:20:02,149 --> 01:19:59,360
one and

1943

01:20:04,630 --> 01:20:02,159
even knowing its name is important when

1944

01:20:08,070 --> 01:20:04,640
arguing your point of view

1945

01:20:10,470 --> 01:20:08,080
however you may come across as arrogant

1946

01:20:11,270 --> 01:20:10,480
and not get very far if you call it out

1947

01:20:13,590 --> 01:20:11,280
by name

1948

01:20:15,669 --> 01:20:13,600
to your opponent when you hear it being

1949

01:20:18,229 --> 01:20:15,679
used

1950

01:20:19,030 --> 01:20:18,239
if your opponent calls you out for using

1951

01:20:21,270 --> 01:20:19,040

one

1952

01:20:24,310 --> 01:20:21,280

it's time to stop and think about how

1953

01:20:26,470 --> 01:20:24,320

you are making your case

1954

01:20:27,669 --> 01:20:26,480

use your knowledge of logical fallacies

1955

01:20:30,390 --> 01:20:27,679

wisely

1956

01:20:31,669 --> 01:20:30,400

and remember that even if your point of

1957

01:20:33,990 --> 01:20:31,679

view is right

1958

01:20:35,270 --> 01:20:34,000

and you know all the pitfalls in arguing

1959

01:20:37,750 --> 01:20:35,280

your case

1960

01:20:38,950 --> 01:20:37,760

it doesn't always mean you'll win on the

1961

01:20:42,229 --> 01:20:38,960

day

1962

01:20:47,830 --> 01:20:42,239

and as skeptics we must also remember

1963

01:20:49,590 --> 01:20:47,840

that we too can be wrong at times

1964

01:21:01,030 --> 01:20:49,600

i'm michelle bickersma from the vic

1965

01:21:51,760 --> 01:21:01,040

skeptics thanks for listening