

**SKEPTIC  
ZONE**



THINKING CAPS  
MUST BE WORN  
IN THIS AREA

The  
Podcast  
from  
Australia  
for  
Science  
and  
Reason

[www.skepticzone.tv](http://www.skepticzone.tv)

1  
00:00:10,250 --> 00:00:01,939  
and now a message from the inside of

2  
00:00:10,260 --> 00:00:24,110  
check

3  
00:00:29,900 --> 00:00:26,840  
hello and welcome to the skeptic zone

4  
00:00:41,139 --> 00:00:29,910  
episode number 63 for the first of

5  
00:00:46,490 --> 00:00:44,240  
2010 another year of the skeptic zone

6  
00:00:48,829 --> 00:00:46,500  
and the year of Tam Australia in

7  
00:00:50,930 --> 00:00:48,839  
November more about that all through the

8  
00:00:54,079 --> 00:00:50,940  
year here's Richard Saunders here with

9  
00:00:55,939 --> 00:00:54,089  
you once again on today's episode we

10  
00:00:58,189 --> 00:00:55,949  
have a recording from last year's

11  
00:01:00,679 --> 00:00:58,199  
dragoncon without good friend and

12  
00:01:03,109 --> 00:01:00,689  
reporter Kylie Sturgis psychology and

13  
00:01:06,020 --> 00:01:03,119

skepticism in the classroom a

14

00:01:08,419 --> 00:01:06,030

fascinating panel and after that we've

15

00:01:11,590 --> 00:01:08,429

got a couple of gems from the late 80s

16

00:01:14,149 --> 00:01:11,600

in the early 90s we have a talk from the

17

00:01:16,609 --> 00:01:14,159

1988 Australian skeptics convention

18

00:01:18,680 --> 00:01:16,619

about crystal power and pyramid power

19

00:01:21,499 --> 00:01:18,690

it's very interesting to hear what they

20

00:01:23,990 --> 00:01:21,509

thought way back then over 20 years ago

21

00:01:27,320 --> 00:01:24,000

about crystal power and pyramid power

22

00:01:30,940 --> 00:01:27,330

that's followed by a well discussion

23

00:01:33,919 --> 00:01:30,950

between Magna Palmer crystal healer and

24

00:01:36,649 --> 00:01:33,929

Professor Ian climber geologists

25

00:01:39,350 --> 00:01:36,659

recorded the best guess I can make it is

26

00:01:43,609 --> 00:01:39,360

about 1992 or something like that and

27

00:01:45,830 --> 00:01:43,619

they have a very frank discussion on the

28

00:01:49,369 --> 00:01:45,840

power of crystals the magic power of

29

00:01:53,059 --> 00:01:49,379

crystals so sit back have a nice cool

30

00:02:10,180 --> 00:01:53,069

glass of lemonade and enjoy this episode

31

00:02:16,730 --> 00:02:13,700

I'm Carly Sturgis and at dragoncon in

32

00:02:18,890 --> 00:02:16,740

2009 several panels which focused on the

33

00:02:21,130 --> 00:02:18,900

communication and teaching of skepticism

34

00:02:25,070 --> 00:02:21,140

were presented one of which I moderated

35

00:02:27,980 --> 00:02:25,080

it was called scepticism psychology and

36

00:02:29,660 --> 00:02:27,990

in the classroom it was designed to

37

00:02:31,580 --> 00:02:29,670

highlight the contributions of teachers

38

00:02:33,830 --> 00:02:31,590

from high school to university level

39

00:02:36,500 --> 00:02:33,840

including outreach efforts across 30

40

00:02:38,840 --> 00:02:36,510

years leading skeptics who took part

41

00:02:41,000 --> 00:02:38,850

included Australia's dr. Martin bridge

42

00:02:42,620 --> 00:02:41,010

stock whose book beyond belief was

43

00:02:45,170 --> 00:02:42,630

launched at the Australian skeptics

44

00:02:47,600 --> 00:02:45,180

National Convention in Brisbane at the

45

00:02:49,970 --> 00:02:47,610

time DJ Grothe was a program director at

46

00:02:51,800 --> 00:02:49,980

the Center for inquiry and podcast host

47

00:02:53,390 --> 00:02:51,810

for point of inquiry is now the

48

00:02:57,410 --> 00:02:53,400

president of the James Randi Educational

49

00:02:59,930 --> 00:02:57,420

Foundation finally there's also Barbra

50

00:03:01,460 --> 00:02:59,940

Drescher and Matt Lowery and myself all

51

00:03:10,220 --> 00:03:01,470

members of the critical thinking

52

00:03:12,620 --> 00:03:10,230

education group thank you very much

53

00:03:15,250 --> 00:03:12,630

Derek welcome to skeptical psychology

54

00:03:17,740 --> 00:03:15,260

and in the classroom originally we had

55

00:03:20,020 --> 00:03:17,750

as two separate panels while looking at

56

00:03:21,970 --> 00:03:20,030

services and have psychology and then

57

00:03:24,039 --> 00:03:21,980

looking at schism in a classroom and

58

00:03:25,990 --> 00:03:24,049

then we realized that the combined

59

00:03:28,479 --> 00:03:26,000

talents and experiences other people who

60

00:03:30,759 --> 00:03:28,489

are here with us today bring quite a lot

61

00:03:32,680 --> 00:03:30,769

of over those disciplines together not

62

00:03:35,410 --> 00:03:32,690

all of us high school teachers or

63

00:03:38,080 --> 00:03:35,420

primary school teachers education takes

64

00:03:40,509 --> 00:03:38,090

many different forms outreach is a very

65

00:03:42,880 --> 00:03:40,519

popular thing I know my skepticism is it

66

00:03:44,140 --> 00:03:42,890

and I'm certain I can see already that

67

00:03:46,149 --> 00:03:44,150

there's people from a variety of

68

00:03:48,460 --> 00:03:46,159

backgrounds maybe some might be from

69

00:03:49,300 --> 00:03:48,470

psychology somebody from education and

70

00:03:51,849 --> 00:03:49,310

I'm certain that there's a lot of

71

00:03:53,349 --> 00:03:51,859

parents out there and stakeholders come

72

00:03:54,759 --> 00:03:53,359

from many different places and if you

73

00:03:56,800 --> 00:03:54,769

want someone to stakeholders please

74

00:03:58,660 --> 00:03:56,810

introduce yourselves my name is Carly

75

00:04:00,399 --> 00:03:58,670

Sturgis I'm a research assistant at

76

00:04:02,289 --> 00:04:00,409

Curtin University in an education

77

00:04:04,180 --> 00:04:02,299

apartment I was a high school teacher /

78

00:04:06,759 --> 00:04:04,190

10 years and I'm currently doing my

79

00:04:09,309 --> 00:04:06,769

second Emmett like this was a huge and

80

00:04:11,530 --> 00:04:09,319

talented education my second focuses on

81

00:04:15,670 --> 00:04:11,540

how many beliefs and the educational

82

00:04:18,099 --> 00:04:15,680

measurement often I'm DJ Grothe with the

83

00:04:20,140 --> 00:04:18,109

Center for inquiry which is a science

84

00:04:22,560 --> 00:04:20,150

advocacy and educational organization at

85

00:04:27,310 --> 00:04:22,570

the State University of New York cfi

86

00:04:30,520 --> 00:04:27,320

runs the only kind of skepticism science

87

00:04:32,620 --> 00:04:30,530

education masters degree science in the

88

00:04:34,960 --> 00:04:32,630

public in the United States through the

89

00:04:37,360 --> 00:04:34,970  
center State University we or cfi

90

00:04:40,469 --> 00:04:37,370  
through its campus outreach program and

91

00:04:44,379 --> 00:04:40,479  
its youth education kind of skepticism

92

00:04:46,480 --> 00:04:44,389  
teenage summer camp thing and I think

93

00:04:47,300 --> 00:04:46,490  
that's a trademarked description it's

94

00:04:51,360 --> 00:04:47,310  
not

95

00:04:54,270 --> 00:04:51,370  
we are really invested in spending our

96

00:04:56,040 --> 00:04:54,280  
resources to advance the critical

97

00:04:59,430 --> 00:04:56,050  
rationalists the skeptical point of view

98

00:05:02,339 --> 00:04:59,440  
among college students high schoolers

99

00:05:04,740 --> 00:05:02,349  
and teenagers not just to those of us

100

00:05:06,600 --> 00:05:04,750  
who feel like we're a besieged minority

101  
00:05:08,100 --> 00:05:06,610  
we want to get together and talk about

102  
00:05:12,300 --> 00:05:08,110  
another reason white ghosts don't exist

103  
00:05:16,920 --> 00:05:12,310  
I think we're reaching out as television

104  
00:05:19,950 --> 00:05:16,930  
to kind of all of these various public

105  
00:05:23,550 --> 00:05:19,960  
especially college students with now

106  
00:05:26,100 --> 00:05:23,560  
about 200 campus groups on colleges

107  
00:05:29,370 --> 00:05:26,110  
across throughout North America even in

108  
00:05:34,460 --> 00:05:29,380  
Australia Europe England be sure so

109  
00:05:36,809 --> 00:05:34,470  
that's me hi my name's Mallory I am a

110  
00:05:39,540 --> 00:05:36,819  
pretty deep of the trenches I'm in high

111  
00:05:43,170 --> 00:05:39,550  
school and college level physics and

112  
00:05:46,290 --> 00:05:43,180  
astronomy instructor I teach in Northern

113  
00:05:48,589 --> 00:05:46,300

Illinois and I've been doing more and

114

00:05:52,490 --> 00:05:48,599

more involved skeptical movement

115

00:05:57,600 --> 00:05:52,500

connecting with Kylie DJ and Barbara

116

00:06:03,719 --> 00:05:59,610

one of the things that I've been

117

00:06:07,770 --> 00:06:03,729

involved in recent years besides just

118

00:06:10,050 --> 00:06:07,780

generally trying to get skepticism and

119

00:06:13,469 --> 00:06:10,060

education and working with people like

120

00:06:15,929 --> 00:06:13,479

these is work out grassroots skepticism

121

00:06:19,379 --> 00:06:15,939

if you are at the Darwins volkoff's p.m.

122

00:06:21,360 --> 00:06:19,389

yesterday you'll know that one of the

123

00:06:24,719 --> 00:06:21,370

things that I've done is in northern

124

00:06:26,309 --> 00:06:24,729

illinois i started a grassroots because

125

00:06:28,170 --> 00:06:26,319

he followed scott do a little skeptical

126

00:06:31,019 --> 00:06:28,180

organization called Darwin's Bulldog

127

00:06:33,540 --> 00:06:31,029

which challenges creationists remaining

128

00:06:36,749 --> 00:06:33,550

them to come into our area and switch

129

00:06:38,820 --> 00:06:36,759

the nonsense and we also have paid for

130

00:06:41,969 --> 00:06:38,830

good science education so my approach

131

00:06:43,140 --> 00:06:41,979

more localized anything however if

132

00:06:46,230 --> 00:06:43,150

you're interested in reading a of my

133

00:06:49,379 --> 00:06:46,240

musings on these matters with myself

134

00:06:52,469 --> 00:06:49,389

shameless blood my blog skeptically

135

00:06:55,969 --> 00:06:52,479

teacher just Google skeptical teacher

136

00:06:58,890 --> 00:06:55,979

and what's the tough net and that's me

137

00:07:02,629 --> 00:06:58,900

hi my name is Barbara dresser and I

138

00:07:05,519 --> 00:07:02,639

teach cognitive psychology 200

139

00:07:07,529 --> 00:07:05,529

undergraduate at CSU Northridge I also

140

00:07:09,559 --> 00:07:07,539

teach the core science courses like

141

00:07:13,769 --> 00:07:09,569

statistics and research methods the

142

00:07:16,110 --> 00:07:13,779

things that a lot of under graduates are

143

00:07:19,260 --> 00:07:16,120

surprised the end up having to take that

144

00:07:21,209 --> 00:07:19,270

is actually a science so I kind of have

145

00:07:24,029 --> 00:07:21,219

it you know unique challenging opening

146

00:07:27,929 --> 00:07:24,039

their eyes to whether or not I actually

147

00:07:30,209 --> 00:07:27,939

want this major and reteaching what

148

00:07:32,189 --> 00:07:30,219

cognitive psychology is because it isn't

149

00:07:34,909 --> 00:07:32,199

clinical or counseling it's about

150

00:07:38,659 --> 00:07:34,919

learning memory decision-making

151

00:07:42,689 --> 00:07:38,669

perception so one of the things that I

152

00:07:45,959 --> 00:07:42,699

become passionate about probably mostly

153

00:07:47,850 --> 00:07:45,969

as a result of teaching is finding out

154

00:07:48,910 --> 00:07:47,860

more about critical thinking which

155

00:07:52,390 --> 00:07:48,920

magnificent

156

00:07:55,690 --> 00:07:52,400

meal so I've actually kind of shifted my

157

00:07:58,210 --> 00:07:55,700

research interests more toward critical

158

00:07:59,560 --> 00:07:58,220

thinking what makes us better critical

159

00:08:03,280 --> 00:07:59,570

thinkers because intelligence is

160

00:08:06,970 --> 00:08:03,290

certainly not all of it and you get

161

00:08:09,340 --> 00:08:06,980

reminded this is it sweater is it it's a

162

00:08:12,370 --> 00:08:09,350

key component to that and so in the

163

00:08:15,670 --> 00:08:12,380

classroom I really try my best to shake

164

00:08:17,650 --> 00:08:15,680

them up and to show them that what they

165

00:08:18,940 --> 00:08:17,660

see of the world or what they think

166

00:08:20,830 --> 00:08:18,950

they're seeing in the world is not

167

00:08:22,840 --> 00:08:20,840

necessarily what the world is to start

168

00:08:24,880 --> 00:08:22,850

with and so we really need to look

169

00:08:26,680 --> 00:08:24,890

outside of ourselves and set aside our

170

00:08:29,800 --> 00:08:26,690

biases if we want to make optimal

171

00:08:33,580 --> 00:08:29,810

decisions and that's kind of how I

172

00:08:36,250 --> 00:08:33,590

approach it as a parent as well too just

173

00:08:41,110 --> 00:08:36,260

amazing boys that on one starting middle

174

00:08:43,150 --> 00:08:41,120

school sorry and that has also kind of

175

00:08:45,960 --> 00:08:43,160

sparked my interest in that okay people

176

00:08:48,220 --> 00:08:45,970

how early can we start this and and

177

00:08:50,710 --> 00:08:48,230

shouldn't be doing it all along instead

178

00:08:51,640 --> 00:08:50,720

of teaching these children you know they

179

00:08:55,360 --> 00:08:51,650

don't have no child left behind

180

00:08:58,210 --> 00:08:55,370

everything is part of the problem so I'm

181

00:09:00,220 --> 00:08:58,220

teaching you what to think teaching and

182

00:09:03,650 --> 00:09:00,230

telling them what to think we should be

183

00:09:13,610 --> 00:09:07,970

okay my name is Martin bring shock close

184

00:09:16,280 --> 00:09:13,620

enough nice answer later ok money are

185

00:09:19,100 --> 00:09:16,290

you here we write my name is Martin

186

00:09:21,440 --> 00:09:19,110

bridge doc I teach a course at Griffith

187

00:09:24,590 --> 00:09:21,450

University called skepticism science in

188

00:09:26,810 --> 00:09:24,600

the paranormal I have been an academic

189

00:09:29,570 --> 00:09:26,820

for 30-odd years I've been an active

190

00:09:32,150 --> 00:09:29,580

sketching for about 25 years and this is

191

00:09:34,670 --> 00:09:32,160

a full four credit course within the

192

00:09:37,010 --> 00:09:34,680

university all skepticism science on the

193

00:09:39,230 --> 00:09:37,020

paranormal accounts within a major and a

194

00:09:40,820 --> 00:09:39,240

minor in the School of Science and it is

195

00:09:43,100 --> 00:09:40,830

taken by a range of students from across

196

00:09:44,930 --> 00:09:43,110

the university I've been doing it now

197

00:09:47,000 --> 00:09:44,940

for seven years they keep throwing

198

00:09:48,950 --> 00:09:47,010

awards at me for for for the court it

199

00:09:50,360 --> 00:09:48,960

seems to go very well indeed the wraps

200

00:09:51,950 --> 00:09:50,370

are the students is like nothing else

201

00:09:54,950 --> 00:09:51,960

I've come across in any other course

202

00:09:56,720 --> 00:09:54,960

ever and it's generally counselor to

203

00:10:00,590 --> 00:09:56,730

success if anyone's interested up with

204

00:10:02,900 --> 00:10:00,600

your details and I think we all do quite

205

00:10:04,160 --> 00:10:02,910

a lot of things start with what are some

206

00:10:05,470 --> 00:10:04,170

of the things that we feel particularly

207

00:10:08,439 --> 00:10:05,480

passionate about

208

00:10:09,939 --> 00:10:08,449

really women in terms of getting a bit

209

00:10:11,680 --> 00:10:09,949

of critical thinking out there and oh

210

00:10:13,240 --> 00:10:11,690

he's a better question it's critical

211

00:10:15,189 --> 00:10:13,250

thinking and skepticism the same thing

212

00:10:16,840 --> 00:10:15,199

their continuous for they're not

213

00:10:20,199 --> 00:10:16,850

identical you could be a critical

214

00:10:24,250 --> 00:10:20,209

thinking literary critic more you know

215

00:10:26,860 --> 00:10:24,260

art history or and skepticism as you'll

216

00:10:31,540 --> 00:10:26,870

remember the debates couple panels

217

00:10:33,280 --> 00:10:31,550

sessions couple days ago I like

218

00:10:36,329 --> 00:10:33,290

imagining that skepticism it's an

219

00:10:39,009 --> 00:10:36,339

organized movement the limits itself

220

00:10:41,199 --> 00:10:39,019

contra maybe what Michael Shermer or

221

00:10:43,569 --> 00:10:41,209

call Kurtz of Archaea recently limits

222

00:10:45,759 --> 00:10:43,579

itself to things that the skeptic

223

00:10:48,490 --> 00:10:45,769

movement has traditionally focused on so

224

00:10:52,180 --> 00:10:48,500

ghosts and UFOs it says it because if

225

00:10:54,250 --> 00:10:52,190

you broaden the field so widely that it

226

00:10:57,910 --> 00:10:54,260

includes every area of human endeavor

227

00:10:59,829 --> 00:10:57,920

then the skeptical movement is should i

228

00:11:01,840 --> 00:10:59,839

say merely a critical thinking movement

229

00:11:03,670 --> 00:11:01,850

and how do you distinguish that from all

230

00:11:05,829 --> 00:11:03,680

the others chinese advocacy

231

00:11:08,800 --> 00:11:05,839

organizations and kind of public

232

00:11:11,559 --> 00:11:08,810

interest organizations out there I I so

233

00:11:13,389 --> 00:11:11,569

in that respect I think their continuous

234

00:11:16,059 --> 00:11:13,399

but they're not identity I think one has

235

00:11:18,460 --> 00:11:16,069

essence yeah i agree with DJ but I

236

00:11:21,490 --> 00:11:18,470

essentially regards skepticism as the

237

00:11:24,100 --> 00:11:21,500

critical thinking applied to paranormal

238

00:11:26,439 --> 00:11:24,110

topics so my course is focused on the

239

00:11:28,319 --> 00:11:26,449

paranormal I talked about the way the

240

00:11:30,759 --> 00:11:28,329

skeptics please get rid of principles

241

00:11:32,620 --> 00:11:30,769

then I brought the afternoon to have a

242

00:11:34,389 --> 00:11:32,630

go at astrology and the amityville

243

00:11:36,759 --> 00:11:34,399

horror and creation science that the

244

00:11:38,120 --> 00:11:36,769

other things found wrong of course to

245

00:11:40,490 --> 00:11:38,130

non-parent

246

00:11:42,290 --> 00:11:40,500

planes which are controversial the two I

247

00:11:44,120 --> 00:11:42,300

focus on a particular are the theory

248

00:11:45,890 --> 00:11:44,130

that the Apollo moon missions were a

249

00:11:47,600 --> 00:11:45,900

hoax you can look or what is the

250

00:11:51,650 --> 00:11:47,610

evidence that there are hoaxes and also

251  
00:11:53,780 --> 00:11:51,660  
Holocaust denial and so I don't go any

252  
00:11:55,520 --> 00:11:53,790  
white than that but I hope engines mine

253  
00:11:57,410 --> 00:11:55,530  
the students right we completely

254  
00:11:59,330 --> 00:11:57,420  
spontaneously after the corset over and

255  
00:12:01,460 --> 00:11:59,340  
say after the course I feel more

256  
00:12:02,930 --> 00:12:01,470  
critical about things generally I'm less

257  
00:12:05,090 --> 00:12:02,940  
likely to take politicians for

258  
00:12:07,370 --> 00:12:05,100  
announcements at face value for example

259  
00:12:09,410 --> 00:12:07,380  
so although the courses focus pretty

260  
00:12:11,030 --> 00:12:09,420  
much there is this definite spillover

261  
00:12:12,500 --> 00:12:11,040  
that students are encouraged to take

262  
00:12:15,310 --> 00:12:12,510  
this way of thinking you to apply to

263  
00:12:19,510 --> 00:12:15,320

other areas well

264

00:12:22,330 --> 00:12:19,520

I think I think to DJ and apartments

265

00:12:24,580 --> 00:12:22,340

concert spot on about the site kind of

266

00:12:26,590 --> 00:12:24,590

you skepticism The Skeptical who's gonna

267

00:12:30,760 --> 00:12:26,600

sort of the subset critical thinking you

268

00:12:32,950 --> 00:12:30,770

will because as a as a teacher I try to

269

00:12:36,490 --> 00:12:32,960

teach my students think critically all

270

00:12:39,910 --> 00:12:36,500

the time whether it's about physics

271

00:12:43,390 --> 00:12:39,920

astronomy and mathematics whatever I am

272

00:12:45,490 --> 00:12:43,400

often I don't actually have no more

273

00:12:48,550 --> 00:12:45,500

surprised when this happens but I'm

274

00:12:50,880 --> 00:12:48,560

still disappointed with happiness and I

275

00:12:54,640 --> 00:12:50,890

usually have a little baseball moment

276

00:12:56,710 --> 00:12:54,650

when I agree when I want to give an

277

00:12:59,500 --> 00:12:56,720

example for example and students come up

278

00:13:01,600 --> 00:12:59,510

a day or so later they say that was a

279

00:13:04,630 --> 00:13:01,610

really tough exam I wasn't expecting

280

00:13:05,879 --> 00:13:04,640

questions to be worded like that were

281

00:13:08,549 --> 00:13:05,889

you expecting

282

00:13:10,979 --> 00:13:08,559

for you is making simple that cut and

283

00:13:14,609 --> 00:13:10,989

paste type things first of what you've

284

00:13:18,239 --> 00:13:14,619

seen in Palmer problems before Willie

285

00:13:19,470 --> 00:13:18,249

out Pacific well I'm not looking for

286

00:13:22,919 --> 00:13:19,480

that I'm looking for you to think

287

00:13:24,659 --> 00:13:22,929

critically to go beyond what you know I

288

00:13:26,609 --> 00:13:24,669

don't want you to a cookie cutter and

289

00:13:30,780 --> 00:13:26,619

that's for a critical thinking you know

290

00:13:32,639 --> 00:13:30,790

when you put the students into a sort of

291

00:13:34,229 --> 00:13:32,649

a mentally a comfortable position where

292

00:13:35,909 --> 00:13:34,239

they have to they have to step up their

293

00:13:40,579 --> 00:13:35,919

game themselves so that that is critical

294

00:13:43,349 --> 00:13:40,589

thinking and I think it's wise not to

295

00:13:47,710 --> 00:13:43,359

confuse the two critical thinking and

296

00:13:53,120 --> 00:13:50,210

what are the challenges that we faced

297

00:13:55,610 --> 00:13:53,130

and this is specifically as educators or

298

00:13:57,079 --> 00:13:55,620

outreach people what are some funny is

299

00:13:58,730 --> 00:13:57,089

certainly in our personal weather here

300

00:14:00,769 --> 00:13:58,740

once music it's not occur all their eyes

301  
00:14:02,509 --> 00:14:00,779  
certainly no I personalized weak base

302  
00:14:04,629 --> 00:14:02,519  
things and sometimes it treatments and

303  
00:14:08,749 --> 00:14:04,639  
doesn't once what's the big ones you

304  
00:14:12,860 --> 00:14:08,759  
know I I actually what what Matt said

305  
00:14:18,290 --> 00:14:12,870  
sparked something that I see all the

306  
00:14:22,730 --> 00:14:18,300  
time the students email me and asked me

307  
00:14:24,829 --> 00:14:22,740  
what should I focus on and I know that

308  
00:14:26,840 --> 00:14:24,839  
there are faculty members out there who

309  
00:14:28,430 --> 00:14:26,850  
will simply say well everything is you

310  
00:14:31,249 --> 00:14:28,440  
know part of everything is going to be

311  
00:14:32,960 --> 00:14:31,259  
tested we all we all really hate that

312  
00:14:36,559 --> 00:14:32,970  
student raises their hand says this is

313  
00:14:38,540 --> 00:14:36,569

going to be on the test but the thing is

314

00:14:40,639 --> 00:14:38,550

I actually give them learning objectives

315

00:14:43,400 --> 00:14:40,649

and many times they are worded it

316

00:14:47,660 --> 00:14:43,410

exactly as they are in the exam and they

317

00:14:51,439 --> 00:14:47,670

are still surprised so I think that

318

00:14:53,960 --> 00:14:51,449

there is we become a little we become a

319

00:14:56,870 --> 00:14:53,970

little complacent and I think students

320

00:14:58,400 --> 00:14:56,880

have become a little they got used to

321

00:15:00,650 --> 00:14:58,410

the multiple choice tests they've got

322

00:15:04,460 --> 00:15:00,660

used to being told what the answer is

323

00:15:06,680 --> 00:15:04,470

and try to memorize that not really

324

00:15:08,780 --> 00:15:06,690

putting it together themselves they want

325

00:15:11,059 --> 00:15:08,790

to know where in the book is this answer

326

00:15:14,809 --> 00:15:11,069

and at the level that I teach which was

327

00:15:17,990 --> 00:15:14,819

upper division in college courses there

328

00:15:21,050 --> 00:15:18,000

isn't and answer there isn't one answer

329

00:15:22,370 --> 00:15:21,060

it is you've got this information you've

330

00:15:23,639 --> 00:15:22,380

got this information let's put them

331

00:15:27,030 --> 00:15:23,649

together and rock

332

00:15:29,609 --> 00:15:27,040

and you told that they actually have to

333

00:15:31,319 --> 00:15:29,619

think about it and form some kind of

334

00:15:33,179 --> 00:15:31,329

conclusion that isn't just based on it

335

00:15:35,579 --> 00:15:33,189

you know their gut feeling or what they

336

00:15:38,780 --> 00:15:35,589

want to be true is probably the biggest

337

00:15:44,069 --> 00:15:38,790

challenge ethics we don't want to do a

338

00:15:46,049 --> 00:15:44,079

lot of head of one thing okay yeah let

339

00:15:48,359 --> 00:15:46,059

me start from a personal opinion at nine

340

00:15:50,759 --> 00:15:48,369

one of the most disgusting characters

341

00:15:52,949 --> 00:15:50,769

that you see on University campuses not

342

00:15:55,679 --> 00:15:52,959

quite the most disgusting a one of us

343

00:15:57,780 --> 00:15:55,689

disgusting is the academic who has

344

00:16:00,749 --> 00:15:57,790

strong opinions who pushes those

345

00:16:02,879 --> 00:16:00,759

opinions into all of the the text and

346

00:16:05,549 --> 00:16:02,889

the presentations in their course and

347

00:16:07,859 --> 00:16:05,559

gives you to understand that unless you

348

00:16:09,569 --> 00:16:07,869

regurgitate those opinions in the in the

349

00:16:11,009 --> 00:16:09,579

assessment your grades are going to

350

00:16:13,590 --> 00:16:11,019

suffer badly now I think that's

351

00:16:15,030 --> 00:16:13,600

detectable so what I do in my course is

352

00:16:17,369 --> 00:16:15,040

straight from the apps and I did this

353

00:16:19,169 --> 00:16:17,379

right from the start some ice is rising

354

00:16:20,549 --> 00:16:19,179

to interrupt me dead right I say that

355

00:16:22,319 --> 00:16:20,559

what people believe is their own

356

00:16:23,910 --> 00:16:22,329

business and it is a young adults on

357

00:16:26,460 --> 00:16:23,920

teaching if there's one thing they hate

358

00:16:29,100 --> 00:16:26,470

is being told what to believe so what I

359

00:16:31,139 --> 00:16:29,110

say is what you believe is your own

360

00:16:34,319 --> 00:16:31,149

business it will not affect the marks

361

00:16:36,960 --> 00:16:34,329

but you must grasp these skeptical

362

00:16:38,309 --> 00:16:36,970

principles which I am going to pass or

363

00:16:40,199 --> 00:16:38,319

some equipments there's several

364

00:16:42,720 --> 00:16:40,209

different ways of doing it and you must

365

00:16:44,910 --> 00:16:42,730

know how to apply them then what

366

00:16:46,600 --> 00:16:44,920

opinions you have at the end of the

367

00:16:49,120 --> 00:16:46,610

course are completely your own

368

00:16:51,340 --> 00:16:49,130

as a result in this course run for seven

369

00:16:54,519 --> 00:16:51,350

years now the second year I ran the

370

00:16:57,000 --> 00:16:54,529

course a fervent advocate of alternative

371

00:16:59,470 --> 00:16:57,010

medicine got top mark in the whole year

372

00:17:01,900 --> 00:16:59,480

fair enough he understood the principles

373

00:17:04,090 --> 00:17:01,910

he done very well last year I had even

374

00:17:06,970 --> 00:17:04,100

more of a shot of two thousand today the

375

00:17:09,010 --> 00:17:06,980

top student in the course gaming 95% was

376

00:17:13,090 --> 00:17:09,020

not only a devout Christian but I even

377

00:17:15,730 --> 00:17:13,100

think she was a creationist she has been

378

00:17:18,640 --> 00:17:15,740

able to deploy these intellectual tools

379

00:17:20,289 --> 00:17:18,650

and use them in such a way but our

380

00:17:22,630 --> 00:17:20,299

actual performance in the classroom was

381

00:17:24,699 --> 00:17:22,640

absolutely brilliant now having said

382

00:17:26,559 --> 00:17:24,709

that I also discovered as a slight trick

383

00:17:28,840 --> 00:17:26,569

here because although i present these

384

00:17:30,789 --> 00:17:28,850

and intellectual tools but they're not

385

00:17:32,680 --> 00:17:30,799

like a chisel and i have a way to put

386

00:17:34,900 --> 00:17:32,690

them away the box they're more like a

387

00:17:37,840 --> 00:17:34,910

pair of glasses and once you put them on

388

00:17:40,090 --> 00:17:37,850

you see the world in a whole new way so

389

00:17:41,470 --> 00:17:40,100

normally students once they've seen the

390

00:17:43,900 --> 00:17:41,480

world in this new way they're

391

00:17:46,419 --> 00:17:43,910

irrevocably defecting buyers but no I

392

00:17:48,820 --> 00:17:46,429

I'd say this and I mean it that I do it

393

00:17:51,220 --> 00:17:48,830

I don't care what the student police are

394

00:17:53,140 --> 00:17:51,230

so that's one way which I get round of

395

00:17:54,320 --> 00:17:53,150

this very real challenge me but that's

396

00:17:57,980 --> 00:17:54,330

the old man on campus

397

00:18:00,590 --> 00:17:57,990

you've got views over dr. I wanted to do

398

00:18:03,100 --> 00:18:00,600

a long couple my comments here first of

399

00:18:05,029 --> 00:18:03,110

all yeah the whole question about

400

00:18:06,830 --> 00:18:05,039

students simply want to be able to

401  
00:18:10,970 --> 00:18:06,840  
memorize facts under Georgia Tate so

402  
00:18:12,259 --> 00:18:10,980  
that's that that's problematic and you

403  
00:18:13,940 --> 00:18:12,269  
know I'm not really sure how you fight

404  
00:18:15,860 --> 00:18:13,950  
that I think part of the problem that is

405  
00:18:17,539 --> 00:18:15,870  
I think part of the onus is on us as

406  
00:18:19,970 --> 00:18:17,549  
educators the education community I

407  
00:18:21,259 --> 00:18:19,980  
think we got to a place where we up top

408  
00:18:25,310 --> 00:18:21,269  
that sort of thing that happened too

409  
00:18:28,070 --> 00:18:25,320  
much I'm uncertainly the squeaky wheel

410  
00:18:30,470 --> 00:18:28,080  
in my department about something like

411  
00:18:32,870 --> 00:18:30,480  
that i think but constantly challenged

412  
00:18:34,480 --> 00:18:32,880  
with my colleagues sure they say nasty

413  
00:18:41,360 --> 00:18:34,490

things when I my back to Brazil but

414

00:18:42,830 --> 00:18:41,370

Soviet up but as to Martin's point I I

415

00:18:46,610 --> 00:18:42,840

need something very settlement because

416

00:18:49,460 --> 00:18:46,620

as a is a physics and astronomy guy when

417

00:18:52,780 --> 00:18:49,470

I teach I always that something to talk

418

00:18:58,789 --> 00:18:52,790

about they named cosmic

419

00:19:01,340 --> 00:18:58,799

huge concepts and stuff and i preface it

420

00:19:03,020 --> 00:19:01,350

by I say writing again before we end

421

00:19:04,640 --> 00:19:03,030

this i say what you notice that this is

422

00:19:07,190 --> 00:19:04,650

a science classroom this is the theology

423

00:19:08,750 --> 00:19:07,200

this isn't philosophy if that's what

424

00:19:11,539 --> 00:19:08,760

you're looking for you go to a different

425

00:19:12,860 --> 00:19:11,549

class down the hall and that's and I

426

00:19:16,430 --> 00:19:12,870

acknowledge that you know there may be

427

00:19:18,280 --> 00:19:16,440

some people in the room who have a

428

00:19:20,450 --> 00:19:18,290

certain religious or philosophical

429

00:19:22,100 --> 00:19:20,460

worldview that he's going to inflict

430

00:19:25,640 --> 00:19:22,110

with the science of length even if

431

00:19:28,520 --> 00:19:25,650

that's you then I leave it up to you to

432

00:19:29,780 --> 00:19:28,530

reconcile the situation's hi I tell the

433

00:19:31,460 --> 00:19:29,790

flat out it doesn't matter if they're

434

00:19:33,890 --> 00:19:31,470

high school or college students i say i

435

00:19:38,120 --> 00:19:33,900

will assume that you're mature enough to

436

00:19:40,430 --> 00:19:38,130

figure this out for yourself and that's

437

00:19:42,350 --> 00:19:40,440

it because I cleared it about here to

438

00:19:43,850 --> 00:19:42,360

teach you what what to believe we're not

439

00:19:45,830 --> 00:19:43,860

leaving their religion or God or

440

00:19:47,930 --> 00:19:45,840

whatever i'm not your science in that

441

00:19:49,970 --> 00:19:47,940

stanza that's a really good approach i

442

00:19:52,310 --> 00:19:49,980

think because what that does is it first

443

00:19:54,680 --> 00:19:52,320

of all it faces that issue right up

444

00:19:57,440 --> 00:19:54,690

front it's very straightforward it's

445

00:20:01,010 --> 00:19:57,450

very honest and it puts the onus on the

446

00:20:03,890 --> 00:20:01,020

students it makes them think about it

447

00:20:06,230 --> 00:20:03,900

and if they want the same they have to

448

00:20:07,669 --> 00:20:06,240

articulate if you're going second and i

449

00:20:10,190 --> 00:20:07,679

think it's a very positive way to

450

00:20:13,190 --> 00:20:10,200

approach it ironically one of the first

451  
00:20:16,070 --> 00:20:13,200  
times i did this if that pendant five

452  
00:20:17,840 --> 00:20:16,080  
minutes later student reveal themselves

453  
00:20:19,430 --> 00:20:17,850  
the creationists not by saying how the

454  
00:20:20,899 --> 00:20:19,440  
creation us that they think they

455  
00:20:22,850 --> 00:20:20,909  
the reveal themselves like most

456  
00:20:25,999 --> 00:20:22,860  
creations by the way they worded their

457  
00:20:28,369 --> 00:20:26,009  
questions and rustic Alaska it's

458  
00:20:29,990 --> 00:20:28,379  
offensive because they were like they'd

459  
00:20:32,029 --> 00:20:30,000  
be turning this guy saying did you just

460  
00:20:35,389 --> 00:20:32,039  
hear what he said in the big thing and

461  
00:20:39,529 --> 00:20:35,399  
he may have got it but everybody else in

462  
00:20:41,930 --> 00:20:39,539  
the room guys it was a wet for me I'd

463  
00:20:44,990 --> 00:20:41,940

like to contrast to what I do at the

464

00:20:48,169 --> 00:20:45,000

center for a car with what bona fide

465

00:20:50,269 --> 00:20:48,179

educators do in their classrooms so cfi

466

00:20:52,430 --> 00:20:50,279

and its people in an organization inside

467

00:20:55,759 --> 00:20:52,440

cop now it's the committee for skeptical

468

00:20:57,710 --> 00:20:55,769

inquirer inquiry and the council /

469

00:21:00,440 --> 00:20:57,720

secular humanism we are push groups

470

00:21:03,230 --> 00:21:00,450

we're advocacy organizations seeking to

471

00:21:07,580 --> 00:21:03,240

advance in my view or worldview among

472

00:21:09,350 --> 00:21:07,590

various public so we're for lack of a

473

00:21:11,360 --> 00:21:09,360

better term and I'm sure I would never

474

00:21:13,220 --> 00:21:11,370

want to quote it or should ever say

475

00:21:16,249 --> 00:21:13,230

anything like this from a day is but

476

00:21:18,409 --> 00:21:16,259

we're about propagandizing you are

477

00:21:20,960 --> 00:21:18,419

pushing a point of view we want to

478

00:21:22,759 --> 00:21:20,970

engage cultural competitors and when

479

00:21:25,399 --> 00:21:22,769

Kylie asks what's the biggest challenge

480

00:21:28,399 --> 00:21:25,409

critics well guess what it's the

481

00:21:32,330 --> 00:21:28,409

cultural competition so there are well

482

00:21:33,740 --> 00:21:32,340

organized forces that in my opinion are

483

00:21:35,419 --> 00:21:33,750

seeking to undermine the noble

484

00:21:37,249 --> 00:21:35,429

traditional University which is

485

00:21:39,049 --> 00:21:37,259

something we can all get behind its this

486

00:21:41,090 --> 00:21:39,059

critical thinking mission free

487

00:21:43,369 --> 00:21:41,100

unfettered critical inquiry into every

488

00:21:45,499 --> 00:21:43,379

area and are there are groups out there

489

00:21:47,450 --> 00:21:45,509

that say no that's not the goal of the

490

00:21:49,129 --> 00:21:47,460

University you should go to the

491

00:21:51,560 --> 00:21:49,139

University instead you become a better

492

00:21:53,090 --> 00:21:51,570

christian say and I don't want only pick

493

00:21:55,549 --> 00:21:53,100

on Christians because that's maybe one

494

00:21:58,279 --> 00:21:55,559

component the skepticism of religion at

495

00:22:01,490 --> 00:21:58,289

the Center for inquiry does but by way

496

00:22:03,470 --> 00:22:01,500

of example at middle to the sea State

497

00:22:05,390 --> 00:22:03,480

University a couple years ago Center for

498

00:22:08,180 --> 00:22:05,400

inquiry sponsored an event

499

00:22:11,240 --> 00:22:08,190

do hundreds of events every year college

500

00:22:14,270 --> 00:22:11,250

campuses all over often sponsored by

501  
00:22:16,970 --> 00:22:14,280  
college professors who bring us in or

502  
00:22:19,460 --> 00:22:16,980  
campus groups that work with us and this

503  
00:22:23,630 --> 00:22:19,470  
is there wasn't skepticism of UFOs or

504  
00:22:25,730 --> 00:22:23,640  
skepticism of Bigfoot it was about the

505  
00:22:28,130 --> 00:22:25,740  
historicity of Jesus do you think that

506  
00:22:30,020 --> 00:22:28,140  
that's also something one our component

507  
00:22:35,720 --> 00:22:30,030  
organizations look into council /

508  
00:22:40,310 --> 00:22:35,730  
secular humanism and it was a series of

509  
00:22:43,460 --> 00:22:40,320  
events / week this this this event is

510  
00:22:45,860 --> 00:22:43,470  
the program that we put on featuring

511  
00:22:49,190 --> 00:22:45,870  
Garrett Ludeman a body scholar from

512  
00:22:52,520 --> 00:22:49,200  
Germany and it created such a ruckus in

513  
00:22:55,640 --> 00:22:52,530

the local community that the evangelical

514

00:22:57,800 --> 00:22:55,650

christian churches published op-eds and

515

00:23:00,140 --> 00:22:57,810

the off campus papers and stuff actually

516

00:23:01,610 --> 00:23:00,150

listening college professors who worked

517

00:23:03,980 --> 00:23:01,620

with us to bring that event and

518

00:23:06,670 --> 00:23:03,990

encouraging their students not to take

519

00:23:09,440 --> 00:23:06,680

classes from those teachers because they

520

00:23:11,870 --> 00:23:09,450

said if you do it will undermine your

521

00:23:15,680 --> 00:23:11,880

face now we were really gratified that

522

00:23:20,120 --> 00:23:15,690

the Editorial Board of the student

523

00:23:21,290 --> 00:23:20,130

newspaper at MTSU wrote an op at that we

524

00:23:24,140 --> 00:23:21,300

could not have written better ourselves

525

00:23:26,570 --> 00:23:24,150

they say that these kids who wrote the

526

00:23:29,510 --> 00:23:26,580

alphabet said look you should take at

527

00:23:32,600 --> 00:23:29,520

least one course while at school that

528

00:23:35,060 --> 00:23:32,610

challenges your convictions and if you

529

00:23:36,800 --> 00:23:35,070

don't you know if you're not taking a

530

00:23:39,110 --> 00:23:36,810

course that makes you question what you

531

00:23:40,730 --> 00:23:39,120

believe then you're not getting your

532

00:23:43,310 --> 00:23:40,740

money's worth out of university so

533

00:23:46,610 --> 00:23:43,320

that's where we see the university I'm

534

00:23:49,250 --> 00:23:46,620

not as against now I understand why

535

00:23:51,240 --> 00:23:49,260

educators what to avoid the appearance

536

00:23:53,040 --> 00:23:51,250

of having a bias and you hear the

537

00:23:54,500 --> 00:23:53,050

religious right off and say oh you guys

538

00:23:59,820 --> 00:23:54,510

are indoctrinating your indoctrination

539

00:24:02,160 --> 00:23:59,830

but it leads us let's indoctrinate in

540

00:24:04,470 --> 00:24:02,170

questioning not and the answers you know

541

00:24:06,540 --> 00:24:04,480

we want everyone to say all questions

542

00:24:08,790 --> 00:24:06,550

should be on the table nothing should be

543

00:24:12,090 --> 00:24:08,800

off limits and that is an agenda that

544

00:24:14,460 --> 00:24:12,100

from my non educator perspective i think

545

00:24:16,740 --> 00:24:14,470

is something all educators should really

546

00:24:18,360 --> 00:24:16,750

get behind rather than you know i have

547

00:24:21,120 --> 00:24:18,370

met some educator friends who really

548

00:24:22,470 --> 00:24:21,130

pussyfoot around the IDSA oh no i don't

549

00:24:24,990 --> 00:24:22,480

even want to tell you what my beliefs

550

00:24:27,750 --> 00:24:25,000

are i just want to talk about the about

551  
00:24:29,400 --> 00:24:27,760  
the history the idea or whatever i say

552  
00:24:31,680 --> 00:24:29,410  
no come on we're human beings with

553  
00:24:33,180 --> 00:24:31,690  
beliefs and I'm all about sharing it and

554  
00:24:35,340 --> 00:24:33,190  
even trying to advance a point of view

555  
00:24:36,750 --> 00:24:35,350  
well they'll get me wrong video yet in

556  
00:24:39,180 --> 00:24:36,760  
the context of the science classroom

557  
00:24:43,470 --> 00:24:39,190  
item I have absolutely no problem

558  
00:24:44,910 --> 00:24:43,480  
calling [h\_\_h] I don't know that all

559  
00:24:46,870 --> 00:24:44,920  
multiple cables I'm you can use that

560  
00:24:51,910 --> 00:24:46,880  
exact work usually do it later

561  
00:24:55,480 --> 00:24:51,920  
here but yeah other perfect examples is

562  
00:24:57,760 --> 00:24:55,490  
I have a lesson I do on a cell phone

563  
00:24:59,260 --> 00:24:57,770

this area that's going to give us great

564

00:25:03,100 --> 00:24:59,270

answer

565

00:25:08,290 --> 00:25:03,110

you know and it's a perfect physics and

566

00:25:09,970 --> 00:25:08,300

I have great time doing it and I do it

567

00:25:14,470 --> 00:25:09,980

in a humorous way I actually use a clip

568

00:25:16,780 --> 00:25:14,480

or two from sailors show and by the end

569

00:25:18,790 --> 00:25:16,790

the kids are like Hong wow that's that's

570

00:25:20,890 --> 00:25:18,800

pretty cool but you know the greatest

571

00:25:22,660 --> 00:25:20,900

irony one time one of my students walked

572

00:25:26,740 --> 00:25:22,670

up me just last year after did this

573

00:25:29,110 --> 00:25:26,750

instead so you don't mr. Lowry this is

574

00:25:31,210 --> 00:25:29,120

really awesome but I have a friend that

575

00:25:33,700 --> 00:25:31,220

really needs to hear this because she

576

00:25:35,500 --> 00:25:33,710

thinks that cell phones are going to

577

00:25:37,690 --> 00:25:35,510

give you cancer so she want me to cell

578

00:25:42,550 --> 00:25:37,700

phone but she goes to the tanning bed

579

00:25:44,560 --> 00:25:42,560

three days a week yeah actually as you

580

00:25:45,520 --> 00:25:44,570

were talking to EJ about telling

581

00:25:48,490 --> 00:25:45,530

students that they need to challenge

582

00:25:51,100 --> 00:25:48,500

their their ideas and it occurred to me

583

00:25:55,000 --> 00:25:51,110

that I can play in a family assistance

584

00:25:56,560 --> 00:25:55,010

there I understand anything I kind of

585

00:25:58,360 --> 00:25:56,570

understand where they're going not

586

00:26:02,740 --> 00:25:58,370

really getting into their brains why

587

00:26:05,230 --> 00:26:02,750

because frankly I beyond that it's the

588

00:26:08,260 --> 00:26:05,240

falsification approach when you

589

00:26:11,260 --> 00:26:08,270

challenge your own ideas you are

590

00:26:14,200 --> 00:26:11,270

attempting to falsify them and to two

591

00:26:16,330 --> 00:26:14,210

people who do that every day it's very

592

00:26:18,760 --> 00:26:16,340

very difficult for me to understand why

593

00:26:22,540 --> 00:26:18,770

it in the case of the faith for example

594

00:26:26,590 --> 00:26:22,550

my challenging your faith is is so scary

595

00:26:30,700 --> 00:26:26,600

because it should make it stronger if

596

00:26:32,240 --> 00:26:30,710

it's the right thing right but that is a

597

00:26:35,660 --> 00:26:32,250

scary idea

598

00:26:39,050 --> 00:26:35,670

it is our way of doing things so when

599

00:26:40,850 --> 00:26:39,060

we're not just asking them to accept

600

00:26:42,320 --> 00:26:40,860

critical thinking and accepting of the

601  
00:26:43,700 --> 00:26:42,330  
scientific approach we're actually

602  
00:26:46,160 --> 00:26:43,710  
telling them how to do it in a

603  
00:26:49,070 --> 00:26:46,170  
scientific way I am not sure what the

604  
00:26:50,750 --> 00:26:49,080  
interesting possibly the challenge just

605  
00:26:52,970 --> 00:26:50,760  
to touch on to rub it on to the last

606  
00:26:55,130 --> 00:26:52,980  
point the challenge I think I'm 15

607  
00:26:58,460 --> 00:26:55,140  
minute deal is am I doing this right am

608  
00:27:02,150 --> 00:26:58,470  
I getting in touch with people out there

609  
00:27:03,620 --> 00:27:02,160  
am i doing the right thing by scientists

610  
00:27:09,140 --> 00:27:03,630  
because I'm not a scientist up in

611  
00:27:11,330 --> 00:27:09,150  
education I you're excited I have no no

612  
00:27:20,630 --> 00:27:11,340  
I graduated as an English teacher

613  
00:27:23,810 --> 00:27:20,640

english teacher yourself and me nobody

614

00:27:26,450 --> 00:27:23,820

else's wedding yeah I majored in English

615

00:27:28,580 --> 00:27:26,460

literature and philosophy I ended up

616

00:27:30,560 --> 00:27:28,590

with a master's degree in gifted and

617

00:27:32,900 --> 00:27:30,570

talented education because I was

618

00:27:34,700 --> 00:27:32,910

interested in it and a lot of psychology

619

00:27:36,680 --> 00:27:34,710

ended up in that and I could see how

620

00:27:38,330 --> 00:27:36,690

many of the challenges that face

621

00:27:43,370 --> 00:27:38,340

students from both ends of the spectrum

622

00:27:45,050 --> 00:27:43,380

and and that eventually led me to study

623

00:27:46,940 --> 00:27:45,060

for my second master's degree when

624

00:27:49,250 --> 00:27:46,950

someone who was a specialist of critical

625

00:27:51,800 --> 00:27:49,260

thinking education she eventually left

626  
00:27:54,470 --> 00:27:51,810  
the department and exiles link without a

627  
00:27:56,360 --> 00:27:54,480  
supervisor and that ended up leading

628  
00:27:58,250 --> 00:27:56,370  
towards being more an educational

629  
00:28:01,010 --> 00:27:58,260  
measurement and so that's another thing

630  
00:28:03,440 --> 00:28:01,020  
i guess that's worries me resources

631  
00:28:06,050 --> 00:28:03,450  
making sure that I'm touching base with

632  
00:28:06,899 --> 00:28:06,060  
people that are not setting a poor

633  
00:28:10,169 --> 00:28:06,909  
example

634  
00:28:11,639 --> 00:28:10,179  
all about that I'm able to network when

635  
00:28:13,379 --> 00:28:11,649  
teachers my other departments I was

636  
00:28:15,029 --> 00:28:13,389  
continually running down to the science

637  
00:28:17,129 --> 00:28:15,039  
department whenever I did to do services

638  
00:28:19,440 --> 00:28:17,139

and projects I told everyone and

639

00:28:21,719 --> 00:28:19,450

everything that I was doing including

640

00:28:24,180 --> 00:28:21,729

the dent in your principal when you had

641

00:28:25,619 --> 00:28:24,190

very strong Christian beliefs and she

642

00:28:28,139 --> 00:28:25,629

was the first one being whipped around

643

00:28:29,999 --> 00:28:28,149

and said oh you could do that one we get

644

00:28:31,440 --> 00:28:30,009

an expensive handbook should put it on

645

00:28:32,969 --> 00:28:31,450

one hand and not the other they go

646

00:28:36,149 --> 00:28:32,979

around the playground see if anyone

647

00:28:38,909 --> 00:28:36,159

recognizes that this is most \$200 what

648

00:28:40,649 --> 00:28:38,919

all of um yeah and this is nothing and

649

00:28:42,749 --> 00:28:40,659

yet there's no difference and that was

650

00:28:45,269 --> 00:28:42,759

incredibly hardening and yet I still met

651  
00:28:47,489 --> 00:28:45,279  
opposition many places in many different

652  
00:28:50,820 --> 00:28:47,499  
fronts as well I guess it's a matter of

653  
00:28:52,379 --> 00:28:50,830  
hoping that hey it's going to work I'm

654  
00:28:55,200 --> 00:28:52,389  
not going to step on anyone's toes so

655  
00:28:57,539 --> 00:28:55,210  
bad that I damage any possible benefit

656  
00:28:59,580 --> 00:28:57,549  
that I might bring that it actually it

657  
00:29:02,190 --> 00:28:59,590  
like Martin's course that he says has

658  
00:29:05,219 --> 00:29:02,200  
been looked over and conservative and

659  
00:29:07,320 --> 00:29:05,229  
regarded as extremely education what am

660  
00:29:10,499 --> 00:29:07,330  
i what i'm doing is actually going to

661  
00:29:12,019 --> 00:29:10,509  
work or contributing someone you don't

662  
00:29:14,390 --> 00:29:12,029  
really hear your story about your

663  
00:29:20,280 --> 00:29:14,400

partner terrible but

664

00:29:22,380 --> 00:29:20,290

ja ja da thought they were going up one

665

00:29:23,970 --> 00:29:22,390

of the neat things about the whole broad

666

00:29:26,240 --> 00:29:23,980

idea of critical thinking is there's so

667

00:29:28,260 --> 00:29:26,250

many things that fall under this that

668

00:29:33,409 --> 00:29:28,270

whether you're dealing with somebody who

669

00:29:36,620 --> 00:29:33,419

is say a park or fun most Christian or a

670

00:29:39,710 --> 00:29:36,630

staunch atheist are somewhere in between

671

00:29:44,890 --> 00:29:39,720

meditation or whatever of you can

672

00:29:51,670 --> 00:29:44,900

usually find something that you can

673

00:29:55,490 --> 00:29:51,680

relate to them okay for example I have

674

00:29:59,350 --> 00:29:55,500

in Los who are productive editor for

675

00:30:03,820 --> 00:29:59,360

basically creationists however I can get

676

00:30:08,960 --> 00:30:03,830

get them to think critically about

677

00:30:12,650 --> 00:30:08,970

psychic links about UFOs and over the

678

00:30:14,090 --> 00:30:12,660

years I've seen how that that kind of

679

00:30:16,900 --> 00:30:14,100

insistence I'm thinking critically about

680

00:30:19,850 --> 00:30:16,910

one set of claims can sort of cream over

681

00:30:21,380 --> 00:30:19,860

into claims that maybe they hold a

682

00:30:22,730 --> 00:30:21,390

little more narrow you're not saying

683

00:30:26,240 --> 00:30:22,740

they're going to turn into Jane Brandi

684

00:30:27,590 --> 00:30:26,250

overnight but you know it's progress you

685

00:30:29,810 --> 00:30:27,600

can actually see it happen but it's

686

00:30:31,190 --> 00:30:29,820

usually a very usually a very long and

687

00:30:33,560 --> 00:30:31,200

involved effort what you would think

688

00:30:35,360 --> 00:30:33,570

like that but just to kind of throw that

689

00:30:37,730 --> 00:30:35,370

out there there's usually something that

690

00:30:40,970 --> 00:30:37,740

you can then you can find you can relate

691

00:30:43,820 --> 00:30:40,980

to specific people about in order to get

692

00:30:46,430 --> 00:30:43,830

anything critical a broader sense just

693

00:30:48,650 --> 00:30:46,440

wanted to toss out there okay I've got

694

00:30:50,570 --> 00:30:48,660

one more question before we people like

695

00:30:53,580 --> 00:30:50,580

to ask questions themselves from the

696

00:30:57,120 --> 00:30:53,590

audience you stay home

697

00:30:59,610 --> 00:30:57,130

yes there are the lips few students and

698

00:31:02,549 --> 00:30:59,620

certainly for me especially since it

699

00:31:04,409 --> 00:31:02,559

started teaching statistics there's a

700

00:31:05,940 --> 00:31:04,419

huge course when I possible would really

701  
00:31:08,640 --> 00:31:05,950  
like to burn me at the end of the

702  
00:31:10,350 --> 00:31:08,650  
semester effective and they launched

703  
00:31:13,350 --> 00:31:10,360  
campaigns on you know screw my

704  
00:31:16,019 --> 00:31:13,360  
professors calm so worth but there are

705  
00:31:18,750 --> 00:31:16,029  
those students that you know put you up

706  
00:31:20,970 --> 00:31:18,760  
on a pedestal not because we deserve it

707  
00:31:23,010 --> 00:31:20,980  
necessarily but because we were the

708  
00:31:26,010 --> 00:31:23,020  
first ones to show them that there's

709  
00:31:28,230 --> 00:31:26,020  
another way to think or that there are

710  
00:31:30,930 --> 00:31:28,240  
people out in the world if we can the

711  
00:31:33,120 --> 00:31:30,940  
same way that they do and that that's a

712  
00:31:34,919 --> 00:31:33,130  
big one some of these students already

713  
00:31:36,480 --> 00:31:34,929

have critical thinking skills they just

714

00:31:38,519 --> 00:31:36,490

had don't know how to apply them because

715

00:31:41,310 --> 00:31:38,529

they've never been faced with others

716

00:31:43,830 --> 00:31:41,320

that think that way obvious is

717

00:31:46,049 --> 00:31:43,840

definitely hope the impact of this

718

00:31:47,669 --> 00:31:46,059

course I wasn't aware when I began this

719

00:31:50,100 --> 00:31:47,679

court who's going to have the kind of

720

00:31:53,580 --> 00:31:50,110

impact that he has and I call the impact

721

00:31:55,440 --> 00:31:53,590

skeptical job and the first example I

722

00:31:56,940 --> 00:31:55,450

sort of it was about six weeks into the

723

00:31:58,919 --> 00:31:56,950

first two different because I was so

724

00:32:00,450 --> 00:31:58,929

concerned keeping the course going but I

725

00:32:02,490 --> 00:32:00,460

didn't really notice the impact it was

726

00:32:04,350 --> 00:32:02,500

having on the students and there was a

727

00:32:05,970 --> 00:32:04,360

student in that first class who was

728

00:32:09,510 --> 00:32:05,980

about my age she was a mature student

729

00:32:12,269 --> 00:32:09,520

and he gave his seminar about six weeks

730

00:32:14,700 --> 00:32:12,279

into the course and his seminar was on

731

00:32:16,620 --> 00:32:14,710

the Roswell crash salsa controversy and

732

00:32:18,389 --> 00:32:16,630

he analyzed what evidence there was who

733

00:32:20,730 --> 00:32:18,399

came to the conclusion that there wasn't

734

00:32:22,919 --> 00:32:20,740

sufficient evidence to conclude that in

735

00:32:25,320 --> 00:32:22,929

fact there had been a crashed UFO at

736

00:32:27,539 --> 00:32:25,330

Roswell ok fine very good pavement

737

00:32:29,460 --> 00:32:27,549

you've got a very good mark top rain and

738

00:32:31,440 --> 00:32:29,470

then after it's just we were sitting at

739

00:32:33,180 --> 00:32:31,450

the end of the seminar just chat

740

00:32:35,190 --> 00:32:33,190

I said you don't realize what this

741

00:32:38,430 --> 00:32:35,200

course is doing to me I'm having to

742

00:32:39,720 --> 00:32:38,440

rethink 40 years of belief i get this

743

00:32:42,509 --> 00:32:39,730

again and again in one of the evaluation

744

00:32:44,399 --> 00:32:42,519

forms last year a student wrote in big

745

00:32:48,840 --> 00:32:44,409

letters completely honest like Martin

746

00:32:51,419 --> 00:32:48,850

you destroyed my fantasy world and to do

747

00:32:53,009 --> 00:32:51,429

this but a lot of the students they once

748

00:32:54,750 --> 00:32:53,019

they get the idea of these schedule

749

00:32:56,519 --> 00:32:54,760

principles and how they work they do

750

00:32:58,200 --> 00:32:56,529

find themselves looking at the world in

751  
00:33:00,210 --> 00:32:58,210  
a different way and they recognize the

752  
00:33:01,620 --> 00:33:00,220  
sheer intellectual power of the

753  
00:33:03,930 --> 00:33:01,630  
skeptical approach they really do

754  
00:33:07,220 --> 00:33:03,940  
appreciate it not all of them but every

755  
00:33:11,310 --> 00:33:07,230  
year it does happen you bet this help

756  
00:33:13,560 --> 00:33:11,320  
yeah I completely agree there there is

757  
00:33:17,970 --> 00:33:13,570  
boy folks there is pocket loads of hope

758  
00:33:19,620 --> 00:33:17,980  
out there and I say that for multiple

759  
00:33:21,360 --> 00:33:19,630  
reasons one in my own my own personal

760  
00:33:23,610 --> 00:33:21,370  
experience oh there there was a time

761  
00:33:25,649 --> 00:33:23,620  
many years ago when I both as an

762  
00:33:28,139 --> 00:33:25,659  
educator and the scientist one I was

763  
00:33:31,710 --> 00:33:28,149

beginning to get very very cynical about

764

00:33:34,019 --> 00:33:31,720

things um and then I realized that there

765

00:33:35,490 --> 00:33:34,029

was this burgeoning sort of a weakening

766

00:33:38,730 --> 00:33:35,500

of skepticism in critical thinking

767

00:33:41,730 --> 00:33:38,740

movement i got with days would and i

768

00:33:44,610 --> 00:33:41,740

started to take what I could and apply

769

00:33:48,360 --> 00:33:44,620

these lessons in my classroom

770

00:33:52,070 --> 00:33:48,370

and to see how some of the students with

771

00:33:55,950 --> 00:33:52,080

reactors was very history of wheezing

772

00:33:57,990 --> 00:33:55,960

and to see how their parents and my

773

00:34:01,110 --> 00:33:58,000

colleagues reacted to this sort of thing

774

00:34:04,740 --> 00:34:01,120

too was also extremely fulfilling the

775

00:34:07,550 --> 00:34:04,750

scope promise but there's another reason

776

00:34:12,510 --> 00:34:07,560

why there's there's a cost of a pulse

777

00:34:16,080 --> 00:34:12,520

look around right now okay um we're a

778

00:34:20,970 --> 00:34:16,090

dragon card we're at me we're school

779

00:34:23,820 --> 00:34:20,980

level we're adding science fiction and

780

00:34:25,530 --> 00:34:23,830

fantasy convention probably one of the

781

00:34:29,580 --> 00:34:25,540

biggest ones in the United States every

782

00:34:32,280 --> 00:34:29,590

year right and the skepticism and the

783

00:34:35,129 --> 00:34:32,290

real science and the real space tracks

784

00:34:36,629 --> 00:34:35,139

over there are wildly popular we're

785

00:34:38,340 --> 00:34:36,639

drawing people in like drinks I think

786

00:34:39,930 --> 00:34:38,350

the only reason I looked or look how

787

00:34:43,110 --> 00:34:39,940

many people who are there in here this

788

00:34:46,590 --> 00:34:43,120

10 a.m. monday morning last day of akkad

789

00:34:50,870 --> 00:34:46,600

everybody's hung over right and you're

790

00:34:54,210 --> 00:34:50,880

here you bet the trees know

791

00:34:56,130 --> 00:34:54,220

kind of Li the question you asked me is

792

00:34:58,650 --> 00:34:56,140

really about the future of skepticism

793

00:35:00,360 --> 00:34:58,660

you look at not only these indications

794

00:35:03,420 --> 00:35:00,370

that there's a bright future but

795

00:35:05,040 --> 00:35:03,430

technology is opening doors I'm very

796

00:35:07,410 --> 00:35:05,050

excited about what Martin sorry about

797

00:35:11,430 --> 00:35:07,420

the corrected the syllabus that you have

798

00:35:14,700 --> 00:35:11,440

at campus enquire org we have a

799

00:35:17,370 --> 00:35:14,710

collection of about eighty high school

800

00:35:20,630 --> 00:35:17,380

and college students syllabi that are

801  
00:35:24,120 --> 00:35:20,640  
teaching critical thinking and

802  
00:35:25,890 --> 00:35:24,130  
skepticism and if yours isn't up there

803  
00:35:27,450 --> 00:35:25,900  
we'd love to feature it because if that

804  
00:35:29,580 --> 00:35:27,460  
kind of thing then we get what we want

805  
00:35:31,530 --> 00:35:29,590  
more professors doing this sort of stuff

806  
00:35:34,230 --> 00:35:31,540  
lastly you know I just mentioned

807  
00:35:36,810 --> 00:35:34,240  
technology the Kudo emails we get the

808  
00:35:39,780 --> 00:35:36,820  
group of people we get most of them from

809  
00:35:41,910 --> 00:35:39,790  
our college students who didn't know

810  
00:35:43,680 --> 00:35:41,920  
such a movement existed they don't

811  
00:35:48,600 --> 00:35:43,690  
subscribe to magazines they don't go to

812  
00:35:50,610 --> 00:35:48,610  
conventions they say oh wow I felt like

813  
00:35:53,490 --> 00:35:50,620

I was the lone critical thinker but you

814

00:35:55,710 --> 00:35:53,500

know in this big sea of the credulous

815

00:35:57,840 --> 00:35:55,720

and frankly a lot of time it has to do

816

00:36:00,510 --> 00:35:57,850

with free thinking versus kind of

817

00:36:03,240 --> 00:36:00,520

religious extremism but CF eyes agendas

818

00:36:05,190 --> 00:36:03,250

broader than that so we're reaching out

819

00:36:08,040 --> 00:36:05,200

like you never have before I think

820

00:36:10,670 --> 00:36:08,050

there's a brighter future then there has

821

00:36:12,660 --> 00:36:10,680

been a glorious past in the in the

822

00:36:14,790 --> 00:36:12,670

organized skeptical movement and there

823

00:36:18,810 --> 00:36:14,800

have been some good old days you know 20

824

00:36:21,240 --> 00:36:18,820

years ago so I'm only optimistic just a

825

00:36:22,710 --> 00:36:21,250

final point about technology all of us

826

00:36:25,620 --> 00:36:22,720

have embraced technology to an

827

00:36:27,800 --> 00:36:25,630

aspherical council skeptics own podcast

828

00:36:30,140 --> 00:36:27,810

and point of inquiry

829

00:36:31,940 --> 00:36:30,150

the critical teaching young all site

830

00:36:36,740 --> 00:36:31,950

where you can access the blocks of

831

00:36:38,540 --> 00:36:36,750

myself Barbara and Matt and Martin is a

832

00:36:41,030 --> 00:36:38,550

group of the University and you can

833

00:36:42,680 --> 00:36:41,040

certainly find leads to his course we

834

00:36:50,240 --> 00:36:42,690

all available to talk to anyone and

835

00:36:52,340 --> 00:36:50,250

that's what we're going to learn more

836

00:36:54,380 --> 00:36:52,350

you can head to Griffith University for

837

00:36:56,390 --> 00:36:54,390

dr. bridge stocks course which will soon

838

00:36:58,420 --> 00:36:56,400

be available as an external study unit

839

00:37:01,040 --> 00:36:58,430

his book is called beyond belief

840

00:37:02,600 --> 00:37:01,050

scepticism science and the paranormal

841

00:37:04,670 --> 00:37:02,610

members of the critical thinking

842

00:37:06,980 --> 00:37:04,680

education group can be found at critical

843

00:37:09,680 --> 00:37:06,990

teaching or with barber Drescher and

844

00:37:12,790 --> 00:37:09,690

Matt Larry's blogs called icbs

845

00:37:16,580 --> 00:37:12,800

everywhere calm and skeptical teacher

846

00:37:19,850 --> 00:37:16,590

wordpress com DJ Grothe is at DJ Grothe

847

00:37:32,770 --> 00:37:19,860

calm and at the jrf official site my

848

00:37:39,380 --> 00:37:36,410

crikey this is Richard Saunders from

849

00:37:44,120 --> 00:37:39,390

down under former telly celebrity

850

00:37:47,120 --> 00:37:44,130

current podcaster and future bushranger

851  
00:37:50,930 --> 00:37:47,130  
I'm coming all the way across the pond

852  
00:37:54,890 --> 00:37:50,940  
to visit you Yanks in California to tell

853  
00:37:57,940 --> 00:37:54,900  
you all about my favorite podcast skep

854  
00:38:01,910 --> 00:37:57,950  
tide I'm also going to introduce you to

855  
00:38:05,090 --> 00:38:01,920  
fosters beer I'll Yammer on about all

856  
00:38:08,330 --> 00:38:05,100  
sorts of things and we might even have a

857  
00:38:12,590 --> 00:38:08,340  
yarn so I hope you all log in with your

858  
00:38:16,760 --> 00:38:12,600  
ears flapping skeptics in the pub hosted

859  
00:38:22,820 --> 00:38:16,770  
by skeptics in the OC Saturday second a

860  
00:38:26,420 --> 00:38:22,830  
January 2010 at 19 o'clock at 7pm for

861  
00:38:30,260 --> 00:38:26,430  
you Yabo's at Muldoon's irish pub in

862  
00:38:40,180 --> 00:38:30,270  
Newport Beach California join me for a

863  
00:38:45,289 --> 00:38:43,490

and now we jump in our skeptic zone time

864

00:38:47,809 --> 00:38:45,299

machine back to nineteen eighty-eight to

865

00:38:50,140 --> 00:38:47,819

hear dr. David wheeler talking about

866

00:38:52,940 --> 00:38:50,150

crystal power and pyramids and

867

00:38:56,260 --> 00:38:52,950

immediately after that we have Professor

868

00:39:01,579 --> 00:38:56,270

Ian climber geologist and magnet Palmer

869

00:39:04,280 --> 00:39:01,589

crystal believer whatever talking about

870

00:39:12,390 --> 00:39:04,290

the power of crystals I think you'll

871

00:39:19,829 --> 00:39:17,609

a third speaker for this session is dr.

872

00:39:24,539 --> 00:39:19,839

David Wheeler a physicist lecturer at the

873

00:39:27,120 --> 00:39:24,549

sum George College of TAFE who will talk

874

00:39:38,549 --> 00:39:27,130

on crystals and pyramid power thank very

875

00:39:40,740 --> 00:39:38,559

much to begin with I should really point

876

00:39:42,720 --> 00:39:40,750

out the three areas of God are really

877

00:39:46,049 --> 00:39:42,730

crystals crystal healing and pyramid

878

00:39:48,059 --> 00:39:46,059

power and they do share a common feature

879

00:39:51,480 --> 00:39:48,069

in the common feature is that they all

880

00:39:53,609 --> 00:39:51,490

claim to use energy and to redirect it

881

00:39:56,250 --> 00:39:53,619

which is why as a physicist I'm

882

00:39:59,370 --> 00:39:56,260

interested in it physicists have a basic

883

00:40:02,039 --> 00:39:59,380

belief the basic belief from evidence is

884

00:40:05,730 --> 00:40:02,049

that the total energy in the universe is

885

00:40:07,260 --> 00:40:05,740

a constant now what sort of thing do we

886

00:40:09,750 --> 00:40:07,270

mean by this energy and this is really

887

00:40:11,400 --> 00:40:09,760

where part of the problem occurs we've

888

00:40:13,740 --> 00:40:11,410

got a really simple definition but it

889

00:40:15,779 --> 00:40:13,750

sounds technical it says anything that

890

00:40:17,069 --> 00:40:15,789

can do work where works to find is Force

891

00:40:19,079 --> 00:40:17,079

Times distance and that sort of

892

00:40:21,630 --> 00:40:19,089

mathematical what it means in real terms

893

00:40:23,309 --> 00:40:21,640

and things like chemical energy which

894

00:40:26,010 --> 00:40:23,319

are all familiar with is cornflakes and

895

00:40:29,910 --> 00:40:26,020

batteries and things like that visible

896

00:40:32,010 --> 00:40:29,920

energy such as light sound he motions

897

00:40:34,289 --> 00:40:32,020

such as anything moving we'll have some

898

00:40:36,660 --> 00:40:34,299

energy eg try cackling no allele and

899

00:40:39,150 --> 00:40:36,670

you'll see what I mean potential energy

900

00:40:41,789 --> 00:40:39,160

such as gravitational or elastic energy

901  
00:40:44,880 --> 00:40:41,799  
and the one that is fairly recent which

902  
00:40:47,839 --> 00:40:44,890  
is nuclear energy but we've never really

903  
00:40:51,210 --> 00:40:47,849  
come across pyramid or crystal energy

904  
00:40:52,980 --> 00:40:51,220  
ever that doesn't mean it doesn't exist

905  
00:40:55,500 --> 00:40:52,990  
and I think it's important to realize

906  
00:40:57,900 --> 00:40:55,510  
that that it could exist I mean

907  
00:41:00,569 --> 00:40:57,910  
relativity for example didn't exist pre

908  
00:41:02,400 --> 00:41:00,579  
1900 and then suddenly it does and we

909  
00:41:04,529 --> 00:41:02,410  
now have the extra energy the nuclear

910  
00:41:06,660 --> 00:41:04,539  
energy but the big thing is and this is

911  
00:41:08,900 --> 00:41:06,670  
what makes the difference extraordinary

912  
00:41:11,069 --> 00:41:08,910  
claims need extraordinary evidence

913  
00:41:13,680 --> 00:41:11,079

relativity was an extraordinary claim

914

00:41:16,650 --> 00:41:13,690

and it was achieved with some

915

00:41:17,970 --> 00:41:16,660

extraordinary evidence so really what

916

00:41:20,760 --> 00:41:17,980

we've got to do now is go a bit further

917

00:41:22,769 --> 00:41:20,770

and look at the crystal system and see

918

00:41:24,140 --> 00:41:22,779

whether there's anything there that is

919

00:41:26,480 --> 00:41:24,150

good evidence

920

00:41:28,819 --> 00:41:26,490

and possibly even worth making into

921

00:41:30,740 --> 00:41:28,829

extraordinary evidence I'm going to

922

00:41:33,230 --> 00:41:30,750

refer to a book this is the photo copy

923

00:41:35,870 --> 00:41:33,240

of the book it's a book called natural

924

00:41:38,510 --> 00:41:35,880

quartz healing crystals and it was sent

925

00:41:40,039 --> 00:41:38,520

to skeptics by Simon sanburne who's

926  
00:41:43,099 --> 00:41:40,049  
apparently from Melbourne I haven't met

927  
00:41:46,539 --> 00:41:43,109  
simon but it's a top book it is a book

928  
00:41:50,240 --> 00:41:46,549  
that the people who put out the crystals

929  
00:41:52,670 --> 00:41:50,250  
think describes what crystals do for

930  
00:41:54,370 --> 00:41:52,680  
example at the beginning of it right on

931  
00:41:58,299 --> 00:41:54,380  
the first page it says this little line

932  
00:42:02,960 --> 00:41:58,309  
quartz amplifies transforms stores

933  
00:42:06,230 --> 00:42:02,970  
focuses and transfers energy okay let's

934  
00:42:08,630 --> 00:42:06,240  
have a look at that quartz crystals are

935  
00:42:11,269 --> 00:42:08,640  
just silicon dioxide there nothing

936  
00:42:16,549 --> 00:42:11,279  
particularly stunning do they amplify

937  
00:42:20,329 --> 00:42:16,559  
know do they transform energy no do they

938  
00:42:22,099 --> 00:42:20,339

store energy saw it off if you get any

939

00:42:24,410 --> 00:42:22,109

material it does transform energy

940

00:42:27,620 --> 00:42:24,420

whether you can use it that depends do

941

00:42:29,019 --> 00:42:27,630

they focus energy no and do they heal no

942

00:42:30,920 --> 00:42:29,029

and when I say no I'm saying that's what

943

00:42:32,870 --> 00:42:30,930

traditional science says if the

944

00:42:35,329 --> 00:42:32,880

conventional science is doesn't mean

945

00:42:37,609 --> 00:42:35,339

that they don't but it means that if

946

00:42:39,950 --> 00:42:37,619

they do the evidence so far has been so

947

00:42:42,079 --> 00:42:39,960

slight and so minimal that nobody's

948

00:42:43,370 --> 00:42:42,089

actually seen it so let's begin with the

949

00:42:44,420 --> 00:42:43,380

first you're only going to really deal

950

00:42:46,900 --> 00:42:44,430

with the first two because they're the

951  
00:42:49,670 --> 00:42:46,910  
ones the new ages get excited about

952  
00:42:52,490 --> 00:42:49,680  
amplification for instance do these

953  
00:42:54,230 --> 00:42:52,500  
things amplify the short answer is no

954  
00:42:56,630 --> 00:42:54,240  
and the confusion here is with crystal

955  
00:42:58,730 --> 00:42:56,640  
sets and transistors in fact even in

956  
00:43:02,900 --> 00:42:58,740  
this book they begin by pointing out

957  
00:43:05,210 --> 00:43:02,910  
that silicon in a transistor amplifies

958  
00:43:07,400 --> 00:43:05,220  
is a slight problem here silicon is not

959  
00:43:10,910 --> 00:43:07,410  
silicon dioxide but more about that

960  
00:43:13,279 --> 00:43:10,920  
mesec the difference between the two

961  
00:43:15,380 --> 00:43:13,289  
things between the silicon dioxide and

962  
00:43:18,829 --> 00:43:15,390  
the silicon is the nature of the

963  
00:43:20,630 --> 00:43:18,839

material silicon dioxide is this this is

964

00:43:22,099 --> 00:43:20,640

the poor quality chunk of quartz that

965

00:43:24,319 --> 00:43:22,109

you can have a look at later it's not

966

00:43:27,810 --> 00:43:24,329

crystal clear it's still a crystal and

967

00:43:31,470 --> 00:43:27,820

that's the way it often occurs

968

00:43:33,240 --> 00:43:31,480

on the other hand silicon is a material

969

00:43:36,930 --> 00:43:33,250

it's an element it looks very much like

970

00:43:38,340 --> 00:43:36,940

I guess the lead in HB pencils it's a

971

00:43:40,110 --> 00:43:38,350

similar sort of stuff to that it's

972

00:43:43,680 --> 00:43:40,120

closely related to carb and rather than

973

00:43:45,030 --> 00:43:43,690

related to silicon dioxide but it's the

974

00:43:47,760 --> 00:43:45,040

sort of thing that we make our

975

00:43:49,680 --> 00:43:47,770

transistors out of so the first point is

976  
00:43:51,210 --> 00:43:49,690  
that transistors are not made out of out

977  
00:43:53,520 --> 00:43:51,220  
of silicon dioxide they're not made out

978  
00:43:55,200 --> 00:43:53,530  
of quartz the second point is at crystal

979  
00:43:57,660 --> 00:43:55,210  
sets which is one of the big confusions

980  
00:43:58,920 --> 00:43:57,670  
do absorb energy there's no question

981  
00:44:01,470 --> 00:43:58,930  
about that anyone who's played with a

982  
00:44:03,300 --> 00:44:01,480  
crystal set knows that but it's not the

983  
00:44:05,340 --> 00:44:03,310  
crystal that absorbs the energy it's the

984  
00:44:08,370 --> 00:44:05,350  
aerial and this is a point that the new

985  
00:44:10,470 --> 00:44:08,380  
ages seemed of mist crystal sets have

986  
00:44:12,000 --> 00:44:10,480  
aerials which are in general very very

987  
00:44:13,680 --> 00:44:12,010  
long so that a lot of energy can be

988  
00:44:16,470 --> 00:44:13,690

absorbed sort of like glass vibrating

989

00:44:19,320 --> 00:44:16,480

when you make a loud sound you can make

990

00:44:21,090 --> 00:44:19,330

glass vibrate and that's an effect known

991

00:44:23,010 --> 00:44:21,100

as resonance it's a well-known effect

992

00:44:25,560 --> 00:44:23,020

that's how we do now radios it's how we

993

00:44:26,820 --> 00:44:25,570

can distinguish to sm from two WS even

994

00:44:29,400 --> 00:44:26,830

though they're very close together in

995

00:44:31,890 --> 00:44:29,410

frequency and all the crystal does is

996

00:44:34,920 --> 00:44:31,900

rectify it sort of like a crude diode or

997

00:44:39,420 --> 00:44:34,930

a one-way valve the crystal doesn't

998

00:44:41,760 --> 00:44:39,430

absorb on its own it just simply acts as

999

00:44:43,170 --> 00:44:41,770

is one way valve the energy in the

1000

00:44:46,080 --> 00:44:43,180

crystal set comes from the radio station

1001

00:44:49,100 --> 00:44:46,090

and the stuff that's actually used is in

1002

00:44:52,140 --> 00:44:49,110

the crystal set as a stuff called Galena

1003

00:44:54,150 --> 00:44:52,150

that's this one which is much less

1004

00:44:56,940 --> 00:44:54,160

impressive it's black and it's got

1005

00:44:59,580 --> 00:44:56,950

little bits all over it the little

1006

00:45:01,800 --> 00:44:59,590

crystals all over it simply used because

1007

00:45:03,570 --> 00:45:01,810

when you put a fine point up against

1008

00:45:05,790 --> 00:45:03,580

them you can find some areas which

1009

00:45:07,380 --> 00:45:05,800

behave as semiconductors you've got a

1010

00:45:08,940 --> 00:45:07,390

member when crystal sets come out we

1011

00:45:10,710 --> 00:45:08,950

didn't have semiconductors and

1012

00:45:12,660 --> 00:45:10,720

transistor radios like we've got now

1013

00:45:15,090 --> 00:45:12,670

largely because we didn't know about the

1014

00:45:16,890 --> 00:45:15,100

effects radio waves with energy from the

1015

00:45:18,540 --> 00:45:16,900

station oscillate because that's what

1016

00:45:20,640 --> 00:45:18,550

they're all about hit the aerial and

1017

00:45:24,180 --> 00:45:20,650

cause the oscillations in the aerial and

1018

00:45:25,230 --> 00:45:24,190

these in turn can give you the sound or

1019

00:45:27,900 --> 00:45:25,240

whatever you're going to get out of it

1020

00:45:29,520 --> 00:45:27,910

the absorbed energy is then transferred

1021

00:45:31,590 --> 00:45:29,530

to the speakers that's the headphone

1022

00:45:34,050 --> 00:45:31,600

after passing through the crystal which

1023

00:45:35,850 --> 00:45:34,060

acts as a filter the crystal doesn't add

1024

00:45:38,280 --> 00:45:35,860

energy that's the key it doesn't add

1025

00:45:39,840 --> 00:45:38,290

energy it just converts the signal by

1026

00:45:41,670 --> 00:45:39,850

cutting off the ASEAN and

1027

00:45:44,460 --> 00:45:41,680

changing it to DC so your audio can be

1028

00:45:45,840 --> 00:45:44,470

removed and it's really not the crystal

1029

00:45:48,270 --> 00:45:45,850

itself that does it it's a crystal

1030

00:45:50,100 --> 00:45:48,280

junction it's the boundary between where

1031

00:45:51,540 --> 00:45:50,110

the crystal is in the little point that

1032

00:45:55,770 --> 00:45:51,550

touched on to it that was what they are

1033

00:45:58,140 --> 00:45:55,780

all about and when we say then since it

1034

00:46:00,210 --> 00:45:58,150

doesn't actually absorb energy does the

1035

00:46:03,290 --> 00:46:00,220

crystal itself does it transform it well

1036

00:46:06,270 --> 00:46:03,300

your answer to that is sometimes

1037

00:46:09,330 --> 00:46:06,280

sometimes a crystal can transform energy

1038

00:46:11,340 --> 00:46:09,340

because when you add energy to anything

1039

00:46:12,750 --> 00:46:11,350

it'll obviously transform I mean for

1040

00:46:14,160 --> 00:46:12,760

instance you transform energy when you

1041

00:46:16,590 --> 00:46:14,170

eat your corn flakes because you're

1042

00:46:18,600 --> 00:46:16,600

transform the chemical energy into sound

1043

00:46:20,550 --> 00:46:18,610

energy heat energy motion energy and so

1044

00:46:23,400 --> 00:46:20,560

on so in that sense I gets there a

1045

00:46:25,680 --> 00:46:23,410

little bit right the crystal book is a

1046

00:46:28,170 --> 00:46:25,690

amazing mixture of silence fact science

1047

00:46:29,970 --> 00:46:28,180

fiction and just plain confusion I took

1048

00:46:31,830 --> 00:46:29,980

out another little section of it which

1049

00:46:35,910 --> 00:46:31,840

happens to also be on the front page and

1050

00:46:38,730 --> 00:46:35,920

says is quartz transforms energy if

1051  
00:46:41,940 --> 00:46:38,740  
squeezed to generate electricity that's

1052  
00:46:44,550 --> 00:46:41,950  
actually partially true as you'll see in

1053  
00:46:46,350 --> 00:46:44,560  
a couple of seconds you can do that but

1054  
00:46:47,970 --> 00:46:46,360  
not quite the way they think when an

1055  
00:46:50,400 --> 00:46:47,980  
electrical current is sent through it it

1056  
00:46:52,470 --> 00:46:50,410  
swells that's also true an alternating

1057  
00:46:54,690 --> 00:46:52,480  
current causes it alternatively swell

1058  
00:46:57,090 --> 00:46:54,700  
and shrink done fast enough this is

1059  
00:46:58,620 --> 00:46:57,100  
called oscillation that's interesting

1060  
00:47:01,530 --> 00:46:58,630  
done fast enough is of the order of

1061  
00:47:02,970 --> 00:47:01,540  
millions of times a second which leads

1062  
00:47:04,230 --> 00:47:02,980  
to some interesting possibilities if

1063  
00:47:06,810 --> 00:47:04,240

you're going to use crystals in the way

1064

00:47:08,910 --> 00:47:06,820

new ages do when cutting precise shapes

1065

00:47:10,740 --> 00:47:08,920

quartz vibrates at precise rates and

1066

00:47:12,990 --> 00:47:10,750

transforms electricity in two ways which

1067

00:47:15,150 --> 00:47:13,000

can be broadcast it's not entirely true

1068

00:47:16,530 --> 00:47:15,160

quartz changes solar energy into

1069

00:47:18,950 --> 00:47:16,540

electricity and devices called

1070

00:47:21,360 --> 00:47:18,960

photovoltaic cells that is rubbish

1071

00:47:23,130 --> 00:47:21,370

photovoltaic cells are not quartz

1072

00:47:25,320 --> 00:47:23,140

crystals their special PN Junction

1073

00:47:26,670 --> 00:47:25,330

materials but what are they talking

1074

00:47:27,690 --> 00:47:26,680

about here what's a science of it

1075

00:47:28,830 --> 00:47:27,700

because really that's what you should

1076

00:47:30,390 --> 00:47:28,840

know if you're going to talk to anyone

1077

00:47:32,070 --> 00:47:30,400

who's into crystals you need to know a

1078

00:47:34,440 --> 00:47:32,080

little bit about what the real facts are

1079

00:47:36,300 --> 00:47:34,450

the real facts are that they user stuff

1080

00:47:38,130 --> 00:47:36,310

is an effect which Peter mentioned

1081

00:47:40,530 --> 00:47:38,140

earlier called Pete sell electricity

1082

00:47:42,780 --> 00:47:40,540

which simply means press it and you get

1083

00:47:44,160 --> 00:47:42,790

an electric current what you do is if

1084

00:47:46,470 --> 00:47:44,170

you roll the crystal under a strong

1085

00:47:47,790 --> 00:47:46,480

enough electric field you can align the

1086

00:47:49,950 --> 00:47:47,800

dipoles and then you can press it

1087

00:47:51,930 --> 00:47:49,960

preferably very quickly and the result

1088

00:47:53,440 --> 00:47:51,940

he should get a voltage you know the

1089

00:47:55,720 --> 00:47:53,450

basic idea is you grab

1090

00:47:57,069 --> 00:47:55,730

the crystal and slam the end of it there

1091

00:47:58,930 --> 00:47:57,079

are public points about is the first

1092

00:48:01,470 --> 00:47:58,940

thing is rapid hitting is best you've

1093

00:48:04,569 --> 00:48:01,480

got to go clean very quickly you can't

1094

00:48:07,120 --> 00:48:04,579

do this just casually hanging on to a

1095

00:48:08,620 --> 00:48:07,130

crystal you have to get it slam it

1096

00:48:10,390 --> 00:48:08,630

really hard and you've got to have some

1097

00:48:11,890 --> 00:48:10,400

sort of circuit set up because one in

1098

00:48:12,819 --> 00:48:11,900

goes positive one and goes negative in

1099

00:48:14,829 --> 00:48:12,829

the only way you're going to feel

1100

00:48:16,630 --> 00:48:14,839

anything is if you've got a circuit the

1101

00:48:18,550 --> 00:48:16,640

new ages are okay here because they can

1102

00:48:21,040 --> 00:48:18,560

grab the crystal and they make the

1103

00:48:22,359 --> 00:48:21,050

circle all the way around the trouble is

1104

00:48:24,849 --> 00:48:22,369

that what you're doing is you're

1105

00:48:26,260 --> 00:48:24,859

basically setting up a very high voltage

1106

00:48:28,569 --> 00:48:26,270

in a very small current so you're not

1107

00:48:30,520 --> 00:48:28,579

likely to feel too much unless you can

1108

00:48:32,230 --> 00:48:30,530

do it incredibly quickly now some

1109

00:48:36,720 --> 00:48:32,240

natural crystals for example silicon

1110

00:48:39,910 --> 00:48:36,730

dioxide are ppl electric but the big

1111

00:48:42,430 --> 00:48:39,920

negative with that material with quartz

1112

00:48:44,460 --> 00:48:42,440

the big negative is that it's pizza

1113

00:48:46,839 --> 00:48:44,470

electric but only very very little bit

1114

00:48:48,400 --> 00:48:46,849

why is it used so much well the answer

1115

00:48:50,079 --> 00:48:48,410

is it's not temperature-dependent like a

1116

00:48:51,880 --> 00:48:50,089

lot of the other materials are you can

1117

00:48:53,710 --> 00:48:51,890

use natural racial salts they don't look

1118

00:48:55,480 --> 00:48:53,720

as good but you can use them if you want

1119

00:48:56,620 --> 00:48:55,490

if you really want a big bugs from

1120

00:48:58,780 --> 00:48:56,630

crystals and you're really into it in a

1121

00:49:00,670 --> 00:48:58,790

big way what you should do is get either

1122

00:49:02,770 --> 00:49:00,680

lead zirconate or barium titanate no

1123

00:49:04,240 --> 00:49:02,780

barium titanate was discovered in 1940

1124

00:49:06,490 --> 00:49:04,250

so it's not as if the new ages have to

1125

00:49:08,109 --> 00:49:06,500

wait till now to get it what you do is

1126  
00:49:09,970 --> 00:49:08,119  
you heat a mixture containing various

1127  
00:49:12,250 --> 00:49:09,980  
salts in an oven in electric field and

1128  
00:49:13,720 --> 00:49:12,260  
you produce this ceramic problem with

1129  
00:49:15,250 --> 00:49:13,730  
ceramics is they're black these

1130  
00:49:17,260 --> 00:49:15,260  
particular mix they're black and their

1131  
00:49:19,750 --> 00:49:17,270  
unlovely they're sort of like um carrots

1132  
00:49:21,849 --> 00:49:19,760  
the cause of transformers and the

1133  
00:49:23,470 --> 00:49:21,859  
trouble with that is that people don't

1134  
00:49:26,230 --> 00:49:23,480  
really like to sort of walk around with

1135  
00:49:28,480 --> 00:49:26,240  
this big black yucky looking thing they

1136  
00:49:29,890 --> 00:49:28,490  
like crystals that look really nice so

1137  
00:49:31,480 --> 00:49:29,900  
that's why they're probably not used if

1138  
00:49:32,710 --> 00:49:31,490

you really end up in a big way and you

1139

00:49:35,170 --> 00:49:32,720

want to really big bugs you'd use a

1140

00:49:36,760 --> 00:49:35,180

plastic not an ordinary everyday plastic

1141

00:49:38,530 --> 00:49:36,770

but you go to somewhere like Plessy and

1142

00:49:40,150 --> 00:49:38,540

you'd have a chat with them and say can

1143

00:49:42,670 --> 00:49:40,160

we have your plastics that you use in

1144

00:49:43,839 --> 00:49:42,680

the for example super microphones for

1145

00:49:45,250 --> 00:49:43,849

the submarines anyone who read the

1146

00:49:46,950 --> 00:49:45,260

australian last week would notice

1147

00:49:49,569 --> 00:49:46,960

there's an article about how the

1148

00:49:51,460 --> 00:49:49,579

submarines cruise around detecting when

1149

00:49:54,400 --> 00:49:51,470

when they say russian subs open their

1150

00:49:56,829 --> 00:49:54,410

doors to remove say anything when they

1151

00:49:58,180 --> 00:49:56,839

want to throw rubbish out the american

1152

00:50:00,579 --> 00:49:58,190

subs can hear it because they try all

1153

00:50:03,069 --> 00:50:00,589

these giant microphones and they're made

1154

00:50:03,870 --> 00:50:03,079

of that special plastic these things

1155

00:50:05,789 --> 00:50:03,880

underhand

1156

00:50:07,499 --> 00:50:05,799

you can give you about 50,000 volts of

1157

00:50:10,140 --> 00:50:07,509

playing micro amps so you'd really get a

1158

00:50:13,410 --> 00:50:10,150

buzz out of that but the trouble is

1159

00:50:15,390 --> 00:50:13,420

you'd have to keep going like that now

1160

00:50:17,789 --> 00:50:15,400

you might like to think about this

1161

00:50:20,190 --> 00:50:17,799

imagine a New Ager who gets a crystal

1162

00:50:21,539 --> 00:50:20,200

grabs a crystal and normally what they

1163

00:50:24,509 --> 00:50:21,549

do they hold it because they love their

1164

00:50:27,480 --> 00:50:24,519

crystal they don't get their crystals

1165

00:50:29,819 --> 00:50:27,490

and strangle them now imagine someone

1166

00:50:31,559 --> 00:50:29,829

sitting in a train what would you think

1167

00:50:33,329 --> 00:50:31,569

I mean you know it wouldn't be the most

1168

00:50:34,950 --> 00:50:33,339

calming relaxing thing and in any case

1169

00:50:36,240 --> 00:50:34,960

it's not going to give you a big buzz if

1170

00:50:38,009 --> 00:50:36,250

you want you can squeeze some of these

1171

00:50:42,089 --> 00:50:38,019

later and you won't get too much if you

1172

00:50:43,410 --> 00:50:42,099

would like a buzz though this one now

1173

00:50:44,730 --> 00:50:43,420

you can't see the crystal in here

1174

00:50:48,269 --> 00:50:44,740

without pulling it apart this is a

1175

00:50:51,059 --> 00:50:48,279

commercial spark generator all you do is

1176

00:50:52,920 --> 00:50:51,069

you hold that and press it down and if

1177

00:50:54,839 --> 00:50:52,930

that end is anywhere near something

1178

00:50:56,370 --> 00:50:54,849

that's earth then the voltage can

1179

00:50:59,069 --> 00:50:56,380

discharge and you'll get a spark about

1180

00:51:01,319 --> 00:50:59,079

25,000 volts if anybody wants to feel

1181

00:51:02,309 --> 00:51:01,329

that later it's no problem you just sort

1182

00:51:05,910 --> 00:51:02,319

of put your hand in the way and I'll

1183

00:51:07,740 --> 00:51:05,920

press the button and that's using the

1184

00:51:09,210 --> 00:51:07,750

piezoelectric effect but the key is and

1185

00:51:11,549 --> 00:51:09,220

I'll just do it once and show you what

1186

00:51:13,079 --> 00:51:11,559

happens you better press it like that I

1187

00:51:15,660 --> 00:51:13,089

got that because the edge of this isn't

1188

00:51:18,180 --> 00:51:15,670

so well insulated so I don't like doing

1189

00:51:20,960 --> 00:51:18,190

this heaps of times but what happens is

1190

00:51:23,009 --> 00:51:20,970

as you press that through the

1191

00:51:25,529 --> 00:51:23,019

arrangement site is designed to go to

1192

00:51:27,059 --> 00:51:25,539

pounce once and that's it so if you're

1193

00:51:29,880 --> 00:51:27,069

going to get the effect you've really

1194

00:51:32,430 --> 00:51:29,890

got to go like that to get it properly

1195

00:51:34,499 --> 00:51:32,440

they don't tend to do that what's

1196

00:51:37,289 --> 00:51:34,509

important is at the time between the

1197

00:51:40,799 --> 00:51:37,299

bangs like that is really quick and then

1198

00:51:42,569 --> 00:51:40,809

you get the nice buds but it's sorta

1199

00:51:43,890 --> 00:51:42,579

like eating a jelly with imagine a jelly

1200

00:51:45,480 --> 00:51:43,900

and upside down jelly and you hit it

1201

00:51:47,759 --> 00:51:45,490

with a spoon and the theme vibrates

1202

00:51:49,200 --> 00:51:47,769

that's what's actually happening so when

1203

00:51:51,420 --> 00:51:49,210

the new ages tell you that these things

1204

00:51:53,220 --> 00:51:51,430

do it they do but under special

1205

00:51:54,930 --> 00:51:53,230

conditions watch them if they're

1206

00:51:56,249 --> 00:51:54,940

standing there going like this there's a

1207

00:51:58,230 --> 00:51:56,259

vague chance they're probably getting

1208

00:51:59,730 --> 00:51:58,240

millivolts or something if they're

1209

00:52:02,339 --> 00:51:59,740

getting the sort of buzz that we get out

1210

00:52:04,799 --> 00:52:02,349

of this one you'd also know that too but

1211

00:52:08,309 --> 00:52:04,809

that have been commercial quantities so

1212

00:52:10,680 --> 00:52:08,319

the basic clue is they if they do get

1213

00:52:12,730 --> 00:52:10,690

anything at all it's not observable to

1214

00:52:14,770 --> 00:52:12,740

modern science as we know it

1215

00:52:16,300 --> 00:52:14,780

so maybe they get something else maybe

1216

00:52:19,030 --> 00:52:16,310

they're special people I get something

1217

00:52:20,650 --> 00:52:19,040

else will if so the only way we can

1218

00:52:21,910 --> 00:52:20,660

really find out is to get them and sort

1219

00:52:24,430 --> 00:52:21,920

of study them while they're doing it

1220

00:52:26,410 --> 00:52:24,440

certainly the effects they claimed work

1221

00:52:28,240 --> 00:52:26,420

and this is really my point on it they

1222

00:52:31,420 --> 00:52:28,250

fix they claim that is that it's like

1223

00:52:34,150 --> 00:52:31,430

transistor radios that it's like using a

1224

00:52:36,160 --> 00:52:34,160

crystal set those effects definitely are

1225

00:52:38,080 --> 00:52:36,170

not true if they do get anything out of

1226

00:52:39,640 --> 00:52:38,090

it the excuses they give the

1227

00:52:41,440 --> 00:52:39,650

explanations i give and not right

1228

00:52:43,210 --> 00:52:41,450

because they don't go through those sort

1229

00:52:45,250 --> 00:52:43,220

of effects the books got heaps and heaps

1230

00:52:47,020 --> 00:52:45,260

of other false words like that including

1231

00:52:49,450 --> 00:52:47,030

the bit that I think's dangerous that's

1232

00:52:51,130 --> 00:52:49,460

who I'm Peter did earlier about holding

1233

00:52:52,390 --> 00:52:51,140

the crystal and getting the energy out

1234

00:52:54,580 --> 00:52:52,400

of the air and you'll notice just the

1235

00:52:55,960 --> 00:52:54,590

way he did that he had one hand up and

1236

00:52:57,850 --> 00:52:55,970

he's holding the credit was this hand up

1237

00:53:00,160 --> 00:52:57,860

with one hand up and he's holding the

1238

00:53:02,020 --> 00:53:00,170

hand over the part with the crystal to

1239

00:53:04,150 --> 00:53:02,030

focus the energy in what does that look

1240

00:53:06,400 --> 00:53:04,160

like it looks very much like an aerial

1241

00:53:07,900 --> 00:53:06,410

running onto a crystal set yeah the

1242

00:53:10,359 --> 00:53:07,910

crystal represents a crystal set there's

1243

00:53:12,340 --> 00:53:10,369

the aerial as we just pointed out as I

1244

00:53:14,560 --> 00:53:12,350

pointed out a little earlier the crystal

1245

00:53:16,300 --> 00:53:14,570

set only works because you've got a

1246

00:53:19,120 --> 00:53:16,310

really long aerial absorbing energy from

1247

00:53:21,310 --> 00:53:19,130

the radio or whatever else if people by

1248

00:53:23,530 --> 00:53:21,320

doing that absorbed energy and the

1249

00:53:26,109 --> 00:53:23,540

crystal focuses it then every time you

1250

00:53:27,760 --> 00:53:26,119

do that you absorb energy anyway and if

1251

00:53:29,230 --> 00:53:27,770

you think about it kids in class every

1252

00:53:31,800 --> 00:53:29,240

day must create a hell of a lot of

1253

00:53:33,970 --> 00:53:31,810

energy every time they put their hand up

1254

00:53:35,560 --> 00:53:33,980

all right so if you get a kid of your

1255

00:53:36,580 --> 00:53:35,570

teaching you get a kid in a promise

1256

00:53:39,000 --> 00:53:36,590

skillet and he said can I leave the room

1257

00:53:41,680 --> 00:53:39,010

you say no and he does it again what and

1258

00:53:43,810 --> 00:53:41,690

that is heaps Nazis would have generated

1259

00:53:45,130 --> 00:53:43,820

heaps and heaps of it because it would

1260

00:53:46,900 --> 00:53:45,140

have absorbed into them and presumably

1261

00:53:48,609 --> 00:53:46,910

then focus the energy somewhere wherever

1262

00:53:49,990 --> 00:53:48,619

their other hand with think about things

1263

00:53:51,490 --> 00:53:50,000

like you know it would depend very

1264

00:53:52,930 --> 00:53:51,500

heavily on where this hand was if you

1265

00:53:54,340 --> 00:53:52,940

happen to have anything cristal in it

1266

00:53:55,420 --> 00:53:54,350

you could have a real problem they're

1267

00:53:57,490 --> 00:53:55,430

part of the argument of course is that

1268

00:53:59,560 --> 00:53:57,500

they focus it because of their shape but

1269

00:54:01,210 --> 00:53:59,570

you know again that's arguable what is

1270

00:54:02,680 --> 00:54:01,220

the energy where'd it come from we don't

1271

00:54:04,090 --> 00:54:02,690

know in science and we'd love to know it

1272

00:54:06,130 --> 00:54:04,100

would be really nice I mean you know you

1273

00:54:07,270 --> 00:54:06,140

could do wonderful things as for the

1274

00:54:09,550 --> 00:54:07,280

pyramid power I'm going to give that

1275

00:54:11,800 --> 00:54:09,560

passing coverage because the evidence

1276

00:54:14,590 --> 00:54:11,810

here is even sloppier the claims are

1277

00:54:16,180 --> 00:54:14,600

harder to unify because they go from

1278

00:54:18,280 --> 00:54:16,190

everything from sharpening razor blades

1279

00:54:20,620 --> 00:54:18,290

to prevention of decay of organisms to

1280

00:54:21,790 --> 00:54:20,630

increasing the decay of organisms that's

1281

00:54:23,560 --> 00:54:21,800

a bit of a problem you know when it

1282

00:54:24,510 --> 00:54:23,570

proved some things and deteriorates

1283

00:54:26,130 --> 00:54:24,520

others

1284

00:54:27,930 --> 00:54:26,140

I thought probably the easiest seemed to

1285

00:54:33,690 --> 00:54:27,940

show you with that was a little quote

1286

00:54:36,960 --> 00:54:33,700

from skeptical Inquirer in The Skeptical

1287

00:54:39,260 --> 00:54:36,970

Inquirer the the last edition came out

1288

00:54:41,880 --> 00:54:39,270

there's a little article in it about

1289

00:54:44,820 --> 00:54:41,890

putting French wines to the pyramid test

1290

00:54:46,050 --> 00:54:44,830

and apparently i just read quickly a

1291

00:54:48,480 --> 00:54:46,060

couple of sections some small-scale

1292

00:54:49,950 --> 00:54:48,490

models of pyramids are supposed to

1293

00:54:51,960 --> 00:54:49,960

generate form waves which although

1294

00:54:53,520 --> 00:54:51,970

unknown to physicists can preserve meat

1295

00:54:56,160 --> 00:54:53,530

sharp and i'll razor blades and even

1296

00:54:57,870 --> 00:54:56,170

cure cancer a big plexiglass model of

1297

00:55:00,810 --> 00:54:57,880

the Great Pyramid was set up by Pierre

1298

00:55:03,390 --> 00:55:00,820

ki d Carillo a well-known specialist in

1299

00:55:05,130 --> 00:55:03,400

pyramid ology seven bottles of wine less

1300

00:55:07,530 --> 00:55:05,140

than two years old or placed inside the

1301  
00:55:08,970 --> 00:55:07,540  
model and the idea was at the end of

1302  
00:55:10,440 --> 00:55:08,980  
this particular fear that was going on

1303  
00:55:12,240 --> 00:55:10,450  
they would demonstrate that these wines

1304  
00:55:14,640 --> 00:55:12,250  
were actually better than the wines

1305  
00:55:16,830 --> 00:55:14,650  
which were put aside by as a test group

1306  
00:55:18,660 --> 00:55:16,840  
now what actually happened in this was

1307  
00:55:20,580 --> 00:55:18,670  
the test group of wines put aside was

1308  
00:55:22,260 --> 00:55:20,590  
stored in the office of the guy actually

1309  
00:55:23,520 --> 00:55:22,270  
running the show so they weren't

1310  
00:55:25,740 --> 00:55:23,530  
refrigerated though just stored away

1311  
00:55:28,550 --> 00:55:25,750  
there at the end when they did the test

1312  
00:55:32,910 --> 00:55:28,560  
the pyramid whines come out in front and

1313  
00:55:36,060 --> 00:55:32,920

but only just in front cover me with red

1314

00:55:38,580 --> 00:55:36,070

wine so they was weird to have any

1315

00:55:39,780 --> 00:55:38,590

meaningful significance and if it had it

1316

00:55:42,210 --> 00:55:39,790

would not have been favored of the

1317

00:55:44,910 --> 00:55:42,220

pyramid the red wines kept in the

1318

00:55:46,890 --> 00:55:44,920

pyramid were only slightly less than the

1319

00:55:49,290 --> 00:55:46,900

control lines such a difference would

1320

00:55:50,490 --> 00:55:49,300

basically obviously due to chance so how

1321

00:55:52,170 --> 00:55:50,500

did it happen that the result of the

1322

00:55:53,910 --> 00:55:52,180

first experiment was favorable to the

1323

00:55:55,680 --> 00:55:53,920

wine from the pyramid the answer is

1324

00:55:58,200 --> 00:55:55,690

simple it was because of the bottles of

1325

00:56:00,870 --> 00:55:58,210

champagne those coming from the pyramid

1326  
00:56:04,830 --> 00:56:00,880  
had a tolerable result a 2.4 average out

1327  
00:56:06,510 --> 00:56:04,840  
of 4 by testers the white sorry the to

1328  
00:56:09,510 --> 00:56:06,520  
control bottles of champagne had a much

1329  
00:56:11,550 --> 00:56:09,520  
lower score of 1.7 such probability

1330  
00:56:13,710 --> 00:56:11,560  
being due to chance with about 1 in 9

1331  
00:56:15,390 --> 00:56:13,720  
million so what was the explanation the

1332  
00:56:16,800 --> 00:56:15,400  
explanation could probably be found in

1333  
00:56:18,810 --> 00:56:16,810  
the differences of temperature and air

1334  
00:56:21,060 --> 00:56:18,820  
circulating between the pyramid and the

1335  
00:56:22,920 --> 00:56:21,070  
president's cozy office it was not that

1336  
00:56:24,660 --> 00:56:22,930  
the pyramid champagne had improved but

1337  
00:56:27,030 --> 00:56:24,670  
rather the control champagne had got

1338  
00:56:28,950 --> 00:56:27,040

worse the scientific lesson of all this

1339

00:56:30,990 --> 00:56:28,960

is that one pyramid models have no

1340

00:56:32,460 --> 00:56:31,000

influence on any kind of wine and two

1341

00:56:35,140 --> 00:56:32,470

for those who may not know it champagne

1342

00:56:37,480 --> 00:56:35,150

must be kept cool and served IT

1343

00:56:38,680 --> 00:56:37,490

now what's significant about that is if

1344

00:56:43,390 --> 00:56:38,690

that was actually a pretty reasonable

1345

00:56:45,640 --> 00:56:43,400

test I should finish by saying that it

1346

00:56:47,590 --> 00:56:45,650

seems to me then that crystals and

1347

00:56:49,480 --> 00:56:47,600

apparently pyramids don't fit what we

1348

00:56:51,220 --> 00:56:49,490

already know about energy for those of

1349

00:56:52,540 --> 00:56:51,230

you who like to subscribe to these sort

1350

00:56:54,280 --> 00:56:52,550

of things Peter showed me this one last

1351  
00:56:56,440 --> 00:56:54,290  
night this is Nexus which costs two

1352  
00:56:58,240 --> 00:56:56,450  
dollars fifty and in this particular

1353  
00:57:00,010 --> 00:56:58,250  
issue there's lots of ads for things

1354  
00:57:02,500 --> 00:57:00,020  
like crystal dreaming your dream is a

1355  
00:57:05,710 --> 00:57:02,510  
crystals desire so you can buy these

1356  
00:57:07,300 --> 00:57:05,720  
crystals from a place at Clerval crystal

1357  
00:57:08,920 --> 00:57:07,310  
light which says call for a magical

1358  
00:57:10,510 --> 00:57:08,930  
visit and they sort of gone with heaps

1359  
00:57:13,240 --> 00:57:10,520  
of these but the one that I particularly

1360  
00:57:15,940 --> 00:57:13,250  
liked out of this is a place called the

1361  
00:57:17,710 --> 00:57:15,950  
quartz crystal awareness center now the

1362  
00:57:20,350 --> 00:57:17,720  
quartz crystal awareness center is

1363  
00:57:23,080 --> 00:57:20,360

moving to bellingham and they're opening

1364

00:57:28,120 --> 00:57:23,090

in fact they've already opened the ad

1365

00:57:30,610 --> 00:57:28,130

says opening first of April 1988 either

1366

00:57:32,740 --> 00:57:30,620

that was pretty appropriate what we get

1367

00:57:34,150 --> 00:57:32,750

from the new ages who are into these

1368

00:57:36,130 --> 00:57:34,160

things basically is a mixture of

1369

00:57:38,800 --> 00:57:36,140

misunderstanding confusion from wishful

1370

00:57:40,150 --> 00:57:38,810

thinking I'd sort of like to say to them

1371

00:57:42,760 --> 00:57:40,160

as a physicist if they can demonstrate

1372

00:57:45,430 --> 00:57:42,770

they all the crystals or their pyramids

1373

00:57:47,230 --> 00:57:45,440

can do what they say they can do nothing

1374

00:57:48,970 --> 00:57:47,240

more just what they say they can do and

1375

00:57:51,160 --> 00:57:48,980

not asking for anything amazing just

1376

00:57:53,350 --> 00:57:51,170

show that the crystals can amplify or

1377

00:57:54,790 --> 00:57:53,360

create energy then conventional science

1378

00:57:57,670 --> 00:57:54,800

will be very interested and we'd give

1379

00:57:59,140 --> 00:57:57,680

them a hearing until then the verdict is

1380

00:58:01,750 --> 00:57:59,150

the same as that pronounced on the other

1381

00:58:12,110 --> 00:58:01,760

pseudo-sciences and that is sounds nice

1382

00:58:17,490 --> 00:58:15,060

since time began man has been fascinated

1383

00:58:19,860 --> 00:58:17,500

with crystals and precious stones the

1384

00:58:21,870 --> 00:58:19,870

way in which these stones bend reflect

1385

00:58:24,540 --> 00:58:21,880

and refract light into the colors of the

1386

00:58:26,460 --> 00:58:24,550

rainbow suggested to many that crystals

1387

00:58:28,580 --> 00:58:26,470

had an energy of their own that they

1388

00:58:30,660 --> 00:58:28,590

even had magical and mystical qualities

1389

00:58:33,120 --> 00:58:30,670

healing powers were attributed to

1390

00:58:36,030 --> 00:58:33,130

certain crystals and stones such as

1391

00:58:38,610 --> 00:58:36,040

quartz amethyst and emerald was said to

1392

00:58:40,830 --> 00:58:38,620

heal specific complaints ten years ago

1393

00:58:42,780 --> 00:58:40,840

even five years ago he wouldn't have

1394

00:58:44,550 --> 00:58:42,790

heard anyone other than scientists or

1395

00:58:47,250 --> 00:58:44,560

gemologist talking excitedly about

1396

00:58:48,750 --> 00:58:47,260

crystals but today the ancient beliefs

1397

00:58:50,580 --> 00:58:48,760

in the power of crystals have been

1398

00:58:52,260 --> 00:58:50,590

revived an increasing number of

1399

00:58:54,300 --> 00:58:52,270

Australians will produce a crystal from

1400

00:58:57,060 --> 00:58:54,310

their pocket or handbag and extol its

1401  
00:59:00,000 --> 00:58:57,070  
virtues dangers come help with sleep

1402  
00:59:02,820 --> 00:59:00,010  
improve sex life and aid personal

1403  
00:59:04,910 --> 00:59:02,830  
transformations they purify water and I

1404  
00:59:07,950 --> 00:59:04,920  
reputed as having special healing powers

1405  
00:59:09,720 --> 00:59:07,960  
Magda Parma a crystal consultant has

1406  
00:59:12,210 --> 00:59:09,730  
spent the last nine years researching

1407  
00:59:14,880 --> 00:59:12,220  
gemstones and has published her findings

1408  
00:59:16,770 --> 00:59:14,890  
in the healing power of crystals in

1409  
00:59:18,780 --> 00:59:16,780  
plumber has had a lifelong interest in

1410  
00:59:20,790 --> 00:59:18,790  
minerals and their crystals and is a

1411  
00:59:22,350 --> 00:59:20,800  
professor of geology and head of the

1412  
00:59:24,480 --> 00:59:22,360  
geology department at Newcastle

1413  
00:59:26,940 --> 00:59:24,490

University he's also a member of

1414

00:59:29,430 --> 00:59:26,950

Australian skeptics and recently slammed

1415

00:59:32,460 --> 00:59:29,440

what he calls an irresponsible new-age

1416

00:59:34,260 --> 00:59:32,470

belief well mag defers to you you've

1417

00:59:36,330 --> 00:59:34,270

written this book the healing power of

1418

00:59:37,800 --> 00:59:36,340

crystals but before we talk about

1419

00:59:39,480 --> 00:59:37,810

crystals and healing I'd like to talk

1420

00:59:41,370 --> 00:59:39,490

for about them in a wider context first

1421

00:59:45,210 --> 00:59:41,380

do you believe crystals have inherent

1422

00:59:48,090 --> 00:59:45,220

power yes I do even if it was only taken

1423

00:59:50,880 --> 00:59:48,100

from its beauty do you believe crystals

1424

00:59:53,550 --> 00:59:50,890

vibrate are themselves or they do it's

1425

00:59:55,860 --> 00:59:53,560

been proven scientifically they actually

1426

00:59:57,840 --> 00:59:55,870

start well little hey I don't like this

1427

00:59:59,580 --> 00:59:57,850

word vibrate because it it conjures up

1428

01:00:01,830 --> 00:59:59,590

to the lame and a bumper mobile bomb

1429

01:00:03,480 --> 01:00:01,840

that's not quite right really but a

1430

01:00:05,790 --> 01:00:03,490

crystals haven't inherent in your energy

1431

01:00:07,650 --> 01:00:05,800

yes and that energy does come out in the

1432

01:00:10,020 --> 01:00:07,660

form of little vibrations which start

1433

01:00:13,080 --> 01:00:10,030

about room temperature and above I want

1434

01:00:15,330 --> 01:00:13,090

to ask you if crystals are akan dude to

1435

01:00:17,700 --> 01:00:15,340

a greater form of power yes they are

1436

01:00:19,200 --> 01:00:17,710

what is that power the power is bringing

1437

01:00:21,330 --> 01:00:19,210

out your intuition more than anything

1438

01:00:23,880 --> 01:00:21,340

else and it's also acting as an

1439

01:00:24,960 --> 01:00:23,890

amplifying energy to all types of

1440

01:00:27,780 --> 01:00:24,970

medicinals

1441

01:00:29,849 --> 01:00:27,790

so believing crystals for you is part of

1442

01:00:32,550 --> 01:00:29,859

a greater belief system art of a much

1443

01:00:35,880 --> 01:00:32,560

greater belief system it's a belief in

1444

01:00:38,460 --> 01:00:35,890

light the life force itself in teaching

1445

01:00:41,010 --> 01:00:38,470

people the beauty of our earth why look

1446

01:00:42,900 --> 01:00:41,020

out to space we didn't even see for a

1447

01:00:44,940 --> 01:00:42,910

start our innocent Hill man stepped off

1448

01:00:47,460 --> 01:00:44,950

into space and look back and then he saw

1449

01:00:50,730 --> 01:00:47,470

this blue globe that was our life itself

1450

01:00:53,040 --> 01:00:50,740

and that's what then again the crystal

1451

01:00:54,900 --> 01:00:53,050

things started coming up this belief in

1452

01:00:56,730 --> 01:00:54,910

crystals right something is in our earth

1453

01:00:58,740 --> 01:00:56,740

is a crystals and they look back to

1454

01:01:00,900 --> 01:00:58,750

ancient times and that hit at the same

1455

01:01:03,180 --> 01:01:00,910

time as the drug market have become so

1456

01:01:04,620 --> 01:01:03,190

overblown that people were tired and

1457

01:01:07,589 --> 01:01:04,630

lift if you believe the crystals have

1458

01:01:09,599 --> 01:01:07,599

particular powers then do you then treat

1459

01:01:12,089 --> 01:01:09,609

crystals with a particular reverence oh

1460

01:01:14,430 --> 01:01:12,099

yes but I treat everything beautiful

1461

01:01:16,460 --> 01:01:14,440

with reverence and many ribbons you

1462

01:01:18,390 --> 01:01:16,470

attach to crystals the reverence of

1463

01:01:23,520 --> 01:01:18,400

something that Christians would call

1464

01:01:25,020 --> 01:01:23,530

holy I won't I come into a religious

1465

01:01:28,230 --> 01:01:25,030

thing at all i believe all religions

1466

01:01:29,700 --> 01:01:28,240

should be one and if religions must

1467

01:01:32,849 --> 01:01:29,710

exist then for heaven's sake let them

1468

01:01:35,190 --> 01:01:32,859

start knitting but no it is not a cult

1469

01:01:37,500 --> 01:01:35,200

thing at all let's talk about crystals

1470

01:01:40,440 --> 01:01:37,510

and healing yeah what do you believe a

1471

01:01:42,450 --> 01:01:40,450

crystal can do in the healing process we

1472

01:01:45,150 --> 01:01:42,460

never say the word healing actually we

1473

01:01:46,609 --> 01:01:45,160

say stabilizing the word hooked the

1474

01:01:49,200 --> 01:01:46,619

healing power of crystals that's right

1475

01:01:51,650 --> 01:01:49,210

that's because healing is referred to in

1476

01:01:54,150 --> 01:01:51,660

many ways such as healing the earth is

1477

01:01:56,370 --> 01:01:54,160

planting a lot more trees in it they're

1478

01:01:58,410 --> 01:01:56,380

your healing the earth but you can heal

1479

01:02:01,079 --> 01:01:58,420

all sorts of things a doctor says they

1480

01:02:03,960 --> 01:02:01,089

heal but in reality everything that you

1481

01:02:07,470 --> 01:02:03,970

own do in healing medically is

1482

01:02:08,609 --> 01:02:07,480

stabilizing walnut preventative

1483

01:02:10,260 --> 01:02:08,619

medicines able to do in the healing

1484

01:02:12,120 --> 01:02:10,270

process what experiments do you know of

1485

01:02:15,150 --> 01:02:12,130

that prove that his spiritual crystals

1486

01:02:16,800 --> 01:02:15,160

oh I um I had wonderful things I worked

1487

01:02:18,930 --> 01:02:16,810

with groups you see it was group control

1488

01:02:21,690 --> 01:02:18,940

I was working with in Britain they took

1489

01:02:24,780 --> 01:02:21,700

in America as well as Holland and

1490

01:02:26,790 --> 01:02:24,790

England the Scotland and the north of

1491

01:02:28,890 --> 01:02:26,800

England had an MS multiple sclerosis

1492

01:02:30,750 --> 01:02:28,900

group working and I thought oh no don't

1493

01:02:33,270 --> 01:02:30,760

give me these people it's too tragic and

1494

01:02:35,640 --> 01:02:33,280

there's nothing we can do and that was

1495

01:02:37,440 --> 01:02:35,650

my thought and of course I have learned

1496

01:02:38,789 --> 01:02:37,450

which is very important when you start

1497

01:02:41,609 --> 01:02:38,799

dealing with crystals and Chris

1498

01:02:44,339 --> 01:02:41,619

for people they learn to bring this out

1499

01:02:47,009 --> 01:02:44,349

in you be positive about everything so I

1500

01:02:48,809 --> 01:02:47,019

thought fine montoya try this so I gave

1501

01:02:50,939 --> 01:02:48,819

them crystals it was group control

1502

01:02:52,949 --> 01:02:50,949

meaning the group's group of people were

1503

01:02:55,469 --> 01:02:52,959

not allowed to use anything other than

1504

01:02:57,419 --> 01:02:55,479

the crystals suggested we went through

1505

01:02:59,939 --> 01:02:57,429

quartz crystal it seemed to make them

1506

01:03:01,949 --> 01:02:59,949

have more pain more worried after many

1507

01:03:04,620 --> 01:03:01,959

we got them to lapis lazuli which is

1508

01:03:07,679 --> 01:03:04,630

this beautiful blue one here and we got

1509

01:03:09,959 --> 01:03:07,689

them to tourmaline now tourmaline is a

1510

01:03:11,999 --> 01:03:09,969

stone at all it's a crystal and it's

1511

01:03:16,229 --> 01:03:12,009

usually a precious crystal has many

1512

01:03:18,569 --> 01:03:16,239

colors it has a lot of energy and it's

1513

01:03:20,640 --> 01:03:18,579

so you you feel personally satisfied the

1514

01:03:23,370 --> 01:03:20,650

cables there's a little a celeb process

1515

01:03:24,900 --> 01:03:23,380

stabilize the MS people in you work your

1516

01:03:27,059 --> 01:03:24,910

geologist you work with crystals just

1517

01:03:28,499 --> 01:03:27,069

about every day of the week do you

1518

01:03:30,989 --> 01:03:28,509

believe the crystals have any special

1519

01:03:32,939 --> 01:03:30,999

powers well as a professor of geology

1520

01:03:35,910 --> 01:03:32,949

and having worked on minerals and

1521

01:03:38,009 --> 01:03:35,920

crystals for 25 years I view at the same

1522

01:03:42,689 --> 01:03:38,019

as I view many other New Age phenomena

1523

01:03:45,150 --> 01:03:42,699

is rather deluded people leading a mob

1524

01:03:48,059 --> 01:03:45,160

of ignorant people but while you value

1525

01:03:49,739 --> 01:03:48,069

crystals in technology today that's a

1526

01:03:52,349 --> 01:03:49,749

crystal of where we actually put energy

1527

01:03:53,999 --> 01:03:52,359

into a crystal and we get energy out the

1528

01:03:55,890 --> 01:03:54,009

very fact this transmission is occurring

1529

01:03:57,329 --> 01:03:55,900

is because of that but there are some

1530

01:03:59,449 --> 01:03:57,339

very interesting things in her book

1531

01:04:03,150 --> 01:03:59,459

about the energy of crystals one of the

1532

01:04:06,120 --> 01:04:03,160

crystals I have here is a crystal of

1533

01:04:08,819 --> 01:04:06,130

courts and in the back of the book

1534

01:04:11,039 --> 01:04:08,829

there's a appendix that tells us various

1535

01:04:15,390 --> 01:04:11,049

treatments that we can use minerals for

1536

01:04:17,519 --> 01:04:15,400

and we told that this crystal can be

1537

01:04:19,529 --> 01:04:17,529

used to treat all sorts of ailments and

1538

01:04:23,249 --> 01:04:19,539

the one that really fascinates me is

1539

01:04:25,859 --> 01:04:23,259

kennel cough in dogs you've written

1540

01:04:27,449 --> 01:04:25,869

about kennel cough and I'm the problem

1541

01:04:29,640 --> 01:04:27,459

with the book is that we don't quite

1542

01:04:31,499 --> 01:04:29,650

know how to administer it and are the

1543

01:04:33,779 --> 01:04:31,509

only way i can think of administering

1544

01:04:36,179 --> 01:04:33,789

this crystal to a dog that's got kennel

1545

01:04:38,429 --> 01:04:36,189

cough is to wait until he coughs and

1546

01:04:41,239 --> 01:04:38,439

shove it down the dog's throat then

1547

01:04:45,890 --> 01:04:41,249

whoever cough again well this one here

1548

01:04:48,329 --> 01:04:45,900

this crystal here how this one here is

1549

01:04:50,819 --> 01:04:48,339

promoted as being a crystal which will

1550

01:04:52,030 --> 01:04:50,829

solve an ailment which has really been

1551

01:04:54,640 --> 01:04:52,040

affecting man

1552

01:04:55,930 --> 01:04:54,650

and for a very long period of time the

1553

01:04:58,510 --> 01:04:55,940

problem is this crystal has very

1554

01:05:01,420 --> 01:04:58,520

recently been discovered it's a type of

1555

01:05:02,860 --> 01:05:01,430

garnet it you've Aarav art and it's

1556

01:05:07,120 --> 01:05:02,870

meant to be used for the treatment of

1557

01:05:10,900 --> 01:05:07,130

flatulence now I've had these crystals

1558

01:05:13,840 --> 01:05:10,910

for some 20 years and Madame it hasn't

1559

01:05:15,700 --> 01:05:13,850

helped maybe you're throwing it down

1560

01:05:18,820 --> 01:05:15,710

your throat as you would the dog with

1561

01:05:20,560 --> 01:05:18,830

kettle car Oh No you've said you read my

1562

01:05:22,210 --> 01:05:20,570

bookie and you well are there are some

1563

01:05:23,860 --> 01:05:22,220

other areas in the book which interested

1564

01:05:25,510 --> 01:05:23,870

me I think there are some areas which

1565

01:05:27,820 --> 01:05:25,520

are bordering on being very

1566

01:05:31,330 --> 01:05:27,830

irresponsible there is one crystal like

1567

01:05:33,520 --> 01:05:31,340

this you promote this on page 148 and

1568

01:05:37,090 --> 01:05:33,530

you say it should be used for the

1569

01:05:39,970 --> 01:05:37,100

treatment of a venomous bite now i think

1570

01:05:42,910 --> 01:05:39,980

that is irresponsible to claim that

1571

01:05:44,650 --> 01:05:42,920

crystals of native sulfur can be used to

1572

01:05:47,410 --> 01:05:44,660

treat a venomous bite if you have a

1573

01:05:50,380 --> 01:05:47,420

venomous but you don't hold this crystal

1574

01:05:52,510 --> 01:05:50,390

and hum or to knit or feel the aura or

1575

01:05:54,430 --> 01:05:52,520

your life is ebbing away you go to

1576

01:05:57,430 --> 01:05:54,440

hospital so i think it's very

1577

01:06:01,600 --> 01:05:57,440

irresponsible to write that crystals can

1578

01:06:05,140 --> 01:06:01,610

be used to treat a venomous bite or in

1579

01:06:07,900 --> 01:06:05,150

the case of this crystal here to treat

1580

01:06:10,780 --> 01:06:07,910

cholera cholera can be treated very

1581

01:06:11,800 --> 01:06:10,790

easily CA not by Christopher I'd like to

1582

01:06:13,870 --> 01:06:11,810

actually take him up there because

1583

01:06:16,300 --> 01:06:13,880

actually you've done something very

1584

01:06:18,190 --> 01:06:16,310

silly what you've actually done ian is

1585

01:06:20,080 --> 01:06:18,200

mentioned little parts of the book and

1586

01:06:21,340 --> 01:06:20,090

said you've read the whole thing if

1587

01:06:23,560 --> 01:06:21,350

you'd have read the whole thing you'd

1588

01:06:26,110 --> 01:06:23,570

say that you'd actually be able to say

1589

01:06:28,390 --> 01:06:26,120

that I have carefully written that all

1590

01:06:30,790 --> 01:06:28,400

alternative medicine including crystal

1591

01:06:32,710 --> 01:06:30,800

healing should actually be used with an

1592

01:06:35,830 --> 01:06:32,720

orthodox medic as well they should all

1593

01:06:37,450 --> 01:06:35,840

be implied nigs on page 148 says that

1594

01:06:39,970 --> 01:06:37,460

they should be used for the treatment of

1595

01:06:41,860 --> 01:06:39,980

these diseases or afflictions what

1596

01:06:43,960 --> 01:06:41,870

you've done for some reason rather is

1597

01:06:45,370 --> 01:06:43,970

just being in vindictive about something

1598

01:06:46,660 --> 01:06:45,380

that is quite silly and you're calling

1599

01:06:49,450 --> 01:06:46,670

it first of all let's go back to your

1600

01:06:53,140 --> 01:06:49,460

first mistake your first mistake was New

1601  
01:06:56,530 --> 01:06:53,150  
Age this is not new age and have I said

1602  
01:06:59,020 --> 01:06:56,540  
New Age at any stage no nobody has four

1603  
01:07:01,120 --> 01:06:59,030  
start crystal healing and the power of

1604  
01:07:02,950 --> 01:07:01,130  
crystals and in fact all alternative

1605  
01:07:05,170 --> 01:07:02,960  
medicine was here way before the

1606  
01:07:09,400 --> 01:07:05,180  
Orthodox medics brought in drugs

1607  
01:07:12,220 --> 01:07:09,410  
you actually consider that somebody with

1608  
01:07:14,530 --> 01:07:12,230  
intelligence that I'm I'm sure must have

1609  
01:07:16,480 --> 01:07:14,540  
been easily as great as yours would

1610  
01:07:19,030 --> 01:07:16,490  
actually just something like this cleany

1611  
01:07:22,750 --> 01:07:19,040  
for instance as being a healing crystal

1612  
01:07:24,309 --> 01:07:22,760  
madam you have all the number of

1613  
01:07:26,109 --> 01:07:24,319

crystals there that have just been fan

1614

01:07:29,819 --> 01:07:26,119

there plenty is a very good one clean of

1615

01:07:31,870 --> 01:07:29,829

course I have records the focus man

1616

01:07:34,210 --> 01:07:31,880

emesis because whenever I don't know

1617

01:07:35,910 --> 01:07:34,220

what plane eez but Angie's worth ask ian

1618

01:07:38,200 --> 01:07:35,920

is saying some very silly things such as

1619

01:07:39,700 --> 01:07:38,210

crystal that's just listed you'll find

1620

01:07:41,470 --> 01:07:39,710

that there are crystals that are not

1621

01:07:43,630 --> 01:07:41,480

just listed two very anxious with one's

1622

01:07:45,370 --> 01:07:43,640

right I think it's just it's worth ask

1623

01:07:47,200 --> 01:07:45,380

he's picking things out to try and make

1624

01:07:49,150 --> 01:07:47,210

a fool of the whole thing in looking at

1625

01:07:51,309 --> 01:07:49,160

looking at crystals is restores a

1626

01:07:53,290 --> 01:07:51,319

harmless pursued would you say that

1627

01:07:57,280 --> 01:07:53,300

you're not doing any harm to anybody in

1628

01:07:59,829 --> 01:07:57,290

in following a belief in crystals well

1629

01:08:02,260 --> 01:07:59,839

if you had somebody as I dare i say as

1630

01:08:04,299 --> 01:08:02,270

silly as Ian who would throw a crystal

1631

01:08:06,579 --> 01:08:04,309

done his dog's throat or who would crush

1632

01:08:09,190 --> 01:08:06,589

it when my book actually says you do not

1633

01:08:11,380 --> 01:08:09,200

crush crystals it actually says that

1634

01:08:12,760 --> 01:08:11,390

quite clearly because otherwise i

1635

01:08:14,710 --> 01:08:12,770

wouldn't give is the point that cuz

1636

01:08:16,749 --> 01:08:14,720

you're here is not mention any book i'm

1637

01:08:19,689 --> 01:08:16,759

just saying that showing that anyone can

1638

01:08:21,789 --> 01:08:19,699

make up all let me have my seat and you

1639

01:08:23,530 --> 01:08:21,799

can search the cosmos for delusion and

1640

01:08:27,729 --> 01:08:23,540

you are selling this gobbledygook to

1641

01:08:29,410 --> 01:08:27,739

people take this into a wider context

1642

01:08:31,539 --> 01:08:29,420

yes i would like to finish what I was

1643

01:08:33,189 --> 01:08:31,549

just saying angela about you said if

1644

01:08:34,930 --> 01:08:33,199

they can harm certainly if you had

1645

01:08:36,760 --> 01:08:34,940

somebody who did something as silly as

1646

01:08:38,439 --> 01:08:36,770

the india but crystal people do you're

1647

01:08:39,999 --> 01:08:38,449

not have you carry on doing that no and

1648

01:08:42,010 --> 01:08:40,009

it says clearly in the book not to

1649

01:08:44,320 --> 01:08:42,020

detection well let's take a wider

1650

01:08:46,479 --> 01:08:44,330

context here and say that is there is

1651

01:08:48,579 --> 01:08:46,489

there any harm in looking at a crystal

1652

01:08:50,620 --> 01:08:48,589

for a healing process as opposed to say

1653

01:08:53,169 --> 01:08:50,630

drinking water from Lourdes I mean

1654

01:08:55,570 --> 01:08:53,179

Catholics very happily drink water from

1655

01:08:58,599 --> 01:08:55,580

Lourdes some Catholics would the problem

1656

01:09:00,550 --> 01:08:58,609

with true science is that people are

1657

01:09:03,130 --> 01:09:00,560

counting their ignorance crystals and

1658

01:09:04,930 --> 01:09:03,140

natural chemicals very simple we can

1659

01:09:08,050 --> 01:09:04,940

explain all their properties with

1660

01:09:11,950 --> 01:09:08,060

schoolboy physics and chemistry I've got

1661

01:09:14,079 --> 01:09:11,960

three crystals here you lay your hands

1662

01:09:16,539 --> 01:09:14,089

on them and tell me what you would use

1663

01:09:18,500 --> 01:09:16,549

them for or what energies you feel or

1664

01:09:19,880 --> 01:09:18,510

what powers you're getting from

1665

01:09:22,430 --> 01:09:19,890

these are crystals you've written about

1666

01:09:24,170 --> 01:09:22,440

in your book you clearly are aware of

1667

01:09:25,520 --> 01:09:24,180

the sort of energies in pairs now you

1668

01:09:27,140 --> 01:09:25,530

tell me what is coming from those

1669

01:09:28,760 --> 01:09:27,150

crystals you can touch them or fondle

1670

01:09:30,470 --> 01:09:28,770

them or cheering them or whatever

1671

01:09:32,150 --> 01:09:30,480

gobbledygook you want to use but you

1672

01:09:33,830 --> 01:09:32,160

tell me I'm more check it in your book

1673

01:09:36,200 --> 01:09:33,840

first of all I'd like to object to you

1674

01:09:38,270 --> 01:09:36,210

using the word gobbledygook just do the

1675

01:09:40,670 --> 01:09:38,280

experiment and secondly re with it work

1676

01:09:43,670 --> 01:09:40,680

will you please be quiet and let me

1677

01:09:45,590 --> 01:09:43,680

speak you're quite were you quite silly

1678

01:09:48,440 --> 01:09:45,600

you're not even being original just do

1679

01:09:51,230 --> 01:09:48,450

this was unbelievable what you should

1680

01:09:53,540 --> 01:09:51,240

really be doing here is not saying that

1681

01:09:55,340 --> 01:09:53,550

and that you feel this you feel that

1682

01:09:57,110 --> 01:09:55,350

because whatever happens you're going to

1683

01:09:58,700 --> 01:09:57,120

go in on and attack you're not ready to

1684

01:10:01,400 --> 01:09:58,710

even learn you're the type of man who

1685

01:10:03,710 --> 01:10:01,410

does mad and you are ashamed you are no

1686

01:10:06,110 --> 01:10:03,720

prepared honey I hope to do this

1687

01:10:07,700 --> 01:10:06,120

experiment not with him here the way he

1688

01:10:09,290 --> 01:10:07,710

does done willing to bring a doctor on

1689

01:10:11,330 --> 01:10:09,300

I'm willing to bring people who've

1690

01:10:12,890 --> 01:10:11,340

actually recipients interest ashley is

1691

01:10:14,660 --> 01:10:12,900

there in the community is a huge amount

1692

01:10:16,310 --> 01:10:14,670

that I haven't come onto the program to

1693

01:10:19,010 --> 01:10:16,320

simply be attacked and be called names

1694

01:10:21,710 --> 01:10:19,020

I've come onto the program hoping that

1695

01:10:23,990 --> 01:10:21,720

we might be able to do something

1696

01:10:25,850 --> 01:10:24,000

somebody who wouldn't open their mind to

1697

01:10:29,840 --> 01:10:25,860

anything do you think eans beyond him

1698

01:10:32,060 --> 01:10:29,850

and nobody is not even here he's beyond

1699

01:10:33,860 --> 01:10:32,070

help as long as he keeps attacking and

1700

01:10:35,960 --> 01:10:33,870

won't actually open his mind to anything

1701

01:10:37,220 --> 01:10:35,970

and I think crystal could help him to do

1702

01:10:39,260 --> 01:10:37,230

it and I've brought one to help him

1703

01:10:41,720 --> 01:10:39,270

madam I have been dealing with crystals

1704

01:10:43,760 --> 01:10:41,730

for 25 years I understand their physics

1705

01:10:45,410 --> 01:10:43,770

very clearly I understand their

1706

01:10:47,510 --> 01:10:45,420

chemistry very clearly you just do a

1707

01:10:49,880 --> 01:10:47,520

simple little experiment to show that

1708

01:10:51,440 --> 01:10:49,890

what you're saying actually works you

1709

01:10:56,180 --> 01:10:51,450

don't like that experiment i can give

1710

01:10:58,250 --> 01:10:56,190

you another one if you demonstrate how

1711

01:11:00,680 --> 01:10:58,260

every people believe that if people draw

1712

01:11:03,410 --> 01:11:00,690

some sort of comfort from crystals why

1713

01:11:05,750 --> 01:11:03,420

why bus there were little bubbles except

1714

01:11:07,040 --> 01:11:05,760

that it is being promoted as in this

1715

01:11:09,020 --> 01:11:07,050

book that they can be used for the

1716

01:11:10,340 --> 01:11:09,030

treatment of certain illnesses and the

1717

01:11:12,230 --> 01:11:10,350

second thing is that part of the

1718

01:11:13,760 --> 01:11:12,240

wonderful crystal collecting areas in

1719

01:11:16,550 --> 01:11:13,770

this country are being absolutely

1720

01:11:19,450 --> 01:11:16,560

destroyed and I really like he's being

1721

01:11:22,700 --> 01:11:19,460

denied it do you have do you have people

1722

01:11:25,220 --> 01:11:22,710

working solely from your book as a way

1723

01:11:27,050 --> 01:11:25,230

of trying to heal themselves and I send

1724

01:11:29,360 --> 01:11:27,060

them to doctors as well I send them to

1725

01:11:30,380 --> 01:11:29,370

psychiatrists I have doctors coming to

1726

01:11:35,480 --> 01:11:30,390

me

1727

01:11:37,190 --> 01:11:35,490

psychiatrists psychologists and we have

1728

01:11:40,460 --> 01:11:37,200

a great range of people and they don't

1729

01:11:42,590 --> 01:11:40,470

just work from my book um we could I

1730

01:11:45,650 --> 01:11:42,600

could actually say yes well I worked I

1731

01:11:47,120 --> 01:11:45,660

took gemology at London City Polly I can

1732

01:11:48,530 --> 01:11:47,130

say this and I can say yes I've been

1733

01:11:50,330 --> 01:11:48,540

working with crystals for many many

1734

01:11:53,270 --> 01:11:50,340

years to and I've been holding them from

1735

01:11:54,950 --> 01:11:53,280

a child from tiny little child island so

1736

01:11:56,750 --> 01:11:54,960

hold an amethyst to get me through exams

1737

01:11:58,430 --> 01:11:56,760

but you still have enough to get any

1738

01:11:59,960 --> 01:11:58,440

energy from these three crystals which

1739

01:12:02,600 --> 01:11:59,970

you write about and until you can

1740

01:12:04,430 --> 01:12:02,610

demonstrate it works you are a sham I

1741

01:12:06,770 --> 01:12:04,440

think we'll have to leave it there thank

1742

01:12:24,490 --> 01:12:06,780

you both very much for coming Magda and

1743

01:12:29,810 --> 01:12:26,840

thank you for joining me for this

1744

01:12:32,090 --> 01:12:29,820

episode of the skeptic zone another one

1745

01:12:34,130 --> 01:12:32,100

in our summer series as if you're in

1746

01:12:36,800 --> 01:12:34,140

Australia or winter series if you're in

1747

01:12:39,650 --> 01:12:36,810

the United States coming up next week on

1748

01:12:41,390 --> 01:12:39,660

the 8th of January the full show gets

1749

01:12:43,729 --> 01:12:41,400

back into gear on the fifteenth of

1750

01:12:46,820 --> 01:12:43,739

january and i will try to get a think

1751

01:12:49,160 --> 01:12:46,830

tank going for that one until next week

1752

01:12:54,740 --> 01:12:49,170

anyway this is Richard Saunders signing

1753

01:12:58,760 --> 01:12:54,750

off you've been listening to the skeptic

1754

01:13:02,510 --> 01:12:58,770

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