



1
00:00:05,120 --> 00:00:03,350
hello I just like to mention that the

2
00:00:10,129 --> 00:00:05,130
resolution on this particular video

3
00:00:13,400 --> 00:00:10,139
isn't the best but that was due to a

4
00:00:15,350 --> 00:00:13,410
firmware update and to the unfamiliarity

5
00:00:19,070 --> 00:00:15,360
with the equipment that was being used

6
00:00:33,520 --> 00:00:19,080
so apologies and advanced enjoy the show

7
00:00:41,760 --> 00:00:38,110
you

8
00:00:45,130 --> 00:00:41,770
very much for attending this the 10th

9
00:00:46,990 --> 00:00:45,140
monthly meeting of Swansea UFO network

10
00:00:51,639 --> 00:00:47,000
and the first of the new year hope you

11
00:00:53,740 --> 00:00:51,649
enjoyed your your Christmas break now

12
00:00:57,069 --> 00:00:53,750
before we start I'd very quickly like to

13
00:00:58,479 --> 00:00:57,079

touch on a few non UFO related items by

14

00:01:03,160 --> 00:00:58,489

acknowledging a few of our members

15

00:01:05,380 --> 00:01:03,170

achievement firstly I'd like to thank

16

00:01:07,600 --> 00:01:05,390

our very own name lynn williams sitting

17

00:01:10,180 --> 00:01:07,610

amongst you there for the courage and

18

00:01:13,330 --> 00:01:10,190

passion he's shown in coming out as a

19

00:01:14,830 --> 00:01:13,340

crossdresser now for those who don't

20

00:01:17,380 --> 00:01:14,840

know what I mean em then delighted

21

00:01:20,380 --> 00:01:17,390

audiences in God New Year by playing the

22

00:01:21,910 --> 00:01:20,390

daemon Sleeping Beauty apparently was

23

00:01:25,630 --> 00:01:21,920

very well received than a complete

24

00:01:27,399 --> 00:01:25,640

success how he has it well someone said

25

00:01:29,710 --> 00:01:27,409

mentioning no names that he looked just

26

00:01:32,559 --> 00:01:29,720

a little too comfortable in his dress

27

00:01:34,240 --> 00:01:32,569

and makeup and have you been abducted by

28

00:01:37,029 --> 00:01:34,250

aliens on his way home we would have not

29

00:01:42,100 --> 00:01:37,039

know much type of probe to user name so

30

00:01:43,930 --> 00:01:42,110

well done Emily certainly not here

31

00:01:45,790 --> 00:01:43,940

tonight but congratulations to gain a

32

00:01:48,010 --> 00:01:45,800

vine on the publication of a new book

33

00:01:49,900 --> 00:01:48,020

the books entitled down in the valley

34

00:01:51,940 --> 00:01:49,910

and it's available on amazon for anyone

35

00:01:54,910 --> 00:01:51,950

who's interested makes you go from

36

00:01:56,919 --> 00:01:54,920

strength to strength in that and lastly

37

00:01:58,389 --> 00:01:56,929

by no means least i don't want to

38

00:01:59,499 --> 00:01:58,399

embarrass him which are not likely to do

39

00:02:01,960 --> 00:01:59,509

hopefully unless he's watching this

40

00:02:03,639 --> 00:02:01,970

video i'd like to say congratulations to

41

00:02:06,690 --> 00:02:03,649

Stephen Griffiths I'm receiving his

42

00:02:09,609 --> 00:02:06,700

unsung heroes award from however

43

00:02:11,740 --> 00:02:09,619

University Health Board recognizing his

44

00:02:14,350 --> 00:02:11,750

passionate nulla faltering commitment to

45

00:02:17,740 --> 00:02:14,360

care as in Carmarthen so well done to

46

00:02:19,690 --> 00:02:17,750

him and we back to tonight I have the

47

00:02:21,190 --> 00:02:19,700

pleasure to introduce to our guest speak

48

00:02:24,369 --> 00:02:21,200

of the evening which is mr. Ben Hanlin

49

00:02:26,470 --> 00:02:24,379

Jones a brent was born in Aberystwyth

50

00:02:28,839 --> 00:02:26,480

and brought up in the lamp in Terraria

51
00:02:31,509 --> 00:02:28,849
before moving to Oxford where up until

52
00:02:33,490 --> 00:02:31,519
three years ago he spent 22 well

53
00:02:35,860 --> 00:02:33,500
respected years employed as a hospital

54
00:02:39,520 --> 00:02:35,870
porter a John Radcliffe Hospital in

55
00:02:41,770 --> 00:02:39,530
Oxford when became interested in UFOs

56
00:02:45,250 --> 00:02:41,780
and various other conspiracy theories in

57
00:02:46,790 --> 00:02:45,260
the late 1990s he started his website

58
00:02:50,000 --> 00:02:46,800
mark hospital porter

59
00:02:52,490 --> 00:02:50,010
against the New World Order in 2006 i

60
00:02:55,670 --> 00:02:52,500
believe and it has thousands of visitors

61
00:02:57,020 --> 00:02:55,680
every year every day he regularly

62
00:02:59,120 --> 00:02:57,030
attends and delivers talks and

63
00:03:02,180 --> 00:02:59,130

discussions all over Britain on a wide

64

00:03:07,220 --> 00:03:02,190

range of subjects is talk this evening

65

00:03:08,750 --> 00:03:07,230

is entitled energy politics and UFOs now

66

00:03:10,190 --> 00:03:08,760

he's traveled a good distance today to

67

00:03:12,020 --> 00:03:10,200

be with us this evening so without

68

00:03:23,180 --> 00:03:12,030

further ado please give a warm sulfone

69

00:03:24,500 --> 00:03:23,190

welcome to mr. Ben Hanlin jokes thank

70

00:03:26,600 --> 00:03:24,510

you very much thank you so much in d can

71

00:03:30,860 --> 00:03:26,610

you all hear me thanks for thanks oh

72

00:03:32,420 --> 00:03:30,870

thanks for that just start this up i'm

73

00:03:35,120 --> 00:03:32,430

making them all of your record it's so

74

00:03:40,040 --> 00:03:35,130

great a thing it's not visiting videoed

75

00:03:41,990 --> 00:03:40,050

got a separate video be made alright

76
00:03:45,640 --> 00:03:42,000
some other any Hospital porters here

77
00:03:50,030 --> 00:03:45,650
this evening no I'm at the wrong meeting

78
00:03:52,850 --> 00:03:50,040
there yeah the eye shadow come dive on

79
00:03:54,680 --> 00:03:52,860
demand I own now another leak okay now i

80
00:03:58,520 --> 00:03:54,690
can't speak welsh very well and the

81
00:04:02,390 --> 00:03:58,530
Rusties hell now I used to I got family

82
00:04:06,320 --> 00:04:02,400
for speaking oh I never see um but my

83
00:04:08,210 --> 00:04:06,330
name is Ben emily jones and i am an ex

84
00:04:11,900 --> 00:04:08,220
hospital porter as you just heard and

85
00:04:14,479 --> 00:04:11,910
then I do hail from Wales originally and

86
00:04:16,190 --> 00:04:14,489
but my accent is east of the border as

87
00:04:19,310 --> 00:04:16,200
you can tell I've lost my accent in the

88
00:04:21,229 --> 00:04:19,320

intervening years but I still feel like

89

00:04:24,110 --> 00:04:21,239

a Welsh boy in fact I've got something

90

00:04:26,270 --> 00:04:24,120

more appropriate to wear than this yeah

91

00:04:29,610 --> 00:04:26,280

I mind not gonna do the full monty don't

92

00:04:40,560 --> 00:04:33,360

dude yeah that's better that's more like

93

00:04:45,870 --> 00:04:40,570

it let's have another Grand Slam this

94

00:04:50,909 --> 00:04:45,880

year shall we yay yes oh that's right

95

00:04:53,820 --> 00:04:50,919

please sir Mike thanks very much this is

96

00:04:56,850 --> 00:04:53,830

me the porter in Buda I was a hospital

97

00:04:58,830 --> 00:04:56,860

porter for 23 years and lost my job in

98

00:05:03,659 --> 00:04:58,840

rather mysterious circumstances I can't

99

00:05:05,040 --> 00:05:03,669

really detail this evening but it was

100

00:05:06,540 --> 00:05:05,050

suspicious and I think it was related to

101
00:05:09,300 --> 00:05:06,550
what I'm doing now I'm one of several

102
00:05:10,710 --> 00:05:09,310
people who has had these experiences in

103
00:05:16,379 --> 00:05:10,720
their employment and through their

104
00:05:18,719 --> 00:05:16,389
career which really does kind of make a

105
00:05:20,460 --> 00:05:18,729
little bit suspicious makes it a little

106
00:05:23,040 --> 00:05:20,470
bit I think people should be asking

107
00:05:25,710 --> 00:05:23,050
serious questions when I'm more than one

108
00:05:31,230 --> 00:05:25,720
person suffers through their employment

109
00:05:35,520 --> 00:05:31,240
in this way and that's as not have it or

110
00:05:38,250 --> 00:05:35,530
Providence I am them I am definitely i'm

111
00:05:39,779 --> 00:05:38,260
still in mine I put a roof over my got

112
00:05:42,510 --> 00:05:39,789
food on base at least I can't complain

113
00:05:45,270 --> 00:05:42,520

I've got another job and things are

114

00:05:47,100 --> 00:05:45,280

going well so I and because the hospital

115

00:05:48,810 --> 00:05:47,110

and the NHS generally so stressful now i

116

00:05:52,200 --> 00:05:48,820

miss it less unless every minute i

117

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

really do so maybe it's for the best but

118

00:05:58,140 --> 00:05:54,220

sims you sure there's no hospital

119

00:05:59,760 --> 00:05:58,150

Porter's I'm other wrong meeting no not

120

00:06:03,960 --> 00:05:59,770

to worry not to worry oh I'll hang

121

00:06:06,659 --> 00:06:03,970

around for a bit but basically what I'm

122

00:06:08,939 --> 00:06:06,669

here thought you about today is both

123

00:06:11,400 --> 00:06:08,949

energy politics and UFOs and you might

124

00:06:14,570 --> 00:06:11,410

think there's no cake are possibly be a

125

00:06:17,010 --> 00:06:14,580

connection between those dispartes

126

00:06:18,870 --> 00:06:17,020

items they're too tiny different

127

00:06:21,330 --> 00:06:18,880

subjects how do they possibly care less

128

00:06:23,339 --> 00:06:21,340

what they do it and I will explain but

129

00:06:25,529 --> 00:06:23,349

it's a long way round and it will take a

130

00:06:27,029 --> 00:06:25,539

while to get through all the details but

131

00:06:28,830 --> 00:06:27,039

it's important to understand the details

132

00:06:32,820 --> 00:06:28,840

before you can understand what's going

133

00:06:35,090 --> 00:06:32,830

on in the world now um can I the next

134

00:06:37,580 --> 00:06:35,100

slide please

135

00:06:39,980 --> 00:06:37,590

so what is a UFO well UFO stands for

136

00:06:41,060 --> 00:06:39,990

unidentified flying objects as you well

137

00:06:43,010 --> 00:06:41,070

know in this group because you've

138

00:06:45,680 --> 00:06:43,020

studied them carefully basically

139

00:06:48,080 --> 00:06:45,690

anything you see in the sky which you do

140

00:06:50,300 --> 00:06:48,090

not recognize is by definition a UFO

141

00:06:52,400 --> 00:06:50,310

unidentified flying object this could be

142

00:06:54,290 --> 00:06:52,410

an unusual bird of a species you're not

143

00:06:56,690 --> 00:06:54,300

familiar where there could be a kite it

144

00:07:02,150 --> 00:06:56,700

could be a foreign aircraft or a design

145

00:07:04,370 --> 00:07:02,160

you're not familiar with etc etc now the

146

00:07:06,470 --> 00:07:04,380

official line is that basically all

147

00:07:08,210 --> 00:07:06,480

these things are explicable and they

148

00:07:09,620 --> 00:07:08,220

would be if you couldn't if everyone

149

00:07:11,690 --> 00:07:09,630

could just get a bit closer and see what

150

00:07:13,340 --> 00:07:11,700

they were now obviously in many cases

151
00:07:15,440 --> 00:07:13,350
maybe the majority of cases of course

152
00:07:17,330 --> 00:07:15,450
people are mistaken they mystique a

153
00:07:19,130 --> 00:07:17,340
mistake mundane everyday objects for

154
00:07:21,200 --> 00:07:19,140
things like they just think what's that

155
00:07:23,090 --> 00:07:21,210
and they don't know what it is but if

156
00:07:24,800 --> 00:07:23,100
maybe in different circumstances they

157
00:07:26,300 --> 00:07:24,810
wouldn't know what it is but I believe

158
00:07:28,460 --> 00:07:26,310
it is false I'll say that from the start

159
00:07:30,980 --> 00:07:28,470
I believe it is false to suggest that

160
00:07:35,030 --> 00:07:30,990
all unidentified flying object

161
00:07:37,070 --> 00:07:35,040
experiences can be explained us and I'm

162
00:07:38,120 --> 00:07:37,080
sure that had an interest in the subject

163
00:07:42,260 --> 00:07:38,130

you will have come to a similar

164

00:07:43,610 --> 00:07:42,270

conclusion but there's all kinds of

165

00:07:45,500 --> 00:07:43,620

different UFOs some people see them very

166

00:07:48,140 --> 00:07:45,510

close this is one of the most common

167

00:07:50,150 --> 00:07:48,150

varieties you need a saucer is the

168

00:07:53,330 --> 00:07:50,160

original flying saucer a disc-shaped

169

00:07:56,390 --> 00:07:53,340

object needs seen quite commonly next

170

00:07:58,250 --> 00:07:56,400

slide please this is another common

171

00:08:00,800 --> 00:07:58,260

variety is a triangular-shaped object

172

00:08:03,170 --> 00:08:00,810

with lights on the corn very often these

173

00:08:05,660 --> 00:08:03,180

do have lights on the corners very often

174

00:08:07,070 --> 00:08:05,670

they're black in color that sometimes

175

00:08:10,820 --> 00:08:07,080

seen in local areas for instance to the

176

00:08:13,520 --> 00:08:10,830

north of England and in Belgium there

177

00:08:15,890 --> 00:08:13,530

was a wide range of sightings of these

178

00:08:17,990 --> 00:08:15,900

across Belgium in in the late nineteen

179

00:08:20,660 --> 00:08:18,000

eighty nine to nineteen ninety this is a

180

00:08:23,960 --> 00:08:20,670

photograph taken one in Belgium in 1919

181

00:08:25,840 --> 00:08:23,970

next slide please this is another

182

00:08:28,670 --> 00:08:25,850

familiar type of object it is a

183

00:08:31,070 --> 00:08:28,680

spherical object I've actually seen one

184

00:08:32,810 --> 00:08:31,080

of these myself not up close like this

185

00:08:34,969 --> 00:08:32,820

this is actually an artist's impression

186

00:08:37,730 --> 00:08:34,979

of it a real-life encounter took place

187

00:08:40,909 --> 00:08:37,740

in Scotland in 1970 knowing the man

188

00:08:42,770 --> 00:08:40,919

called Roberts named Robert Taylor was

189

00:08:44,780 --> 00:08:42,780

walking through the woods one day and he

190

00:08:46,790 --> 00:08:44,790

came across this and it you didn't only

191

00:08:48,140 --> 00:08:46,800

see it it actually ripped his trousers

192

00:08:48,560 --> 00:08:48,150

actually kept went for him and ripped

193

00:08:50,420 --> 00:08:48,570

his trail

194

00:08:52,240 --> 00:08:50,430

roses and I've seen those trousers I put

195

00:08:56,180 --> 00:08:52,250

my fingers through the holes made by

196

00:08:58,990 --> 00:08:56,190

this strange object and so that's

197

00:09:01,850 --> 00:08:59,000

another common form a next slide please

198

00:09:03,920 --> 00:09:01,860

this is a triangular shaped or pyramidal

199

00:09:06,110 --> 00:09:03,930

object different from the black triangle

200

00:09:09,410 --> 00:09:06,120

this is like a solid tetrahedron or

201
00:09:11,300 --> 00:09:09,420
pyramid a tetra meet a tetrahedron is

202
00:09:15,380 --> 00:09:11,310
like a pyramid with a triangular base so

203
00:09:17,260 --> 00:09:15,390
it's triangles on four sides and this is

204
00:09:19,760 --> 00:09:17,270
an artist's impression of one scene

205
00:09:22,940 --> 00:09:19,770
Rendlesham forest in 1982 fay very

206
00:09:24,530 --> 00:09:22,950
famous incident in which a group of

207
00:09:26,120 --> 00:09:24,540
american airmen many many witnesses

208
00:09:28,310 --> 00:09:26,130
encounter strange things in the woods

209
00:09:32,180 --> 00:09:28,320
it's one of the most famous sightings of

210
00:09:36,260 --> 00:09:32,190
all times next slide please this is a

211
00:09:38,630 --> 00:09:36,270
chevron shaped object which is racine

212
00:09:41,900 --> 00:09:38,640
it's basically similar to the one seen

213
00:09:43,190 --> 00:09:41,910

over Phoenix Arizona in 1997 contrary to

214

00:09:45,470 --> 00:09:43,200

what you might hurt and they weren't

215

00:09:47,960 --> 00:09:45,480

just flares they watched warning flowers

216

00:09:49,760 --> 00:09:47,970

there was a solid object very large flew

217

00:09:52,190 --> 00:09:49,770

over the City of Phoenix are sitting on

218

00:09:55,190 --> 00:09:52,200

million people in Arizona USA next slide

219

00:09:56,900 --> 00:09:55,200

please and it seems that weather

220

00:10:01,880 --> 00:09:56,910

balloons are fitted with ruh bars these

221

00:10:05,990 --> 00:10:01,890

days it's a infamous or famous headline

222

00:10:09,440 --> 00:10:06,000

from the Sun and well basically this

223

00:10:11,120 --> 00:10:09,450

happened in Lincolnshire where a wind

224

00:10:13,280 --> 00:10:11,130

turbine suffered an accident was struck

225

00:10:14,540 --> 00:10:13,290

by some objects and no one knows exactly

226

00:10:16,700 --> 00:10:14,550

what it was but was big enough to knock

227

00:10:19,280 --> 00:10:16,710

the hell out of it and break one of the

228

00:10:21,290 --> 00:10:19,290

blaze and Bend another one so it was

229

00:10:23,060 --> 00:10:21,300

really quite unremarkable the incident

230

00:10:24,710 --> 00:10:23,070

that that's still remains unsolved

231

00:10:26,560 --> 00:10:24,720

there's been many other strange

232

00:10:30,470 --> 00:10:26,570

goings-on in Lincolnshire including

233

00:10:32,720 --> 00:10:30,480

sheath being stolen and similar things

234

00:10:37,000 --> 00:10:32,730

strange odd like to be seen in the sky

235

00:10:41,150 --> 00:10:37,010

etc next slide please of course them

236

00:10:43,600 --> 00:10:41,160

when I destroy them and UFOs like we

237

00:10:45,830 --> 00:10:43,610

often hear me use the word artifact I

238

00:10:47,990 --> 00:10:45,840

don't often use words like spaceship

239

00:10:50,150 --> 00:10:48,000

spacecraft etc even though that might be

240

00:10:53,630 --> 00:10:50,160

accurate in many cases artifact is a bit

241

00:10:54,980 --> 00:10:53,640

more wide-ranging because we it may be a

242

00:10:58,470 --> 00:10:54,990

bit of an assumption to say things like

243

00:11:01,240 --> 00:10:58,480

spaceship or spacecraft artifact is more

244

00:11:03,100 --> 00:11:01,250

implies an up an artificially created

245

00:11:06,910 --> 00:11:03,110

object should not terrestrial it's not

246

00:11:11,830 --> 00:11:06,920

made by humans and but it's quite clear

247

00:11:13,510 --> 00:11:11,840

that these objects do appear to function

248

00:11:16,630 --> 00:11:13,520

as some kind of transportation device

249

00:11:18,160 --> 00:11:16,640

for biological beings of some kind or

250

00:11:20,890 --> 00:11:18,170

another and this is one of the most

251
00:11:24,030 --> 00:11:20,900
commonly iconic gray with a big black

252
00:11:26,230 --> 00:11:24,040
eyes short creature hairless gray body

253
00:11:29,170 --> 00:11:26,240
this is one of the most commonly seen

254
00:11:34,030 --> 00:11:29,180
and regularly encountered by witnesses

255
00:11:35,410 --> 00:11:34,040
next slide and these are these are a bit

256
00:11:37,720 --> 00:11:35,420
different there more human looking these

257
00:11:40,540 --> 00:11:37,730
actually czar the Nordics they're the

258
00:11:42,130 --> 00:11:40,550
kind of aliens you could almost pass in

259
00:11:44,020 --> 00:11:42,140
the street and not really look at them

260
00:11:45,520 --> 00:11:44,030
if they were wearing normal clothes you

261
00:11:47,140 --> 00:11:45,530
might just think I'll a bit strange but

262
00:11:48,400 --> 00:11:47,150
you wouldn't immediately you wouldn't

263
00:11:50,560 --> 00:11:48,410

react the same way as you did if you saw

264

00:11:52,300 --> 00:11:50,570

under grace they tend to have very

265

00:11:54,310 --> 00:11:52,310

bright blond hair and deep blue eyes

266

00:11:56,470 --> 00:11:54,320

they often have exaggerated features

267

00:11:58,630 --> 00:11:56,480

like speeches like extra large eyes and

268

00:12:03,700 --> 00:11:58,640

extra long chin things like that next

269

00:12:06,160 --> 00:12:03,710

slide please now this is a artist

270

00:12:07,660 --> 00:12:06,170

impression of a creature seen by a guy

271

00:12:10,060 --> 00:12:07,670

like a Whitley Strieber in the United

272

00:12:11,830 --> 00:12:10,070

States but this Reba was authorized to

273

00:12:14,110 --> 00:12:11,840

write books on various kinds of things

274

00:12:15,880 --> 00:12:14,120

and then he had an amazing encounter

275

00:12:17,860 --> 00:12:15,890

with preachers with several in for the

276

00:12:20,140 --> 00:12:17,870

creature like this and after that he

277

00:12:22,990 --> 00:12:20,150

decided to write about his experiences

278

00:12:24,430 --> 00:12:23,000

and he's a book called chameleon which

279

00:12:26,710 --> 00:12:24,440

was made into an excellent film starring

280

00:12:29,050 --> 00:12:26,720

Christopher Walken Eric Clapton did

281

00:12:32,650 --> 00:12:29,060

score it's very well worth seeing next

282

00:12:34,480 --> 00:12:32,660

slide please this is a reptilian

283

00:12:38,500 --> 00:12:34,490

humanoid now this is another creature

284

00:12:40,690 --> 00:12:38,510

very often seen by witnesses these

285

00:12:43,830 --> 00:12:40,700

creatures tend to be often more likely

286

00:12:46,630 --> 00:12:43,840

associated with unpleasant encounters

287

00:12:49,180 --> 00:12:46,640

the brilliant Australian researcher Mary

288

00:12:51,430 --> 00:12:49,190

Rodwell has looked into all kinds of

289

00:12:54,070 --> 00:12:51,440

alien contact experiences throughout her

290

00:12:56,980 --> 00:12:54,080

career and that's what she has noted

291

00:12:58,600 --> 00:12:56,990

these are like a human they tend to be a

292

00:13:01,360 --> 00:12:58,610

bit short bit taller than average man

293

00:13:04,360 --> 00:13:01,370

and reptilian features in other words

294

00:13:06,249 --> 00:13:04,370

they have scaly skin lizard-like eyes

295

00:13:09,489 --> 00:13:06,259

etc and think

296

00:13:10,599 --> 00:13:09,499

that there you'll hear a lot about some

297

00:13:12,239 --> 00:13:10,609

of these if you look into the works of

298

00:13:15,159 --> 00:13:12,249

people are David Icke because these

299

00:13:16,359 --> 00:13:15,169

apparently he talks about reptilian

300

00:13:18,729 --> 00:13:16,369

humanoids that could disguise themselves

301

00:13:21,389 --> 00:13:18,739

as humans and I'll go into a bit more

302

00:13:23,769 --> 00:13:21,399

detail about that later in the talk but

303

00:13:25,029 --> 00:13:23,779

it's not necessarily the same phenomenon

304

00:13:28,199 --> 00:13:25,039

we're dealing with here there may be

305

00:13:31,449 --> 00:13:28,209

something different next slide please

306

00:13:33,669 --> 00:13:31,459

now this is what's known as a romantic

307

00:13:35,289 --> 00:13:33,679

and these are a lot of talk creatures

308

00:13:37,509 --> 00:13:35,299

that look fearsome but they very often

309

00:13:41,529 --> 00:13:37,519

quite benevolent I should point out that

310

00:13:44,739 --> 00:13:41,539

some aliens whatever you want to call

311

00:13:46,539 --> 00:13:44,749

them some people have encounters with

312

00:13:48,340 --> 00:13:46,549

them which are very loving and

313

00:13:50,229 --> 00:13:48,350

benevolent these creatures are some was

314

00:13:51,909 --> 00:13:50,239

quite spiritual and they're almost like

315

00:13:56,710 --> 00:13:51,919

spiritual gurus who want to help us

316

00:13:58,419 --> 00:13:56,720

evolve on a ferret level others seem to

317

00:14:02,439 --> 00:13:58,429

be disinterested the majority seem to

318

00:14:05,109 --> 00:14:02,449

point disinterested and neutral towards

319

00:14:08,139 --> 00:14:05,119

us and they appear to be almost studying

320

00:14:10,509 --> 00:14:08,149

us as a scientist my study a an animal

321

00:14:12,699 --> 00:14:10,519

in the laboratory those seem to be the

322

00:14:15,129 --> 00:14:12,709

majority there are there are some and

323

00:14:18,069 --> 00:14:15,139

luckily is a minority which appear to

324

00:14:19,720 --> 00:14:18,079

have a dark gender they appear to be

325

00:14:21,999 --> 00:14:19,730

very very hateful and very malevolent

326

00:14:24,189 --> 00:14:22,009

and they wish to inflict pain on us and

327

00:14:26,139 --> 00:14:24,199

they do injuries on people there's

328

00:14:28,439 --> 00:14:26,149

several people died and their deaths

329

00:14:31,150 --> 00:14:28,449

have been associated with contact with

330

00:14:32,919 --> 00:14:31,160

extraterrestrial sets the

331

00:14:34,900 --> 00:14:32,929

extraterrestrials have a play exhibit a

332

00:14:36,489 --> 00:14:34,910

very very wide array of behaviors and

333

00:14:39,999 --> 00:14:36,499

they seem to have a lot of different

334

00:14:43,059 --> 00:14:40,009

motives and agendas so I never I never

335

00:14:44,409 --> 00:14:43,069

go along with people who claim that the

336

00:14:45,879 --> 00:14:44,419

same agenda can be applied to all

337

00:14:48,879 --> 00:14:45,889

extraterrestrials because I don't really

338

00:14:51,699 --> 00:14:48,889

that's the case but I mean very often

339

00:14:53,169 --> 00:14:51,709

people have encounters with these and

340

00:14:55,269 --> 00:14:53,179

there's a famous witness who's been on

341

00:14:56,379 --> 00:14:55,279

TV lately talking about how he's

342

00:14:58,449 --> 00:14:56,389

actually married to one of these

343

00:15:00,159 --> 00:14:58,459

creatures in the in the in the spaceship

344

00:15:01,509 --> 00:15:00,169

he has like a second wife so awkward

345

00:15:03,969 --> 00:15:01,519

because he has a wife in this world and

346

00:15:05,679 --> 00:15:03,979

a family but some he doesn't meet up

347

00:15:08,879 --> 00:15:05,689

with his wife on the spacecraft his

348

00:15:11,319 --> 00:15:08,889

other wife and they I can't imagine to

349

00:15:12,879 --> 00:15:11,329

begin to imagine what his home life is

350

00:15:15,369 --> 00:15:12,889

long but his family life is like but

351

00:15:17,199 --> 00:15:15,379

some all kinds of weird wonderful

352

00:15:19,269 --> 00:15:17,209

creatures every variety you can imagine

353

00:15:20,650 --> 00:15:19,279

next slide please you can't imagine the

354

00:15:22,419 --> 00:15:20,660

kind of strange creatures you sometimes

355

00:15:24,280 --> 00:15:22,429

come across in the various it captures

356

00:15:29,350 --> 00:15:24,290

and I don't what the hell is that doing

357

00:15:31,689 --> 00:15:29,360

that during me Nick Pope blessing do you

358

00:15:34,989 --> 00:15:31,699

know about Nick podium Nick Pope got

359

00:15:37,600 --> 00:15:34,999

married to what human woman apparently I

360

00:15:40,090 --> 00:15:37,610

think she's human anyone but some didn't

361

00:15:41,379 --> 00:15:40,100

go very well at first because he was

362

00:15:43,299 --> 00:15:41,389

standing in front of the altar beside

363

00:15:45,160 --> 00:15:43,309

her and the vicar says Nicholas do you

364

00:15:46,299 --> 00:15:45,170

take this woman is about to be your

365

00:15:48,280 --> 00:15:46,309

lawful wedded wife to love and cherish

366

00:15:50,410 --> 00:15:48,290

all this day forward till death do you

367

00:15:55,179 --> 00:15:50,420

part Nick replied I can neither confirm

368

00:15:58,509 --> 00:15:55,189

nor deny that that's enough Nick

369

00:16:02,079 --> 00:15:58,519

potpourri my mother Nick papist our next

370

00:16:04,900 --> 00:16:02,089

slide please now this is a picture of my

371

00:16:06,249 --> 00:16:04,910

own encounter and I was going to say

372

00:16:08,829 --> 00:16:06,259

artist impression but it's not really

373

00:16:11,230 --> 00:16:08,839

accurate is it I was walking through

374

00:16:14,739 --> 00:16:11,240

Oxford and I saw a white spherical

375

00:16:16,900 --> 00:16:14,749

object at a distance it was its parent

376

00:16:19,389 --> 00:16:16,910

sizes about the size of the quarter of

377

00:16:22,030 --> 00:16:19,399

the size of the moon and it was hideous

378

00:16:23,319 --> 00:16:22,040

I never worked out exactly how big it

379

00:16:25,660 --> 00:16:23,329

was but it must've been some size

380

00:16:28,299 --> 00:16:25,670

because a cloud passed in front of it an

381

00:16:31,749 --> 00:16:28,309

elevation of about like bats or

382

00:16:34,419 --> 00:16:31,759

elevation so um it must have been some

383

00:16:35,980 --> 00:16:34,429

considerable size and I did I did look

384

00:16:37,660 --> 00:16:35,990

into iron try to eliminate the obvious

385

00:16:39,549 --> 00:16:37,670

things like I checked to see if there

386

00:16:41,739 --> 00:16:39,559

are any balloons flying that day any

387

00:16:43,840 --> 00:16:41,749

balloon sargas well this was just before

388

00:16:46,389 --> 00:16:43,850

new year so it was unlikely and very

389

00:16:48,039 --> 00:16:46,399

windy day this thing was just standing

390

00:16:51,789 --> 00:16:48,049

still in the sky even though there's a

391

00:16:54,369 --> 00:16:51,799

very strong wind blowing but some that I

392

00:16:57,970 --> 00:16:54,379

thought it's very strange um I did

393

00:16:59,259 --> 00:16:57,980

report it to nick pope some UFO desk so

394

00:17:01,150 --> 00:16:59,269

i'm looking forward to reading about my

395

00:17:04,630 --> 00:17:01,160

report and they and the recently

396

00:17:07,750 --> 00:17:04,640

declassified files hey my next slide

397

00:17:10,949 --> 00:17:07,760

please now we're going to go to energy

398

00:17:13,299 --> 00:17:10,959

now i hope you've got lots of it tonight

399

00:17:17,220 --> 00:17:13,309

but what is energy we also don't know

400

00:17:19,630 --> 00:17:17,230

what it means but how do you define it

401

00:17:22,990 --> 00:17:19,640

well it's it's very difficult to

402

00:17:24,760 --> 00:17:23,000

actually define even for expert sandy

403

00:17:26,710 --> 00:17:24,770

they'll sort of a man are but it's

404

00:17:29,010 --> 00:17:26,720

basically it's an in it's an observed

405

00:17:30,610 --> 00:17:29,020

quantity of the universe it is

406

00:17:34,600 --> 00:17:30,620

essentially it is

407

00:17:37,510 --> 00:17:34,610

causes change and adaptation oiling any

408

00:17:41,590 --> 00:17:37,520

kind of change or alteration of the

409

00:17:43,900 --> 00:17:41,600

universe is requires energy but it can't

410

00:17:45,940 --> 00:17:43,910

be defined even piano people I Professor

411

00:17:48,540 --> 00:17:45,950

Brian Cox in are these these experts

412

00:17:50,950 --> 00:17:48,550

they've got a TV yes I don't really know

413

00:17:53,500 --> 00:17:50,960

I'm very handsome and very clever but I

414

00:17:55,690 --> 00:17:53,510

don't know what energy is you know

415

00:17:58,320 --> 00:17:55,700

they'll they have to admit these experts

416

00:18:01,810 --> 00:17:58,330

that they're not experts in that respect

417

00:18:03,549 --> 00:18:01,820

it's different kinds of energy and of

418

00:18:05,440 --> 00:18:03,559

course our body to produce energy our

419

00:18:09,880 --> 00:18:05,450

bodies produce energy from the food we

420

00:18:12,400 --> 00:18:09,890

eat which we can bust in US inside us is

421

00:18:15,250 --> 00:18:12,410

combustion it's the same chemical

422

00:18:18,010 --> 00:18:15,260

reaction you get from fire only because

423

00:18:20,110 --> 00:18:18,020

the various carbon hydrocarbons and

424

00:18:21,700 --> 00:18:20,120

things in our food are mixed with that

425

00:18:23,410 --> 00:18:21,710

we breathe oxygen this releases energy

426

00:18:25,060 --> 00:18:23,420

and it's for our muscles and if I'm

427

00:18:27,790 --> 00:18:25,070

happy arm like that I've got my arm up

428

00:18:30,520 --> 00:18:27,800

like that it is requires energy for me

429

00:18:32,919 --> 00:18:30,530

the whole my arm in a position the the

430

00:18:35,730 --> 00:18:32,929

muscles are burning literally the food I

431

00:18:38,590 --> 00:18:35,740

eat the energy from the food I eat into

432

00:18:40,990 --> 00:18:38,600

energy which allows me to overcome the

433

00:18:43,660 --> 00:18:41,000

force of gravity to hold my arm and I

434

00:18:47,860 --> 00:18:43,670

shouldn't do that mission so wrong

435

00:18:50,380 --> 00:18:47,870

meeting again but some that's muscle

436

00:18:55,990 --> 00:18:50,390

powers basically as it is a part of how

437

00:18:57,850 --> 00:18:56,000

that works and next slide please now

438

00:19:00,160 --> 00:18:57,860

energy there's other forms of energy of

439

00:19:03,100 --> 00:19:00,170

course that is artificial energy energy

440

00:19:04,990 --> 00:19:03,110

that we get from sources outside our

441

00:19:07,660 --> 00:19:05,000

bodies which we actually burn outside

442

00:19:09,580 --> 00:19:07,670

our bodies in machines and this could be

443

00:19:10,870 --> 00:19:09,590

something as simple as a campfire and

444

00:19:12,520 --> 00:19:10,880

something that's complicated as a space

445

00:19:14,470 --> 00:19:12,530

rocket but it's essentially the same

446

00:19:16,870 --> 00:19:14,480

thing we're taking energy from the

447

00:19:19,770 --> 00:19:16,880

environment and processing it through

448

00:19:21,610 --> 00:19:19,780

combustion to release the energy and

449

00:19:23,049 --> 00:19:21,620

there's other reactions course like

450

00:19:25,299 --> 00:19:23,059

nuclear reactions which I'll come to as

451
00:19:28,180 --> 00:19:25,309
well which also release energy but this

452
00:19:31,990 --> 00:19:28,190
is basically how this is basically the

453
00:19:33,700 --> 00:19:32,000
majority of the energy we have in our

454
00:19:35,560 --> 00:19:33,710
society this is the energy which we burn

455
00:19:37,750 --> 00:19:35,570
our side of body comes from oil in the

456
00:19:40,300 --> 00:19:37,760
modern world and for the last century or

457
00:19:42,090 --> 00:19:40,310
more it comes from oil and oil is

458
00:19:45,480 --> 00:19:42,100
obtained from underground

459
00:19:46,650 --> 00:19:45,490
it is drilled foot like for this oil rig

460
00:19:48,930 --> 00:19:46,660
it for this is normally from the North

461
00:19:51,779 --> 00:19:48,940
Sea and is drilling the vast oil

462
00:19:54,150 --> 00:19:51,789
reserves from deep below that's the

463
00:19:56,630 --> 00:19:54,160

seabed which will lay down billions of

464

00:19:58,770 --> 00:19:56,640

years ago or millions of years ago by

465

00:20:00,210 --> 00:19:58,780

animal life unless well that's a

466

00:20:02,010 --> 00:20:00,220

contentious issue are going to come onto

467

00:20:03,510 --> 00:20:02,020

all right so I may sometimes say things

468

00:20:06,570 --> 00:20:03,520

this evening which I won't necessarily

469

00:20:08,610 --> 00:20:06,580

agree with and I'll make you aware that

470

00:20:10,560 --> 00:20:08,620

there is another side of the story but I

471

00:20:12,419 --> 00:20:10,570

might just mention it for convenience is

472

00:20:16,350 --> 00:20:12,429

safe which is to tell a certain part of

473

00:20:20,279 --> 00:20:16,360

the story but the energies everything

474

00:20:24,690 --> 00:20:20,289

energy is the if they call it black gold

475

00:20:27,000 --> 00:20:24,700

and it is oil oil is the oil industry

476
00:20:28,950 --> 00:20:27,010
covers almost everything in terms of our

477
00:20:33,090 --> 00:20:28,960
civilization or everything all is

478
00:20:34,590 --> 00:20:33,100
everything it is run off oil it's been

479
00:20:37,529 --> 00:20:34,600
described as the world's biggest denius

480
00:20:41,340 --> 00:20:37,539
industry I would say it's actually it's

481
00:20:43,980 --> 00:20:41,350
not it is it is industry oil is industry

482
00:20:45,690 --> 00:20:43,990
it is the lifeblood of civilization but

483
00:20:47,640 --> 00:20:45,700
it's the fuel and it's the lubricant it

484
00:20:50,250 --> 00:20:47,650
is everything when it comes to

485
00:20:51,840 --> 00:20:50,260
civilization because nearly all our fuel

486
00:20:53,370 --> 00:20:51,850
comes from it we also of course have

487
00:20:56,570 --> 00:20:53,380
other forms which I'm going to talk

488
00:21:00,210 --> 00:20:56,580

about coal is another one we burn coal

489

00:21:01,919 --> 00:21:00,220

in olden times we burned we didn't have

490

00:21:03,510 --> 00:21:01,929

oil really and we had vehicles or

491

00:21:06,450 --> 00:21:03,520

powered by coal in terms of steam

492

00:21:09,240 --> 00:21:06,460

engines steam engine steam railways comes

493

00:21:10,680 --> 00:21:09,250

things like that now those kinds of

494

00:21:13,049 --> 00:21:10,690

vehicles that kind of work is done by

495

00:21:19,520 --> 00:21:13,059

oil powered vehicles oil-powered

496

00:21:22,770 --> 00:21:19,530

machines and now then next slide please

497

00:21:24,690 --> 00:21:22,780

this is a normal part that is on land

498

00:21:26,909 --> 00:21:24,700

this is what's known as a nodding donkey

499

00:21:29,310 --> 00:21:26,919

and it is actually doing a similar job

500

00:21:34,020 --> 00:21:29,320

to the oil rig you just saw except it's

501
00:21:36,240 --> 00:21:34,030
on land and the thing about oil is we

502
00:21:37,740 --> 00:21:36,250
often think of the fact there's oil down

503
00:21:40,770 --> 00:21:37,750
there and all we have to do to get it up

504
00:21:42,390 --> 00:21:40,780
it's not quite that simple the oil has

505
00:21:45,600 --> 00:21:42,400
to come up which means it has to be

506
00:21:48,570 --> 00:21:45,610
under pressure incense the ground itself

507
00:21:50,280 --> 00:21:48,580
is squeezing the oil up because if we in

508
00:21:52,350 --> 00:21:50,290
order to suck the oil up we would have

509
00:21:54,600 --> 00:21:52,360
to have a pump and pump it up the thing

510
00:21:55,280 --> 00:21:54,610
is you'd need more energy to in some

511
00:21:56,600 --> 00:21:55,290
cases to

512
00:21:59,270 --> 00:21:56,610
on the pump and you'd actually get from

513
00:22:01,280 --> 00:21:59,280

the oil you extract at that point when

514

00:22:03,170 --> 00:22:01,290

that point is reached that oil well

515

00:22:07,550 --> 00:22:03,180

becomes useless it becomes spent and its

516

00:22:09,350 --> 00:22:07,560

in its abandoned so again that's there's

517

00:22:10,550 --> 00:22:09,360

been some issues where oil wells have

518

00:22:12,560 --> 00:22:10,560

been left alone for 20 years and people

519

00:22:15,770 --> 00:22:12,570

come back to them and there there's

520

00:22:17,240 --> 00:22:15,780

pressure again that's goes into the

521

00:22:19,000 --> 00:22:17,250

realm of abiotic oil which I'll talk

522

00:22:20,990 --> 00:22:19,010

more about in a minute in a minute but

523

00:22:23,390 --> 00:22:21,000

assuming at the moment this is a fossil

524

00:22:25,670 --> 00:22:23,400

fuel it's a finite resource it was laid

525

00:22:28,250 --> 00:22:25,680

down millions and billions of years ago

526

00:22:31,880 --> 00:22:28,260

went by fossils by microbial life which

527

00:22:33,380 --> 00:22:31,890

died then in which case it's gonna run

528

00:22:35,570 --> 00:22:33,390

it's not going to last forever it's not

529

00:22:37,400 --> 00:22:35,580

going to run out all together I mean

530

00:22:38,810 --> 00:22:37,410

when when humans are no longer able to

531

00:22:41,000 --> 00:22:38,820

use oil there's still be plenty of it

532

00:22:43,520 --> 00:22:41,010

left in the ground you'll just be in a

533

00:22:45,410 --> 00:22:43,530

state may be too deep or without enough

534

00:22:47,960 --> 00:22:45,420

pressure in areas that we can't access

535

00:22:50,200 --> 00:22:47,970

it well it costs too much money it took

536

00:22:52,700 --> 00:22:50,210

because there's too much money to ronic

537

00:22:54,680 --> 00:22:52,710

too much energy to actually extract the

538

00:22:59,270 --> 00:22:54,690

oil for us to actually get a net gain

539

00:23:02,990 --> 00:22:59,280

from the oil itself we extract now the

540

00:23:07,730 --> 00:23:03,000

next slide please this is a factory this

541

00:23:10,700 --> 00:23:07,740

is the it's the cipher of the Industrial

542

00:23:12,860 --> 00:23:10,710

Revolution that the big mass urban

543

00:23:14,600 --> 00:23:12,870

factory which is run off coal oil and

544

00:23:17,090 --> 00:23:14,610

any kind of energy if you imagine to

545

00:23:20,990 --> 00:23:17,100

produce things which our civilization

546

00:23:22,730 --> 00:23:21,000

needs and as you can see it's got a big

547

00:23:25,820 --> 00:23:22,740

cloud of black smoke coming out of it

548

00:23:26,990 --> 00:23:25,830

and that's a that's the downside of the

549

00:23:29,120 --> 00:23:27,000

use of fossil fuels which I'll talk more

550

00:23:33,920 --> 00:23:29,130

about in a little while next slide

551

00:23:36,140 --> 00:23:33,930

please there are alternatives there are

552

00:23:38,470 --> 00:23:36,150

other forms of energy which people use

553

00:23:40,490 --> 00:23:38,480

and this is one of them wind turbines

554

00:23:42,020 --> 00:23:40,500

this is one that was common it's very

555

00:23:45,320 --> 00:23:42,030

common often using this country since

556

00:23:46,970 --> 00:23:45,330

it's so windy like tonight but wind

557

00:23:48,680 --> 00:23:46,980

turbines have a disadvantage and like a

558

00:23:50,630 --> 00:23:48,690

lot of these alternative energy sources

559

00:23:52,370 --> 00:23:50,640

even though the energy the power to

560

00:23:54,650 --> 00:23:52,380

generate electricity is very simple it's

561

00:23:56,420 --> 00:23:54,660

a basically a big dynamo run by a big

562

00:23:57,860 --> 00:23:56,430

windmill and that generates electricity

563

00:23:59,870 --> 00:23:57,870

but there's these things are complicated

564

00:24:01,730 --> 00:23:59,880

to build they have a lot of overheads

565

00:24:03,770 --> 00:24:01,740

they need a lot of maintenance and they

566

00:24:05,390 --> 00:24:03,780

they don't last they often need

567

00:24:07,430 --> 00:24:05,400

repairing when they when the wind gets

568

00:24:08,779 --> 00:24:07,440

too high they often burn

569

00:24:11,389 --> 00:24:08,789

they catch fire and sometimes they

570

00:24:15,740 --> 00:24:11,399

struck by UFOs as well as we've seen so

571

00:24:19,759 --> 00:24:15,750

it's not not easy to run a grid of of

572

00:24:21,019 --> 00:24:19,769

wind turbines some very often some

573

00:24:22,460 --> 00:24:21,029

people say that these are not suitable

574

00:24:27,769 --> 00:24:22,470

for every part of the world next slide

575

00:24:31,850 --> 00:24:27,779

please this is a very important man in

576

00:24:33,710 --> 00:24:31,860

this story and he's what he the things

577

00:24:35,029 --> 00:24:33,720

he has said a very an important part of

578

00:24:36,259 --> 00:24:35,039

analyzing what we were going to talk

579

00:24:37,970 --> 00:24:36,269

about this evening this is Richard

580

00:24:40,299 --> 00:24:37,980

Heinberg Richard Heinberg is a

581

00:24:43,879 --> 00:24:40,309

journalist a teacher an ecologist and

582

00:24:47,119 --> 00:24:43,889

futurologists and he is he's written a

583

00:24:50,799 --> 00:24:47,129

book called the party's over great title

584

00:24:53,330 --> 00:24:50,809

azimuth great title yet he says some

585

00:24:56,330 --> 00:24:53,340

basically that the age of oil is coming

586

00:24:57,889 --> 00:24:56,340

to an end because it's no longer be

587

00:24:59,840 --> 00:24:57,899

possible to extract oil there's not

588

00:25:01,159 --> 00:24:59,850

enough oil efforts to extract and to use

589

00:25:02,419 --> 00:25:01,169

but that is gonna there's going to be a

590

00:25:04,610 --> 00:25:02,429

point where we won't be able to anymore

591

00:25:07,220 --> 00:25:04,620

and what he's referring to is what's

592

00:25:09,590 --> 00:25:07,230

known as peak oil what happens is that

593

00:25:12,710 --> 00:25:09,600

the oil production has been rising as

594

00:25:14,690 --> 00:25:12,720

new wells are discovered and they're

595

00:25:18,740 --> 00:25:14,700

being extracted more and more oil is

596

00:25:20,389 --> 00:25:18,750

being extracted um there's gonna what

597

00:25:23,690 --> 00:25:20,399

he's saying is that that of course is

598

00:25:24,980 --> 00:25:23,700

finite and he says that sooner or later

599

00:25:26,149 --> 00:25:24,990

we're going to run them we're gonna

600

00:25:28,519 --> 00:25:26,159

reach a point where we can't actually

601
00:25:30,590 --> 00:25:28,529
there's no more new oil wells defined

602
00:25:33,499 --> 00:25:30,600
are usable which are viable pressure

603
00:25:36,740 --> 00:25:33,509
which we can actually we can actually

604
00:25:38,499 --> 00:25:36,750
tap what's going to happen before that

605
00:25:41,930 --> 00:25:38,509
is there'll be a peak in production

606
00:25:43,700 --> 00:25:41,940
it'll be there'll be a peak when the

607
00:25:45,529 --> 00:25:43,710
rise in the production one's going to

608
00:25:47,360 --> 00:25:45,539
stop and it's going to turn downwards

609
00:25:49,999 --> 00:25:47,370
and from then onwards is going to be

610
00:25:51,619 --> 00:25:50,009
declining oil production and he doesn't

611
00:25:53,389 --> 00:25:51,629
know exactly when that Pete will occur

612
00:25:55,669 --> 00:25:53,399
he claims it's occurring around about

613
00:25:57,139 --> 00:25:55,679

now some people say happened a few years

614

00:26:00,700 --> 00:25:57,149

ago some paper so it's not going to

615

00:26:02,600 --> 00:26:00,710

happen till 2025 etc etc so not sure

616

00:26:08,869 --> 00:26:02,610

it's not the girl I met in the pub

617

00:26:11,269 --> 00:26:08,879

earlier Tara I'll call her back um so um

618

00:26:12,440 --> 00:26:11,279

when that happens is in its kind of a

619

00:26:15,169 --> 00:26:12,450

perfect storm from his perspective

620

00:26:16,850 --> 00:26:15,179

because at the same time oil demand and

621

00:26:17,260 --> 00:26:16,860

the need for oil is rising because the

622

00:26:19,180 --> 00:26:17,270

world is

623

00:26:21,070 --> 00:26:19,190

lapping countries in a third world are

624

00:26:23,050 --> 00:26:21,080

becoming more developed they're bringing

625

00:26:24,790 --> 00:26:23,060

in more they need more energy because

626

00:26:26,170 --> 00:26:24,800

they have a bit of a bigger

627

00:26:29,170 --> 00:26:26,180

infrastructure more developed and

628

00:26:30,880 --> 00:26:29,180

sophisticated technological and social

629

00:26:32,410 --> 00:26:30,890

infrastructure and you'll hear words

630

00:26:34,090 --> 00:26:32,420

that would infrastructure is a bit of a

631

00:26:36,100 --> 00:26:34,100

buzz word and you'll hear me say it

632

00:26:41,650 --> 00:26:36,110

several times than me because it is a

633

00:26:43,390 --> 00:26:41,660

part of this tale now Heinberg is his

634

00:26:47,410 --> 00:26:43,400

book is very interesting because at one

635

00:26:50,200 --> 00:26:47,420

point he compares our civilization to

636

00:26:53,230 --> 00:26:50,210

yeast because as you know if you do any

637

00:26:54,820 --> 00:26:53,240

brewing at home expect something you do

638

00:26:57,820 --> 00:26:54,830

something you do now with the price of

639

00:26:59,530 --> 00:26:57,830

beer in the pub going up you actually

640

00:27:01,420 --> 00:26:59,540

have a solution of sugar and various

641

00:27:04,180 --> 00:27:01,430

other substances which you then add h₂

642

00:27:07,180 --> 00:27:04,190

and the yeast consumes the sugar to the

643

00:27:09,850 --> 00:27:07,190

point where you actually have a nice

644

00:27:11,110 --> 00:27:09,860

pint or glass of wine or whenever is

645

00:27:13,030 --> 00:27:11,120

called of alcohol which have been

646

00:27:14,530 --> 00:27:13,040

produced by the feast and then the yeast

647

00:27:16,830 --> 00:27:14,540

dies and it sinks to the bottom when you

648

00:27:19,600 --> 00:27:16,840

get this slime on the bottom and and

649

00:27:22,030 --> 00:27:19,610

Heinberg puts it very pithily actually

650

00:27:24,100 --> 00:27:22,040

he had a big statement on the page it

651
00:27:27,010 --> 00:27:24,110
says our human beings more intelligent

652
00:27:28,600 --> 00:27:27,020
than yeast you won't be very good dinner

653
00:27:31,810 --> 00:27:28,610
guests this guy he really wouldn't put

654
00:27:32,980 --> 00:27:31,820
you off your food but some he says

655
00:27:34,900 --> 00:27:32,990
basically that's what we're doing we're

656
00:27:36,640 --> 00:27:34,910
consuming we like the yeast consuming

657
00:27:39,100 --> 00:27:36,650
the sugar of a racist rate we're not

658
00:27:40,750 --> 00:27:39,110
rationing ourselves ete through it soon

659
00:27:44,700 --> 00:27:40,760
later I'll be gone and then we'll be

660
00:27:48,250 --> 00:27:44,710
like the yeast will just die now um I

661
00:27:50,140 --> 00:27:48,260
don't agree with Richard Heinberg that's

662
00:27:52,870 --> 00:27:50,150
important and I'll explain why this

663
00:27:55,570 --> 00:27:52,880

evening I think he's wrong on most

664

00:27:59,220 --> 00:27:55,580

things in several different ways and

665

00:28:01,900 --> 00:27:59,230

I'll explain why he is but in order to

666

00:28:04,870 --> 00:28:01,910

grasp this subject it's important to see

667

00:28:07,060 --> 00:28:04,880

the issue through his eyes you had to

668

00:28:10,150 --> 00:28:07,070

understand the point in order to

669

00:28:12,090 --> 00:28:10,160

actually understand his points in order

670

00:28:17,800 --> 00:28:12,100

to see exactly the mistakes he's made

671

00:28:26,870 --> 00:28:24,260

right so next slide please now Richard

672

00:28:28,510 --> 00:28:26,880

Heinberg has a vision of the width of

673

00:28:30,590 --> 00:28:28,520

the past and he explains how

674

00:28:34,100 --> 00:28:30,600

civilization developed from the earliest

675

00:28:36,760 --> 00:28:34,110

times and as I've explained to begin

676

00:28:38,840 --> 00:28:36,770

with humans basically for most of our

677

00:28:40,760 --> 00:28:38,850

most of our history now humans have been

678

00:28:43,340 --> 00:28:40,770

around for a long time at least a

679

00:28:44,990 --> 00:28:43,350

hundred thousand years we got a common

680

00:28:46,340 --> 00:28:45,000

ancestor for which everyone in the world

681

00:28:47,990 --> 00:28:46,350

shares which lived a hundred thousand

682

00:28:50,840 --> 00:28:48,000

years ago that was a modern human like

683

00:28:53,150 --> 00:28:50,850

ourselves some people say we've been

684

00:28:55,160 --> 00:28:53,160

around much lot older we've been around

685

00:28:59,300 --> 00:28:55,170

much longer then we shared the world

686

00:29:01,870 --> 00:28:59,310

with Dinosaurs etc but watch out Fred

687

00:29:04,730 --> 00:29:01,880

Flintstone so it must be true but some

688

00:29:06,530 --> 00:29:04,740

basically that's another contentious

689

00:29:09,890 --> 00:29:06,540

issue and I'm not going to go there

690

00:29:11,240 --> 00:29:09,900

tonight I also cause how you define

691

00:29:12,890 --> 00:29:11,250

human because of course the full body

692

00:29:15,200 --> 00:29:12,900

was there when the ender thermal and

693

00:29:18,320 --> 00:29:15,210

then there was the Homo erectus etc but

694

00:29:19,880 --> 00:29:18,330

some I'll go along with what Heinberg

695

00:29:23,930 --> 00:29:19,890

vision is cuz Heinberg strives this

696

00:29:26,390 --> 00:29:23,940

process as well for nearly all of our

697

00:29:28,820 --> 00:29:26,400

history we are only energy source was

698

00:29:30,740 --> 00:29:28,830

muscle power our own muscles bodily

699

00:29:33,920 --> 00:29:30,750

strength as I told you as I explained in

700

00:29:37,160 --> 00:29:33,930

the beginning we move things we pushed

701
00:29:39,230 --> 00:29:37,170
Paul carried dragged then that's it the

702
00:29:41,330 --> 00:29:39,240
only there were a few exceptions for

703
00:29:42,680 --> 00:29:41,340
instance we live wood fires to cook

704
00:29:44,630 --> 00:29:42,690
meals and things like that but apart

705
00:29:46,460 --> 00:29:44,640
from that all our energy came from our

706
00:29:48,710 --> 00:29:46,470
own bodies from the food we ate and how

707
00:29:49,700 --> 00:29:48,720
we transfer that into motion which is

708
00:29:53,960 --> 00:29:49,710
the opposite of course what a wind

709
00:29:57,140 --> 00:29:53,970
turbine does next slide please oh

710
00:29:58,700 --> 00:29:57,150
i'll go back go back sorry later now

711
00:30:00,950 --> 00:29:58,710
this piece i should point about this

712
00:30:04,940 --> 00:30:00,960
picture and this is a picture of the

713
00:30:07,040 --> 00:30:04,950

Egyptian pyramids being built now as you

714

00:30:10,580 --> 00:30:07,050

according to official history the

715

00:30:11,840 --> 00:30:10,590

pyramids were built by um people using

716

00:30:13,730 --> 00:30:11,850

primitive technology they didn't have

717

00:30:15,110 --> 00:30:13,740

the lever but pulley the Wii or anything

718

00:30:17,120 --> 00:30:15,120

like that they basically they have

719

00:30:18,830 --> 00:30:17,130

bronze tools and stone tools and they

720

00:30:20,810 --> 00:30:18,840

dragged these blocks around now this is

721

00:30:22,910 --> 00:30:20,820

what you see illustrated here now I know

722

00:30:24,050 --> 00:30:22,920

a lot of people who study the Egypt and

723

00:30:24,560 --> 00:30:24,060

study the pyramid and these other

724

00:30:27,529 --> 00:30:24,570

monument

725

00:30:29,990 --> 00:30:27,539

don't agree with that and I understand

726

00:30:31,669 --> 00:30:30,000

their points I do understand that there

727

00:30:34,070 --> 00:30:31,679

are big questions we've got to ask in

728

00:30:36,799 --> 00:30:34,080

that respect so but for now we're just

729

00:30:43,430 --> 00:30:36,809

going to assume that that's the case by

730

00:30:46,090 --> 00:30:43,440

next slide now a big a big revolution

731

00:30:50,480 --> 00:30:46,100

occurred sometime in the Neolithic Age

732

00:30:54,379 --> 00:30:50,490

when we learn to domesticate animals we

733

00:30:56,299 --> 00:30:54,389

actually we basically got animals we

734

00:30:58,009 --> 00:30:56,309

persuaded animals to live with us and

735

00:30:59,299 --> 00:30:58,019

work with us and we could use their much

736

00:31:00,529 --> 00:30:59,309

we can use them for many many different

737

00:31:03,710 --> 00:31:00,539

things including their much greater

738

00:31:07,700 --> 00:31:03,720

strength now this here is say things a

739

00:31:09,320 --> 00:31:07,710

donkey or mule here in Egypt and the

740

00:31:10,879 --> 00:31:09,330

donkey of course is one of the oldest

741

00:31:12,680 --> 00:31:10,889

beasts of burden which has been around

742

00:31:14,450 --> 00:31:12,690

for a long time and this donkey of

743

00:31:16,340 --> 00:31:14,460

courses and making itself very useful

744

00:31:19,909 --> 00:31:16,350

pulling this big car full of vegetable

745

00:31:21,919 --> 00:31:19,919

matter and because the donkey is very

746

00:31:25,549 --> 00:31:21,929

strong that donkeys probably as strong

747

00:31:28,340 --> 00:31:25,559

as that for Big Ben so it'll do the same

748

00:31:30,680 --> 00:31:28,350

workers for big guy so basically someone

749

00:31:32,570 --> 00:31:30,690

just one person the farm I can sit on

750

00:31:33,860 --> 00:31:32,580

that then the Duncan can pull the card

751

00:31:35,299 --> 00:31:33,870

otherwise he'd have to pull it himself

752

00:31:37,039 --> 00:31:35,309

but she wouldn't be able to do we'd have

753

00:31:38,810 --> 00:31:37,049

to get three of his friends to help him

754

00:31:42,379 --> 00:31:38,820

so that's gives you an illustration of

755

00:31:45,769 --> 00:31:42,389

how useful it is to domesticate beasts

756

00:31:47,930 --> 00:31:45,779

of burden next slide please because

757

00:31:49,490 --> 00:31:47,940

donkeys are not the only animals that

758

00:31:52,730 --> 00:31:49,500

we've domesticated we use for

759

00:31:53,990 --> 00:31:52,740

transportation and for labor the camel

760

00:31:57,710 --> 00:31:54,000

for example this is another photograph

761

00:31:59,060 --> 00:31:57,720

also taken in Egypt of camels camels are

762

00:32:01,490 --> 00:31:59,070

even bigger and stronger than donkeys

763

00:32:04,399 --> 00:32:01,500

and they have the advantages they can go

764

00:32:06,860 --> 00:32:04,409

places donkeys can't because they are

765

00:32:08,690 --> 00:32:06,870

adapted for the dry hot climate of

766

00:32:10,549 --> 00:32:08,700

desert and they're known as the ship of

767

00:32:12,259 --> 00:32:10,559

the desert and even in this day and age

768

00:32:14,409 --> 00:32:12,269

if you want to get across a desert the

769

00:32:17,779 --> 00:32:14,419

back of the camel is the best way and

770

00:32:19,730 --> 00:32:17,789

this this camel will take you very long

771

00:32:21,529 --> 00:32:19,740

distance it doesn't need to stop for a

772

00:32:23,240 --> 00:32:21,539

drink it can we can go six months

773

00:32:25,460 --> 00:32:23,250

without a drink it will take you across

774

00:32:26,480 --> 00:32:25,470

the desert whereas if you try to do the

775

00:32:28,999 --> 00:32:26,490

same journey with a donkey the donkey

776

00:32:30,259 --> 00:32:29,009

will be dead within 10 miles so that's

777

00:32:34,250 --> 00:32:30,269

another example of a domesticated

778

00:32:38,640 --> 00:32:36,600

this is a picture taken in South America

779

00:32:42,150 --> 00:32:38,650

and you can see here as a mule pulling

780

00:32:44,280 --> 00:32:42,160

the plow and again you have an idea of

781

00:32:46,830 --> 00:32:44,290

how Adam domesticating out domesticating

782

00:32:48,750 --> 00:32:46,840

animals helped in agriculture today we

783

00:32:51,480 --> 00:32:48,760

use machines very often to do this like

784

00:32:53,460 --> 00:32:51,490

tractors which are oil-powered that's

785

00:32:55,020 --> 00:32:53,470

very important I'll come to that this

786

00:32:56,370 --> 00:32:55,030

mule of course is not oil powered and

787

00:32:58,799 --> 00:32:56,380

these people are sticking to their

788

00:33:00,360 --> 00:32:58,809

traditional farming methods and as you

789

00:33:02,250 --> 00:33:00,370

can see this mule has the power to pull

790

00:33:06,000 --> 00:33:02,260

the plow through the soil and the man

791

00:33:08,390 --> 00:33:06,010

standing on it guiding it you need 20

792

00:33:12,240 --> 00:33:08,400

people probably to do that sort of job

793

00:33:14,280 --> 00:33:12,250

to pull it along some slave states in

794

00:33:16,290 --> 00:33:14,290

the in the ancient world did use people

795

00:33:18,480 --> 00:33:16,300

to do things like this but but you don't

796

00:33:20,040 --> 00:33:18,490

think you need an awful lot of food you

797

00:33:23,580 --> 00:33:20,050

need north lot of drink and water to

798

00:33:25,860 --> 00:33:23,590

keep them going so it gives you an

799

00:33:27,690 --> 00:33:25,870

example of how more efficient is to use

800

00:33:35,120 --> 00:33:27,700

animals for things like next slide

801
00:33:38,340 --> 00:33:35,130
please then everything changed yes um

802
00:33:41,820 --> 00:33:38,350
about two hundred years ago the world

803
00:33:46,169 --> 00:33:41,830
changed completely we hit the Industrial

804
00:33:48,150 --> 00:33:46,179
Revolution and it's great k McCrory came

805
00:33:49,680 --> 00:33:48,160
around in different countries of

806
00:33:51,960 --> 00:33:49,690
different times Britain was where it

807
00:33:53,910 --> 00:33:51,970
actually started right here in here in

808
00:33:56,430 --> 00:33:53,920
South Wales you played a vital role

809
00:33:57,780 --> 00:33:56,440
because all through the 19th century the

810
00:34:00,270 --> 00:33:57,790
early the first phase the Industrial

811
00:34:03,060 --> 00:34:00,280
Revolution the Industrial the industrial

812
00:34:04,410 --> 00:34:03,070
area south wales was the equivalent of

813
00:34:07,200 --> 00:34:04,420

the persian gulf in the 20th century

814

00:34:08,850 --> 00:34:07,210

because that's where all I think more

815

00:34:12,720 --> 00:34:08,860

than half the world's coal came from

816

00:34:14,280 --> 00:34:12,730

South Wales so we started off with coal

817

00:34:16,379 --> 00:34:14,290

a lot of it from this area from other

818

00:34:18,780 --> 00:34:16,389

parts of the world as well and that was

819

00:34:20,310 --> 00:34:18,790

the fuel of the first phase of

820

00:34:22,470 --> 00:34:20,320

industrial society the Industrial

821

00:34:24,030 --> 00:34:22,480

Revolution took chicken just took a few

822

00:34:27,270 --> 00:34:24,040

decades which in historical terms it

823

00:34:30,330 --> 00:34:27,280

turns the whole world is a blink of an

824

00:34:32,369 --> 00:34:30,340

eye it happened very very quickly we

825

00:34:34,320 --> 00:34:32,379

have factory Springs actually springing

826

00:34:35,970 --> 00:34:34,330

up everywhere creating goods creating

827

00:34:37,830 --> 00:34:35,980

all kinds of things that we never could

828

00:34:40,560 --> 00:34:37,840

have before all run off fossil fuels all

829

00:34:43,140 --> 00:34:40,570

run off this new coals new fossil fuel

830

00:34:46,600 --> 00:34:43,150

now on

831

00:34:49,690 --> 00:34:46,610

we went almost instantaneously from a

832

00:34:51,970 --> 00:34:49,700

world of mere human and animal muscle

833

00:34:53,620 --> 00:34:51,980

power to an energy source that was a

834

00:34:56,950 --> 00:34:53,630

hundred or a thousand times more

835

00:34:59,350 --> 00:34:56,960

effective more with more more compact

836

00:35:00,700 --> 00:34:59,360

and more full of energy more than you're

837

00:35:03,370 --> 00:35:00,710

more able to use the amount of energy

838

00:35:05,530 --> 00:35:03,380

you're able to use and Heinberg

839

00:35:07,110 --> 00:35:05,540

illustrated very well he says if you

840

00:35:09,700 --> 00:35:07,120

want to know the difference that it made

841

00:35:11,110 --> 00:35:09,710

when we started using fossil fuels

842

00:35:13,720 --> 00:35:11,120

compared to what we had before with

843

00:35:16,390 --> 00:35:13,730

muscle power get in your car drive 10

844

00:35:19,110 --> 00:35:16,400

miles from home and stop the engine and

845

00:35:21,490 --> 00:35:19,120

push the car back push the car home

846

00:35:24,010 --> 00:35:21,500

it'll take you days to push that car

847

00:35:25,960 --> 00:35:24,020

home if you can't even do it at all yet

848

00:35:29,230 --> 00:35:25,970

you can travel 10 miles in pending on

849

00:35:32,860 --> 00:35:29,240

traffic in half an hour with just by

850

00:35:34,090 --> 00:35:32,870

turning a wheel and pressing a pedal all

851

00:35:36,640 --> 00:35:34,100

that energy that massive amount of

852

00:35:38,890 --> 00:35:36,650

energy your body or even a horse without

853

00:35:41,910 --> 00:35:38,900

trouble with is there at your disposal

854

00:35:44,350 --> 00:35:41,920

the flick of a switch and turn the key

855

00:35:46,650 --> 00:35:44,360

it's actually believe it or not your

856

00:35:50,080 --> 00:35:46,660

color family car has about the same

857

00:35:52,120 --> 00:35:50,090

horsepower as a Roman galley but the

858

00:35:53,530 --> 00:35:52,130

Roman galleys were their own slaves it's

859

00:35:55,150 --> 00:35:53,540

amazing to think of that isn't it that's

860

00:35:57,850 --> 00:35:55,160

how compact this energy sources a tank

861

00:36:01,480 --> 00:35:57,860

of petrol that big you fill it up and

862

00:36:04,120 --> 00:36:01,490

you have the equivalent of 200

863

00:36:09,010 --> 00:36:04,130

galley-slave 200 been hers or sitting

864

00:36:11,500 --> 00:36:09,020

there going that's in your car in your

865

00:36:13,300 --> 00:36:11,510

car petrol tank as miraculous for people

866

00:36:18,660 --> 00:36:13,310

who live before the age of fossil fuels

867

00:36:22,240 --> 00:36:18,670

that's a miraculous energy source and

868

00:36:26,130 --> 00:36:22,250

our entire world is is constructed on

869

00:36:32,260 --> 00:36:29,980

and of course is not only it with fossil

870

00:36:33,820 --> 00:36:32,270

fuels people say I've had people

871

00:36:35,140 --> 00:36:33,830

actually say to me well we don't just

872

00:36:38,410 --> 00:36:35,150

use possibles we have electricity

873

00:36:40,000 --> 00:36:38,420

where's the electricity come from in

874

00:36:42,100 --> 00:36:40,010

this country very often comes from coal

875

00:36:44,050 --> 00:36:42,110

and gas-fired power stations more gas

876

00:36:45,910 --> 00:36:44,060

now I'll come to that in a minute the

877

00:36:50,410 --> 00:36:45,920

changeover from cold gas is very

878

00:36:52,330 --> 00:36:50,420

important but some it comes from fossil

879

00:36:54,490 --> 00:36:52,340

fuels and electricity is not an energy

880

00:36:55,430 --> 00:36:54,500

source electricity is a way of moving

881

00:36:57,440 --> 00:36:55,440

energy from one

882

00:36:59,329 --> 00:36:57,450

to another the energy is created at the

883

00:37:01,190 --> 00:36:59,339

power station it charges the national

884

00:37:04,790 --> 00:37:01,200

grid and it comes into these lights at

885

00:37:08,300 --> 00:37:04,800

the next slide please now this is the

886

00:37:15,260 --> 00:37:08,310

downside though too this is the downside

887

00:37:18,020 --> 00:37:15,270

too it's a fossil fuel use is the

888

00:37:19,640 --> 00:37:18,030

downside to our energy source and is

889

00:37:20,990 --> 00:37:19,650

environmental destruction you remember

890

00:37:22,849 --> 00:37:21,000

the picture of the factory I showed you

891

00:37:25,609 --> 00:37:22,859

with massive amounts of smoke coming out

892

00:37:28,730 --> 00:37:25,619

of its chimney that's what we see we see

893

00:37:30,950 --> 00:37:28,740

that smoke goes into the environment it

894

00:37:33,109 --> 00:37:30,960

goes into the ground it goes into the

895

00:37:34,849 --> 00:37:33,119

soil it goes into the water goes into

896

00:37:36,559 --> 00:37:34,859

our bodies these very often toxic

897

00:37:39,109 --> 00:37:36,569

chemicals released from the burning of

898

00:37:42,559 --> 00:37:39,119

coal and other substances and oil two

899

00:37:46,160 --> 00:37:42,569

releases this suit that is a very very

900

00:37:47,930 --> 00:37:46,170

young it's very very toxic now you'll

901
00:37:50,599 --> 00:37:47,940
hear an awful lot about carbon dioxide

902
00:37:51,859 --> 00:37:50,609
now you may you may question question

903
00:37:54,370 --> 00:37:51,869
now we see it Carmen darks is very

904
00:37:56,960 --> 00:37:54,380
dangerous if it's causing climate change

905
00:37:59,150 --> 00:37:56,970
that's not that's kind of a zip side

906
00:38:00,890 --> 00:37:59,160
issues it's one I don't to personally go

907
00:38:03,290 --> 00:38:00,900
along with myself I know a lot of people

908
00:38:04,430 --> 00:38:03,300
who don't some people do it's it's

909
00:38:06,319 --> 00:38:04,440
irrelevant right now the fact of the

910
00:38:08,690 --> 00:38:06,329
matter is that even if you don't believe

911
00:38:10,790 --> 00:38:08,700
that carbon dioxide is a dangerous gas

912
00:38:12,950 --> 00:38:10,800
to be to admit the other things that

913
00:38:15,020 --> 00:38:12,960

burning fossil fuels are dangerous and

914

00:38:16,520 --> 00:38:15,030

that is why we should stop this is why

915

00:38:19,130 --> 00:38:16,530

burning fossil fuels is so destructive

916

00:38:21,819 --> 00:38:19,140

and here we have here are devastated

917

00:38:25,010 --> 00:38:21,829

forest the forest was devastated because

918

00:38:28,250 --> 00:38:25,020

this particular forest was cleared in

919

00:38:29,900 --> 00:38:28,260

order to create farmland and could be

920

00:38:32,890 --> 00:38:29,910

off the farm the farming method is

921

00:38:34,790 --> 00:38:32,900

basically the kind of farming that is

922

00:38:38,089 --> 00:38:34,800

intimately tied to the use of fossil

923

00:38:39,710 --> 00:38:38,099

fuels as I'll explain because our farms

924

00:38:45,079 --> 00:38:39,720

believe it or not are dependent on

925

00:38:46,579 --> 00:38:45,089

fossil fuels we have certain them and I

926
00:38:48,470 --> 00:38:46,589
mentioned tractors early rocks we have

927
00:38:50,830 --> 00:38:48,480
tractors rather than horses now to pull

928
00:38:53,599 --> 00:38:50,840
plows and things like that

929
00:38:55,400 --> 00:38:53,609
not only that oil actually is used for

930
00:39:01,010 --> 00:38:55,410
industrial chemicals and things like

931
00:39:02,660 --> 00:39:01,020
that agricultural chemicals as well and

932
00:39:04,400 --> 00:39:02,670
this is some you'll hear well this tube

933
00:39:07,040 --> 00:39:04,410
here this is another buzz word you'll

934
00:39:08,810 --> 00:39:07,050
hear a lot a lot unsustainable that's

935
00:39:10,540 --> 00:39:08,820
another you'll hear that very often

936
00:39:16,090 --> 00:39:10,550
under sustained this is unsustainable

937
00:39:18,560 --> 00:39:16,100
situation and it depletes resources this

938
00:39:21,890 --> 00:39:18,570

it depletes other kinds of resources the

939

00:39:23,630 --> 00:39:21,900

use of fossil fuels now the idea that

940

00:39:24,950 --> 00:39:23,640

oil might not be a fossil fuel I should

941

00:39:27,470 --> 00:39:24,960

touch on there's a guy called Ian our

942

00:39:30,740 --> 00:39:27,480

crane is very very interesting he talks

943

00:39:32,630 --> 00:39:30,750

about this the possibility the oil might

944

00:39:34,400 --> 00:39:32,640

actually be not be a fossil fuel and it

945

00:39:37,160 --> 00:39:34,410

actually replenishes itself it regrows

946

00:39:39,580 --> 00:39:37,170

is it it's something that actually it

947

00:39:42,080 --> 00:39:39,590

grows almost Mike's like a plant and

948

00:39:43,940 --> 00:39:42,090

basically in Russia it's kind of open

949

00:39:45,920 --> 00:39:43,950

secret because it's in Russia that they

950

00:39:49,220 --> 00:39:45,930

leave the oil bottle over 20 years and

951
00:39:50,720 --> 00:39:49,230
they come back or partly they come back

952
00:39:53,260 --> 00:39:50,730
later and then your new oil is replenish

953
00:39:56,510 --> 00:39:53,270
their precious back because if that ever

954
00:39:58,340 --> 00:39:56,520
became known the price i mean the price

955
00:40:01,730 --> 00:39:58,350
of the price would go through the floor

956
00:40:03,650 --> 00:40:01,740
the price of oil would plummet from the

957
00:40:05,030 --> 00:40:03,660
interestingly the current oil price is

958
00:40:07,370 --> 00:40:05,040
very low with minus the lowest it's been

959
00:40:08,900 --> 00:40:07,380
four years and i think it's to do with

960
00:40:11,030 --> 00:40:08,910
it attempt to sabotage the Russian

961
00:40:12,620 --> 00:40:11,040
economy of all countries let's aren't in

962
00:40:15,680 --> 00:40:12,630
Russia for some reason that's a big

963
00:40:18,109 --> 00:40:15,690

subject I can't cover that in detail but

964

00:40:21,109 --> 00:40:18,119

that's basically when they do it and the

965

00:40:22,880 --> 00:40:21,119

control as i said the there is a

966

00:40:25,550 --> 00:40:22,890

suppression of information like this and

967

00:40:27,980 --> 00:40:25,560

it leads it comes from the fact that the

968

00:40:31,310 --> 00:40:27,990

flow of energy and the distribution of

969

00:40:33,380 --> 00:40:31,320

energy is a vital tool for political

970

00:40:38,690 --> 00:40:33,390

reasons which I'll describe the next

971

00:40:40,490 --> 00:40:38,700

slide please this here is a oil rig

972

00:40:43,490 --> 00:40:40,500

burning in the Gulf of Mexico this is

973

00:40:47,030 --> 00:40:43,500

the deepwater horizon oil rig was caught

974

00:40:48,620 --> 00:40:47,040

fire in 2010 and that's created one of

975

00:40:50,840 --> 00:40:48,630

the worst environmental disasters in

976

00:40:52,160 --> 00:40:50,850

history in the Gulf of Mexico it

977

00:40:54,650 --> 00:40:52,170

destroyed a five-hundred-year-old

978

00:40:56,570 --> 00:40:54,660

sustainable fishing industry and has

979

00:40:58,370 --> 00:40:56,580

poisoned is destroyed the tourist

980

00:40:59,920 --> 00:40:58,380

industry it's and it's caused

981

00:41:02,230 --> 00:40:59,930

devastation to the local while

982

00:41:07,540 --> 00:41:02,240

I never eat fish that comes from the

983

00:41:08,950 --> 00:41:07,550

Gulf of Mexico now it's ian are cranes

984

00:41:10,450 --> 00:41:08,960

talked a lot about this particular issue

985

00:41:11,590 --> 00:41:10,460

as well this subjects what he believes

986

00:41:16,450 --> 00:41:11,600

this was done deliberately that's

987

00:41:18,700 --> 00:41:16,460

perfectly possible but some why was this

988

00:41:20,880 --> 00:41:18,710

by accident or design this deepwater

989

00:41:23,560 --> 00:41:20,890

horizon oil rig caught fire and exploded

990

00:41:25,210 --> 00:41:23,570

this is a very different this was all

991

00:41:26,560 --> 00:41:25,220

rhythm this is an oil rig of a very

992

00:41:27,730 --> 00:41:26,570

different type to the one I showed you

993

00:41:30,280 --> 00:41:27,740

earlier which is the one in the North

994

00:41:33,850 --> 00:41:30,290

Sea because this one is much deeper

995

00:41:35,740 --> 00:41:33,860

water drills down into the water there's

996

00:41:37,060 --> 00:41:35,750

many several thousand feet deep rather

997

00:41:39,820 --> 00:41:37,070

than the one in the North Sea which is

998

00:41:42,760 --> 00:41:39,830

several hundred feet deep so what's

999

00:41:45,550 --> 00:41:42,770

happening is the depletion of various

1000

00:41:47,830 --> 00:41:45,560

easy to get oil in shallow waters on

1001

00:41:49,750 --> 00:41:47,840

land it it's causing the oil industry to

1002

00:41:51,670 --> 00:41:49,760

need to move further out as Heinberg

1003

00:41:54,430 --> 00:41:51,680

explains this is a homo doesn't mention

1004

00:41:55,540 --> 00:41:54,440

this particular this actually his book

1005

00:41:58,470 --> 00:41:55,550

was written before this happened but

1006

00:42:01,860 --> 00:41:58,480

this is the kind of thing he talks about

1007

00:42:05,170 --> 00:42:01,870

something that next slide please

1008

00:42:07,330 --> 00:42:05,180

fracking now this is very very topical

1009

00:42:09,100 --> 00:42:07,340

indeed and this is a speciality V in our

1010

00:42:12,340 --> 00:42:09,110

crane as well he said anti-fracking

1011

00:42:14,140 --> 00:42:12,350

campaigner didcot power station in

1012

00:42:17,080 --> 00:42:14,150

oxfordshire which is close to where I

1013

00:42:20,320 --> 00:42:17,090

live is one of the biggest power

1014

00:42:21,880 --> 00:42:20,330

stations on the national grid the

1015

00:42:24,250 --> 00:42:21,890

National Grid of course is basically

1016

00:42:27,100 --> 00:42:24,260

it's a it's a network of electric wires

1017

00:42:29,080 --> 00:42:27,110

and cables and pylons that includes all

1018

00:42:31,060 --> 00:42:29,090

the wires leading up to sprinters the

1019

00:42:33,070 --> 00:42:31,070

light they're all these folk sockets and

1020

00:42:35,170 --> 00:42:33,080

it covers the entire country and the

1021

00:42:37,120 --> 00:42:35,180

power stations are at all points along

1022

00:42:40,030 --> 00:42:37,130

the grid charge the National Grid at

1023

00:42:41,830 --> 00:42:40,040

various places now the national grid is

1024

00:42:43,930 --> 00:42:41,840

some is wasteful because a lot of the

1025

00:42:46,140 --> 00:42:43,940

because the energy is generated so far

1026
00:42:48,400 --> 00:42:46,150
from where it's worked where the work is

1027
00:42:50,080 --> 00:42:48,410
you lose a lot from resistance these

1028
00:42:51,880 --> 00:42:50,090
copies the wires are copper because

1029
00:42:53,260 --> 00:42:51,890
that's a low resistance metal but a lot

1030
00:42:56,860 --> 00:42:53,270
of the power is lost to resistance

1031
00:42:58,570 --> 00:42:56,870
because the size of the circuit if one

1032
00:43:00,190 --> 00:42:58,580
power station fails it means that the

1033
00:43:02,350 --> 00:43:00,200
rest of the National Grid can compensate

1034
00:43:04,120 --> 00:43:02,360
you can keep charging but obviously more

1035
00:43:07,330 --> 00:43:04,130
power stations fail then national grid

1036
00:43:10,720 --> 00:43:07,340
goes down but some coming back to

1037
00:43:12,850 --> 00:43:10,730
fracking my this local power station is

1038
00:43:13,100 --> 00:43:12,860

to this didcot a indeed copy and one of

1039

00:43:16,430 --> 00:43:13,110

them

1040

00:43:19,430 --> 00:43:16,440

DK I think has recently completely

1041

00:43:21,710 --> 00:43:19,440

switched from coal to gas it's right

1042

00:43:23,360 --> 00:43:21,720

it's a natural gas-fired power station

1043

00:43:25,040 --> 00:43:23,370

and the reason stunna has got a lot to

1044

00:43:27,650 --> 00:43:25,050

do with fracking this process of

1045

00:43:31,190 --> 00:43:27,660

extracting natural gas from places where

1046

00:43:33,380 --> 00:43:31,200

it was not able to before the it's done

1047

00:43:35,150 --> 00:43:33,390

by drilling a hole down an oil with it

1048

00:43:37,760 --> 00:43:35,160

down to the where there's a coal bed

1049

00:43:39,680 --> 00:43:37,770

methane or shale this there's an

1050

00:43:41,930 --> 00:43:39,690

explosion set off to crack the pipe and

1051
00:43:43,850 --> 00:43:41,940
then high pressure water mixed with sand

1052
00:43:45,350 --> 00:43:43,860
and various chemicals which they won't

1053
00:43:47,810 --> 00:43:45,360
tell us what's in the chemicals I'll

1054
00:43:49,670 --> 00:43:47,820
push down a very high pressure which

1055
00:43:53,180 --> 00:43:49,680
Brett splits the rocks at prom part and

1056
00:43:55,310 --> 00:43:53,190
lets the gas bubbles out now that's very

1057
00:43:57,170 --> 00:43:55,320
very hazardous because some of the gas

1058
00:43:58,190 --> 00:43:57,180
leaks out into the environment and the

1059
00:44:01,310 --> 00:43:58,200
industry will tell you it doesn't

1060
00:44:03,320 --> 00:44:01,320
because these they drill down 12,000

1061
00:44:04,730 --> 00:44:03,330
feet they say it's that deep it won't

1062
00:44:07,190 --> 00:44:04,740
make its way up to the surface but it

1063
00:44:09,710 --> 00:44:07,200

does it's been detected in drinking

1064

00:44:11,870 --> 00:44:09,720

water in the air everywhere and it leaks

1065

00:44:13,340 --> 00:44:11,880

out the well higher up as well and the

1066

00:44:16,810 --> 00:44:13,350

chemicals get up no one knows what's in

1067

00:44:19,070 --> 00:44:16,820

these chemicals that they rise as well

1068

00:44:21,380 --> 00:44:19,080

and it's all to do with extracting

1069

00:44:22,310 --> 00:44:21,390

natural gas down there and the governor

1070

00:44:24,260 --> 00:44:22,320

that they're doing they're so determined

1071

00:44:25,760 --> 00:44:24,270

to do this they've lied about them even

1072

00:44:27,470 --> 00:44:25,770

the amount of gas that's in their wells

1073

00:44:31,130 --> 00:44:27,480

because there's only a fraction of the

1074

00:44:32,570 --> 00:44:31,140

gas as they say is there anyway so why

1075

00:44:34,550 --> 00:44:32,580

they've done that with Ian talks about

1076

00:44:41,120 --> 00:44:34,560

that in detail in his leg check but

1077

00:44:44,090 --> 00:44:41,130

basically it's a big bubble and then the

1078

00:44:46,370 --> 00:44:44,100

next slide please this is another form

1079

00:44:49,790 --> 00:44:46,380

of energy and unconventional oil sauce

1080

00:44:52,490 --> 00:44:49,800

this is tar sands in this particular tar

1081

00:44:53,450 --> 00:44:52,500

sands pit is in Canada and it sounds

1082

00:44:56,120 --> 00:44:53,460

like what it says it is it's basically

1083

00:44:58,340 --> 00:44:56,130

sound mixed with tar which you can

1084

00:45:01,130 --> 00:44:58,350

extracted hydrocarbons to burn it and

1085

00:45:02,960 --> 00:45:01,140

it's an unconventional oil sauce you can

1086

00:45:05,530 --> 00:45:02,970

actually make musical oil out of this

1087

00:45:08,720 --> 00:45:05,540

the only problem is that this is a huge

1088

00:45:10,280 --> 00:45:08,730

dirty dangerous place but these little

1089

00:45:12,770 --> 00:45:10,290

strips here they're not part which

1090

00:45:15,500 --> 00:45:12,780

people walk along their big roads where

1091

00:45:17,300 --> 00:45:15,510

massive dumper trucks drive along this

1092

00:45:19,610 --> 00:45:17,310

is several miles across this tar sand

1093

00:45:21,940 --> 00:45:19,620

pit and when birds land on it they get

1094

00:45:24,920 --> 00:45:21,950

oil on their feathers and they die um

1095

00:45:25,480 --> 00:45:24,930

it's it's a nice so it must be no sore

1096

00:45:28,330 --> 00:45:25,490

as well

1097

00:45:30,670 --> 00:45:28,340

people tell me it smells really bad but

1098

00:45:32,109 --> 00:45:30,680

that's another example of how the oil

1099

00:45:33,840 --> 00:45:32,119

industry and the energy the need for

1100

00:45:37,450 --> 00:45:33,850

energy is pushing people into

1101
00:45:38,920 --> 00:45:37,460
destructive and really really unwise

1102
00:45:42,010 --> 00:45:38,930
which would otherwise be very very

1103
00:45:45,820 --> 00:45:42,020
unwise and means of obtaining oil and

1104
00:45:49,180 --> 00:45:45,830
I'm next slide please of course always

1105
00:45:51,280 --> 00:45:49,190
has to be paid for it is expensive it

1106
00:45:54,450 --> 00:45:51,290
costs money to drill for oil to mine

1107
00:45:56,620 --> 00:45:54,460
coal to transport them to refine them

1108
00:46:02,020 --> 00:45:56,630
it's a complex process that needs

1109
00:46:03,580 --> 00:46:02,030
millions of man-hours um and so that's

1110
00:46:05,080 --> 00:46:03,590
why you have energy bills and energy

1111
00:46:06,580 --> 00:46:05,090
bills are now so high that a lot of

1112
00:46:09,010 --> 00:46:06,590
people are having real trouble paying

1113
00:46:11,890 --> 00:46:09,020

people I know having trouble paying them

1114

00:46:13,780 --> 00:46:11,900

and I mean is there anyone this room

1115

00:46:17,550 --> 00:46:13,790

hasn't noticed their energy bill rising

1116

00:46:20,410 --> 00:46:17,560

over the last 20 years or so no no one

1117

00:46:23,920 --> 00:46:20,420

it's honestly they they've got a singly

1118

00:46:26,640 --> 00:46:23,930

going up all over the place and a lot of

1119

00:46:28,750 --> 00:46:26,650

people can't afford it up there's people

1120

00:46:30,910 --> 00:46:28,760

there's people in some countries where

1121

00:46:33,250 --> 00:46:30,920

very few people can afford this energy

1122

00:46:34,840 --> 00:46:33,260

and they fall into poverty we call those

1123

00:46:37,240 --> 00:46:34,850

countries of countries the third-world

1124

00:46:43,450 --> 00:46:37,250

or developing nations as the euphemism

1125

00:46:45,700 --> 00:46:43,460

goes next slide place is a picture than

1126
00:46:48,250 --> 00:46:45,710
this is part of the National Grid these

1127
00:46:50,170 --> 00:46:48,260
big metal giants which string across

1128
00:46:52,630 --> 00:46:50,180
which lie across the countryside

1129
00:46:58,390 --> 00:46:52,640
dragging these wires behind them ruining

1130
00:47:00,340 --> 00:46:58,400
the view they are they've lived this

1131
00:47:02,980 --> 00:47:00,350
thousands and thousands of miles of

1132
00:47:04,750 --> 00:47:02,990
these across the country taking this

1133
00:47:09,900 --> 00:47:04,760
energy from on the national grid to

1134
00:47:19,810 --> 00:47:13,180
and with all the other disadvantage that

1135
00:47:21,760 --> 00:47:19,820
I talked about um so yeah this is all

1136
00:47:23,170 --> 00:47:21,770
there's other health they're said to be

1137
00:47:24,760 --> 00:47:23,180
health conditions associated with you

1138
00:47:26,200 --> 00:47:24,770

there's been several accidents involved

1139

00:47:28,060 --> 00:47:26,210

with these things when kids some kids

1140

00:47:31,540 --> 00:47:28,070

try to climb them I try to do as well as

1141

00:47:33,870 --> 00:47:31,550

little kids silly of me some some people

1142

00:47:38,200 --> 00:47:33,880

climb and they get electrocuted

1143

00:47:39,670 --> 00:47:38,210

sometimes there's also several reports

1144

00:47:40,900 --> 00:47:39,680

that state that people who live close to

1145

00:47:43,510 --> 00:47:40,910

these are more likely to get certain

1146

00:47:44,770 --> 00:47:43,520

kinds of cancer if you if you're I think

1147

00:47:47,230 --> 00:47:44,780

one thing is going over your house for

1148

00:47:54,450 --> 00:47:47,240

example it's something to be concerned

1149

00:47:57,520 --> 00:47:54,460

about so next slide please now this is

1150

00:47:58,900 --> 00:47:57,530

this graph illustrates well this next to

1151

00:48:01,360 --> 00:47:58,910

this series goes illustrates the kind of

1152

00:48:03,340 --> 00:48:01,370

thing Heinberg talks about this is the

1153

00:48:05,500 --> 00:48:03,350

one I drew myself it's very very simple

1154

00:48:08,320 --> 00:48:05,510

on the up on the vertical axis there's

1155

00:48:11,710 --> 00:48:08,330

quantity of the horizontal axis is time

1156

00:48:14,080 --> 00:48:11,720

there is no there's no figures on these

1157

00:48:15,340 --> 00:48:14,090

it's all qualitative it's all just

1158

00:48:17,710 --> 00:48:15,350

general is not there's no particular

1159

00:48:21,210 --> 00:48:17,720

figures except as you can see on the

1160

00:48:23,140 --> 00:48:21,220

time axis I put past present and future

1161

00:48:24,700 --> 00:48:23,150

and that's that's all you need to know

1162

00:48:26,680 --> 00:48:24,710

this is not about exact measurement this

1163

00:48:29,980 --> 00:48:26,690

is simply illustration so it's all

1164

00:48:32,530 --> 00:48:29,990

qualitative and in exact but basically

1165

00:48:35,200 --> 00:48:32,540

from as i said earlier for most of our

1166

00:48:36,730 --> 00:48:35,210

history there were very few people in

1167

00:48:40,390 --> 00:48:36,740

the world compared to what we have now

1168

00:48:42,190 --> 00:48:40,400

there were lesson it's interesting they

1169

00:48:43,570 --> 00:48:42,200

were less than a billion people for most

1170

00:48:44,620 --> 00:48:43,580

of the time we around at one point

1171

00:48:46,540 --> 00:48:44,630

someone said they would like about a

1172

00:48:51,850 --> 00:48:46,550

million people in the world we went for

1173

00:48:53,440 --> 00:48:51,860

a real bottleneck at some point um we

1174

00:48:56,740 --> 00:48:53,450

only reached a billion people actually

1175

00:48:59,620 --> 00:48:56,750

in the Year 1800 at the start of the

1176

00:49:02,080 --> 00:48:59,630

Industrial Revolution but so for many

1177

00:49:03,670 --> 00:49:02,090

many from most violent we were just this

1178

00:49:07,420 --> 00:49:03,680

little line at the bottom this small

1179

00:49:10,270 --> 00:49:07,430

group of animals with small species have

1180

00:49:11,710 --> 00:49:10,280

come cluster and of course our energy

1181

00:49:13,270 --> 00:49:11,720

production was very low as well because

1182

00:49:15,160 --> 00:49:13,280

we had like I say this red line

1183

00:49:17,380 --> 00:49:15,170

illustrate the amount of energy energy

1184

00:49:19,960 --> 00:49:17,390

capability energy availability energy

1185

00:49:22,130 --> 00:49:19,970

and resources available for energy

1186

00:49:24,020 --> 00:49:22,140

and that of course was also very low

1187

00:49:26,840 --> 00:49:24,030

because as I've explained we had muscle

1188

00:49:29,990 --> 00:49:26,850

power only we had beasts of burden we

1189

00:49:31,850 --> 00:49:30,000

had various domesticated animals and we

1190

00:49:33,920 --> 00:49:31,860

could light fires wood fires and things

1191

00:49:38,960 --> 00:49:33,930

like that so there was no industry this

1192

00:49:42,380 --> 00:49:38,970

is before industry next slide please and

1193

00:49:45,110 --> 00:49:42,390

then suddenly the amount of energy

1194

00:49:46,760 --> 00:49:45,120

available to us shot up and as you see

1195

00:49:48,320 --> 00:49:46,770

just before the present day I put on

1196

00:49:51,320 --> 00:49:48,330

here illustrating the start of the

1197

00:49:53,690 --> 00:49:51,330

Industrial Revolution our energy supply

1198

00:49:56,510 --> 00:49:53,700

increased a thousandfold with the

1199

00:50:00,860 --> 00:49:56,520

industrialized mass infrastructure

1200

00:50:04,100 --> 00:50:00,870

fossil fuel use next slide please and as

1201
00:50:06,080 --> 00:50:04,110
a result our population shot up the as I

1202
00:50:08,060 --> 00:50:06,090
said by 1800 there about a billion

1203
00:50:10,010 --> 00:50:08,070
people in the world that's less than a

1204
00:50:13,040 --> 00:50:10,020
population of India today and we now

1205
00:50:15,290 --> 00:50:13,050
have seven a half billion so we we it's

1206
00:50:16,430 --> 00:50:15,300
increased enormously the start of the

1207
00:50:18,440 --> 00:50:16,440
Industrial Revolution led to a

1208
00:50:21,890 --> 00:50:18,450
population explosion with increased

1209
00:50:23,240 --> 00:50:21,900
energy basically took all of human

1210
00:50:26,420 --> 00:50:23,250
history for us to reach a billion people

1211
00:50:28,970 --> 00:50:26,430
by 1800 but by 1900 we hit two billion

1212
00:50:30,710 --> 00:50:28,980
so and we added we doubled in size

1213
00:50:33,370 --> 00:50:30,720

within a century because of the

1214

00:50:35,810 --> 00:50:33,380

Industrial Revolution next slide please

1215

00:50:38,030 --> 00:50:35,820

we're back in prehistory ball button in

1216

00:50:39,650 --> 00:50:38,040

the pre-industrial age now as you can

1217

00:50:42,140 --> 00:50:39,660

see the green line there represents

1218

00:50:44,870 --> 00:50:42,150

resources resources are what sometimes

1219

00:50:46,760 --> 00:50:44,880

known as the natural capital or the de

1220

00:50:50,060 --> 00:50:46,770

Bayeux economic capital planet Earth

1221

00:50:54,410 --> 00:50:50,070

this includes includes oil and fossil

1222

00:50:58,430 --> 00:50:54,420

fuels but also soil nutrients food water

1223

00:51:01,580 --> 00:50:58,440

air everything everything that we need

1224

00:51:04,100 --> 00:51:01,590

is reor everything the planet the

1225

00:51:06,080 --> 00:51:04,110

planets life life on earth needs which

1226

00:51:09,170 --> 00:51:06,090

is the same thing in terms of those

1227

00:51:10,790 --> 00:51:09,180

resources next slide please with the

1228

00:51:12,800 --> 00:51:10,800

Industrial Revolution with increase in

1229

00:51:14,330 --> 00:51:12,810

production increasing energy

1230

00:51:16,370 --> 00:51:14,340

availability and use decrease in

1231

00:51:18,010 --> 00:51:16,380

population the resources started to go

1232

00:51:21,710 --> 00:51:18,020

down started to eat into the natural

1233

00:51:23,360 --> 00:51:21,720

capital of the world as Heinberg puts it

1234

00:51:26,140 --> 00:51:23,370

he says we treat the natural capital as

1235

00:51:28,700 --> 00:51:26,150

an income and we just spend spend spend

1236

00:51:29,480 --> 00:51:28,710

and well and like the yeast eventually

1237

00:51:33,650 --> 00:51:29,490

going to run out

1238

00:51:35,180 --> 00:51:33,660

next slide please now we're back in

1239

00:51:38,180 --> 00:51:35,190

prehistory again you can see here there

1240

00:51:39,530 --> 00:51:38,190

was a gray line at the bottom I'm not

1241

00:51:42,920 --> 00:51:39,540

keeping tally I've been talking for

1242

00:51:48,260 --> 00:51:42,930

anyone keeping time I won't be good for

1243

00:51:50,090 --> 00:51:48,270

50 50 miles let me just do this bit and

1244

00:51:51,710 --> 00:51:50,100

we'll have a little break and the bottom

1245

00:51:54,220 --> 00:51:51,720

they see that gray line represents

1246

00:51:57,170 --> 00:51:54,230

environmental destruction that means

1247

00:51:59,510 --> 00:51:57,180

habitat loss the poisoning of the air

1248

00:52:02,930 --> 00:51:59,520

the poisoning of the oceans rubbish tips

1249

00:52:05,660 --> 00:52:02,940

replacing green forests things like that

1250

00:52:07,670 --> 00:52:05,670

even all kinds of all kinds of things

1251
00:52:08,690 --> 00:52:07,680
every time like a motorways built it

1252
00:52:10,430 --> 00:52:08,700
goes to a forest that adds to

1253
00:52:13,250 --> 00:52:10,440
environmental destruction as you can see

1254
00:52:16,820 --> 00:52:13,260
it's very very low here until maybe

1255
00:52:18,770 --> 00:52:16,830
someone might lighter a open fire

1256
00:52:20,720 --> 00:52:18,780
underneath the tree and the tree might

1257
00:52:22,250 --> 00:52:20,730
get to leave singed something like that

1258
00:52:23,990 --> 00:52:22,260
there's a limit of environmental

1259
00:52:29,630 --> 00:52:24,000
destruction in those days next slide

1260
00:52:32,870 --> 00:52:29,640
please and of course as you probably

1261
00:52:35,359 --> 00:52:32,880
know i can predict by now with the rise

1262
00:52:37,960 --> 00:52:35,369
in population the rising energy the

1263
00:52:40,010 --> 00:52:37,970

right or the depletion of resources

1264

00:52:41,420 --> 00:52:40,020

environment instruction started to rise

1265

00:52:45,760 --> 00:52:41,430

and you know all about actually hear

1266

00:52:47,960 --> 00:52:45,770

about it all the time next slide please

1267

00:52:50,300 --> 00:52:47,970

so now in the present day we've reached

1268

00:52:55,000 --> 00:52:50,310

a point really where what which heinberg

1269

00:52:57,470 --> 00:52:55,010

considers to be the perfect storm

1270

00:52:58,760 --> 00:52:57,480

increasing population increasing in an

1271

00:53:00,710 --> 00:52:58,770

energy increasing demand for energy

1272

00:53:04,220 --> 00:53:00,720

increasing environmental instruction and

1273

00:53:06,170 --> 00:53:04,230

the sapling of resources the point where

1274

00:53:08,840 --> 00:53:06,180

they're almost gone with continuing to

1275

00:53:11,599 --> 00:53:08,850

increase we it's like he needed he said

1276

00:53:13,580 --> 00:53:11,609

oh I despair because we're acting as if

1277

00:53:17,990 --> 00:53:13,590

the resources are infinite when they're

1278

00:53:22,520 --> 00:53:18,000

not next slide please and here course we

1279

00:53:25,010 --> 00:53:22,530

have here the power stations the cold

1280

00:53:27,140 --> 00:53:25,020

the energy that's being generated and

1281

00:53:30,349 --> 00:53:27,150

everything that goes with it which is

1282

00:53:31,760 --> 00:53:30,359

all part of this is this is almost the

1283

00:53:35,630 --> 00:53:31,770

center of this entire look at the core

1284

00:53:38,280 --> 00:53:35,640

of this entire system next slide please

1285

00:53:41,040 --> 00:53:38,290

now one of the alternatives that's the

1286

00:53:43,500 --> 00:53:41,050

question maybe I'll tell you what I'll

1287

00:53:44,880 --> 00:53:43,510

take a little break and then we'll talk

1288

00:53:47,160 --> 00:53:44,890

about alternatives to what we've seen

1289

00:53:48,770 --> 00:53:47,170

just now all right now you can if you're

1290

00:53:51,300 --> 00:53:48,780

feeling a bit down don't worry because

1291

00:53:52,980 --> 00:53:51,310

I'm going this does have a happy ending

1292

00:53:54,510 --> 00:53:52,990

all right I'm not that I'm gonna chit

1293

00:53:57,690 --> 00:53:54,520

there's some cheerful news coming up

1294

00:54:02,600 --> 00:53:57,700

okay but to go get yourself a beer or

1295

00:54:07,590 --> 00:54:05,250

year 15 very much I've got some books

1296

00:54:09,120 --> 00:54:07,600

for sale here and these are just five

1297

00:54:12,090 --> 00:54:09,130

pounds each these books despite their

1298

00:54:16,500 --> 00:54:12,100

size this is a book i published it by me

1299

00:54:18,690 --> 00:54:16,510

and i wrote it and post it in 2002 it's

1300

00:54:19,830 --> 00:54:18,700

called Evan's land and it's not about

1301

00:54:21,060 --> 00:54:19,840

the subjects i'm talking about now but

1302

00:54:22,470 --> 00:54:21,070

it's about whales I thought you might

1303

00:54:24,210 --> 00:54:22,480

like it because it's kind of a it's kind

1304

00:54:26,730 --> 00:54:24,220

of a science fiction story set in Wales

1305

00:54:28,290 --> 00:54:26,740

so if you want one of those let me know

1306

00:54:30,060 --> 00:54:28,300

and take one of these and they're just

1307

00:54:31,410 --> 00:54:30,070

five pounds each they won't run

1308

00:54:34,440 --> 00:54:31,420

remainder prices now because that books