



1
00:00:08,000 --> 00:00:05,510
welcome to tales from the rabbit hole

2
00:00:11,060 --> 00:00:08,010
I'm your host Mick West my guest today

3
00:00:13,910 --> 00:00:11,070
is Steen Arneson this is episode 4

4
00:00:16,340 --> 00:00:13,920
episode 3 was where I first talked to

5
00:00:18,830 --> 00:00:16,350
Stan and this is a very large excerpt

6
00:00:20,540 --> 00:00:18,840
that I removed from episode 3 so make

7
00:00:23,060 --> 00:00:20,550
sure you listen to episode 3 before you

8
00:00:26,089 --> 00:00:23,070
listen to episode 4 there's a bunch of

9
00:00:28,310 --> 00:00:26,099
technical things in this episode because

10
00:00:30,460 --> 00:00:28,320
we talked a lot about the science behind

11
00:00:33,049 --> 00:00:30,470
the collapse of the World Trade Center

12
00:00:34,760 --> 00:00:33,059
but that mostly happens in the second

13
00:00:36,380 --> 00:00:34,770

half hour so if you just want to listen

14

00:00:38,660 --> 00:00:36,390

to some interesting talk about

15

00:00:40,340 --> 00:00:38,670

conspiracy theories and debunking the

16

00:00:42,319 --> 00:00:40,350

first half hour is very good and if

17

00:00:44,060 --> 00:00:42,329

you're interested in the science of the

18

00:00:46,580 --> 00:00:44,070

collapse of the World Trade Center and

19

00:00:49,940 --> 00:00:46,590

how to talk about it listen to the

20

00:00:53,240 --> 00:00:49,950

second half - we start out talking here

21

00:00:56,510 --> 00:00:53,250

about the Alaska report which is a

22

00:00:58,549 --> 00:00:56,520

report carried out by dr. Leroy Halsey

23

00:01:00,770 --> 00:00:58,559

at the University of Alaska and a couple

24

00:01:02,930 --> 00:01:00,780

of his graduate students there was paid

25

00:01:05,090 --> 00:01:02,940

for by architects and engineers for 9/11

26
00:01:07,550 --> 00:01:05,100
truth which is a group that promotes the

27
00:01:09,679 --> 00:01:07,560
conspiracy theory that the World Trade

28
00:01:12,260 --> 00:01:09,689
Center was destroyed by explosives this

29
00:01:14,510 --> 00:01:12,270
report has been in process for a number

30
00:01:17,330 --> 00:01:14,520
of years and is just on the verge of

31
00:01:18,830 --> 00:01:17,340
being released couple more things I want

32
00:01:21,410 --> 00:01:18,840
to touch on what you think is going to

33
00:01:25,310 --> 00:01:21,420
happen with the immediate future of the

34
00:01:27,140 --> 00:01:25,320
9/11 community you just go on exactly

35
00:01:30,260 --> 00:01:27,150
the same because of the number of ions

36
00:01:31,749 --> 00:01:30,270
in the fire so to speak with the studies

37
00:01:34,810 --> 00:01:31,759
and the lawsuits and things like that

38
00:01:39,350 --> 00:01:34,820

yeah well it could it could potentially

39

00:01:41,539 --> 00:01:39,360

lead to some unintentional consequences

40

00:01:43,880 --> 00:01:41,549

I feel when when talking to one of the

41

00:01:46,819 --> 00:01:43,890

peer reviewers what they've done in the

42

00:01:49,999 --> 00:01:46,829

Alaska report that I got to know today

43

00:01:52,330 --> 00:01:50,009

is that they've done an entire

44

00:01:57,679 --> 00:01:52,340

simulation of the collapse of building 7

45

00:02:01,399 --> 00:01:57,689

from the top down and they've with the

46

00:02:05,780 --> 00:02:01,409

report being released hopefully before

47

00:02:09,410 --> 00:02:05,790

the summer they have done modeling where

48

00:02:11,809 --> 00:02:09,420

they've taken out certain sections of

49

00:02:14,680 --> 00:02:11,819

the building and done the same as in the

50

00:02:17,890 --> 00:02:14,690

official World Trade Center 7

51
00:02:22,360 --> 00:02:17,900
and tried to simulate how things would

52
00:02:24,690 --> 00:02:22,370
happen and also simulated according to

53
00:02:26,860 --> 00:02:24,700
him that what would happen if all the

54
00:02:30,250 --> 00:02:26,870
coal columns would have been taken out

55
00:02:33,160 --> 00:02:30,260
instantly hmm so they've gone through a

56
00:02:36,760 --> 00:02:33,170
lot of different scenarios to exclude

57
00:02:40,630 --> 00:02:36,770
the possibility that the official story

58
00:02:43,990 --> 00:02:40,640
is is true and they're hoping to get the

59
00:02:47,880 --> 00:02:44,000
report within a couple of weeks for for

60
00:02:50,110 --> 00:02:47,890
peer review the reason for the delay has

61
00:02:54,610 --> 00:02:50,120
according to him Ben

62
00:02:59,290 --> 00:02:54,620
because Leroy Halsey has been injured in

63
00:03:02,920 --> 00:02:59,300

an accident and they've had to change a

64

00:03:08,680 --> 00:03:02,930

bit of the rhetoric and the report due

65

00:03:11,020 --> 00:03:08,690

to the language being used in it and I

66

00:03:14,020 --> 00:03:11,030

think that with our report coming out

67

00:03:20,259 --> 00:03:14,030

there can be some some healthy questions

68

00:03:22,420 --> 00:03:20,269

that could hopefully bring up some some

69

00:03:26,199 --> 00:03:22,430

new questions that could lead somewhere

70

00:03:28,030 --> 00:03:26,209

and I will of course notify you as soon

71

00:03:31,210 --> 00:03:28,040

as I can when that report becomes

72

00:03:33,280 --> 00:03:31,220

available in any draft or any in any way

73

00:03:38,920 --> 00:03:33,290

because I think the more Minds look at

74

00:03:43,090 --> 00:03:38,930

it with different classes they the

75

00:03:45,930 --> 00:03:43,100

better but with the future of 911

76

00:03:48,340 --> 00:03:45,940

community I think that it will be I

77

00:03:51,640 --> 00:03:48,350

think it will depend on the Alaska

78

00:03:53,070 --> 00:03:51,650

report and the lawsuits coming up so

79

00:04:00,509 --> 00:03:53,080

what do you mean by unintended

80

00:04:03,160 --> 00:04:00,519

consequences could maybe lead to

81

00:04:05,350 --> 00:04:03,170

questions being asked that hasn't been

82

00:04:08,350 --> 00:04:05,360

asked before in the engineering

83

00:04:11,500 --> 00:04:08,360

communities want the idea is to spread

84

00:04:14,170 --> 00:04:11,510

this report far and wide through all

85

00:04:16,990 --> 00:04:14,180

different kinds of engineering and

86

00:04:18,870 --> 00:04:17,000

architecture and communities to to how

87

00:04:24,250 --> 00:04:18,880

the most amount of people look at it and

88

00:04:25,990 --> 00:04:24,260

if the report shows what he says it will

89

00:04:27,460 --> 00:04:26,000

show that there's no way that this

90

00:04:28,120 --> 00:04:27,470

building came down the way it did

91

00:04:32,860 --> 00:04:28,130

because

92

00:04:35,680 --> 00:04:32,870

fire then I guess the unintentional

93

00:04:37,780 --> 00:04:35,690

consequences could be could be anything

94

00:04:41,560 --> 00:04:37,790

really I mean it could be potentially

95

00:04:44,680 --> 00:04:41,570

the an uprising of fun investigation or

96

00:04:47,800 --> 00:04:44,690

it could be something else that I I

97

00:04:50,890 --> 00:04:47,810

can't even imagine because if it does

98

00:04:53,110 --> 00:04:50,900

come out that there's no way then I can

99

00:04:55,800 --> 00:04:53,120

only speculate as to what will what will

100

00:04:58,570 --> 00:04:55,810

happen but I don't think it will die out

101

00:04:59,740 --> 00:04:58,580

yeah I don't certainly don't think it's

102

00:05:02,350 --> 00:04:59,750

gonna die out to you there is one of

103

00:05:06,060 --> 00:05:02,360

those conspiracies that's you know

104

00:05:09,730 --> 00:05:06,070

obviously it's been 18 years now and

105

00:05:13,150 --> 00:05:09,740

yeah it's it's going to you know like

106

00:05:16,510 --> 00:05:13,160

JFK well you know that conspiracy theory

107

00:05:18,400 --> 00:05:16,520

will live forever but I think you know

108

00:05:20,020 --> 00:05:18,410

maybe one of the consequences you

109

00:05:22,390 --> 00:05:20,030

mentioned was you know people looking at

110

00:05:25,060 --> 00:05:22,400

things the N looked at before and one of

111

00:05:30,190 --> 00:05:25,070

the challenges I have in debunking

112

00:05:32,560 --> 00:05:30,200

things is that the mainstream scientific

113

00:05:34,450 --> 00:05:32,570

community doesn't really take things

114

00:05:37,210 --> 00:05:34,460

seriously so it's kind of hard to get

115

00:05:38,860 --> 00:05:37,220

people to look at chemtrails but I was

116

00:05:41,100 --> 00:05:38,870

part of a study where we asked

117

00:05:45,610 --> 00:05:41,110

scientists to look at Kemah Trails

118

00:05:47,110 --> 00:05:45,620

supposed chemtrails photos and we

119

00:05:48,760 --> 00:05:47,120

surveyed all these scientists like

120

00:05:50,290 --> 00:05:48,770

hundreds of them and we've got a lot of

121

00:05:52,090 --> 00:05:50,300

responses back people saying are you

122

00:05:53,140 --> 00:05:52,100

serious like this is just ridiculous why

123

00:05:55,270 --> 00:05:53,150

are you even doing this and people

124

00:05:58,090 --> 00:05:55,280

didn't respond a lot of the time and

125

00:06:00,130 --> 00:05:58,100

then there was you know there was some

126
00:06:02,290 --> 00:06:00,140
proper scientific names associated with

127
00:06:03,850 --> 00:06:02,300
the study so we did actually get some

128
00:06:06,490 --> 00:06:03,860
responses but it's very hard for people

129
00:06:07,450 --> 00:06:06,500
to take things seriously and I think why

130
00:06:11,440 --> 00:06:07,460
do you think it is

131
00:06:14,380 --> 00:06:11,450
well because chemtrails in particular I

132
00:06:15,790 --> 00:06:14,390
think yeah a scientist when told the

133
00:06:17,920 --> 00:06:15,800
government is secretly spraying things

134
00:06:19,840 --> 00:06:17,930
out of the back of planes and the

135
00:06:22,240 --> 00:06:19,850
evidence is these white lines we see in

136
00:06:24,450 --> 00:06:22,250
the sky they'll just say well those are

137
00:06:27,010 --> 00:06:24,460
contrails what are you talking about and

138
00:06:30,030 --> 00:06:27,020

it immediately on the face of it falls

139

00:06:36,280 --> 00:06:30,040

falls down and I think most people I

140

00:06:38,380 --> 00:06:36,290

think indeed sorry oh did we know that

141

00:06:41,520 --> 00:06:38,390

they they have experienced there were

142

00:06:44,970 --> 00:06:41,530

experimenting with chemtrails as a way

143

00:06:47,730 --> 00:06:44,980

not directly chemtrails but contrails as

144

00:06:50,100 --> 00:06:47,740

a way to perhaps stop global warming or

145

00:06:53,220 --> 00:06:50,110

to to cool the planet and creating

146

00:06:55,350 --> 00:06:53,230

artificial clouds and putting chemicals

147

00:06:58,050 --> 00:06:55,360

into this to make it more intense so

148

00:07:00,480 --> 00:06:58,060

that it would do whatever it needs to to

149

00:07:03,300 --> 00:07:00,490

do to cool the planet so the the idea

150

00:07:06,410 --> 00:07:03,310

that the government would be spraying

151

00:07:10,740 --> 00:07:06,420

something to put it like that and into

152

00:07:12,690 --> 00:07:10,750

using planes to do it one would think

153

00:07:16,400 --> 00:07:12,700

that a scientist with the people that

154

00:07:18,990 --> 00:07:16,410

you approached would should instead say

155

00:07:21,030 --> 00:07:19,000

well let me get back to you on this and

156

00:07:23,790 --> 00:07:21,040

let me look at it instead to have an

157

00:07:25,440 --> 00:07:23,800

open mind the people that we contacted

158

00:07:30,110 --> 00:07:25,450

were people who were experts in their

159

00:07:32,040 --> 00:07:30,120

field and there was two areas one was

160

00:07:35,360 --> 00:07:32,050

atmospheric physics which is basically

161

00:07:37,860 --> 00:07:35,370

clouds and things and the other one was

162

00:07:39,720 --> 00:07:37,870

atmospheric chemistry which is the

163

00:07:41,370 --> 00:07:39,730

things that are in the air and the

164

00:07:43,170 --> 00:07:41,380

deposition of those things out of the

165

00:07:45,870 --> 00:07:43,180

air so they are familiar with what's

166

00:07:48,060 --> 00:07:45,880

actually going on in the sky and they

167

00:07:50,010 --> 00:07:48,070

know that near the trails are contrails

168

00:07:54,570 --> 00:07:50,020

and they know that there haven't been

169

00:07:58,050 --> 00:07:54,580

any you know large amounts of aluminum

170

00:08:00,030 --> 00:07:58,060

being found in the air and also it we

171

00:08:01,770 --> 00:08:00,040

didn't just ask them we send them a

172

00:08:05,040 --> 00:08:01,780

questionnaire which gave them the

173

00:08:06,180 --> 00:08:05,050

opportunity to look up things and so

174

00:08:08,070 --> 00:08:06,190

they could look at what the state of

175

00:08:10,890 --> 00:08:08,080

geoengineering research is right now and

176

00:08:14,190 --> 00:08:10,900

the state of it is that no tests have

177

00:08:15,810 --> 00:08:14,200

been done spraying things from planes so

178

00:08:17,909 --> 00:08:15,820

we're at a very very early stage in

179

00:08:21,420 --> 00:08:17,919

potential geoengineering research and

180

00:08:24,120 --> 00:08:21,430

because they know that they they're just

181

00:08:26,040 --> 00:08:24,130

going to dismiss it I think you know a

182

00:08:29,010 --> 00:08:26,050

lot of people also are quite dismissive

183

00:08:31,610 --> 00:08:29,020

of conspiracy theories in general yet

184

00:08:35,130 --> 00:08:31,620

the idea that the government is secretly

185

00:08:37,950 --> 00:08:35,140

doing this enormous project spraying

186

00:08:39,540 --> 00:08:37,960

thousands of tons tens of thousand tons

187

00:08:41,940 --> 00:08:39,550

per day just seems ridiculous to a lot

188

00:08:43,380 --> 00:08:41,950

of people now I know it also seems

189

00:08:45,000 --> 00:08:43,390

perfectly normal to a lot of people

190

00:08:46,170 --> 00:08:45,010

because they are more prone to believe

191

00:08:48,960 --> 00:08:46,180

that the government does these

192

00:08:52,140 --> 00:08:48,970

large-scale secret projects I think both

193

00:08:55,180 --> 00:08:52,150

9/11 though it's like you get the same

194

00:08:57,550 --> 00:08:55,190

reaction from engineers and

195

00:09:00,970 --> 00:08:57,560

scientists and pilots when you talk to

196

00:09:02,890 --> 00:09:00,980

them they will either just reject it out

197

00:09:05,380 --> 00:09:02,900

of hand because it just seems so

198

00:09:07,960 --> 00:09:05,390

ridiculous or they will know something

199

00:09:12,100 --> 00:09:07,970

about it or a combination of both those

200

00:09:14,530 --> 00:09:12,110

things and so they just they view 9/11

201
00:09:16,960 --> 00:09:14,540
conspiracy theorists like no offense as

202
00:09:19,240 --> 00:09:16,970
being from their perspective like

203
00:09:21,210 --> 00:09:19,250
tin foil hats type people that they only

204
00:09:25,300 --> 00:09:21,220
don't even think they deserve any time

205
00:09:28,360 --> 00:09:25,310
any of their time so if we wanted to get

206
00:09:30,460 --> 00:09:28,370
a proper refutation of the architects

207
00:09:32,530 --> 00:09:30,470
and engineers for 9/11 truth its left to

208
00:09:35,140 --> 00:09:32,540
people like me or like the other people

209
00:09:36,960 --> 00:09:35,150
who aren't really engineers learn to go

210
00:09:39,340 --> 00:09:36,970
through these things and so we get these

211
00:09:40,840 --> 00:09:39,350
here debunking is that really don't

212
00:09:44,170 --> 00:09:40,850
carry that much weight even if they are

213
00:09:49,060 --> 00:09:44,180

correct but that phenomenon in itself of

214

00:09:52,960 --> 00:09:49,070

that way of reacting to I mean the idea

215

00:09:59,080 --> 00:09:52,970

of there being a conspiracy being true

216

00:10:02,470 --> 00:09:59,090

or not true should either way have you

217

00:10:05,890 --> 00:10:02,480

know be open for discussion or debate at

218

00:10:07,270 --> 00:10:05,900

least I mean the the idea that the it

219

00:10:10,090 --> 00:10:07,280

doesn't have to be the government let's

220

00:10:12,430 --> 00:10:10,100

say it could be a privatized institution

221

00:10:15,400 --> 00:10:12,440

or company or it could be several

222

00:10:18,700 --> 00:10:15,410

companies it could be privatized with or

223

00:10:21,850 --> 00:10:18,710

maybe privatized and government interest

224

00:10:26,350 --> 00:10:21,860

cooperating to achieve a common interest

225

00:10:33,360 --> 00:10:26,360

or a common goal - and regardless of how

226

00:10:36,460 --> 00:10:33,370

I wonder where that phenomenon or

227

00:10:38,680 --> 00:10:36,470

psychological phenomenon in people come

228

00:10:40,720 --> 00:10:38,690

from where they have that reaction as

229

00:10:43,600 --> 00:10:40,730

you say that oh this is so ludicrous I'm

230

00:10:45,550 --> 00:10:43,610

not even going to touch it where in some

231

00:10:49,090 --> 00:10:45,560

cases these things that sound so

232

00:10:51,010 --> 00:10:49,100

ludicrous for example what what Snowden

233

00:10:54,220 --> 00:10:51,020

revealed or what Julian Assange is

234

00:10:56,620 --> 00:10:54,230

revealed or go through history through

235

00:11:00,579 --> 00:10:56,630

the Roman Empire or anything else you

236

00:11:03,520 --> 00:11:00,589

see this as a human phenomenon to

237

00:11:05,620 --> 00:11:03,530

collaborate or to achieve a goal and

238

00:11:09,060 --> 00:11:05,630

you're willing to go at any lengths to

239

00:11:13,170 --> 00:11:09,070

achieve it if you ideologically

240

00:11:17,129 --> 00:11:13,180

rooted enough to and then do it so I I

241

00:11:20,069 --> 00:11:17,139

wonder why so much resistance in people

242

00:11:22,319 --> 00:11:20,079

and experts a so-called experts where

243

00:11:24,240 --> 00:11:22,329

they don't even want to look at the

244

00:11:26,670 --> 00:11:24,250

material that's that's when I have a

245

00:11:29,910 --> 00:11:26,680

problem with it because they they're the

246

00:11:31,650 --> 00:11:29,920

ones responsible for answering the

247

00:11:33,420 --> 00:11:31,660

questions about this because they're the

248

00:11:35,340 --> 00:11:33,430

ones that know something about this and

249

00:11:38,160 --> 00:11:35,350

then the only ones that can tell us how

250

00:11:41,519 --> 00:11:38,170

we're wrong and when they have a

251

00:11:44,460 --> 00:11:41,529

reaction like that it just builds up the

252

00:11:49,819 --> 00:11:44,470

inertia of people that believe that

253

00:11:53,370 --> 00:11:49,829

there's definitely a cover-up and some

254

00:11:56,280 --> 00:11:53,380

mm-hmm paralleling it here to the way

255

00:12:00,720 --> 00:11:56,290

that these scientists are reacting might

256

00:12:04,710 --> 00:12:00,730

be familiar to almost these small groups

257

00:12:07,079 --> 00:12:04,720

families where they have their worldview

258

00:12:10,110 --> 00:12:07,089

threatened because what if they're

259

00:12:12,480 --> 00:12:10,120

actually right what if I am you know for

260

00:12:13,740 --> 00:12:12,490

example in the 911 community saying that

261

00:12:15,689 --> 00:12:13,750

maybe it's not the way you think it is

262

00:12:17,879 --> 00:12:15,699

oh [h__h] well then we're gonna exclude

263

00:12:20,840 --> 00:12:17,889

you we're not gonna listen to you your

264

00:12:23,939 --> 00:12:20,850

your shell or your they name call you

265

00:12:27,809 --> 00:12:23,949

just like they do with tinfoil hats or

266

00:12:31,889 --> 00:12:27,819

they it's the identical behavior in my

267

00:12:34,139 --> 00:12:31,899

view and where do you think this this

268

00:12:37,079 --> 00:12:34,149

phenomenon comes from from in people

269

00:12:39,180 --> 00:12:37,089

well has reminded there with some of the

270

00:12:42,120 --> 00:12:39,190

interactions I've had with Flat Earth

271

00:12:44,430 --> 00:12:42,130

people and talking to people who are not

272

00:12:46,769 --> 00:12:44,440

flat earth people and you know obviously

273

00:12:50,490 --> 00:12:46,779

it's a far more ridiculous conspiracy

274

00:12:52,980 --> 00:12:50,500

theory than even chemtrails on 9/11 but

275

00:12:54,629 --> 00:12:52,990

you get the same reaction from ordinary

276

00:12:57,030 --> 00:12:54,639

people like if you say like you know I

277

00:12:58,259 --> 00:12:57,040

believe the world is flat then they are

278

00:13:00,900 --> 00:12:58,269

going to say that's just ridiculous

279

00:13:03,050 --> 00:13:00,910

that's just complete nonsense said not

280

00:13:06,930 --> 00:13:03,060

even going to bother talking about that

281

00:13:09,660 --> 00:13:06,940

and but if you ask most people how do

282

00:13:11,970 --> 00:13:09,670

you know the earth is flat how do you

283

00:13:15,300 --> 00:13:11,980

know the earth is round they won't they

284

00:13:17,490 --> 00:13:15,310

be able to give you answer they're just

285

00:13:19,139 --> 00:13:17,500

saying it because you know that's what

286

00:13:20,730 --> 00:13:19,149

they've learnt in school and they trust

287

00:13:22,910 --> 00:13:20,740

the scientists and yeah

288

00:13:25,620 --> 00:13:22,920

and people make fun of flat-earthers

289

00:13:27,840 --> 00:13:25,630

yeah and I think there's obviously going

290

00:13:30,570 --> 00:13:27,850

to be a degree of that in in any

291

00:13:35,810 --> 00:13:30,580

conspiracy theory if you say like you

292

00:13:39,180 --> 00:13:35,820

know why don't you believe in chemtrails

293

00:13:41,010 --> 00:13:39,190

the initial reaction of a lot of people

294

00:13:45,660 --> 00:13:41,020

is that that's obviously ridiculous and

295

00:13:47,040 --> 00:13:45,670

with 9/11 everyone saw the planes fly

296

00:13:49,889 --> 00:13:47,050

into the buildings and we saw the

297

00:13:51,840 --> 00:13:49,899

buildings burn and we saw the buildings

298

00:13:55,530 --> 00:13:51,850

collapse so it doesn't seem that

299

00:13:58,590 --> 00:13:55,540

unreasonable to most people that that's

300

00:14:00,510 --> 00:13:58,600

what happened and then you got some

301
00:14:02,100 --> 00:14:00,520
other people like saying oh maybe there

302
00:14:04,050 --> 00:14:02,110
were pre planted explosives then it's

303
00:14:05,940 --> 00:14:04,060
because we can see these squibs and they

304
00:14:08,250 --> 00:14:05,950
didn't for the right speed and you know

305
00:14:10,980 --> 00:14:08,260
this flange was to two inches too wide

306
00:14:14,370 --> 00:14:10,990
that just sounds like a lot of to most

307
00:14:17,730 --> 00:14:14,380
ordinary people it it just seems like it

308
00:14:19,139 --> 00:14:17,740
an unnecessary made-up complication to

309
00:14:20,730 --> 00:14:19,149
their simple explanation that they

310
00:14:22,710 --> 00:14:20,740
already have that they think most people

311
00:14:25,199 --> 00:14:22,720
share and that they bought into at the

312
00:14:28,620 --> 00:14:25,209
time and that we you know we justified

313
00:14:29,670 --> 00:14:28,630

going to war over and so they they just

314

00:14:32,130 --> 00:14:29,680

rejected out of hand

315

00:14:36,660 --> 00:14:32,140

well the vast majority of people are not

316

00:14:38,040 --> 00:14:36,670

interested in the science behind 9/11

317

00:14:40,110 --> 00:14:38,050

like in the way they're not interested

318

00:14:42,150 --> 00:14:40,120

in the science of whether the the world

319

00:14:45,750 --> 00:14:42,160

is flat or not they're just things that

320

00:14:46,740 --> 00:14:45,760

dear the official story and you know I

321

00:14:50,250 --> 00:14:46,750

personally think that they are correct

322

00:14:51,810 --> 00:14:50,260

in in in in that general assessment and

323

00:14:58,260 --> 00:14:51,820

here certainly with the physics aspect

324

00:15:01,949 --> 00:14:58,270

of it but yeah I I would like to have

325

00:15:04,319 --> 00:15:01,959

more physicists weighing in on why the

326

00:15:07,920 --> 00:15:04,329

towers collapsed and why building 7

327

00:15:10,730 --> 00:15:07,930

collapsed the way it did I was thinking

328

00:15:13,530 --> 00:15:10,740

like that the the Kentrell paper I

329

00:15:16,319 --> 00:15:13,540

helped out on was called an expert

330

00:15:18,139 --> 00:15:16,329

consensus on secret large-scale aerial

331

00:15:20,910 --> 00:15:18,149

spraying project when it's basically a

332

00:15:22,500 --> 00:15:20,920

consensus paper where you try to figure

333

00:15:24,000 --> 00:15:22,510

out what all the scientists think on

334

00:15:26,280 --> 00:15:24,010

average and I think we could do

335

00:15:30,630 --> 00:15:26,290

something similar like to that with 9/11

336

00:15:33,120 --> 00:15:30,640

because somehow managed to take a survey

337

00:15:34,230 --> 00:15:33,130

or actual engineers there have been

338

00:15:36,570 --> 00:15:34,240

interesting

339

00:15:38,970 --> 00:15:36,580

you know getting a better gauge because

340

00:15:40,860 --> 00:15:38,980

right now all we have is that we have

341

00:15:43,560 --> 00:15:40,870

these you know thousands of architects

342

00:15:44,880 --> 00:15:43,570

and engineers for 9/11 truth on the one

343

00:15:48,090 --> 00:15:44,890

hand and then we've got like a vast

344

00:15:49,590 --> 00:15:48,100

silence on the other other side now

345

00:15:51,000 --> 00:15:49,600

really that's not silence is because

346

00:15:52,980 --> 00:15:51,010

these people are going oh that's just

347

00:15:55,500 --> 00:15:52,990

ridiculous why are you anything why am I

348

00:15:57,990 --> 00:15:55,510

going to bother with that yeah but so

349

00:15:59,970 --> 00:15:58,000

the people on the truth side they think

350

00:16:01,260 --> 00:15:59,980

that you know these people you know

351
00:16:04,019 --> 00:16:01,270
they're scared of losing their jobs

352
00:16:08,040 --> 00:16:04,029
they're scared of being ostracized they

353
00:16:11,850 --> 00:16:08,050
don't want to look at it because it's it

354
00:16:13,470 --> 00:16:11,860
worries them listen that there could be

355
00:16:19,350 --> 00:16:13,480
some truth in that for us of individuals

356
00:16:22,710 --> 00:16:19,360
yeah but people do if people start

357
00:16:24,480 --> 00:16:22,720
spouting 9/11 truth in the workplace it

358
00:16:25,650 --> 00:16:24,490
can actually lead to problems but that's

359
00:16:27,210 --> 00:16:25,660
just the Anglian if you start being

360
00:16:29,579 --> 00:16:27,220
evangelical about anything in the

361
00:16:30,900 --> 00:16:29,589
workplace and it's going to going to

362
00:16:32,040 --> 00:16:30,910
cause problems cause you're not doing it

363
00:16:33,870 --> 00:16:32,050

work you're spending your time you've

364

00:16:36,750 --> 00:16:33,880

been Jellico Singh and I'm bothering

365

00:16:41,730 --> 00:16:36,760

people you know I certainly I see your

366

00:16:44,040 --> 00:16:41,740

point that people might be you know they

367

00:16:46,890 --> 00:16:44,050

don't want to look into these things as

368

00:16:49,350 --> 00:16:46,900

a constant whining decision maybe maybe

369

00:16:52,019 --> 00:16:49,360

I said conscious decision as well but

370

00:16:54,510 --> 00:16:52,029

yeah I would I would encourage people to

371

00:16:58,110 --> 00:16:54,520

look into them I look into them but like

372

00:17:01,290 --> 00:16:58,120

I said yeah I think there's one group of

373

00:17:03,500 --> 00:17:01,300

truth activists who have a challenge

374

00:17:06,360 --> 00:17:03,510

every year where they have a debate and

375

00:17:07,439 --> 00:17:06,370

they put up this one guy or another guy

376

00:17:10,169 --> 00:17:07,449

those two guys that they alternate

377

00:17:11,790 --> 00:17:10,179

between I think and they they hold this

378

00:17:15,870 --> 00:17:11,800

debate every year and every year the

379

00:17:18,360 --> 00:17:15,880

nine eleven people win now the reason

380

00:17:21,510 --> 00:17:18,370

they win is that no one shows up to the

381

00:17:22,679 --> 00:17:21,520

debate and no one shows up because all

382

00:17:27,270 --> 00:17:22,689

they have is they have an open

383

00:17:30,860 --> 00:17:27,280

invitation to somebody with a PhD in

384

00:17:33,810 --> 00:17:30,870

physics and who has a certain like

385

00:17:35,220 --> 00:17:33,820

publication ranking and so many years of

386

00:17:37,290 --> 00:17:35,230

experience and there's published one

387

00:17:37,620 --> 00:17:37,300

paper on building dynamics or something

388

00:17:39,480 --> 00:17:37,630

like that

389

00:17:41,460 --> 00:17:39,490

so they've got this little narrow field

390

00:17:43,500 --> 00:17:41,470

of people which is probably you know

391

00:17:47,370 --> 00:17:43,510

only a few hundred or maybe a thousand

392

00:17:48,220 --> 00:17:47,380

people and they just announce it on the

393

00:17:50,230 --> 00:17:48,230

internet and they probably

394

00:17:52,390 --> 00:17:50,240

email a bunch of them and people will

395

00:17:54,730 --> 00:17:52,400

just put that straight into the bin when

396

00:17:57,940 --> 00:17:54,740

it arrives no one's taking them up on it

397

00:18:00,669 --> 00:17:57,950

but they wouldn't have me on even though

398

00:18:01,930 --> 00:18:00,679

I could probably answer a lot of the

399

00:18:03,430 --> 00:18:01,940

questions that they do even though I

400

00:18:06,370 --> 00:18:03,440

don't have a PhD in physics I'm familiar

401

00:18:07,750 --> 00:18:06,380

with the basic the basic issues they

402

00:18:11,500 --> 00:18:07,760

wouldn't have me um because I don't have

403

00:18:15,039 --> 00:18:11,510

a PhD in physics and so they I don't

404

00:18:18,640 --> 00:18:15,049

know if they're justified in doing that

405

00:18:21,580 --> 00:18:18,650

because yeah are they genuinely doing it

406

00:18:23,100 --> 00:18:21,590

because they don't want lay people on or

407

00:18:25,960 --> 00:18:23,110

is it just a way of artificially

408

00:18:28,150 --> 00:18:25,970

restricting the debate people I think

409

00:18:34,299 --> 00:18:28,160

you have a really bad name in that

410

00:18:40,680 --> 00:18:34,309

communities to put it on their website I

411

00:18:43,270 --> 00:18:40,690

was called the Pope of demolition denial

412

00:18:46,030 --> 00:18:43,280

that's actually something that's on an

413

00:18:48,370 --> 00:18:46,040

actual article on architects and

414

00:18:57,760 --> 00:18:48,380

engineers for 9/11 truth the Pope of

415

00:19:03,340 --> 00:18:57,770

demolition denial what does that even

416

00:19:06,010 --> 00:19:03,350

mean oh it could mean like yeah my word

417

00:19:07,150 --> 00:19:06,020

is law or something like that no it was

418

00:19:08,950 --> 00:19:07,160

it's quite funny

419

00:19:12,880 --> 00:19:08,960

yeah and that's an unfortunate thing as

420

00:19:14,740 --> 00:19:12,890

well like talking to people I I want to

421

00:19:16,690 --> 00:19:14,750

be able to communicate with people but

422

00:19:21,430 --> 00:19:16,700

once they form this opinion of me as

423

00:19:25,060 --> 00:19:21,440

being a you know a skill or whatever

424

00:19:27,909 --> 00:19:25,070

they think a Pope then it makes it very

425

00:19:30,070 --> 00:19:27,919

hard to talk to her man and it's

426

00:19:33,090 --> 00:19:30,080

unfortunate like you know I talked to

427

00:19:35,950 --> 00:19:33,100

you and we had I think very productive

428

00:19:37,659 --> 00:19:35,960

discussions and very honest discussions

429

00:19:39,220 --> 00:19:37,669

like we did today and I think it was it

430

00:19:41,140 --> 00:19:39,230

was great I think you know progress was

431

00:19:44,080 --> 00:19:41,150

made and I have a better understanding

432

00:19:46,900 --> 00:19:44,090

of the issues from my discussions with

433

00:19:49,450 --> 00:19:46,910

you and you know you probably got some

434

00:19:51,220 --> 00:19:49,460

something from the discussions too so I

435

00:19:53,890 --> 00:19:51,230

think having these types of discussions

436

00:19:59,200 --> 00:19:53,900

is is a vital part for everyone to move

437

00:20:02,019 --> 00:19:59,210

forward i I was wondering in regards to

438

00:20:07,839 --> 00:20:02,029

I completely agree with you there

439

00:20:11,499 --> 00:20:07,849

um we had a conversation with richard

440

00:20:15,310 --> 00:20:11,509

gage on the phone a while back you and I

441

00:20:17,259 --> 00:20:15,320

hadn't oh yeah yes yeah yeah yeah oh

442

00:20:19,479 --> 00:20:17,269

yeah with richard gage on the phone and

443

00:20:21,940 --> 00:20:19,489

i I had an impression that that was

444

00:20:25,539 --> 00:20:21,950

productive in a way even though it

445

00:20:28,509 --> 00:20:25,549

wasn't exactly going into the weeds as

446

00:20:33,009 --> 00:20:28,519

you wanted it to but if that was the

447

00:20:36,369 --> 00:20:33,019

approach forward where there could be I

448

00:20:40,299 --> 00:20:36,379

mean I've been asking myself why why why

449

00:20:44,159 --> 00:20:40,309

the heck hasn't there been a panel where

450

00:20:48,430 --> 00:20:44,169

you for example and Richard gage and

451
00:20:50,529 --> 00:20:48,440
having for example two independent you

452
00:20:54,519 --> 00:20:50,539
know structural engineers or whatever or

453
00:20:57,180 --> 00:20:54,529
someone else having a discussion and an

454
00:21:01,149 --> 00:20:57,190
interaction maybe with each one's

455
00:21:04,509 --> 00:21:01,159
presentation and actually having a

456
00:21:07,299 --> 00:21:04,519
productive debate why hasn't that

457
00:21:09,909 --> 00:21:07,309
happened have you taken any initiative

458
00:21:13,419 --> 00:21:09,919
to try to make that happen has have you

459
00:21:15,129 --> 00:21:13,429
felt anything from the other side no no

460
00:21:16,719 --> 00:21:15,139
one's ever approached me on that and

461
00:21:19,060 --> 00:21:16,729
obviously I think when we were talking

462
00:21:22,089 --> 00:21:19,070
then it was about possibility of going

463
00:21:23,739 --> 00:21:22,099

on the Joe Rogan podcast which yeah just

464

00:21:28,450 --> 00:21:23,749

never happened cursing at Joe's I think

465

00:21:30,519 --> 00:21:28,460

moved on to other things and that would

466

00:21:33,339 --> 00:21:30,529

have been a good talk I think just me

467

00:21:36,129 --> 00:21:33,349

and Richard discussing our differences

468

00:21:38,229 --> 00:21:36,139

will be good with someone like Joe or

469

00:21:40,749 --> 00:21:38,239

someone like that mediating you know

470

00:21:42,899 --> 00:21:40,759

like you say often these conversations

471

00:21:46,599 --> 00:21:42,909

they devolve into the weeds the details

472

00:21:50,499 --> 00:21:46,609

and it can be a bit boring for the

473

00:21:54,399 --> 00:21:50,509

listener did you see my discussion I had

474

00:21:56,200 --> 00:21:54,409

with Tony's Ambati yes I was interesting

475

00:21:57,700 --> 00:21:56,210

you know I didn't obviously I didn't

476
00:22:00,639 --> 00:21:57,710
change his mind and he didn't change my

477
00:22:02,139 --> 00:22:00,649
mind but we discussed things and I told

478
00:22:03,879 --> 00:22:02,149
him some things that he didn't know like

479
00:22:06,789 --> 00:22:03,889
he didn't know that

480
00:22:09,070 --> 00:22:06,799
you know the good 2001 wasn't actually

481
00:22:12,519 --> 00:22:09,080
an initiating event in the global

482
00:22:13,989 --> 00:22:12,529
simulations which you know is a detail

483
00:22:15,490 --> 00:22:13,999
that most people is completely

484
00:22:17,550 --> 00:22:15,500
meaningless

485
00:22:21,100 --> 00:22:17,560
burned it was very significant I think

486
00:22:24,970 --> 00:22:21,110
to to him and you know even to the the

487
00:22:28,060 --> 00:22:24,980
whole context of the study in Alaska so

488
00:22:31,240 --> 00:22:28,070

I think having discussions like that can

489

00:22:34,510 --> 00:22:31,250

be productive I think beating out

490

00:22:36,730 --> 00:22:34,520

individual details like for example the

491

00:22:39,130 --> 00:22:36,740

the column that was cut at an angle if

492

00:22:40,990 --> 00:22:39,140

we can agree that that particular column

493

00:22:43,270 --> 00:22:41,000

was not cut at an angle then we can stop

494

00:22:46,390 --> 00:22:43,280

talking about it and stop wasting a lot

495

00:22:49,420 --> 00:22:46,400

of time and if we agree that there could

496

00:22:51,130 --> 00:22:49,430

be other causes of I in microspheres but

497

00:22:52,720 --> 00:22:51,140

perhaps they think there was so many of

498

00:22:55,060 --> 00:22:52,730

them it must have been thermite then we

499

00:22:57,240 --> 00:22:55,070

can agree that you know we will we'll

500

00:23:00,730 --> 00:22:57,250

start talking about the quantity of

501
00:23:03,130 --> 00:23:00,740
microspheres rather than the simple

502
00:23:06,130 --> 00:23:03,140
presence so we can kind of move the

503
00:23:08,530 --> 00:23:06,140
conversation forward rather than just

504
00:23:12,400 --> 00:23:08,540
doing these old things over and over

505
00:23:16,750 --> 00:23:12,410
again constantly having things like you

506
00:23:19,090 --> 00:23:16,760
know how can a aluminium plane penetrate

507
00:23:21,250 --> 00:23:19,100
a steel building and then I hold up a

508
00:23:23,290 --> 00:23:21,260
picture of ping-pong ball going from a

509
00:23:26,290 --> 00:23:23,300
ping-pong paddle and I do that like you

510
00:23:29,980 --> 00:23:26,300
know hundred times on individual basis

511
00:23:31,960 --> 00:23:29,990
but if we can actually here agree on

512
00:23:34,540 --> 00:23:31,970
some things then I think it could be a

513
00:23:37,990 --> 00:23:34,550

bit more productive yeah yeah definitely

514

00:23:40,300 --> 00:23:38,000

the the the after having those

515

00:23:42,880 --> 00:23:40,310

conversations with for example a toner

516

00:23:44,740 --> 00:23:42,890

Sembach tea and and other people in the

517

00:23:48,060 --> 00:23:44,750

community which I've seen you've had or

518

00:23:51,210 --> 00:23:48,070

at least doing podcasts with people

519

00:23:54,850 --> 00:23:51,220

talking about much of the same issues

520

00:23:58,600 --> 00:23:54,860

are there any after doing that do you

521

00:24:00,720 --> 00:23:58,610

feel there are questions around the

522

00:24:05,080 --> 00:24:00,730

collapses of the buildings themselves

523

00:24:08,190 --> 00:24:05,090

that might have changed a little bit or

524

00:24:11,110 --> 00:24:08,200

that you feel do you feel that there are

525

00:24:14,860 --> 00:24:11,120

questions still about the collapses that

526
00:24:18,190 --> 00:24:14,870
are unanswered I think we don't know the

527
00:24:21,750 --> 00:24:18,200
exact sequence of initiating events for

528
00:24:25,810 --> 00:24:21,760
any of the collapses I think we've got

529
00:24:27,070 --> 00:24:25,820
the broad strokes of what happened but I

530
00:24:28,360 --> 00:24:27,080
don't think we know exactly what

531
00:24:29,260 --> 00:24:28,370
happened but I don't think we're ever

532
00:24:31,150 --> 00:24:29,270
going to be able to

533
00:24:34,000 --> 00:24:31,160
find out because everything happened

534
00:24:35,920 --> 00:24:34,010
inside the building so all we're going

535
00:24:37,390 --> 00:24:35,930
to be able to do is get a range of

536
00:24:40,180 --> 00:24:37,400
possibilities of what might have

537
00:24:45,220 --> 00:24:40,190
happened in only the World Trade Center

538
00:24:47,230 --> 00:24:45,230

seven much was made of this one girder

539

00:24:50,440 --> 00:24:47,240

which was on a seat and the other

540

00:24:52,540 --> 00:24:50,450

girders pushed it off in one simulation

541

00:24:55,600 --> 00:24:52,550

in another simulation they pulled it off

542

00:24:58,540 --> 00:24:55,610

and in yet more simulations it stayed in

543

00:25:03,310 --> 00:24:58,550

the same place so the initial conditions

544

00:25:05,230 --> 00:25:03,320

of of a simulation and the assumptions

545

00:25:09,880 --> 00:25:05,240

you make about what happened with the

546

00:25:12,640 --> 00:25:09,890

fire which are isn't entirely known will

547

00:25:15,810 --> 00:25:12,650

vary the outcome greatly now if you look

548

00:25:19,050 --> 00:25:15,820

at the simulations that NIST did they

549

00:25:21,760 --> 00:25:19,060

they ran a simulation of the fire and

550

00:25:24,610 --> 00:25:21,770

then they ran a simulation of what

551
00:25:26,980 --> 00:25:24,620
damage that fire would do if it burned

552
00:25:30,430 --> 00:25:26,990
for under three different scenarios and

553
00:25:31,840 --> 00:25:30,440
then they took that damage from the

554
00:25:34,660 --> 00:25:31,850
resultant damage and then they put it

555
00:25:38,110 --> 00:25:34,670
onto a completely different model and

556
00:25:39,760 --> 00:25:38,120
then they just said ray city go and step

557
00:25:42,640 --> 00:25:39,770
that model going with its damage already

558
00:25:46,570 --> 00:25:42,650
in place and the building collapsed mmm

559
00:25:48,280 --> 00:25:46,580
which you know it was a reasonable thing

560
00:25:50,700 --> 00:25:48,290
to do with the technological limits at

561
00:25:53,080 --> 00:25:50,710
the time you know one run of that

562
00:25:56,650 --> 00:25:53,090
building collapsing simulation took them

563
00:25:57,730 --> 00:25:56,660

like like three weeks to do yeah if they

564

00:25:59,260 --> 00:25:57,740

were to do it again now they could

565

00:26:00,760 --> 00:25:59,270

probably make it a lot better they can

566

00:26:03,340 --> 00:26:00,770

do it a lot faster and they do multiple

567

00:26:05,770 --> 00:26:03,350

runs they could farm it out into the

568

00:26:07,300 --> 00:26:05,780

cloud and have like tens of thousands of

569

00:26:08,980 --> 00:26:07,310

computers running out at once rather

570

00:26:12,340 --> 00:26:08,990

than just the five or six that they had

571

00:26:13,870 --> 00:26:12,350

running back then so yeah we couldn't if

572

00:26:16,390 --> 00:26:13,880

someone wanted to spend a few million

573

00:26:20,740 --> 00:26:16,400

dollars doing very detailed simulations

574

00:26:23,560 --> 00:26:20,750

then this certainly could so I think but

575

00:26:26,380 --> 00:26:23,570

even then there's a thing is chaos

576
00:26:28,690 --> 00:26:26,390
theory tells us that very small changes

577
00:26:31,420 --> 00:26:28,700
in initial conditions have huge

578
00:26:35,410 --> 00:26:31,430
implications further down the line yeah

579
00:26:36,670 --> 00:26:35,420
so you know there's a lien there's only

580
00:26:38,320 --> 00:26:36,680
a certain number of connections which

581
00:26:39,550 --> 00:26:38,330
can fail in the World Trade Center but

582
00:26:41,990 --> 00:26:39,560
we don't know which one is the first or

583
00:26:44,810 --> 00:26:42,000
what what what led to it what

584
00:26:45,950 --> 00:26:44,820
thermal expansion it's gonna be

585
00:26:47,600 --> 00:26:45,960
completely different all over the place

586
00:26:49,100 --> 00:26:47,610
because there's fire here there's fire

587
00:26:50,720 --> 00:26:49,110
there that cools down that dies down

588
00:26:52,100 --> 00:26:50,730

that's a certain distance away from that

589

00:26:53,450 --> 00:26:52,110

there's a bit of wind these windows are

590

00:26:55,550 --> 00:26:53,460

broken these windows are not broken

591

00:26:57,920 --> 00:26:55,560

these windows broom later in a certain

592

00:27:00,080 --> 00:26:57,930

time it's very very complicated so

593

00:27:02,060 --> 00:27:00,090

knowing exactly what the position of any

594

00:27:04,220 --> 00:27:02,070

particular girder or the state of any

595

00:27:06,440 --> 00:27:04,230

particular bolt is is something that's

596

00:27:08,420 --> 00:27:06,450

not going to be known not not going to

597

00:27:10,880 --> 00:27:08,430

be knowable you can only get the broad

598

00:27:12,950 --> 00:27:10,890

strokes you can say you know if this

599

00:27:14,270 --> 00:27:12,960

column fails then we're gonna get

600

00:27:19,310 --> 00:27:14,280

something that's gonna look roughly like

601
00:27:20,870 --> 00:27:19,320
this say if like if this column failed

602
00:27:23,000 --> 00:27:20,880
and then this can't fail though or if

603
00:27:24,470 --> 00:27:23,010
you know this this floor failed you know

604
00:27:26,870 --> 00:27:24,480
what would happen you can run these you

605
00:27:29,720 --> 00:27:26,880
know what if scenarios and you can say

606
00:27:31,970 --> 00:27:29,730
if if the fire was a certain you know

607
00:27:35,540 --> 00:27:31,980
intensity of what would happen but you

608
00:27:37,520 --> 00:27:35,550
can't know exactly no but in regattas

609
00:27:39,980 --> 00:27:37,530
the collapse in itself when you look at

610
00:27:43,220 --> 00:27:39,990
the top down going down and especially

611
00:27:45,190 --> 00:27:43,230
towered - that was tilting mhm when it

612
00:27:47,690 --> 00:27:45,200
comes to mass in motion

613
00:27:49,880 --> 00:27:47,700

isn't there a physical law that mass in

614

00:27:57,110 --> 00:27:49,890

motion goes where the least resistance

615

00:28:01,310 --> 00:27:57,120

is yes but in this instance well no

616

00:28:05,420 --> 00:28:01,320

there isn't really mass moves in a way

617

00:28:07,520 --> 00:28:05,430

that is the result of net forces now if

618

00:28:09,020 --> 00:28:07,530

you say something will move in the

619

00:28:10,700 --> 00:28:09,030

direction of least resistance I mean

620

00:28:13,300 --> 00:28:10,710

this this ping-pong ball isn't moving

621

00:28:15,470 --> 00:28:13,310

even though this there's no resistance

622

00:28:17,600 --> 00:28:15,480

straight up and there's very little from

623

00:28:19,610 --> 00:28:17,610

side to side but it isn't moving I have

624

00:28:21,470 --> 00:28:19,620

a ping-pong ball in my hand

625

00:28:25,040 --> 00:28:21,480

if I remove what's underneath it it will

626

00:28:27,560 --> 00:28:25,050

fall down now if if you got something

627

00:28:28,880 --> 00:28:27,570

you know something being supported by

628

00:28:31,430 --> 00:28:28,890

something and the structure underneath

629

00:28:33,950 --> 00:28:31,440

that collapses is the path of least

630

00:28:37,280 --> 00:28:33,960

resistance then straight up or is it to

631

00:28:39,020 --> 00:28:37,290

the left or is it straight down what

632

00:28:41,450 --> 00:28:39,030

we've got here is net forces we have a

633

00:28:43,820 --> 00:28:41,460

force of gravity acting straight

634

00:28:45,890 --> 00:28:43,830

straight down we under any forces acting

635

00:28:47,540 --> 00:28:45,900

left or right or up so we've got the

636

00:28:50,240 --> 00:28:47,550

force of gravity acting straight down

637

00:28:52,430 --> 00:28:50,250

we've got a resistive force from the

638

00:28:55,490 --> 00:28:52,440

building below acting straight up if the

639

00:28:55,790 --> 00:28:55,500

force that's going upwards is less than

640

00:28:57,560 --> 00:28:55,800

the

641

00:29:00,530 --> 00:28:57,570

it's going downwards we have a resultant

642

00:29:02,390 --> 00:29:00,540

force which is downwards which is gonna

643

00:29:04,460 --> 00:29:02,400

be a bit less than gravity but it's

644

00:29:06,260 --> 00:29:04,470

downwards there's no reason for it to

645

00:29:08,720 --> 00:29:06,270

move from one side to the other so

646

00:29:12,140 --> 00:29:08,730

saying the path of least resistance is

647

00:29:13,910 --> 00:29:12,150

kind of meaningless because when you add

648

00:29:17,570 --> 00:29:13,920

if you think of resistance as being a

649

00:29:19,850 --> 00:29:17,580

force you have to add in gravity and if

650

00:29:22,340 --> 00:29:19,860

the resistance is less than gravity then

651

00:29:23,510 --> 00:29:22,350

that's actually the path of least

652

00:29:24,800 --> 00:29:23,520

resistance in fact there's actually a

653

00:29:25,790 --> 00:29:24,810

force going down even though there's

654

00:29:27,380 --> 00:29:25,800

nothing stopping it going sideways

655

00:29:32,720 --> 00:29:27,390

there's a force going down there's no

656

00:29:35,360 --> 00:29:32,730

forces going sideways it goes down but

657

00:29:37,040 --> 00:29:35,370

in regards to the force that's pointing

658

00:29:41,180 --> 00:29:37,050

upwards the resistance of the structure

659

00:29:44,120 --> 00:29:41,190

and in itself and the force that is just

660

00:29:45,830 --> 00:29:44,130

enough to to go down you would still

661

00:29:49,240 --> 00:29:45,840

have that resistance and that resistance

662

00:29:52,280 --> 00:29:49,250

is going to push it because it's not a

663

00:29:55,220 --> 00:29:52,290

symmetrical collapse in any way there is

664

00:29:58,280 --> 00:29:55,230

a point of collapse at some point and

665

00:30:00,890 --> 00:29:58,290

wherever that point is is the initiation

666

00:30:04,580 --> 00:30:00,900

regardless of where that is in my mind

667

00:30:06,710 --> 00:30:04,590

and and you know people I've talked to

668

00:30:08,810 --> 00:30:06,720

that architects and engineers here in

669

00:30:11,510 --> 00:30:08,820

Norway as well completely independent of

670

00:30:14,270 --> 00:30:11,520

this ask the same same questions that

671

00:30:17,270 --> 00:30:14,280

that I'm trying to ask here is how how

672

00:30:20,150 --> 00:30:17,280

would you then have a a mass that is

673

00:30:22,750 --> 00:30:20,160

moving in that right mmm doing it

674

00:30:26,480 --> 00:30:22,760

symmetrically and continuing to do so

675

00:30:31,010 --> 00:30:26,490

all the way down and not having one flaw

676
00:30:33,740 --> 00:30:31,020
left and not even I mean for example one

677
00:30:37,220 --> 00:30:33,750
of these engineers told me that if you

678
00:30:41,980 --> 00:30:37,230
if you look at demolitions of buildings

679
00:30:44,930 --> 00:30:41,990
if you have one one explosive that fails

680
00:30:49,280 --> 00:30:44,940
anywhere in that building you will see

681
00:30:52,820 --> 00:30:49,290
an asymmetrical destruction of that

682
00:30:55,220 --> 00:30:52,830
building where you will see exactly

683
00:30:57,260 --> 00:30:55,230
where that explosive didn't go off

684
00:31:01,190 --> 00:30:57,270
because you had a lot more resistance

685
00:31:05,720 --> 00:31:01,200
there so having a cold structure beneath

686
00:31:10,130 --> 00:31:05,730
and having that mass coming down how how

687
00:31:12,230 --> 00:31:10,140
does it not move over to any

688
00:31:16,000 --> 00:31:12,240

and I mean for example toilet - this

689

00:31:20,210 --> 00:31:16,010

starts to collapse tilting but it

690

00:31:22,220 --> 00:31:20,220

continues allegedly straight down on all

691

00:31:24,650 --> 00:31:22,230

the floors and there isn't one floor

692

00:31:27,260 --> 00:31:24,660

left then you only have is a is a was a

693

00:31:31,280 --> 00:31:27,270

staircase with some firemen in it the

694

00:31:35,570 --> 00:31:31,290

bottom and in my mind that is really a

695

00:31:37,250 --> 00:31:35,580

mystery why why did it it seems an

696

00:31:39,700 --> 00:31:37,260

intuitive but I think if you're looking

697

00:31:41,780 --> 00:31:39,710

to physics in general there are a lot of

698

00:31:45,290 --> 00:31:41,790

principles of physics that seem

699

00:31:47,690 --> 00:31:45,300

unintuitive like you might not you know

700

00:31:51,920 --> 00:31:47,700

why does a pendulum always take same

701
00:31:53,600 --> 00:31:51,930
amount of time to swing as Penuel of a

702
00:31:56,210 --> 00:31:53,610
certain length depending regardless of

703
00:31:57,650 --> 00:31:56,220
how fast it's going he told us takes the

704
00:31:59,540 --> 00:31:57,660
same amount of time to complete one

705
00:32:02,480 --> 00:31:59,550
swing it's not an intuitively obvious

706
00:32:06,890 --> 00:32:02,490
thing that would happen but it does it's

707
00:32:10,550 --> 00:32:06,900
an observable thing in physics so with

708
00:32:13,510 --> 00:32:10,560
the top of building to now tower to the

709
00:32:15,620 --> 00:32:13,520
impact was higher up than in Tower one

710
00:32:17,360 --> 00:32:15,630
no it was lower down wasn't it it was

711
00:32:19,880 --> 00:32:17,370
lower down in a tower one it was a bit

712
00:32:21,250 --> 00:32:19,890
offset to one side more offset than the

713
00:32:23,990 --> 00:32:21,260

other Tower one which is fairly central

714

00:32:27,290 --> 00:32:24,000

and this caused a bit of an asymmetrical

715

00:32:32,870 --> 00:32:27,300

initial collapse which caused the top of

716

00:32:36,620 --> 00:32:32,880

the tower to lean over into one side but

717

00:32:38,840 --> 00:32:36,630

when if something is leaning that means

718

00:32:41,210 --> 00:32:38,850

that one side of is falling faster than

719

00:32:43,130 --> 00:32:41,220

the other side which means that the site

720

00:32:46,580 --> 00:32:43,140

is falling faster is hitting the lower

721

00:32:48,800 --> 00:32:46,590

structure more rapidly than the side

722

00:32:50,930 --> 00:32:48,810

that is falling slower so it's getting

723

00:32:53,930 --> 00:32:50,940

more resistive force on the side that is

724

00:32:57,440 --> 00:32:53,940

falling so it will actually slow the

725

00:32:58,850 --> 00:32:57,450

rotation of that to a certain degree but

726

00:33:01,430 --> 00:32:58,860

also the whole thing is just falling to

727

00:33:04,130 --> 00:33:01,440

pieces it's not like there's just one

728

00:33:06,770 --> 00:33:04,140

big lump on top which is falling down

729

00:33:07,280 --> 00:33:06,780

and then you know Bam Bam Bam Bam Bam

730

00:33:11,200 --> 00:33:07,290

Bam

731

00:33:13,550 --> 00:33:11,210

destroying each thing it's a

732

00:33:18,070 --> 00:33:13,560

disintegrating building essentially it's

733

00:33:21,380 --> 00:33:18,080

disintegrating into these free-falling

734

00:33:23,000 --> 00:33:21,390

multi-ton girders if you imagine like in

735

00:33:23,570 --> 00:33:23,010

the room you're in right now if someone

736

00:33:26,990 --> 00:33:23,580

drops

737

00:33:29,510 --> 00:33:27,000

a 20-ton girder on the top of your house

738

00:33:32,060 --> 00:33:29,520

or your apartment building from a height

739

00:33:33,890 --> 00:33:32,070

at like 30 feet it would just need to go

740

00:33:35,870 --> 00:33:33,900

through the whole thing and in the World

741

00:33:38,120 --> 00:33:35,880

Trade Center you've got literally

742

00:33:40,790 --> 00:33:38,130

thousands of that type of thing going on

743

00:33:43,130 --> 00:33:40,800

all over at all different places nice

744

00:33:45,620 --> 00:33:43,140

structure this falling is coming apart

745

00:33:47,210 --> 00:33:45,630

the structure that is below that is also

746

00:33:48,590 --> 00:33:47,220

coming apart the structure that's

747

00:33:51,110 --> 00:33:48,600

falling this coming apart comes apart

748

00:33:52,910 --> 00:33:51,120

slower because there's more stuff below

749

00:33:55,490 --> 00:33:52,920

it that is also falling hitting the

750

00:33:58,460 --> 00:33:55,500

stuff that's down below but it's like

751
00:34:00,020 --> 00:33:58,470
like someone dropped a bag of rocks on

752
00:34:02,270 --> 00:34:00,030
top of something rather than a single

753
00:34:05,000 --> 00:34:02,280
rock it still does essentially the same

754
00:34:07,790 --> 00:34:05,010
thing there's a video on YouTube where

755
00:34:11,750 --> 00:34:07,800
someone drops a bigger load of water on

756
00:34:13,520 --> 00:34:11,760
a car and the car gets crushed mmm even

757
00:34:16,730 --> 00:34:13,530
though it's just dropping some water on

758
00:34:18,680 --> 00:34:16,740
the car from a height of 12 feet now

759
00:34:19,850 --> 00:34:18,690
because the water isn't a solid piece of

760
00:34:24,050 --> 00:34:19,860
something doesn't mean it can't do

761
00:34:26,750 --> 00:34:24,060
damage so yeah yeah you got to get away

762
00:34:30,470 --> 00:34:26,760
from thinking it in terms of yeah like

763
00:34:33,140 --> 00:34:30,480

cardboard box physics it's not it's not

764

00:34:36,320 --> 00:34:33,150

a box falling through something it's

765

00:34:39,590 --> 00:34:36,330

it's it's girders and it's columns and

766

00:34:40,850 --> 00:34:39,600

it's concrete and going through the

767

00:34:44,810 --> 00:34:40,860

floors they're not going through the

768

00:34:47,450 --> 00:34:44,820

columns much more complicated than you

769

00:34:49,820 --> 00:34:47,460

know in a way where you can't really use

770

00:34:51,200 --> 00:34:49,830

you know people get angry when I say

771

00:34:53,060 --> 00:34:51,210

it's but you can't really use Newton's

772

00:34:56,770 --> 00:34:53,070

laws of physics to describe a complex

773

00:34:59,930 --> 00:34:56,780

situation if you look at Newton's

774

00:35:01,430 --> 00:34:59,940

Newton's laws of motion right Newton's

775

00:35:03,050 --> 00:35:01,440

laws of motion like you know action and

776

00:35:06,710 --> 00:35:03,060

reaction or equal and opposite a body in

777

00:35:09,440 --> 00:35:06,720

motion stays in motion and F equals MA

778

00:35:13,160 --> 00:35:09,450

forces mass times acceleration they only

779

00:35:18,200 --> 00:35:13,170

apply in Newton's physics to point

780

00:35:20,300 --> 00:35:18,210

masses and you can't mathematically

781

00:35:23,060 --> 00:35:20,310

apply them to complex systems

782

00:35:26,540 --> 00:35:23,070

articulated systems there's another set

783

00:35:33,020 --> 00:35:26,550

of physics laws of physics which I think

784

00:35:36,920 --> 00:35:33,030

a Oilers EU le are Euler's lot laws of

785

00:35:37,490 --> 00:35:36,930

physics which more complicated and they

786

00:35:41,540 --> 00:35:37,500

include the

787

00:35:41,990 --> 00:35:41,550

things like rotation there if you if you

788

00:35:45,680 --> 00:35:42,000

hit

789

00:35:47,000 --> 00:35:45,690

the other it's hard to say action

790

00:35:49,400 --> 00:35:47,010

reaction or equal and opposite because

791

00:35:52,430 --> 00:35:49,410

what happens to the two things is

792

00:35:56,810 --> 00:35:52,440

completely different if you throw a a

793

00:35:59,120 --> 00:35:56,820

rock through a glass window yeah it's

794

00:36:01,160 --> 00:35:59,130

it's you know sure you could say when

795

00:36:02,840 --> 00:36:01,170

they hit so you've got this equal these

796

00:36:05,090 --> 00:36:02,850

equal forces but what's happening is a

797

00:36:07,580 --> 00:36:05,100

rock is smashing a window which causes

798

00:36:10,370 --> 00:36:07,590

which takes some of the energy away from

799

00:36:11,960 --> 00:36:10,380

the the rock so it's a lot more

800

00:36:13,670 --> 00:36:11,970

complicated than just you know there's

801
00:36:15,320 --> 00:36:13,680
something going down there's something

802
00:36:17,870 --> 00:36:15,330
pushing up and so they should cancel out

803
00:36:19,580 --> 00:36:17,880
boy you said there that rock hit in the

804
00:36:21,050 --> 00:36:19,590
window and crushing the window it does

805
00:36:23,840 --> 00:36:21,060
take away the energy and the momentum

806
00:36:26,090 --> 00:36:23,850
from the rock and it does get crush

807
00:36:28,160 --> 00:36:26,100
whatever is beneath but that doesn't

808
00:36:31,130 --> 00:36:28,170
mean that whatever is beneath is going

809
00:36:35,090 --> 00:36:31,140
to continue the momentum after it's been

810
00:36:36,920 --> 00:36:35,100
hit and crushed so you do have a you I

811
00:36:40,430 --> 00:36:36,930
mean I just watch one of you youtube

812
00:36:42,790 --> 00:36:40,440
videos where you tried to more was it

813
00:36:46,820 --> 00:36:42,800

demonstrate a breaking effect of having

814

00:36:49,310 --> 00:36:46,830

this mass in motion and you wanted to

815

00:36:52,130 --> 00:36:49,320

show that it didn't slow down but in the

816

00:36:56,630 --> 00:36:52,140

video to me it clearly did slow down but

817

00:37:00,320 --> 00:36:56,640

it was so small slowing down so little

818

00:37:04,220 --> 00:37:00,330

that it was barely noticeable but in my

819

00:37:06,080 --> 00:37:04,230

mind having if you look at the as an

820

00:37:08,750 --> 00:37:06,090

analogy looking at the building's as a

821

00:37:11,720 --> 00:37:08,760

fluid in motion a fluid fluid of

822

00:37:14,720 --> 00:37:11,730

building mass and beneath it you have a

823

00:37:16,270 --> 00:37:14,730

steady fluid of building mass and if you

824

00:37:20,990 --> 00:37:16,280

think of it in those terms

825

00:37:23,930 --> 00:37:21,000

it just doesn't well it does that's not

826

00:37:27,190 --> 00:37:23,940

sense does it no it's not a fluid below

827

00:37:29,210 --> 00:37:27,200

it it's it's a series of connected

828

00:37:31,220 --> 00:37:29,220

objects you can think if there's a

829

00:37:33,680 --> 00:37:31,230

series of rigid objects like girders and

830

00:37:35,660 --> 00:37:33,690

columns and concrete slabs so the

831

00:37:37,310 --> 00:37:35,670

concrete slabs always to get broken and

832

00:37:39,820 --> 00:37:37,320

the other stuff is is largely irrelevant

833

00:37:44,060 --> 00:37:39,830

in terms of discussing their collapse

834

00:37:46,640 --> 00:37:44,070

but if you have a structure where if you

835

00:37:50,000 --> 00:37:46,650

take out a piece of it the rest of it

836

00:37:51,170 --> 00:37:50,010

collapses you know just as an extreme

837

00:37:52,520 --> 00:37:51,180

example like you

838

00:37:54,500 --> 00:37:52,530

got something was like a range like a

839

00:37:55,579 --> 00:37:54,510

house of cards and you you knock it a

840

00:37:58,220 --> 00:37:55,589

little bit and the whole thing collapses

841

00:38:01,010 --> 00:37:58,230

you wouldn't think that is suspicious on

842

00:38:04,790 --> 00:38:01,020

the face of it with the World Trade

843

00:38:07,160 --> 00:38:04,800

Center you require a lot more energy to

844

00:38:10,280 --> 00:38:07,170

start that progressive collapse but once

845

00:38:12,950 --> 00:38:10,290

it started it's still the same type of

846

00:38:15,740 --> 00:38:12,960

thing it is the building is essentially

847

00:38:18,530 --> 00:38:15,750

ripping itself apart the the floor

848

00:38:20,839 --> 00:38:18,540

panels holds the outer walls to the

849

00:38:23,030 --> 00:38:20,849

inner walls the floor panels are on

850

00:38:25,099 --> 00:38:23,040

these little supports that are about you

851

00:38:26,870 --> 00:38:25,109

know this big you know they literally

852

00:38:29,510 --> 00:38:26,880

only like you know six inches across and

853

00:38:34,490 --> 00:38:29,520

like an interesting and they're three

854

00:38:36,319 --> 00:38:34,500

inches out and all out to the little

855

00:38:39,640 --> 00:38:36,329

shelves little little shelves like this

856

00:38:43,069 --> 00:38:39,650

and then the the the truss rests on it

857

00:38:43,970 --> 00:38:43,079

yeah yeah and they're you know if you

858

00:38:45,710 --> 00:38:43,980

look at the connections on the outer

859

00:38:47,210 --> 00:38:45,720

walls the very very small we've got

860

00:38:50,839 --> 00:38:47,220

these ties as well but there's not a lot

861

00:38:55,900 --> 00:38:50,849

there an actual floor panel in the World

862

00:38:58,190 --> 00:38:55,910

Trade Center is designed to hold the

863

00:38:59,710 --> 00:38:58,200

columns away from the wall so it's got

864

00:39:02,270 --> 00:38:59,720

this the stiffness in this direction

865

00:39:04,069 --> 00:39:02,280

horizontally and it's allowed it

866

00:39:06,079 --> 00:39:04,079

designed to allow people to walk on it

867

00:39:08,870 --> 00:39:06,089

and to move furniture around and to like

868

00:39:13,190 --> 00:39:08,880

store things and they're designed to

869

00:39:17,839 --> 00:39:13,200

hold six times their own mass these

870

00:39:19,849 --> 00:39:17,849

floor panels or twelve times I think is

871

00:39:24,049 --> 00:39:19,859

the maximum if you if you do it as a

872

00:39:26,569 --> 00:39:24,059

static load now when you have something

873

00:39:29,750 --> 00:39:26,579

being dropped on those floor panels it's

874

00:39:31,130 --> 00:39:29,760

very very easy to imagine these floor

875

00:39:32,599 --> 00:39:31,140

panel was just being stripped away from

876

00:39:36,829 --> 00:39:32,609

these little connections that they have

877

00:39:38,750 --> 00:39:36,839

on the outer walls mmm that means that

878

00:39:40,819 --> 00:39:38,760

that floor panel is not holding the

879

00:39:42,770 --> 00:39:40,829

outer walk from the inner wall anymore

880

00:39:44,660 --> 00:39:42,780

yeah that's there's no big deal because

881

00:39:45,980 --> 00:39:44,670

you've got all the other ones if you

882

00:39:47,539 --> 00:39:45,990

start getting enough of them stripped

883

00:39:49,099 --> 00:39:47,549

away then you've got these outer walls

884

00:39:50,510 --> 00:39:49,109

with obviously nothing holding them up

885

00:39:52,910 --> 00:39:50,520

and they just fall away because there's

886

00:39:55,910 --> 00:39:52,920

all kinds of stuff going on the inner

887

00:39:58,220 --> 00:39:55,920

core much stronger with internal bracing

888

00:40:01,370 --> 00:39:58,230

that stays up a lot longer you see it in

889

00:40:04,130 --> 00:40:01,380

the collapses you see the inner core not

890

00:40:05,330 --> 00:40:04,140

not being destroyed and actually half of

891

00:40:07,250 --> 00:40:05,340

it remain

892

00:40:09,410 --> 00:40:07,260

after the main mass has reached the

893

00:40:10,850 --> 00:40:09,420

ground and then it collapses which is

894

00:40:12,950 --> 00:40:10,860

problem because of the main mass kind of

895

00:40:17,000 --> 00:40:12,960

spreading out sideways as it hits the

896

00:40:19,280 --> 00:40:17,010

bottom but it's not it's not a case of

897

00:40:21,080 --> 00:40:19,290

something you're going down through

898

00:40:24,200 --> 00:40:21,090

something it's a case of all these

899

00:40:26,990 --> 00:40:24,210

falling things basically knocking these

900

00:40:29,540 --> 00:40:27,000

floor panels off and pushing the columns

901
00:40:31,730 --> 00:40:29,550
sideways the columns didn't fail from

902
00:40:33,080 --> 00:40:31,740
things dropping on top of them that

903
00:40:34,640 --> 00:40:33,090
hardly need anything to the columns they

904
00:40:36,410 --> 00:40:34,650
could they could have they could have

905
00:40:37,970 --> 00:40:36,420
probably supported you know they're the

906
00:40:40,130 --> 00:40:37,980
random things that happen to fall on top

907
00:40:42,320 --> 00:40:40,140
of them well they fell it what happened

908
00:40:44,060 --> 00:40:42,330
was they lost the lateral support which

909
00:40:46,250 --> 00:40:44,070
means that it was then very easy for

910
00:40:48,350 --> 00:40:46,260
them to to snap at their seams they had

911
00:40:49,820 --> 00:40:48,360
these seams which were welded with very

912
00:40:51,260 --> 00:40:49,830
very strong welds but you know when

913
00:40:53,360 --> 00:40:51,270

you're talking about you know tens of

914

00:40:55,790 --> 00:40:53,370

thousands of tons being suddenly applied

915

00:40:58,940 --> 00:40:55,800

sideways with leverage then these things

916

00:41:00,500 --> 00:40:58,950

just mostly the column pieces that were

917

00:41:03,200 --> 00:41:00,510

found in the rubble of the World Trade

918

00:41:04,610 --> 00:41:03,210

Center was straight you see a few

919

00:41:06,410 --> 00:41:04,620

pictures are the ones that are the

920

00:41:07,790 --> 00:41:06,420

famous ones like the one in the memorial

921

00:41:08,630 --> 00:41:07,800

that's got that big Bend and then

922

00:41:11,450 --> 00:41:08,640

there's another one that's kind of like

923

00:41:13,940 --> 00:41:11,460

a big C shape but the vast majority of

924

00:41:15,560 --> 00:41:13,950

the column pieces from the World Trade

925

00:41:18,050 --> 00:41:15,570

Center just perfectly straight and you

926
00:41:19,760 --> 00:41:18,060
see you look at the ends of them and you

927
00:41:22,090 --> 00:41:19,770
see that the welds that just popped out

928
00:41:24,200 --> 00:41:22,100
and this is because they fell apart

929
00:41:26,660 --> 00:41:24,210
because they were being pushed sideways

930
00:41:28,070 --> 00:41:26,670
so the force to do that is it's nothing

931
00:41:29,570 --> 00:41:28,080
at all to do with their supporting force

932
00:41:32,780 --> 00:41:29,580
it's all to do with you know the

933
00:41:34,760 --> 00:41:32,790
building basically falling apart so what

934
00:41:37,670 --> 00:41:34,770
we're actually watching then and you're

935
00:41:40,160 --> 00:41:37,680
know in your view is that the that what

936
00:41:44,600 --> 00:41:40,170
is actually collapsing on top of the

937
00:41:46,790 --> 00:41:44,610
floors is part of the top core of the

938
00:41:49,460 --> 00:41:46,800

building and it's a lot more it's it's

939

00:41:51,760 --> 00:41:49,470

been disconnected completely and let

940

00:41:55,130 --> 00:41:51,770

loose and it's a lot more weight and

941

00:41:58,100 --> 00:41:55,140

amount of force let loose from those

942

00:42:00,770 --> 00:41:58,110

from that those columns hitting the

943

00:42:02,450 --> 00:42:00,780

floors below because those as you say

944

00:42:04,610 --> 00:42:02,460

those columns were so strong and big

945

00:42:07,760 --> 00:42:04,620

that they could basically rush through

946

00:42:10,490 --> 00:42:07,770

everything but what I'm wondering is in

947

00:42:13,790 --> 00:42:10,500

regards to when the collapse is starting

948

00:42:17,450 --> 00:42:13,800

and the initiation of it begins I I

949

00:42:18,589 --> 00:42:17,460

would imagine a a building fire in that

950

00:42:22,099 --> 00:42:18,599

way twist

951
00:42:27,079 --> 00:42:22,109
singing morphing to building over time

952
00:42:30,589 --> 00:42:27,089
and it would you would see it and we

953
00:42:32,299 --> 00:42:30,599
could axis it the reason you can't see

954
00:42:33,950 --> 00:42:32,309
it that you think you can't see it is

955
00:42:36,829 --> 00:42:33,960
that the building is very very very

956
00:42:40,549 --> 00:42:36,839
large so you're actually getting

957
00:42:42,079 --> 00:42:40,559
deflections of several feet in various

958
00:42:45,259 --> 00:42:42,089
places and these are things that you can

959
00:42:48,079 --> 00:42:45,269
see in the NIST report like the the wall

960
00:42:49,069 --> 00:42:48,089
is being pulled in on one side and you

961
00:42:50,660 --> 00:42:49,079
can see there's a deflection I think

962
00:42:53,630 --> 00:42:50,670
it's like six feet or something is quite

963
00:42:56,420 --> 00:42:53,640

a significant amount and then it all

964

00:43:00,319 --> 00:42:56,430

kind of comes in at once but yeah you

965

00:43:04,400 --> 00:43:00,329

are getting these these this warping

966

00:43:06,200 --> 00:43:04,410

these local warping zuv things but the

967

00:43:08,359 --> 00:43:06,210

fires really weren't hot enough to melt

968

00:43:10,549 --> 00:43:08,369

the steel so it just turns into a like a

969

00:43:12,950 --> 00:43:10,559

spaghetti noodle they were hot enough

970

00:43:15,769 --> 00:43:12,960

that it lost its strength and it would

971

00:43:17,599 --> 00:43:15,779

slowly sag and Bend and most of that

972

00:43:19,460 --> 00:43:17,609

happened inside and this is what's

973

00:43:23,779 --> 00:43:19,470

responsible for the curved columns that

974

00:43:26,180 --> 00:43:23,789

you see but the building structure is

975

00:43:28,519 --> 00:43:26,190

fairly rigid you've got all these floors

976
00:43:30,920 --> 00:43:28,529
attached to the core and then you've got

977
00:43:32,420 --> 00:43:30,930
the the Hat truss on top which is this

978
00:43:34,910 --> 00:43:32,430
big structure that sits on top of the

979
00:43:37,339 --> 00:43:34,920
buildings that was there mostly to hold

980
00:43:40,099 --> 00:43:37,349
the antenna up but it also gave a lot of

981
00:43:43,910 --> 00:43:40,109
structural stiffness to the buildings so

982
00:43:48,319 --> 00:43:43,920
when one when one column loses his

983
00:43:50,150 --> 00:43:48,329
strength the it will sag a bit but the

984
00:43:51,890 --> 00:43:50,160
weights from that one column being

985
00:43:53,569 --> 00:43:51,900
caliber I carried by that one column

986
00:43:56,989 --> 00:43:53,579
gets transferred to the other columns

987
00:43:58,160 --> 00:43:56,999
around so it's not like that fails and

988
00:44:00,440 --> 00:43:58,170

then all of a sudden it gets squished

989

00:44:02,029 --> 00:44:00,450

into nothingness it fails it will like

990

00:44:04,339 --> 00:44:02,039

maybe bend a bit oriole like you know

991

00:44:05,989 --> 00:44:04,349

get compressed a little bit and then

992

00:44:08,660 --> 00:44:05,999

because it's not capable of supporting

993

00:44:09,859 --> 00:44:08,670

any weight it basically doesn't exist

994

00:44:11,569 --> 00:44:09,869

from the building's point of view and

995

00:44:13,039 --> 00:44:11,579

the building sags a little bit more and

996

00:44:16,039 --> 00:44:13,049

a little bit more and a little bit more

997

00:44:18,890 --> 00:44:16,049

but eventually what happens is the

998

00:44:21,739 --> 00:44:18,900

accumulation of all these things means

999

00:44:26,029 --> 00:44:21,749

that becomes a point where something

1000

00:44:27,739 --> 00:44:26,039

fails some column fails the building you

1001

00:44:31,130 --> 00:44:27,749

didn't try but you know the building

1002

00:44:32,480 --> 00:44:31,140

structure redistributes a little bit but

1003

00:44:36,260 --> 00:44:32,490

this time there's no

1004

00:44:39,109 --> 00:44:36,270

there isn't enough strength to stop it

1005

00:44:40,640 --> 00:44:39,119

it's reached this tipping point so then

1006

00:44:41,720 --> 00:44:40,650

fail something else fails something else

1007

00:44:44,900 --> 00:44:41,730

fail something else felt very very

1008

00:44:48,170 --> 00:44:44,910

rapidly Bram the entire thing fails

1009

00:44:50,290 --> 00:44:48,180

across like you know a wide section of

1010

00:44:53,359 --> 00:44:50,300

that building and then their collapse

1011

00:44:54,950 --> 00:44:53,369

starts but that but these but a

1012

00:44:56,780 --> 00:44:54,960

spaghettification that you mentioned

1013

00:44:59,900 --> 00:44:56,790

there wouldn't you wouldn't you see

1014

00:45:02,900 --> 00:44:59,910

they're very visually out even outside

1015

00:45:04,880 --> 00:45:02,910

the building that if there is if there

1016

00:45:07,220 --> 00:45:04,890

is a gradual heating of the core and all

1017

00:45:09,740 --> 00:45:07,230

the columns and of the building and of

1018

00:45:12,380 --> 00:45:09,750

itself wouldn't you see it almost sag

1019

00:45:14,870 --> 00:45:12,390

onto itself and thereby actually just

1020

00:45:16,550 --> 00:45:14,880

stopping no if it had if it had done

1021

00:45:18,620 --> 00:45:16,560

enough to sag onto itself that would

1022

00:45:22,280 --> 00:45:18,630

mean the entire structural integrity of

1023

00:45:25,640 --> 00:45:22,290

the building has failed and the it

1024

00:45:27,230 --> 00:45:25,650

wouldn't be able to support itself it

1025

00:45:29,060 --> 00:45:27,240

just doesn't make sense to me because

1026

00:45:30,650 --> 00:45:29,070

you have basically three or different

1027

00:45:33,980 --> 00:45:30,660

the only way you do that is if you

1028

00:45:35,690 --> 00:45:33,990

evenly heated up everything and have

1029

00:45:38,720 --> 00:45:35,700

everything perfectly balanced and had it

1030

00:45:40,339 --> 00:45:38,730

all coming down if it's if the top of

1031

00:45:43,120 --> 00:45:40,349

the building starts to go to one side

1032

00:45:45,710 --> 00:45:43,130

then that means that the forces are

1033

00:45:47,839 --> 00:45:45,720

pushing down sideways essentially on the

1034

00:45:49,730 --> 00:45:47,849

things below them and yeah the they're

1035

00:45:52,160 --> 00:45:49,740

only designed to the building is

1036

00:45:53,690 --> 00:45:52,170

designed to be perfectly vertical once

1037

00:45:56,030 --> 00:45:53,700

things start to not be perfectly

1038

00:45:59,480 --> 00:45:56,040

vertical yeah it's gonna game over

1039

00:46:01,400 --> 00:45:59,490

you've got you know you've got forces on

1040

00:46:02,720 --> 00:46:01,410

the columns that were not designed to

1041

00:46:04,910 --> 00:46:02,730

hole you've got forces on the walls that

1042

00:46:06,620 --> 00:46:04,920

were not designed to to hold and so it's

1043

00:46:07,849 --> 00:46:06,630

gonna start coming apart and this is

1044

00:46:10,040 --> 00:46:07,859

you've got to remember how big this

1045

00:46:12,079 --> 00:46:10,050

building is when you're looking at

1046

00:46:15,109 --> 00:46:12,089

things you can't compare it to a smaller

1047

00:46:18,650 --> 00:46:15,119

building it's 200 feet by 200 feet and

1048

00:46:21,740 --> 00:46:18,660

what's 1,300 feet high so it's it's an

1049

00:46:26,810 --> 00:46:21,750

immense building so you are seeing these

1050

00:46:29,240 --> 00:46:26,820

effects of things you know metal giving

1051
00:46:32,810 --> 00:46:29,250
way and the building sagging a bit but

1052
00:46:35,359 --> 00:46:32,820
it's it doesn't look like very much from

1053
00:46:38,839 --> 00:46:35,369
far out there you know look at the the

1054
00:46:40,640 --> 00:46:38,849
NIST report and they the images that

1055
00:46:43,160 --> 00:46:40,650
where they ship this they show their

1056
00:46:44,900 --> 00:46:43,170
deflection of the building and they show

1057
00:46:46,160 --> 00:46:44,910
are the things like internal floors that

1058
00:46:48,170 --> 00:46:46,170
have fallen

1059
00:46:50,120 --> 00:46:48,180
and then they will discuss how the Hat

1060
00:46:52,759 --> 00:46:50,130
truss and the columns redistribute the

1061
00:46:54,710 --> 00:46:52,769
load but you know eventually you get to

1062
00:46:58,250 --> 00:46:54,720
a point where you can't redistribute the

1063
00:47:01,250 --> 00:46:58,260

load mmm people laugh at the example of

1064

00:47:04,880 --> 00:47:01,260

a can when you stand on a cam you know

1065

00:47:07,130 --> 00:47:04,890

you weigh like way work 170 yeah I can

1066

00:47:09,349 --> 00:47:07,140

just about manage to balance on this cam

1067

00:47:10,640 --> 00:47:09,359

probably probably not like what sir just

1068

00:47:13,849 --> 00:47:10,650

a barrel in when I went when I weighed

1069

00:47:15,259 --> 00:47:13,859

150 I could balance on the cam but all

1070

00:47:18,710 --> 00:47:15,269

you're going to do to make this can

1071

00:47:21,589 --> 00:47:18,720

collapse just do a tiny little thing and

1072

00:47:23,680 --> 00:47:21,599

that one failure immediately propagates

1073

00:47:25,400 --> 00:47:23,690

around every single bit of the cam

1074

00:47:28,160 --> 00:47:25,410

that's a good example

1075

00:47:29,599 --> 00:47:28,170

yeah it's it people don't like this

1076

00:47:32,809 --> 00:47:29,609

example because they say oh well you

1077

00:47:35,450 --> 00:47:32,819

know a cans you know you should pop up

1078

00:47:37,730 --> 00:47:35,460

another cam but then you start having to

1079

00:47:40,430 --> 00:47:37,740

get into the details of explaining the

1080

00:47:43,700 --> 00:47:40,440

square-cube law where as things get

1081

00:47:46,730 --> 00:47:43,710

bigger their strength increases as a

1082

00:47:49,460 --> 00:47:46,740

square of the size but the weight

1083

00:47:52,309 --> 00:47:49,470

increases as a cube of the size which is

1084

00:47:54,170 --> 00:47:52,319

another complex physics phenomena that

1085

00:47:58,430 --> 00:47:54,180

is difficult to explain to people and

1086

00:48:03,019 --> 00:47:58,440

it's not intuitive so that's well that's

1087

00:48:04,759 --> 00:48:03,029

how there's a famous analogy where if

1088

00:48:08,299 --> 00:48:04,769

you're dropping animals down a mine

1089

00:48:09,650 --> 00:48:08,309

shaft which is something that happened

1090

00:48:11,120 --> 00:48:09,660

in the past because animals were

1091

00:48:12,440 --> 00:48:11,130

wondering to mine shafts and then they

1092

00:48:14,299 --> 00:48:12,450

would they would find animals at the

1093

00:48:17,740 --> 00:48:14,309

bottom of the mine shaft and they would

1094

00:48:23,829 --> 00:48:17,750

say like I think it was like a mouse

1095

00:48:28,220 --> 00:48:23,839

bounces a dog breaks and horse splashes

1096

00:48:29,690 --> 00:48:28,230

do you got you know you've got yeah

1097

00:48:33,559 --> 00:48:29,700

similar types of things you they're

1098

00:48:35,569 --> 00:48:33,569

animals but because one of them you know

1099

00:48:38,960 --> 00:48:35,579

it's like 50 times as long that means

1100

00:48:42,109 --> 00:48:38,970

it's 50 cubed times the weight but the

1101
00:48:44,450 --> 00:48:42,119
actual strength of that thing is only 50

1102
00:48:47,329 --> 00:48:44,460
squared and the reason it's the square

1103
00:48:50,599 --> 00:48:47,339
is that it's proportional to the cross

1104
00:48:52,789 --> 00:48:50,609
section if you think of you know a pen

1105
00:48:54,890 --> 00:48:52,799
something like this the strength of this

1106
00:48:57,680 --> 00:48:54,900
pen isn't anything to do with how long

1107
00:48:59,509 --> 00:48:57,690
it is but how long it is is related to

1108
00:49:00,290 --> 00:48:59,519
what it weighs the strength of the pen

1109
00:49:02,600 --> 00:49:00,300
is only relate

1110
00:49:06,800 --> 00:49:02,610
to the cross-section so it's only

1111
00:49:09,830 --> 00:49:06,810
related to the square of of the other

1112
00:49:11,720 --> 00:49:09,840
subject but you know this is this is a

1113
00:49:14,030 --> 00:49:11,730

challenge that I have in explaining

1114

00:49:17,720 --> 00:49:14,040

things to pick four square cube law is

1115

00:49:20,540 --> 00:49:17,730

not intuitive and what this of this that

1116

00:49:26,000 --> 00:49:20,550

are easy to explain the square cube law

1117

00:49:30,470 --> 00:49:26,010

yeah there's a good example of it in use

1118

00:49:32,780 --> 00:49:30,480

on the threaded meta Bank on building a

1119

00:49:35,030 --> 00:49:32,790

physical model of the World Trade Center

1120

00:49:36,560 --> 00:49:35,040

I can't remember the exact link but I

1121

00:49:40,000 --> 00:49:36,570

shall give it to you and put it in the

1122

00:49:43,940 --> 00:49:40,010

description but this Chinese company

1123

00:49:45,740 --> 00:49:43,950

wanted to simulate a building in an

1124

00:49:48,440 --> 00:49:45,750

earthquake so they built a scale model

1125

00:49:51,440 --> 00:49:48,450

of the building and it was a 1/10 size

1126
00:49:54,710 --> 00:49:51,450
scale model and so the original building

1127
00:49:56,270 --> 00:49:54,720
was you know 400 feet and they built a

1128
00:49:58,450 --> 00:49:56,280
40-foot high model which is pretty

1129
00:50:01,720 --> 00:49:58,460
impressive and they put it on a

1130
00:50:04,490 --> 00:50:01,730
earthquake table which would simulate a

1131
00:50:05,900 --> 00:50:04,500
magnitude 9 earthquake and they built

1132
00:50:07,970 --> 00:50:05,910
this really nice scale model

1133
00:50:10,210 --> 00:50:07,980
it's basically of like Meccano type

1134
00:50:14,390 --> 00:50:10,220
things these little metal bolts and

1135
00:50:16,760 --> 00:50:14,400
metal pieces and girders but then in

1136
00:50:19,970 --> 00:50:16,770
order to make it realistic they then had

1137
00:50:23,090 --> 00:50:19,980
to add about 9 times the the models

1138
00:50:25,160 --> 00:50:23,100

weight in lead bricks which they've put

1139

00:50:28,190 --> 00:50:25,170

on every single floor to make it

1140

00:50:29,600 --> 00:50:28,200

realistic now people who think that you

1141

00:50:30,710 --> 00:50:29,610

know if you just simply scale something

1142

00:50:31,880 --> 00:50:30,720

that would work

1143

00:50:34,040 --> 00:50:31,890

you know people people think that if you

1144

00:50:36,020 --> 00:50:34,050

scale it you can just do a test on that

1145

00:50:38,510 --> 00:50:36,030

thing and that thing scales to a larger

1146

00:50:40,280 --> 00:50:38,520

thing if they taken this this scale

1147

00:50:41,240 --> 00:50:40,290

model without these lead bricks and then

1148

00:50:43,580 --> 00:50:41,250

just shaking that it would have been

1149

00:50:44,630 --> 00:50:43,590

fine they could have done a magnitude 12

1150

00:50:46,730 --> 00:50:44,640

earthquake and it would have been

1151

00:50:50,000 --> 00:50:46,740

perfectly fine because of the

1152

00:50:53,270 --> 00:50:50,010

square-cube law in only answer because

1153

00:50:57,410 --> 00:50:53,280

it's it it is size has been reduced

1154

00:50:59,920 --> 00:50:57,420

by two $\frac{1}{10}$ they couldn't reduce the

1155

00:51:03,950 --> 00:50:59,930

size by $\frac{1}{10}$ they had to reduce the

1156

00:51:08,060 --> 00:51:03,960

weight by a proportion which is is l

1157

00:51:09,710 --> 00:51:08,070

think it's the square root of square

1158

00:51:12,020 --> 00:51:09,720

root of 100 divided by the square root

1159

00:51:16,370 --> 00:51:12,030

of 10 something like that

1160

00:51:18,670 --> 00:51:16,380

which was a test three so the size of

1161

00:51:21,020 --> 00:51:18,680

this of the object in and of itself

1162

00:51:23,660 --> 00:51:21,030

regardless of how you're modeling it the

1163

00:51:26,180 --> 00:51:23,670

size will always change the behavior and

1164

00:51:28,940 --> 00:51:26,190

because the first reaction to the

1165

00:51:33,770 --> 00:51:28,950

physical that the the building would

1166

00:51:36,890 --> 00:51:33,780

react differently very differently

1167

00:51:38,930 --> 00:51:36,900

very good guy with what you'd ma-ya with

1168

00:51:47,510 --> 00:51:38,940

a physical scale model like I have a

1169

00:51:53,090 --> 00:51:47,520

scale model right here this is about a 1

1170

00:51:55,100 --> 00:51:53,100

foot so 1 1300 of the actual scale size

1171

00:51:59,240 --> 00:51:55,110

of the World Trade Center and yet this

1172

00:52:00,800 --> 00:51:59,250

scale model is vastly stronger than the

1173

00:52:02,570 --> 00:52:00,810

actual World Trade Center model look I

1174

00:52:04,280 --> 00:52:02,580

can take this model and I can drop it

1175

00:52:06,860 --> 00:52:04,290

from a height of like you know its own

1176
00:52:08,870 --> 00:52:06,870
height and it lands on on whatever and

1177
00:52:10,490 --> 00:52:08,880
you nothing happens I can throw this

1178
00:52:13,340 --> 00:52:10,500
thing which is equivalent of thousands

1179
00:52:15,740 --> 00:52:13,350
of tons yeah scale and it just bounces

1180
00:52:18,110 --> 00:52:15,750
off yeah because very very small scale

1181
00:52:20,150 --> 00:52:18,120
models are very very strong now if I was

1182
00:52:22,460 --> 00:52:20,160
to scale this and make it the right

1183
00:52:24,650 --> 00:52:22,470
weight it actually would be impossible

1184
00:52:26,840 --> 00:52:24,660
in this universe it would be denser than

1185
00:52:28,970 --> 00:52:26,850
the densest known element in the world

1186
00:52:31,670 --> 00:52:28,980
if you had a scale model of the World

1187
00:52:34,040 --> 00:52:31,680
Trade Center tower that was 6 feet high

1188
00:52:38,330 --> 00:52:34,050

I think if you made it out of solid gold

1189

00:52:42,410 --> 00:52:38,340

like it was a 1 foot by 12 foot solid

1190

00:52:45,170 --> 00:52:42,420

gold cuboid that would be about the

1191

00:52:47,630 --> 00:52:45,180

right weight so you can't actually build

1192

00:52:50,000 --> 00:52:47,640

a scale model of the World Trade Center

1193

00:52:51,950 --> 00:52:50,010

and simulate it exactly unless you build

1194

00:52:53,920 --> 00:52:51,960

it you had to build it over 100 feet

1195

00:52:57,200 --> 00:52:53,930

high and add all these lead bricks

1196

00:53:01,910 --> 00:52:57,210

because it doesn't work with your videos

1197

00:53:04,070 --> 00:53:01,920

and yes I've done it with wood and what

1198

00:53:06,440 --> 00:53:04,080

I'm doing there is I'm demonstrating one

1199

00:53:08,840 --> 00:53:06,450

aspect of the collapse

1200

00:53:12,710 --> 00:53:08,850

I'm not demonstrating the entire thing

1201
00:53:17,420 --> 00:53:12,720
because if you look at my my thing the

1202
00:53:20,960 --> 00:53:17,430
model I do nothing no the the floor

1203
00:53:23,870 --> 00:53:20,970
panels break up there's very little in

1204
00:53:25,430 --> 00:53:23,880
terms of dust or anything like that I'm

1205
00:53:28,400 --> 00:53:25,440
not simulating in the actual

1206
00:53:30,680 --> 00:53:28,410
perhaps nothing really breaks there's no

1207
00:53:36,130 --> 00:53:30,690
there's no strong connections between

1208
00:53:41,720 --> 00:53:36,140
things and what I'm simulating there is

1209
00:53:44,060 --> 00:53:41,730
when a floor panel can only support six

1210
00:53:46,970 --> 00:53:44,070
to twelve times its own weight and you

1211
00:53:48,440 --> 00:53:46,980
start a collapse by just offsetting the

1212
00:53:51,380 --> 00:53:48,450
top of the building a little bit so it

1213
00:53:55,190 --> 00:53:51,390

falls out of line with the columns then

1214

00:53:56,870 --> 00:53:55,200

the entire building will collapse so he

1215

00:53:59,090 --> 00:53:56,880

demonstrates that one aspect of it it

1216

00:54:00,530 --> 00:53:59,100

doesn't demonstrate you know how exactly

1217

00:54:03,440 --> 00:54:00,540

that happened in the case of the World

1218

00:54:05,960 --> 00:54:03,450

Trade Center and you can't do it with a

1219

00:54:08,840 --> 00:54:05,970

scale model you had to do it with a

1220

00:54:11,570 --> 00:54:08,850

model that replicates some of the

1221

00:54:14,900 --> 00:54:11,580

conditions so the condition I chose to

1222

00:54:18,080 --> 00:54:14,910

replicate was the floor panels support

1223

00:54:19,910 --> 00:54:18,090

six to twelve times their own weight and

1224

00:54:22,610 --> 00:54:19,920

I tested that by putting six fourth

1225

00:54:25,010 --> 00:54:22,620

floor panels on one of them and doing 12

1226

00:54:27,410 --> 00:54:25,020

very carefully or dropping six from a

1227

00:54:29,810 --> 00:54:27,420

certain height but you know I also did

1228

00:54:31,820 --> 00:54:29,820

things like I threw a spanner a wrench

1229

00:54:33,560 --> 00:54:31,830

at the side of the building and if it

1230

00:54:34,880 --> 00:54:33,570

had been an accurate scale model then

1231

00:54:36,200 --> 00:54:34,890

that wrench would have just gone right

1232

00:54:38,660 --> 00:54:36,210

through it the same way the planes did

1233

00:54:40,400 --> 00:54:38,670

it just bounced off so it's obviously

1234

00:54:42,380 --> 00:54:40,410

not a perfect scale model of the World

1235

00:54:45,680 --> 00:54:42,390

Trade Center except in that one aspect

1236

00:54:47,450 --> 00:54:45,690

the one aspect where you've got these

1237

00:54:49,610 --> 00:54:47,460

these panels which can only support a

1238

00:54:52,400 --> 00:54:49,620

certain amount of weight and when they

1239

00:54:54,590 --> 00:54:52,410

fall the building's fall with the l

1240

00:54:58,340 --> 00:54:54,600

totally see what you're saying

1241

00:55:02,000 --> 00:54:58,350

the but in regards to the building

1242

00:55:04,370 --> 00:55:02,010

changing and morphing during the before

1243

00:55:06,710 --> 00:55:04,380

the collapse in it of itself wouldn't

1244

00:55:10,520 --> 00:55:06,720

you see windows breaking all around the

1245

00:55:12,980 --> 00:55:10,530

building gradually like completely with

1246

00:55:18,050 --> 00:55:12,990

the building changing that much in its

1247

00:55:21,350 --> 00:55:18,060

symmetry wouldn't you see that as you

1248

00:55:22,970 --> 00:55:21,360

mean other towers both of them both

1249

00:55:26,210 --> 00:55:22,980

towers that you would basically see

1250

00:55:28,880 --> 00:55:26,220

windows breaking if the building was

1251

00:55:32,440 --> 00:55:28,890

actually twisting and changing in

1252

00:55:35,090 --> 00:55:32,450

regards to well you can need him look at

1253

00:55:37,070 --> 00:55:35,100

here he wasn't it wasn't twisting I

1254

00:55:39,079 --> 00:55:37,080

wouldn't say it was twisting at all it

1255

00:55:41,900 --> 00:55:39,089

was sagging in some areas

1256

00:55:42,829 --> 00:55:41,910

and the outer walls were being pulled in

1257

00:55:44,450 --> 00:55:42,839

a little bit

1258

00:55:46,069 --> 00:55:44,460

it really wasn't sagging in a wind

1259

00:55:49,549 --> 00:55:46,079

noticeable like I say the load transfer

1260

00:55:50,749 --> 00:55:49,559

would go to the other things and that

1261

00:55:52,969 --> 00:55:50,759

they're still holding at the top of the

1262

00:55:55,279 --> 00:55:52,979

building but an individual column Willis

1263

00:55:56,749 --> 00:55:55,289

Act which means like a floor will start

1264

00:55:58,759 --> 00:55:56,759

to sag a little bit internally and you

1265

00:56:01,700 --> 00:55:58,769

can see there are photos of these bowed

1266

00:56:04,130 --> 00:56:01,710

floors internally now the exterior of

1267

00:56:05,870 --> 00:56:04,140

the building has all these columns and

1268

00:56:08,870 --> 00:56:05,880

you know obviously a lot of them were

1269

00:56:11,749 --> 00:56:08,880

missing at the time so it's there's a

1270

00:56:15,859 --> 00:56:11,759

lot of damage there but you do see this

1271

00:56:18,200 --> 00:56:15,869

inward pull of the face of the building

1272

00:56:21,200 --> 00:56:18,210

and you see a bowing of the entire

1273

00:56:23,920 --> 00:56:21,210

building over several floors now why

1274

00:56:26,599 --> 00:56:23,930

doesn't that make the built the windows

1275

00:56:28,130 --> 00:56:26,609

break well it's because it's the actual

1276

00:56:29,479 --> 00:56:28,140

angle it's doing isn't that much it's

1277

00:56:31,670 --> 00:56:29,489

like someone took the bottom of the

1278

00:56:33,349 --> 00:56:31,680

window and they pulled it in like three

1279

00:56:35,420 --> 00:56:33,359

inches and then the window below that

1280

00:56:37,069 --> 00:56:35,430

got pulled in another three inches when

1281

00:56:39,079 --> 00:56:37,079

they're below pulled in no three inches

1282

00:56:41,569 --> 00:56:39,089

it wasn't like he just like twisted the

1283

00:56:43,219 --> 00:56:41,579

entire structure and I think there were

1284

00:56:45,859 --> 00:56:43,229

a few windows that were broken but you

1285

00:56:47,359 --> 00:56:45,869

know they're the windows on the exterior

1286

00:56:48,859 --> 00:56:47,369

of the World Trade Center were obviously

1287

00:56:50,420 --> 00:56:48,869

designed to be very strong like

1288

00:56:52,640 --> 00:56:50,430

withstand hurricane force winds and

1289

00:56:55,640 --> 00:56:52,650

people falling against done things like

1290

00:56:58,339 --> 00:56:55,650

that so yeah I just didn't write

1291

00:56:59,930 --> 00:56:58,349

because he didn't Bend that much mmm

1292

00:57:01,579 --> 00:56:59,940

well people did actually break those

1293

00:57:03,859 --> 00:57:01,589

windows at the top themselves though

1294

00:57:08,329 --> 00:57:03,869

that's pretty impressive when what the

1295

00:57:10,039 --> 00:57:08,339

year they yeah yeah but just B just

1296

00:57:12,200 --> 00:57:10,049

being able to breathe at the top I mean

1297

00:57:14,450 --> 00:57:12,210

that they actually managed to do that if

1298

00:57:17,239 --> 00:57:14,460

the building yeah I'm just just thinking

1299

00:57:20,630 --> 00:57:17,249

about how yeah they can't but kind of

1300

00:57:22,309 --> 00:57:20,640

bit that strong if the mash it with a

1301

00:57:27,620 --> 00:57:22,319

fire extinguisher or something very

1302

00:57:31,430 --> 00:57:27,630

heavy yeah there is a there was when

1303

00:57:34,309 --> 00:57:31,440

they did the heat mapping of of the

1304

00:57:38,180 --> 00:57:34,319

buildings off of the collapse mm-hmm you

1305

00:57:41,809 --> 00:57:38,190

could see identical heat signatures from

1306

00:57:43,759 --> 00:57:41,819

all three buildings well I was right to

1307

00:57:45,680 --> 00:57:43,769

call there were different shapes they

1308

00:57:48,380 --> 00:57:45,690

were less same temperature different yes

1309

00:57:51,069 --> 00:57:48,390

yes exactly they were safe same same

1310

00:57:52,760 --> 00:57:51,079

temperatures and but the same type of

1311

00:57:57,830 --> 00:57:52,770

signatures in regard

1312

00:58:00,590 --> 00:57:57,840

- well basically showing that something

1313

00:58:02,450 --> 00:58:00,600

was really hot and it's it's been well a

1314

00:58:05,690 --> 00:58:02,460

lot for thing that was really hot was

1315

00:58:07,940 --> 00:58:05,700

fire but how do you sustain fire

1316

00:58:10,360 --> 00:58:07,950

underground that way where it's there's

1317

00:58:14,720 --> 00:58:10,370

basically not much oxygen or anything to

1318

00:58:17,420 --> 00:58:14,730

then and those photos were taking I

1319

00:58:18,770 --> 00:58:17,430

think like two or three days after the

1320

00:58:20,300 --> 00:58:18,780

collapse so it wasn't that far into it

1321

00:58:22,820 --> 00:58:20,310

and they cooled down pretty rapidly

1322

00:58:25,750 --> 00:58:22,830

after that obviously there were fires

1323

00:58:27,980 --> 00:58:25,760

still burning for like like over a month

1324

00:58:30,020 --> 00:58:27,990

in the World Trade Center and there were

1325

00:58:34,370 --> 00:58:30,030

reports of you know pockets of very very

1326
00:58:37,400 --> 00:58:34,380
hot regions but the the the avarice data

1327
00:58:40,670 --> 00:58:37,410
which you're referring to essentially

1328
00:58:42,200 --> 00:58:40,680
shows fire now if you there were some

1329
00:58:43,670 --> 00:58:42,210
other hotspots that aren't in the World

1330
00:58:46,070 --> 00:58:43,680
Trade Center site and they mentioned

1331
00:58:48,430 --> 00:58:46,080
this in the description of the avarice

1332
00:58:51,140 --> 00:58:48,440
image this was an image done with this

1333
00:58:54,070 --> 00:58:51,150
multispectral camera which they flew

1334
00:58:56,630 --> 00:58:54,080
over I think it was a navy camera and

1335
00:58:58,760 --> 00:58:56,640
they they say you know the red spots

1336
00:59:01,730 --> 00:58:58,770
outside the World Trade Center site our

1337
00:59:05,420 --> 00:59:01,740
heating system vents see we're getting

1338
00:59:08,090 --> 00:59:05,430

these red spots in New York City that

1339

00:59:10,550 --> 00:59:08,100

were not much not much cooler than the

1340

00:59:12,170 --> 00:59:10,560

the yellow spots and the World Trade

1341

00:59:16,570 --> 00:59:12,180

Center site and that was simply just

1342

00:59:23,480 --> 00:59:16,580

from the exhaust from heating systems in

1343

00:59:25,460 --> 00:59:23,490

in buildings and an actual fire itself

1344

00:59:27,980 --> 00:59:25,470

is very very hot the flames very hot and

1345

00:59:30,200 --> 00:59:27,990

what it's measuring is the temperature

1346

00:59:33,290 --> 00:59:30,210

of those flames and those those gases

1347

00:59:36,550 --> 00:59:33,300

coming out it doesn't mean that all the

1348

00:59:38,840 --> 00:59:36,560

methyl underground has been heated up to

1349

00:59:41,150 --> 00:59:38,850

you know a thousand degrees centigrade

1350

00:59:44,630 --> 00:59:41,160

or anything like that it just means that

1351

00:59:46,700 --> 00:59:44,640

there is a fire and if you have if you

1352

00:59:48,200 --> 00:59:46,710

if it was just a big bonfire down there

1353

00:59:50,900 --> 00:59:48,210

it would probably actually look a lot

1354

00:59:52,700 --> 00:59:50,910

hotter you know just it looks it looks

1355

00:59:54,410 --> 00:59:52,710

kind of patchy because it's largely

1356

00:59:56,990 --> 00:59:54,420

underground and what you're seeing is

1357

01:00:01,400 --> 00:59:57,000

the the hot gases coming out and heating

1358

01:00:03,530 --> 01:00:01,410

things in that immediate area so I don't

1359

01:00:06,470 --> 01:00:03,540

think that is very suspicious and I also

1360

01:00:10,160 --> 01:00:06,480

don't think it's evidence of thermite

1361

01:00:11,750 --> 01:00:10,170

burning because if there was thermite

1362

01:00:14,450 --> 01:00:11,760

burning you would have to have thousands

1363

01:00:17,540 --> 01:00:14,460

of tons constantly burning for it to

1364

01:00:20,500 --> 01:00:17,550

keep up keep it up on our because the

1365

01:00:24,170 --> 01:00:20,510

light burns very fast and it contains

1366

01:00:26,980 --> 01:00:24,180

its own oxygen so it would just all burn

1367

01:00:30,109 --> 01:00:26,990

up whereas the rubble under the pile

1368

01:00:32,569 --> 01:00:30,119

doesn't have its own oxygen so it just

1369

01:00:34,579 --> 01:00:32,579

burns as it gets uncovered or as oxygen

1370

01:00:36,859 --> 01:00:34,589

comes through so yeah this kind of

1371

01:00:39,650 --> 01:00:36,869

smoldering fire point ends at first but

1372

01:00:43,370 --> 01:00:39,660

you know eventually if smoldering mhmmm

1373

01:00:46,880 --> 01:00:43,380

interesting theory the the the fires

1374

01:00:49,130 --> 01:00:46,890

though I know I'm quite sure weren't put

1375

01:00:55,250 --> 01:00:49,140

out the last fires underground were put

1376

01:00:59,300 --> 01:00:55,260

out until Christmas yeah one so they

1377

01:01:01,880 --> 01:00:59,310

were burning for months but the which is

1378

01:01:03,980 --> 01:01:01,890

not impressive entered there are lots of

1379

01:01:08,660 --> 01:01:03,990

sites where fires have burned for months

1380

01:01:10,579 --> 01:01:08,670

for example rubbish dumps yeah is a very

1381

01:01:13,400 --> 01:01:10,589

common place where you a fire get

1382

01:01:14,900 --> 01:01:13,410

started and can burn for months and you

1383

01:01:16,370 --> 01:01:14,910

know obviously like abandoned coal mines

1384

01:01:17,660 --> 01:01:16,380

but you can have expect that but it's

1385

01:01:19,910 --> 01:01:17,670

the same type of thing there's a source

1386

01:01:21,500 --> 01:01:19,920

of fuel which is underground which is

1387

01:01:23,020 --> 01:01:21,510

slowly burning or quite intensely

1388

01:01:26,329 --> 01:01:23,030

burning if it gets a lot of oxygen

1389

01:01:27,980 --> 01:01:26,339

there's if you actually think about how

1390

01:01:31,430 --> 01:01:27,990

much combustibles there are under there

1391

01:01:35,030 --> 01:01:31,440

and you know how much is burnt it just

1392

01:01:36,980 --> 01:01:35,040

isn't done but the building's the

1393

01:01:41,240 --> 01:01:36,990

burning at that's in the top sections

1394

01:01:44,900 --> 01:01:41,250

mmm but the top sections being in my

1395

01:01:46,280 --> 01:01:44,910

mind what would probably lay on top of

1396

01:01:48,230 --> 01:01:46,290

the buildings had collapsed

1397

01:01:50,540 --> 01:01:48,240

well there's there there were still

1398

01:01:53,180 --> 01:01:50,550

several floors I think 13 in the case of

1399

01:01:55,809 --> 01:01:53,190

World Trade Center one and some more and

1400

01:01:58,309 --> 01:01:55,819

we'll say try Center two on top of that

1401

01:02:00,500 --> 01:01:58,319

so if you're going to be thinking of it

1402

01:02:02,990 --> 01:02:00,510

in terms of a fire sandwich you've got

1403

01:02:06,109 --> 01:02:03,000

this huge amount of debris underneath

1404

01:02:07,609 --> 01:02:06,119

and then you've got the fire floors and

1405

01:02:10,040 --> 01:02:07,619

then you've got the the floors that were

1406

01:02:12,530 --> 01:02:10,050

not on fire on top of that but the whole

1407

01:02:15,559 --> 01:02:12,540

thing kind of got gets mixed together as

1408

01:02:18,620 --> 01:02:15,569

it falls and yeah fire isn't something

1409

01:02:20,300 --> 01:02:18,630

where you know there's a fire up there

1410

01:02:23,320 --> 01:02:20,310

and you gets transferred down

1411

01:02:26,480 --> 01:02:23,330

here if all kinds of things start fires

1412

01:02:28,820 --> 01:02:26,490

and there was thousands of individual

1413

01:02:33,230 --> 01:02:28,830

little fires in the pile which can then

1414

01:02:37,720 --> 01:02:33,240

spread it to other things the testimony

1415

01:02:42,050 --> 01:02:37,730

from the firemen and from the one of the

1416

01:02:45,890 --> 01:02:42,060

emergency scene Chiefs can't remember

1417

01:02:47,810 --> 01:02:45,900

his name but he he testified to the fact

1418

01:02:51,800 --> 01:02:47,820

that there were you know underground

1419

01:02:55,190 --> 01:02:51,810

molten steel and the that the intensity

1420

01:02:59,210 --> 01:02:55,200

of these fires were so hot that the it

1421

01:03:02,240 --> 01:02:59,220

was like opening opening up a box with

1422

01:03:06,950 --> 01:03:02,250

lava and certain places have you

1423

01:03:09,230 --> 01:03:06,960

explored these subject - yeah and I I

1424

01:03:13,790 --> 01:03:09,240

think what they saw almost certainly was

1425

01:03:17,510 --> 01:03:13,800

not steel molten steel is ridiculously

1426

01:03:19,850 --> 01:03:17,520

hot for a start if it's molten if it's

1427

01:03:22,010 --> 01:03:19,860

flowing you know it's hotter than the

1428

01:03:23,510 --> 01:03:22,020

hottest steel you've ever heated up with

1429

01:03:27,620 --> 01:03:23,520

a blowtorch or something it's actually

1430

01:03:29,660 --> 01:03:27,630

white-hot and there's two things because

1431

01:03:31,580 --> 01:03:29,670

it's white-hot one is it cools down very

1432

01:03:33,710 --> 01:03:31,590

quickly molten steel does not stay

1433

01:03:36,710 --> 01:03:33,720

molten very long because it is so hot

1434

01:03:38,600 --> 01:03:36,720

it's basically radiating conducting heat

1435

01:03:40,490 --> 01:03:38,610

away very very rapidly the hotter

1436

01:03:42,380 --> 01:03:40,500

something is the quicker it cools down

1437

01:03:46,490 --> 01:03:42,390

there's this very steep curve of things

1438

01:03:49,400 --> 01:03:46,500

cooling down molten steel is also so hot

1439

01:03:50,810 --> 01:03:49,410

because it's molten that it sets fire to

1440

01:03:52,340 --> 01:03:50,820

everything around it and burns

1441

01:03:56,570 --> 01:03:52,350

everything around it so it becomes very

1442

01:03:59,240 --> 01:03:56,580

very energetic if you ever seen a Andry

1443

01:04:01,160 --> 01:03:59,250

accident where they spill the steel on

1444

01:04:03,490 --> 01:04:01,170

the floor it's just like it's like

1445

01:04:06,950 --> 01:04:03,500

sparks going everywhere it's crazy thing

1446

01:04:09,560 --> 01:04:06,960

so I think what they describe doesn't

1447

01:04:12,500 --> 01:04:09,570

really fit molten steel which is this

1448

01:04:14,030 --> 01:04:12,510

this white-hot highly energetic material

1449

01:04:16,310 --> 01:04:14,040

it more fits

1450

01:04:20,330 --> 01:04:16,320

something less energetic like molten

1451
01:04:22,160 --> 01:04:20,340
aluminum or molten let there was lots of

1452
01:04:24,770 --> 01:04:22,170
lead in the building from a variety of

1453
01:04:26,570 --> 01:04:24,780
things like uninterruptible power

1454
01:04:29,840 --> 01:04:26,580
supplies they had lots of batteries in

1455
01:04:32,790 --> 01:04:29,850
the building wasn't very simple things

1456
01:04:34,790 --> 01:04:32,800
it could even be molten glass like glass

1457
01:04:37,260 --> 01:04:34,800
with a temperature of molten glasses but

1458
01:04:39,720 --> 01:04:37,270
you know if something like that is multi

1459
01:04:42,420 --> 01:04:39,730
and melting and flowing or in you know

1460
01:04:44,610 --> 01:04:42,430
it could be like aluminum with a bunch

1461
01:04:48,990 --> 01:04:44,620
of embers on it I think this is one

1462
01:04:50,490 --> 01:04:49,000
actually happened with the the goals and

1463
01:04:53,460 --> 01:04:50,500

things that you see flying from the

1464

01:04:55,260 --> 01:04:53,470

building earlier is it's molten aluminum

1465

01:04:57,410 --> 01:04:55,270

but it's carrying out the fire with it

1466

01:04:59,940 --> 01:04:57,420

so it's carrying out all these embers

1467

01:05:02,340 --> 01:04:59,950

okay you had the sparkly stuff that goes

1468

01:05:03,630 --> 01:05:02,350

yeah yeah maybe if you look at that very

1469

01:05:05,400 --> 01:05:03,640

closely you can see there's actually a

1470

01:05:06,840 --> 01:05:05,410

bunch of dark things falling as well

1471

01:05:09,390 --> 01:05:06,850

which I think are the actual just

1472

01:05:11,940 --> 01:05:09,400

aluminum without the embers in it but I

1473

01:05:13,740 --> 01:05:11,950

think this stuff underground and people

1474

01:05:17,250 --> 01:05:13,750

saying they saw a river of molten steel

1475

01:05:19,440 --> 01:05:17,260

I think they meant essentially I just

1476

01:05:21,090 --> 01:05:19,450

saw a river of molten something that

1477

01:05:23,010 --> 01:05:21,100

kind of looked like metal they didn't

1478

01:05:24,540 --> 01:05:23,020

know if it was metal they're just

1479

01:05:25,980 --> 01:05:24,550

assuming it's metal and they just said

1480

01:05:27,890 --> 01:05:25,990

steel because that's the first metal

1481

01:05:32,430 --> 01:05:27,900

that came to mind

1482

01:05:34,410 --> 01:05:32,440

you know firefighters don't generally

1483

01:05:36,990 --> 01:05:34,420

come across rivers of molten steel so

1484

01:05:39,810 --> 01:05:37,000

would a firefighter know what a river of

1485

01:05:41,610 --> 01:05:39,820

molten steel looks like yeah you could

1486

01:05:43,800 --> 01:05:41,620

you could argue that they should because

1487

01:05:46,320 --> 01:05:43,810

they're fighting fires but since you

1488

01:05:49,590 --> 01:05:46,330

don't get molten steel in the vast

1489

01:05:51,410 --> 01:05:49,600

majority of fires why would a New York

1490

01:05:54,510 --> 01:05:51,420

firefighter be familiar with what a

1491

01:05:56,850 --> 01:05:54,520

underground river of steel actually

1492

01:05:58,440 --> 01:05:56,860

looks like when it didn't actually look

1493

01:05:59,550 --> 01:05:58,450

like what they described because if it

1494

01:06:03,270 --> 01:05:59,560

wasn't more than steel it would be

1495

01:06:05,010 --> 01:06:03,280

exploding everywhere yeah yeah there's

1496

01:06:06,780 --> 01:06:05,020

been quite a lack of images and videos

1497

01:06:11,030 --> 01:06:06,790

of it as well but yeah that's the other

1498

01:06:13,410 --> 01:06:11,040

thing they didn't find these lakes of of

1499

01:06:16,440 --> 01:06:13,420

steel if you've got a river of molten

1500

01:06:20,310 --> 01:06:16,450

steel and these rivers have been flowing

1501
01:06:24,180 --> 01:06:20,320
for weeks then you're gonna have this

1502
01:06:26,400 --> 01:06:24,190
huge lake of Steel molten steel at the

1503
01:06:27,600 --> 01:06:26,410
bottom of the building that's just like

1504
01:06:30,900 --> 01:06:27,610
this pure steel because everything's

1505
01:06:32,190 --> 01:06:30,910
gonna float on it and you know they

1506
01:06:34,980 --> 01:06:32,200
didn't find anything like that

1507
01:06:36,780 --> 01:06:34,990
yeah you don't see that in in any of the

1508
01:06:40,680 --> 01:06:36,790
recovery photographs you don't see these

1509
01:06:42,540 --> 01:06:40,690
you see like barely melted guns and

1510
01:06:45,030 --> 01:06:42,550
things like that yeah you don't see

1511
01:06:46,890 --> 01:06:45,040
melted steel you don't see beams where

1512
01:06:48,750 --> 01:06:46,900
the end has been melted off

1513
01:06:51,810 --> 01:06:48,760

you don't see like something like with a

1514

01:06:54,420 --> 01:06:51,820

puddle of Steel like you know even if

1515

01:06:56,250 --> 01:06:54,430

you had like you know a hundred pound or

1516

01:06:58,710 --> 01:06:56,260

a thousand pounds of steel which is like

1517

01:07:00,690 --> 01:06:58,720

a bit of a girder yeah where is it where

1518

01:07:02,850 --> 01:07:00,700

is this big bat of steel where did it

1519

01:07:05,640 --> 01:07:02,860

end up you do you have something that

1520

01:07:09,390 --> 01:07:05,650

resembles the something of a volcanic

1521

01:07:12,300 --> 01:07:09,400

rock mixed with molten metal and

1522

01:07:15,920 --> 01:07:12,310

different sorts of items and even molten

1523

01:07:19,920 --> 01:07:15,930

concrete that set the museum if I'm not

1524

01:07:21,150 --> 01:07:19,930

yes yes I think all the meteorite but if

1525

01:07:25,710 --> 01:07:21,160

you look at that there's actually bits

1526

01:07:28,740 --> 01:07:25,720

of paper in it paper in it yeah really

1527

01:07:30,540 --> 01:07:28,750

yes I have to check that out so really

1528

01:07:33,750 --> 01:07:30,550

what that is it's a it's a compressed

1529

01:07:36,870 --> 01:07:33,760

chunk of the building when the building

1530

01:07:39,210 --> 01:07:36,880

fell some parts of it were in regions

1531

01:07:41,130 --> 01:07:39,220

where they had thousands of tons of

1532

01:07:42,780 --> 01:07:41,140

stuff directly pressing down on them

1533

01:07:46,050 --> 01:07:42,790

obviously cuz they were at the bottom of

1534

01:07:48,350 --> 01:07:46,060

the pile and they were in a fire region

1535

01:07:51,210 --> 01:07:48,360

so bits of them got scorched or whatever

1536

01:07:53,490 --> 01:07:51,220

but if you look at the thing you

1537

01:07:54,900 --> 01:07:53,500

referring to the meteorite you see it's

1538

01:07:57,240 --> 01:07:54,910

got all these bits of iron and steel

1539

01:07:59,460 --> 01:07:57,250

coming out of it which are not molten

1540

01:08:01,820 --> 01:07:59,470

they're just regular steel then it's got

1541

01:08:03,960 --> 01:08:01,830

concrete which is the center just

1542

01:08:06,300 --> 01:08:03,970

compacted concrete and you've got this

1543

01:08:07,890 --> 01:08:06,310

some burn marks on it and if you look

1544

01:08:10,250 --> 01:08:07,900

very closely you can see they're a bits

1545

01:08:13,380 --> 01:08:10,260

of paper with visible writing on them

1546

01:08:15,410 --> 01:08:13,390

paper inside the meteorite Rock I'm

1547

01:08:17,340 --> 01:08:15,420

going to write that down and actually

1548

01:08:23,430 --> 01:08:17,350

check that out because that's

1549

01:08:25,349 --> 01:08:23,440

interesting debunk it you've been

1550

01:08:28,980 --> 01:08:25,359

listening to tales from the rabbit hole

1551

01:08:31,530 --> 01:08:28,990

I'm your host Mike West and my guest

1552

01:08:33,540 --> 01:08:31,540

today was ste Anne Arneson this episode

1553

01:08:37,980 --> 01:08:33,550

ended a little abruptly because I

1554

01:08:40,410 --> 01:08:37,990

excised it from a larger episode which

1555

01:08:42,599 --> 01:08:40,420

you can listen to and episode 3 if you

1556

01:08:46,889 --> 01:08:42,609

missed that one very interesting stuff