



The UFO Rabbit Hole

**THE MOON IS WEIRD AF:
THE APOLLO MISSIONS &
THE MYSTERIOUS ORIGINS
OF THE MOON**

Episode 15

1
00:00:16,119 --> 00:00:00,550
thank you

2
00:00:16,380 --> 00:00:16,129
[Music]

3
00:00:24,120 --> 00:00:16,390
[Applause]

4
00:00:30,550 --> 00:00:24,130
[Music]

5
00:00:35,930 --> 00:00:33,229
welcome back to the UFO Rabbit Hole

6
00:00:38,450 --> 00:00:35,940
podcast I'm your host Kelly Chase

7
00:00:40,610 --> 00:00:38,460
today we turn our attention to our

8
00:00:42,530 --> 00:00:40,620
nearest neighbor and the anchor for some

9
00:00:45,590 --> 00:00:42,540
of the most compelling and mysterious

10
00:00:48,170 --> 00:00:45,600
stories in the UFO lore the Moon

11
00:00:50,270 --> 00:00:48,180
hanging serenely in the night sky its

12
00:00:53,150 --> 00:00:50,280
face unchanging aside from the precise

13
00:00:55,910 --> 00:00:53,160

pendulum swing of the lunar cycle the

14

00:00:57,830 --> 00:00:55,920

Moon is our constant companion it's the

15

00:01:00,110 --> 00:00:57,840

one Heavenly Body that we can easily

16

00:01:02,869 --> 00:01:00,120

observe with the naked eye and as such

17

00:01:04,490 --> 00:01:02,879

it feels deeply familiar to us

18

00:01:07,250 --> 00:01:04,500

but what if there's more to the Moon

19

00:01:09,050 --> 00:01:07,260

than we ever realized it's an unnerving

20

00:01:11,090 --> 00:01:09,060

thought to consider that the moon as we

21

00:01:13,670 --> 00:01:11,100

know it might not be what we think it is

22

00:01:16,789 --> 00:01:13,680

at all but that's exactly what the Deep

23

00:01:19,910 --> 00:01:16,799

UFO lore surrounding the moon suggests

24

00:01:22,190 --> 00:01:19,920

so could it be true in this episode

25

00:01:24,830 --> 00:01:22,200

we'll examine everything that's just

26
00:01:26,270 --> 00:01:24,840
straight up weird about the moon and try

27
00:01:29,090 --> 00:01:26,280
to get to the bottom of the many

28
00:01:31,370 --> 00:01:29,100
Mysteries that present themselves

29
00:01:33,350 --> 00:01:31,380
but first if we're going to talk about

30
00:01:35,690 --> 00:01:33,360
the Mysteries and lore surrounding the

31
00:01:37,370 --> 00:01:35,700
moon landing it feels inevitable that

32
00:01:39,590 --> 00:01:37,380
we'll come across the question of

33
00:01:41,990 --> 00:01:39,600
whether or not we did in fact land on

34
00:01:44,690 --> 00:01:42,000
the moon so let's just get that out of

35
00:01:46,190 --> 00:01:44,700
the way now if you've spent any time at

36
00:01:48,289 --> 00:01:46,200
all on the weird side of the internet

37
00:01:50,749 --> 00:01:48,299
you've probably come across this popular

38
00:01:52,609 --> 00:01:50,759

conspiracy theory before if you're

39

00:01:53,330 --> 00:01:52,619

unfamiliar the story goes something like

40

00:01:56,690 --> 00:01:53,340

this

41

00:01:58,429 --> 00:01:56,700

when JFK made his famous 1962 speech

42

00:01:59,990 --> 00:01:58,439

declaring that the United States would

43

00:02:02,030 --> 00:02:00,000

put a man on the Moon by the end of the

44

00:02:04,969 --> 00:02:02,040

decade it was more than just an

45

00:02:07,130 --> 00:02:04,979

inspiring Prime Time sound bite more

46

00:02:09,290 --> 00:02:07,140

than a decade into the Cold War both the

47

00:02:11,449 --> 00:02:09,300

U.S and the Soviet Union were pouring

48

00:02:13,850 --> 00:02:11,459

enormous resources into developing

49

00:02:15,830 --> 00:02:13,860

increasingly Advanced weapons and other

50

00:02:16,970 --> 00:02:15,840

technology in a battle for Global

51
00:02:18,830 --> 00:02:16,980
dominance

52
00:02:21,470 --> 00:02:18,840
putting a man on the moon wouldn't just

53
00:02:23,869 --> 00:02:21,480
be a major Flex to own the commies what

54
00:02:26,210 --> 00:02:23,879
JFK was asking the American people to

55
00:02:28,369 --> 00:02:26,220
put their Collective will behind was

56
00:02:31,010 --> 00:02:28,379
nothing short of an attempt to push the

57
00:02:32,930 --> 00:02:31,020
very boundaries of human potential to

58
00:02:35,570 --> 00:02:32,940
ensure that the U.S wouldn't just be the

59
00:02:36,350 --> 00:02:35,580
dominant power on Earth but in space as

60
00:02:38,630 --> 00:02:36,360
well

61
00:02:40,790 --> 00:02:38,640
however when President Kennedy said that

62
00:02:42,589 --> 00:02:40,800
America would put a man on the moon not

63
00:02:45,110 --> 00:02:42,599

because it is easy but because it is

64

00:02:47,750 --> 00:02:45,120

hard he may have underestimated just

65

00:02:50,089 --> 00:02:47,760

exactly how hard it was going to be and

66

00:02:51,589 --> 00:02:50,099

as this particular Story Goes NASA

67

00:02:52,970 --> 00:02:51,599

eventually figured out that they

68

00:02:55,250 --> 00:02:52,980

probably weren't going to meet the

69

00:02:56,570 --> 00:02:55,260

deadline to put a man on the moon or

70

00:02:58,309 --> 00:02:56,580

they figured out that they could

71

00:02:59,809 --> 00:02:58,319

probably put a man on the moon but they

72

00:03:01,369 --> 00:02:59,819

weren't so sure if they could bring him

73

00:03:03,350 --> 00:03:01,379

back and there was a fear that the whole

74

00:03:05,030 --> 00:03:03,360

world watching an American hero die on

75

00:03:07,729 --> 00:03:05,040

the moon would be the end of the space

76

00:03:09,290 --> 00:03:07,739

program or they figured out how to put a

77

00:03:11,330 --> 00:03:09,300

man on the moon but they didn't have a

78

00:03:12,949 --> 00:03:11,340

good way to make the broadcast happen so

79

00:03:14,390 --> 00:03:12,959

they filmed it in a studio so they could

80

00:03:15,890 --> 00:03:14,400

have tighter control over the images

81

00:03:18,530 --> 00:03:15,900

that were released

82

00:03:20,509 --> 00:03:18,540

anyway some version of one of those

83

00:03:22,970 --> 00:03:20,519

things happened and the government ended

84

00:03:25,009 --> 00:03:22,980

up recruiting Stanley Kubrick to help

85

00:03:27,770 --> 00:03:25,019

them to fake the moon landing

86

00:03:29,630 --> 00:03:27,780

his film 2001 A Space Odyssey was

87

00:03:32,210 --> 00:03:29,640

basically a practice run and a cover-up

88

00:03:34,610 --> 00:03:32,220

for this project and The Shining was his

89

00:03:36,530 --> 00:03:34,620

coded confession and cry for help as the

90

00:03:38,930 --> 00:03:36,540

four secrecy and the shame of lying to

91

00:03:40,369 --> 00:03:38,940

his fellow humans took their toll upon

92

00:03:42,949 --> 00:03:40,379

the fame director

93

00:03:45,350 --> 00:03:42,959

now transparently I don't believe that

94

00:03:47,089 --> 00:03:45,360

any of that is true but trust that I've

95

00:03:48,949 --> 00:03:47,099

spent enough time going down that rabbit

96

00:03:50,690 --> 00:03:48,959

hole that I'm aware of basically every

97

00:03:53,030 --> 00:03:50,700

iteration of every Theory that's out

98

00:03:56,089 --> 00:03:53,040

there the long and short of it is that

99

00:03:58,250 --> 00:03:56,099

yes we went to the moon as entertaining

100

00:03:59,930 --> 00:03:58,260

as those conspiracy theories are they

101
00:04:01,970 --> 00:03:59,940
have been pretty conclusively debunked

102
00:04:03,649 --> 00:04:01,980
many times over I'll link to some

103
00:04:05,149 --> 00:04:03,659
resources in the episode brief that you

104
00:04:07,490 --> 00:04:05,159
can check out if you want to explore

105
00:04:09,229 --> 00:04:07,500
this more but for our purposes it

106
00:04:10,789 --> 00:04:09,239
doesn't feel productive to retread a

107
00:04:14,030 --> 00:04:10,799
road that's been treaded so many times

108
00:04:15,649 --> 00:04:14,040
before and besides while the conspiracy

109
00:04:17,930 --> 00:04:15,659
theories around the fake moon landing

110
00:04:20,090 --> 00:04:17,940
have been debunked there are countless

111
00:04:22,370 --> 00:04:20,100
Mysteries that still remain unanswered

112
00:04:24,590 --> 00:04:22,380
because if there's one thing that you

113
00:04:26,870 --> 00:04:24,600

need to know about the moon it's this

114

00:04:28,189 --> 00:04:26,880

the Moon is weird

115

00:04:29,810 --> 00:04:28,199

when you think about the most

116

00:04:32,090 --> 00:04:29,820

interesting moons in the solar system

117

00:04:34,310 --> 00:04:32,100

our own satellite is probably not the

118

00:04:36,710 --> 00:04:34,320

first one that comes to mind after all

119

00:04:39,590 --> 00:04:36,720

there is a mysterious ocean under the

120

00:04:42,170 --> 00:04:39,600

Frozen surface of Jupiter's moon Europa

121

00:04:44,330 --> 00:04:42,180

another of Jupiter's moons IO is one of

122

00:04:47,330 --> 00:04:44,340

the most volcanically active places in

123

00:04:49,909 --> 00:04:47,340

the solar system Saturn's moon Titan has

124

00:04:52,670 --> 00:04:49,919

oceans of liquid methane and on the

125

00:04:54,650 --> 00:04:52,680

surface of nearby Enceladus massive

126

00:04:58,010 --> 00:04:54,660

water geysers shoot up into the air

127

00:05:00,110 --> 00:04:58,020

causing snow to Fall by comparison our

128

00:05:02,390 --> 00:05:00,120

geologically quiet moon with no

129

00:05:04,969 --> 00:05:02,400

atmosphere and few defining features on

130

00:05:08,330 --> 00:05:04,979

its pockmarked surface seems pretty

131

00:05:11,629 --> 00:05:08,340

standard issue but in reality our moon

132

00:05:13,310 --> 00:05:11,639

is anything but and I'll be honest once

133

00:05:15,650 --> 00:05:13,320

you start to recognize all the ways in

134

00:05:18,050 --> 00:05:15,660

which our moon isn't just weird but

135

00:05:20,689 --> 00:05:18,060

straight up doesn't make sense it can be

136

00:05:22,909 --> 00:05:20,699

pretty unsettling and I'd argue that

137

00:05:24,890 --> 00:05:22,919

there's two reasons for that the first

138

00:05:27,110 --> 00:05:24,900

is that whether you spend much time

139

00:05:29,629 --> 00:05:27,120

noticing it or not the Moon is a big

140

00:05:31,550 --> 00:05:29,639

part of our everyday lives it's visible

141

00:05:33,830 --> 00:05:31,560

in the sky most nights and even

142

00:05:36,290 --> 00:05:33,840

sometimes during the day it's consistent

143

00:05:38,029 --> 00:05:36,300

and predictable quietly serving as the

144

00:05:39,590 --> 00:05:38,039

backdrop of Our Lives

145

00:05:41,270 --> 00:05:39,600

and that's what makes the mirror

146

00:05:42,890 --> 00:05:41,280

suggestion that there could be more to

147

00:05:43,909 --> 00:05:42,900

the Moon than meets the eye so

148

00:05:45,710 --> 00:05:43,919

disturbing

149

00:05:47,450 --> 00:05:45,720

how could we miss something like this

150

00:05:49,610 --> 00:05:47,460

and what are the implications for

151
00:05:51,230 --> 00:05:49,620
Humanity if our moon isn't what it

152
00:05:52,610 --> 00:05:51,240
appears to be

153
00:05:54,710 --> 00:05:52,620
and the second reason that learning

154
00:05:56,629 --> 00:05:54,720
about the moon can be so unsettling is

155
00:05:58,909 --> 00:05:56,639
just the sheer preponderance of

156
00:06:01,070 --> 00:05:58,919
weirdness if there were a few little

157
00:06:02,990 --> 00:06:01,080
Mysteries or idiosyncrasies about the

158
00:06:04,969 --> 00:06:03,000
moon this would just be a fun thought

159
00:06:07,430 --> 00:06:04,979
exercise that would be really easy to

160
00:06:08,930 --> 00:06:07,440
dismiss but what I'm about to present to

161
00:06:11,870 --> 00:06:08,940
you isn't just a collection of

162
00:06:13,969 --> 00:06:11,880
interesting factoids it's an avalanche

163
00:06:16,969 --> 00:06:13,979

of contradictions and impossibilities

164

00:06:19,490 --> 00:06:16,979

piling one on top of each other pointing

165

00:06:21,110 --> 00:06:19,500

us to one startling and undeniable truth

166

00:06:23,210 --> 00:06:21,120

which is this

167

00:06:25,969 --> 00:06:23,220

the moon isn't just weird

168

00:06:28,189 --> 00:06:25,979

some would argue that it's impossible it

169

00:06:30,529 --> 00:06:28,199

shouldn't exist and though it hangs in

170

00:06:32,390 --> 00:06:30,539

our Sky inspiring artists and lighting

171

00:06:34,790 --> 00:06:32,400

our midnight paths and patiently

172

00:06:37,189 --> 00:06:34,800

counting out the rhythm of Our Lives the

173

00:06:39,350 --> 00:06:37,199

reality is that we have no idea what the

174

00:06:42,230 --> 00:06:39,360

moon is or where it came from

175

00:06:44,150 --> 00:06:42,240

so let's dive into it here's everything

176

00:06:46,309 --> 00:06:44,160

that's weird about the moon

177

00:06:48,170 --> 00:06:46,319

first of all when you look up at the

178

00:06:49,850 --> 00:06:48,180

moon in the night sky no matter the

179

00:06:51,850 --> 00:06:49,860

phase and no matter the time of year

180

00:06:55,010 --> 00:06:51,860

you're always looking at the same side

181

00:06:56,150 --> 00:06:55,020

now granted this isn't so mysterious in

182

00:06:58,129 --> 00:06:56,160

and of itself

183

00:07:00,110 --> 00:06:58,139

this is because the Moon is tidally

184

00:07:02,090 --> 00:07:00,120

locked with the Earth something that's

185

00:07:04,070 --> 00:07:02,100

fairly common among moons that are

186

00:07:06,409 --> 00:07:04,080

relatively large in size with respect to

187

00:07:08,390 --> 00:07:06,419

the planet they orbit like ours

188

00:07:10,249 --> 00:07:08,400

still when you think about the fact that

189

00:07:12,409 --> 00:07:10,259

the Moon is orbiting the Earth while the

190

00:07:14,629 --> 00:07:12,419

Earth orbits the sun which itself is

191

00:07:16,790 --> 00:07:14,639

orbiting the center of the Milky Way all

192

00:07:18,529 --> 00:07:16,800

of which is hurtling through space it is

193

00:07:20,930 --> 00:07:18,539

kind of mind-blowing that we only ever

194

00:07:23,150 --> 00:07:20,940

see one side of the moon for that to

195

00:07:25,610 --> 00:07:23,160

happen the moon has to rotate on its

196

00:07:26,629 --> 00:07:25,620

axis at the exact rate that it orbits

197

00:07:29,270 --> 00:07:26,639

the earth

198

00:07:31,610 --> 00:07:29,280

so it's not necessarily mysterious but

199

00:07:33,230 --> 00:07:31,620

it is cool and despite the fact that it

200

00:07:35,870 --> 00:07:33,240

can be explained within the realm of

201
00:07:38,089 --> 00:07:35,880
common natural phenomena there's still

202
00:07:39,650 --> 00:07:38,099
something undeniably Eerie about the

203
00:07:42,710 --> 00:07:39,660
fact that we never see the back of the

204
00:07:46,309 --> 00:07:42,720
Moon in fact it wasn't until October 7th

205
00:07:48,950 --> 00:07:46,319
1959 when the Soviet probe Luna 3 sent

206
00:07:51,290 --> 00:07:48,960
back the first 18 images of The Far Side

207
00:07:53,350 --> 00:07:51,300
of the Moon that humans got their first

208
00:07:55,670 --> 00:07:53,360
glimpse of its Mysteries

209
00:07:57,950 --> 00:07:55,680
hypothetically up until that point in

210
00:08:00,409 --> 00:07:57,960
human history anything could have been

211
00:08:03,350 --> 00:08:00,419
hiding back there an alien base evidence

212
00:08:05,990 --> 00:08:03,360
of A Lost Civilization giant graffiti of

213
00:08:08,210 --> 00:08:06,000

extraterrestrial genitalia and we never

214

00:08:09,589 --> 00:08:08,220

would have known it's unsettling to

215

00:08:11,629 --> 00:08:09,599

think that the closest and most

216

00:08:14,150 --> 00:08:11,639

prominent object in the night sky could

217

00:08:16,129 --> 00:08:14,160

be keeping secrets like that and yet

218

00:08:18,650 --> 00:08:16,139

though it creates a considerable blind

219

00:08:20,210 --> 00:08:18,660

spot for us ultimately we should be

220

00:08:22,189 --> 00:08:20,220

grateful for the fact that our moon is

221

00:08:24,589 --> 00:08:22,199

tidally locked with the Earth because if

222

00:08:25,730 --> 00:08:24,599

it wasn't life on Earth might not even

223

00:08:28,070 --> 00:08:25,740

exist

224

00:08:30,950 --> 00:08:28,080

there's still so much that we don't know

225

00:08:32,649 --> 00:08:30,960

about how life arose on this planet it's

226

00:08:35,329 --> 00:08:32,659

one of the great mysteries of science

227

00:08:36,769 --> 00:08:35,339

however one of the most popular theories

228

00:08:39,110 --> 00:08:36,779

about how that might have happened

229

00:08:40,670 --> 00:08:39,120

directly involves the moon and its

230

00:08:42,769 --> 00:08:40,680

influence on the tides

231

00:08:44,990 --> 00:08:42,779

if we assume that life on Earth arose

232

00:08:46,970 --> 00:08:45,000

through natural processes then we can

233

00:08:50,150 --> 00:08:46,980

think of the young earth like a giant

234

00:08:52,190 --> 00:08:50,160

chemistry set if DNA and RNA are the

235

00:08:54,110 --> 00:08:52,200

building blocks of life then a

236

00:08:56,150 --> 00:08:54,120

staggering number of chemical reactions

237

00:08:57,829 --> 00:08:56,160

would have needed to occur first to

238

00:09:00,829 --> 00:08:57,839

create the building blocks of those

239

00:09:02,090 --> 00:09:00,839

building blocks or protonucleic acid

240

00:09:05,030 --> 00:09:02,100

molecules

241

00:09:07,190 --> 00:09:05,040

but for DNA and RNA to evolve from this

242

00:09:09,710 --> 00:09:07,200

group of protonucleic acid structures

243

00:09:12,050 --> 00:09:09,720

first they had to be able to replicate

244

00:09:13,730 --> 00:09:12,060

and one way for that to happen would be

245

00:09:15,590 --> 00:09:13,740

to cyclically bring these structures

246

00:09:18,170 --> 00:09:15,600

together and then break them apart again

247

00:09:20,509 --> 00:09:18,180

the lunar Tides may have provided

248

00:09:22,009 --> 00:09:20,519

exactly that necessary mechanism to

249

00:09:24,650 --> 00:09:22,019

bring about life

250

00:09:27,230 --> 00:09:24,660

Kevin zannel a planetary scientist at

251
00:09:28,970 --> 00:09:27,240
the NASA Ames Research Center said in an

252
00:09:31,430 --> 00:09:28,980
article on this topic in Scientific

253
00:09:33,470 --> 00:09:31,440
American a lot of origin of Life

254
00:09:36,050 --> 00:09:33,480
reactions involve getting rid of water

255
00:09:38,930 --> 00:09:36,060
so you look for a means to concentrate

256
00:09:40,850 --> 00:09:38,940
your Solutions one way to do that is to

257
00:09:43,730 --> 00:09:40,860
throw water up on a hot rock and then

258
00:09:46,190 --> 00:09:43,740
have the waters recede and evaporate so

259
00:09:48,590 --> 00:09:46,200
it's possible that without the moon life

260
00:09:50,870 --> 00:09:48,600
on Earth may never have developed

261
00:09:53,150 --> 00:09:50,880
however even if the moon didn't play a

262
00:09:55,790 --> 00:09:53,160
role in the actual emergence of life on

263
00:09:57,590 --> 00:09:55,800

the planet without the Moon that life

264

00:10:00,769 --> 00:09:57,600

almost certainly wouldn't have been a

265

00:10:02,509 --> 00:10:00,779

successful or diverse the reality is

266

00:10:04,610 --> 00:10:02,519

that there are a number of factors that

267

00:10:08,030 --> 00:10:04,620

make the Earth not just suited for life

268

00:10:10,370 --> 00:10:08,040

but uniquely so and virtually all of

269

00:10:12,290 --> 00:10:10,380

those factors are the direct result of

270

00:10:14,030 --> 00:10:12,300

the influence of the Moon

271

00:10:17,570 --> 00:10:14,040

one of the most important of these

272

00:10:19,130 --> 00:10:17,580

factors is the tides the moon isn't just

273

00:10:22,009 --> 00:10:19,140

large compared to the earth at

274

00:10:25,130 --> 00:10:22,019

approximately one-sixth its size it also

275

00:10:26,690 --> 00:10:25,140

orbits very closely this combination

276

00:10:28,850 --> 00:10:26,700

means that the moon's gravitational

277

00:10:31,610 --> 00:10:28,860

impact on the earth is particularly

278

00:10:34,250 --> 00:10:31,620

profound as the moon orbits the planet

279

00:10:37,009 --> 00:10:34,260

the atmosphere on the side closest to it

280

00:10:39,889 --> 00:10:37,019

bulges and distances measured in Miles

281

00:10:42,590 --> 00:10:39,899

the oceans bulge in distances measured

282

00:10:44,930 --> 00:10:42,600

in feet and even the earth's land mass

283

00:10:48,110 --> 00:10:44,940

rises in distances measured in fractions

284

00:10:50,269 --> 00:10:48,120

of an inch this constant movement of the

285

00:10:51,829 --> 00:10:50,279

oceans generates worldwide ocean

286

00:10:54,170 --> 00:10:51,839

currents that help to widely

287

00:10:56,930 --> 00:10:54,180

redistribute Earth's water nutrients and

288

00:10:59,690 --> 00:10:56,940

toxins without this stirring effect

289

00:11:01,850 --> 00:10:59,700

ocean water could be stagnant and the

290

00:11:03,050 --> 00:11:01,860

oceans would be mostly if not entirely

291

00:11:05,329 --> 00:11:03,060

dead

292

00:11:07,490 --> 00:11:05,339

the study Rhythm of the tides doesn't

293

00:11:09,829 --> 00:11:07,500

just help support life in the oceans

294

00:11:12,650 --> 00:11:09,839

they also help to regulate the climate

295

00:11:14,810 --> 00:11:12,660

and temperature of the planet the tides

296

00:11:16,550 --> 00:11:14,820

transport enormous amounts of heat from

297

00:11:19,069 --> 00:11:16,560

the temperate equator areas to The

298

00:11:22,190 --> 00:11:19,079

Frigid poles significantly mitigating

299

00:11:24,470 --> 00:11:22,200

extreme climate fluctuations without the

300

00:11:26,750 --> 00:11:24,480

lunar Tides climate oscillations would

301
00:11:28,910 --> 00:11:26,760
be far more extreme and are relatively

302
00:11:30,470 --> 00:11:28,920
predictable climate patterns would cease

303
00:11:32,509 --> 00:11:30,480
to exist

304
00:11:35,030 --> 00:11:32,519
the moon also helps to keep the earth's

305
00:11:37,970 --> 00:11:35,040
climate stable by stabilizing the spin

306
00:11:41,569 --> 00:11:37,980
of the Earth itself the Earth's axis is

307
00:11:43,430 --> 00:11:41,579
tilted at 23.5 degrees which it turns

308
00:11:46,130 --> 00:11:43,440
out is just about perfect for supporting

309
00:11:47,810 --> 00:11:46,140
life on the planet even a shift of a few

310
00:11:49,730 --> 00:11:47,820
degrees could have catastrophic

311
00:11:51,590 --> 00:11:49,740
consequences for climate

312
00:11:53,389 --> 00:11:51,600
certain areas of the planet would spend

313
00:11:56,030 --> 00:11:53,399

significantly more time in direct

314

00:11:58,069 --> 00:11:56,040

sunlight causing previously temperate

315

00:12:00,710 --> 00:11:58,079

regions to be as hot as Death Valley

316

00:12:03,290 --> 00:12:00,720

while other places would be plunged into

317

00:12:05,750 --> 00:12:03,300

Darkness for months at a time making

318

00:12:07,130 --> 00:12:05,760

those areas as cold and hostile to life

319

00:12:09,410 --> 00:12:07,140

as the poles

320

00:12:11,630 --> 00:12:09,420

and these extremes wouldn't just have an

321

00:12:13,910 --> 00:12:11,640

impact locally but would throw all of

322

00:12:16,610 --> 00:12:13,920

the planet's weather patterns into chaos

323

00:12:19,250 --> 00:12:16,620

it's hard to imagine Life as We Know It

324

00:12:21,470 --> 00:12:19,260

existing in those conditions and yet

325

00:12:23,930 --> 00:12:21,480

without the stabilizing influence of the

326

00:12:26,210 --> 00:12:23,940

Moon these sorts of shifts and the tilt

327

00:12:27,889 --> 00:12:26,220

of the Earth would be inevitable

328

00:12:30,050 --> 00:12:27,899

Beyond its impact on the Earth's

329

00:12:31,850 --> 00:12:30,060

temperature and climate the moon also

330

00:12:34,730 --> 00:12:31,860

protects the Earth from outside threats

331

00:12:36,350 --> 00:12:34,740

as well the moon's gravity pulls many of

332

00:12:38,269 --> 00:12:36,360

the comets asteroids and other

333

00:12:40,970 --> 00:12:38,279

Interstellar objects out of the direct

334

00:12:42,889 --> 00:12:40,980

path of the earth which has undoubtedly

335

00:12:46,009 --> 00:12:42,899

saved us from countless potentially

336

00:12:48,290 --> 00:12:46,019

devastating impacts the moon essentially

337

00:12:50,030 --> 00:12:48,300

acts like the Earth's bouncer helping to

338

00:12:52,370 --> 00:12:50,040

clear out much of the space debris that

339

00:12:54,710 --> 00:12:52,380

might threaten life on the planet its

340

00:12:56,389 --> 00:12:54,720

pockmarked surface tells the story of

341

00:12:58,069 --> 00:12:56,399

hundreds of major strikes that were

342

00:13:00,590 --> 00:12:58,079

narrowly avoided

343

00:13:02,329 --> 00:13:00,600

and all of that is super interesting but

344

00:13:04,790 --> 00:13:02,339

it's also probably not terribly

345

00:13:06,769 --> 00:13:04,800

surprising as we discussed back in

346

00:13:09,350 --> 00:13:06,779

episode 3 when we talked about the Fermi

347

00:13:11,569 --> 00:13:09,360

Paradox without more data it's

348

00:13:13,610 --> 00:13:11,579

impossible for us to know how weird our

349

00:13:15,829 --> 00:13:13,620

planet or our solar system might be in

350

00:13:17,870 --> 00:13:15,839

the context of the greater Cosmos

351
00:13:19,970 --> 00:13:17,880
there could be an earth equivalent in

352
00:13:22,430 --> 00:13:19,980
one out of a hundred solar systems or in

353
00:13:23,810 --> 00:13:22,440
one out of a billion solar systems we

354
00:13:26,030 --> 00:13:23,820
simply don't know

355
00:13:27,590 --> 00:13:26,040
however when we look at all of the

356
00:13:29,750 --> 00:13:27,600
things that had to go right on our

357
00:13:32,569 --> 00:13:29,760
planet for it to be as particularly well

358
00:13:34,910 --> 00:13:32,579
calibrated to life as it is it seems

359
00:13:37,129 --> 00:13:34,920
reasonable to assume that we've got an

360
00:13:40,310 --> 00:13:37,139
unusually good setup here on Earth

361
00:13:42,170 --> 00:13:40,320
after all we're here life has existed

362
00:13:45,590 --> 00:13:42,180
consistently on this planet for the last

363
00:13:47,389 --> 00:13:45,600

3.7 billion years long enough for an

364

00:13:49,910 --> 00:13:47,399

intelligent species to emerge and

365

00:13:51,769 --> 00:13:49,920

contemplate its place in the universe so

366

00:13:53,629 --> 00:13:51,779

the fact that we are here to ask the

367

00:13:55,190 --> 00:13:53,639

questions means that we shouldn't be

368

00:13:58,190 --> 00:13:55,200

surprised to find that the Earth has

369

00:14:00,829 --> 00:13:58,200

been cosmically lucky in many ways

370

00:14:02,750 --> 00:14:00,839

otherwise we likely wouldn't be

371

00:14:04,970 --> 00:14:02,760

maybe for a planet to be stable enough

372

00:14:07,850 --> 00:14:04,980

to develop and sustain complex life

373

00:14:10,129 --> 00:14:07,860

forms for billions of years it has to

374

00:14:11,930 --> 00:14:10,139

have a moon like ours one that's big

375

00:14:13,910 --> 00:14:11,940

enough and close enough and tidally

376

00:14:16,310 --> 00:14:13,920

locked so that it stabilizes and

377

00:14:18,290 --> 00:14:16,320

protects the planet while also churning

378

00:14:20,750 --> 00:14:18,300

its oceans with the steady pulse of the

379

00:14:22,850 --> 00:14:20,760

tides creating both the building blocks

380

00:14:23,990 --> 00:14:22,860

for life and the ideal place for it to

381

00:14:26,930 --> 00:14:24,000

thrive

382

00:14:29,930 --> 00:14:26,940

but still there are those who argue that

383

00:14:31,610 --> 00:14:29,940

the Moon is too perfect they argue that

384

00:14:33,949 --> 00:14:31,620

there are so many things about the Moon

385

00:14:35,810 --> 00:14:33,959

that are improbable that it would have

386

00:14:38,690 --> 00:14:35,820

been impossible for the moon to be the

387

00:14:40,850 --> 00:14:38,700

result of natural phenomena which leaves

388

00:14:42,949 --> 00:14:40,860

really only one other option

389

00:14:44,269 --> 00:14:42,959

could the moon have been intentionally

390

00:14:47,509 --> 00:14:44,279

designed

391

00:14:50,030 --> 00:14:47,519

let's take a closer look at the evidence

392

00:14:52,129 --> 00:14:50,040

one of the most striking observations to

393

00:14:54,949 --> 00:14:52,139

be made about the Moon is how unusual

394

00:14:57,350 --> 00:14:54,959

the phenomenon of solar eclipses is

395

00:15:00,350 --> 00:14:57,360

from the dawn of human history we have

396

00:15:03,110 --> 00:15:00,360

been fascinated by solar eclipses

397

00:15:05,210 --> 00:15:03,120

about once every 18 months somewhere on

398

00:15:07,970 --> 00:15:05,220

Earth there is a total solar eclipse

399

00:15:09,670 --> 00:15:07,980

where for a brief time the moon moves

400

00:15:12,290 --> 00:15:09,680

directly into the path of the sun

401
00:15:14,329 --> 00:15:12,300
covering it perfectly so that only the

402
00:15:15,769 --> 00:15:14,339
glow of the sun's Corona can be seen

403
00:15:18,769 --> 00:15:15,779
around the edges

404
00:15:21,410 --> 00:15:18,779
what few consider however is how many

405
00:15:22,850 --> 00:15:21,420
things have to be perfectly aligned for

406
00:15:25,670 --> 00:15:22,860
that to be the case

407
00:15:28,129 --> 00:15:25,680
first of all although the sun is 400

408
00:15:30,889 --> 00:15:28,139
times bigger than the moon they appear

409
00:15:32,629 --> 00:15:30,899
to be the same size in the sky on Earth

410
00:15:35,389 --> 00:15:32,639
this is because the sun is almost

411
00:15:36,769 --> 00:15:35,399
exactly 400 times further away from the

412
00:15:39,110 --> 00:15:36,779
Earth and the Moon

413
00:15:41,930 --> 00:15:39,120

and while most moons orbit around the

414

00:15:44,030 --> 00:15:41,940

equator of their planets our moon has a

415

00:15:46,550 --> 00:15:44,040

slightly tilted orbit that aligns to our

416

00:15:49,189 --> 00:15:46,560

orbit around the sun if those things

417

00:15:50,930 --> 00:15:49,199

weren't true solar eclipses as we know

418

00:15:53,509 --> 00:15:50,940

them wouldn't be possible

419

00:15:55,670 --> 00:15:53,519

and I'll admit when I think about how

420

00:15:57,829 --> 00:15:55,680

astronomically small the chances must be

421

00:16:00,769 --> 00:15:57,839

for the moon to be so perfectly aligned

422

00:16:03,170 --> 00:16:00,779

as to create solar eclipses it kind of

423

00:16:05,210 --> 00:16:03,180

freaks me out the odds are just so

424

00:16:07,490 --> 00:16:05,220

vanishingly small that that would happen

425

00:16:10,189 --> 00:16:07,500

naturally that it's hard not to find

426

00:16:12,530 --> 00:16:10,199

yourself looking at the moon differently

427

00:16:14,870 --> 00:16:12,540

however I will Splash a little cold

428

00:16:16,370 --> 00:16:14,880

water on our Collective Faces by

429

00:16:18,170 --> 00:16:16,380

pointing out that the Moon is actually

430

00:16:20,750 --> 00:16:18,180

moving away from the earth at the

431

00:16:22,670 --> 00:16:20,760

unfathomably slow pace of about an inch

432

00:16:24,530 --> 00:16:22,680

and a half a year and although that

433

00:16:27,769 --> 00:16:24,540

movement is so slow as to be

434

00:16:29,930 --> 00:16:27,779

imperceptible on any human time scale if

435

00:16:32,150 --> 00:16:29,940

you roll back the tape 4.5 billion years

436

00:16:34,730 --> 00:16:32,160

we can deduce that it would have been 10

437

00:16:36,290 --> 00:16:34,740

times closer to the Earth than it is now

438

00:16:38,569 --> 00:16:36,300

meaning that it would have been much

439

00:16:41,150 --> 00:16:38,579

bigger in the sky than the Sun and the

440

00:16:43,370 --> 00:16:41,160

truly ancient past and if we play the

441

00:16:45,530 --> 00:16:43,380

tape forward 600 million years from now

442

00:16:46,970 --> 00:16:45,540

the moon will be so far away that it

443

00:16:48,949 --> 00:16:46,980

will no longer be big enough to block

444

00:16:51,290 --> 00:16:48,959

out the light of the Sun and solar

445

00:16:53,569 --> 00:16:51,300

eclipses will cease to exist

446

00:16:55,310 --> 00:16:53,579

so one could argue that the perfect

447

00:16:57,170 --> 00:16:55,320

placement of the moon is only an

448

00:16:59,269 --> 00:16:57,180

illusion considering that it hasn't

449

00:17:00,350 --> 00:16:59,279

always been and won't always be so

450

00:17:02,990 --> 00:17:00,360

perfect

451
00:17:04,610 --> 00:17:03,000
however considering that solar eclipses

452
00:17:07,010 --> 00:17:04,620
have been visible since before the time

453
00:17:08,689 --> 00:17:07,020
of the dinosaurs and will continue to be

454
00:17:11,169 --> 00:17:08,699
so for several hundred million more

455
00:17:14,090 --> 00:17:11,179
years to come I think it's still notable

456
00:17:16,130 --> 00:17:14,100
and it's not just the eclipses that call

457
00:17:18,650 --> 00:17:16,140
the size and placement of the Moon into

458
00:17:20,090 --> 00:17:18,660
question it's anomalous for a few other

459
00:17:23,210 --> 00:17:20,100
reasons as well

460
00:17:25,789 --> 00:17:23,220
first of all it's way too big

461
00:17:27,829 --> 00:17:25,799
there are over 200 moons in our solar

462
00:17:30,049 --> 00:17:27,839
system and although the Earth is only

463
00:17:32,810 --> 00:17:30,059

the fifth largest of the eight planets

464

00:17:34,909 --> 00:17:32,820

it has the fifth largest moon

465

00:17:36,710 --> 00:17:34,919

there are only four moons in the entire

466

00:17:39,950 --> 00:17:36,720

solar system that are larger than ours

467

00:17:42,830 --> 00:17:39,960

Jupiter's moons Ganymede Callisto and IO

468

00:17:45,169 --> 00:17:42,840

and Saturn's moon Titan so the issue

469

00:17:47,690 --> 00:17:45,179

isn't just the moon's size but its size

470

00:17:49,789 --> 00:17:47,700

relative to the Earth the largest moon

471

00:17:51,650 --> 00:17:49,799

in the solar system Ganymede is only

472

00:17:54,230 --> 00:17:51,660

about 50 percent larger than the moon

473

00:17:56,870 --> 00:17:54,240

and yet the diameter of Jupiter is 11

474

00:17:58,789 --> 00:17:56,880

times that of earth when we look at the

475

00:18:00,650 --> 00:17:58,799

rest of the solar system it just doesn't

476

00:18:02,630 --> 00:18:00,660

make sense that one of the biggest moons

477

00:18:04,490 --> 00:18:02,640

would orbit one of the smallest planets

478

00:18:05,990 --> 00:18:04,500

it suggests that maybe there was

479

00:18:08,570 --> 00:18:06,000

something different about how the moon

480

00:18:10,490 --> 00:18:08,580

was formed and came to orbit the Earth

481

00:18:12,890 --> 00:18:10,500

and the moon isn't just way bigger than

482

00:18:14,570 --> 00:18:12,900

we'd expect it to be it's also much

483

00:18:16,730 --> 00:18:14,580

closer to the Earth

484

00:18:18,830 --> 00:18:16,740

in fact there are those who argue that

485

00:18:20,630 --> 00:18:18,840

because the Moon is so big relative to

486

00:18:22,970 --> 00:18:20,640

the Earth and because it orbits the

487

00:18:25,010 --> 00:18:22,980

earth so closely that it isn't even

488

00:18:27,110 --> 00:18:25,020

technically a moon at all

489

00:18:28,310 --> 00:18:27,120

could the moon secretly be another

490

00:18:30,710 --> 00:18:28,320

planet

491

00:18:32,210 --> 00:18:30,720

it turns out that idea is not as crazy

492

00:18:36,289 --> 00:18:32,220

as it may sound

493

00:18:38,810 --> 00:18:36,299

in January of 2005 Eris was discovered a

494

00:18:41,510 --> 00:18:38,820

rocky trans-newtonian object with its

495

00:18:43,909 --> 00:18:41,520

own Moon Eris as it turns out was

496

00:18:45,590 --> 00:18:43,919

destined to be a Planet Killer and the

497

00:18:47,930 --> 00:18:45,600

planet that it killed not through

498

00:18:49,190 --> 00:18:47,940

Collision but through definition was

499

00:18:51,470 --> 00:18:49,200

Pluto

500

00:18:54,310 --> 00:18:51,480

in August of the following year the

501
00:18:56,870 --> 00:18:54,320
international astronomy Union or the iau

502
00:18:59,330 --> 00:18:56,880
announced that based on the discovery of

503
00:19:02,150 --> 00:18:59,340
Eris they had voted to demote Pluto from

504
00:19:04,250 --> 00:19:02,160
a planet to a dwarf planet this decision

505
00:19:06,950 --> 00:19:04,260
was controversial and remained so to

506
00:19:09,169 --> 00:19:06,960
this day for a couple of reasons the

507
00:19:11,510 --> 00:19:09,179
first is that it's not exactly clear

508
00:19:13,669 --> 00:19:11,520
that the iau had the authority to make

509
00:19:15,890 --> 00:19:13,679
that decision there is no clear

510
00:19:18,409 --> 00:19:15,900
Authority that has the final say on the

511
00:19:20,510 --> 00:19:18,419
definition of a planet and this decision

512
00:19:23,330 --> 00:19:20,520
was made by an organization made up

513
00:19:25,789 --> 00:19:23,340

exclusively of astronomers planetary

514

00:19:27,710 --> 00:19:25,799

scientists weren't consulted many of

515

00:19:30,110 --> 00:19:27,720

whom object to the fact that the iau

516

00:19:32,330 --> 00:19:30,120

redefined what a planet is without

517

00:19:35,150 --> 00:19:32,340

taking into account any geophysical

518

00:19:37,190 --> 00:19:35,160

characteristics of the planet itself the

519

00:19:39,409 --> 00:19:37,200

decision on Pluto was made based on the

520

00:19:42,049 --> 00:19:39,419

following definition of a planet a

521

00:19:43,909 --> 00:19:42,059

planet is a body that orbits the Sun is

522

00:19:46,610 --> 00:19:43,919

massive enough for its own gravity to

523

00:19:48,350 --> 00:19:46,620

make it round and which has cleared its

524

00:19:51,049 --> 00:19:48,360

neighborhood of smaller objects

525

00:19:53,150 --> 00:19:51,059

approaching its orbit it's the last part

526

00:19:55,070 --> 00:19:53,160

that caused Eris to deliver the Death

527

00:19:58,010 --> 00:19:55,080

Blow To Pluto's status as a planet

528

00:20:00,350 --> 00:19:58,020

because aerys is larger than Pluto and

529

00:20:02,270 --> 00:20:00,360

orbits in its general area the argument

530

00:20:03,590 --> 00:20:02,280

was made that Pluto had failed to clear

531

00:20:06,350 --> 00:20:03,600

its neighborhood

532

00:20:08,570 --> 00:20:06,360

however some still argue that no

533

00:20:11,150 --> 00:20:08,580

planetary body ever really entirely

534

00:20:13,130 --> 00:20:11,160

clears its neighborhood asteroids and

535

00:20:15,650 --> 00:20:13,140

other large objects persist within the

536

00:20:17,990 --> 00:20:15,660

orbits of all of the planets and so the

537

00:20:19,909 --> 00:20:18,000

controversy over Pluto rages on and

538

00:20:22,190 --> 00:20:19,919

likely we'll continue to do so long into

539

00:20:25,010 --> 00:20:22,200

the future and the reason for that is

540

00:20:27,049 --> 00:20:25,020

simple all objects in space are

541

00:20:29,390 --> 00:20:27,059

constantly moving and are in a constant

542

00:20:31,250 --> 00:20:29,400

state of flux even if that change is

543

00:20:33,770 --> 00:20:31,260

happening on the scale of millions of

544

00:20:36,110 --> 00:20:33,780

years and though some objects in space

545

00:20:38,630 --> 00:20:36,120

are clearly an asteroid and some other

546

00:20:40,730 --> 00:20:38,640

objects are clearly a planet there

547

00:20:42,890 --> 00:20:40,740

exists a vast spectrum of types of

548

00:20:44,930 --> 00:20:42,900

objects in between and it can be

549

00:20:46,789 --> 00:20:44,940

extremely difficult to classify some of

550

00:20:47,750 --> 00:20:46,799

these objects into one category or

551
00:20:49,669 --> 00:20:47,760
another

552
00:20:51,529 --> 00:20:49,679
and our moon is actually one of these

553
00:20:54,770 --> 00:20:51,539
objects that falls into that gray area

554
00:20:57,110 --> 00:20:54,780
it all comes down to our definitions so

555
00:20:59,270 --> 00:20:57,120
is the moon really a moon or could it

556
00:21:01,490 --> 00:20:59,280
actually be the second planet in a

557
00:21:03,529 --> 00:21:01,500
binary system with the Earth

558
00:21:05,750 --> 00:21:03,539
some would argue that it is and this

559
00:21:07,850 --> 00:21:05,760
assertion is based on more than just the

560
00:21:09,770 --> 00:21:07,860
superficial recognition of the moon's

561
00:21:12,470 --> 00:21:09,780
close orbit to the Earth or its relative

562
00:21:15,110 --> 00:21:12,480
size it's based on the definition of a

563
00:21:17,810 --> 00:21:15,120

planet itself and the surprising orbit

564

00:21:20,029 --> 00:21:17,820

that the moon takes around the Sun in

565

00:21:23,570 --> 00:21:20,039

his book on time space and other things

566

00:21:25,730 --> 00:21:23,580

Isaac Asimov writes quote we might look

567

00:21:27,890 --> 00:21:25,740

upon the moon then as neither a true

568

00:21:30,169 --> 00:21:27,900

satellite of the earth nor a captured

569

00:21:32,810 --> 00:21:30,179

one but as a planet in its own Right

570

00:21:33,890 --> 00:21:32,820

Moving about the sun in careful step

571

00:21:35,930 --> 00:21:33,900

with the Earth

572

00:21:38,149 --> 00:21:35,940

to be sure from within the Moon Earth

573

00:21:39,830 --> 00:21:38,159

system the simplest way of picturing the

574

00:21:40,850 --> 00:21:39,840

situation is to have the moon revolve

575

00:21:43,190 --> 00:21:40,860

around the Earth

576
00:21:45,049 --> 00:21:43,200
but if you were to draw a picture of the

577
00:21:47,450 --> 00:21:45,059
orbits of the Earth and Moon about the

578
00:21:49,909 --> 00:21:47,460
sun exactly to scale you would see that

579
00:21:52,490 --> 00:21:49,919
the moon's orbit is everywhere concave

580
00:21:55,070 --> 00:21:52,500
toward the sun it's always falling

581
00:21:57,830 --> 00:21:55,080
toward the sun all the other satellites

582
00:22:00,049 --> 00:21:57,840
without exception fall away from the Sun

583
00:22:02,210 --> 00:22:00,059
through part of their orbits caught as

584
00:22:03,529 --> 00:22:02,220
they are by the superior pull of their

585
00:22:06,289 --> 00:22:03,539
primary planet

586
00:22:08,390 --> 00:22:06,299
but not the moon end quote

587
00:22:10,490 --> 00:22:08,400
another way to visualize this is that

588
00:22:12,230 --> 00:22:10,500

the Earth's gravity does very little to

589

00:22:15,110 --> 00:22:12,240

disrupt the orbit of the moon around the

590

00:22:17,630 --> 00:22:15,120

Sun and so can we even truly say that

591

00:22:19,850 --> 00:22:17,640

the moon orbits the earth or is its true

592

00:22:21,770 --> 00:22:19,860

orbit around the Sun and if the

593

00:22:24,289 --> 00:22:21,780

definition of a planet is a body that

594

00:22:25,730 --> 00:22:24,299

orbits the sun then wouldn't that make

595

00:22:28,310 --> 00:22:25,740

the Moon a planet

596

00:22:30,590 --> 00:22:28,320

for many this argument comes down to one

597

00:22:31,730 --> 00:22:30,600

thing the very center of the Earth Moon

598

00:22:33,950 --> 00:22:31,740

system

599

00:22:35,990 --> 00:22:33,960

a barycenter is the center of mass

600

00:22:37,070 --> 00:22:36,000

around which two bodies orbit each other

601
00:22:39,289 --> 00:22:37,080
in space

602
00:22:41,570 --> 00:22:39,299
because the gravitational forces between

603
00:22:44,690 --> 00:22:41,580
two objects will always be acting on

604
00:22:47,630 --> 00:22:44,700
each other one object never truly orbits

605
00:22:50,029 --> 00:22:47,640
another rather both objects orbit the

606
00:22:51,950 --> 00:22:50,039
center of mass between them because of

607
00:22:54,710 --> 00:22:51,960
gravity the Berry Center will always be

608
00:22:56,450 --> 00:22:54,720
closer to the more massive object and in

609
00:22:58,730 --> 00:22:56,460
the case of the Earth and the moon the

610
00:23:00,770 --> 00:22:58,740
Berry Center is actually inside of the

611
00:23:03,529 --> 00:23:00,780
earth about a thousand miles below the

612
00:23:05,330 --> 00:23:03,539
surface many have argued that this means

613
00:23:07,029 --> 00:23:05,340

that technically the Moon is orbiting

614

00:23:09,830 --> 00:23:07,039

the Earth and is therefore a moon

615

00:23:11,870 --> 00:23:09,840

however if the Berry Center were outside

616

00:23:14,149 --> 00:23:11,880

of the earth and was located somewhere

617

00:23:16,549 --> 00:23:14,159

between the two bodies then the moon

618

00:23:18,830 --> 00:23:16,559

would be a planet and as we discussed

619

00:23:21,169 --> 00:23:18,840

the Moon is actually moving slowly away

620

00:23:22,669 --> 00:23:21,179

from the earth so it's conceivable that

621

00:23:25,250 --> 00:23:22,679

at some point in the future the moon

622

00:23:27,169 --> 00:23:25,260

will technically be a planet and yet

623

00:23:28,370 --> 00:23:27,179

nothing fundamental about the moon will

624

00:23:30,710 --> 00:23:28,380

have changed

625

00:23:32,870 --> 00:23:30,720

see how complicated this can get

626
00:23:35,029 --> 00:23:32,880
it gets even more complicated because

627
00:23:37,549 --> 00:23:35,039
the reality is that scientists have had

628
00:23:39,649 --> 00:23:37,559
to admit for decades now that we

629
00:23:41,750 --> 00:23:39,659
actually have no idea how the moon was

630
00:23:44,270 --> 00:23:41,760
formed and with all of the strange

631
00:23:46,070 --> 00:23:44,280
peculiarities about the moon we've been

632
00:23:49,130 --> 00:23:46,080
forced to admit that none of our

633
00:23:50,810 --> 00:23:49,140
hypotheses really fit the data when we

634
00:23:53,270 --> 00:23:50,820
put together everything that we know

635
00:23:55,850 --> 00:23:53,280
about the Moon the Moon simply doesn't

636
00:23:57,649 --> 00:23:55,860
make sense and that opens up some very

637
00:24:00,409 --> 00:23:57,659
strange and very unsettling

638
00:24:02,930 --> 00:24:00,419

possibilities about what might really be

639

00:24:04,430 --> 00:24:02,940

going on with our nearest neighbor let's

640

00:24:06,649 --> 00:24:04,440

start by looking at the various

641

00:24:09,169 --> 00:24:06,659

hypotheses for where the moon might have

642

00:24:11,350 --> 00:24:09,179

come from and to do that we first need

643

00:24:13,850 --> 00:24:11,360

to establish when the moon was formed

644

00:24:15,230 --> 00:24:13,860

and as with basically everything else

645

00:24:18,169 --> 00:24:15,240

that has to do with our largest

646

00:24:20,450 --> 00:24:18,179

satellite there are no easy answers

647

00:24:22,310 --> 00:24:20,460

the Apollo missions brought back rocks

648

00:24:24,110 --> 00:24:22,320

and other samples from the lunar surface

649

00:24:26,330 --> 00:24:24,120

that we have studied and continue to

650

00:24:28,190 --> 00:24:26,340

study in order to learn more about the

651
00:24:30,289 --> 00:24:28,200
moon including its makeup and its

652
00:24:31,850 --> 00:24:30,299
Origins and one of the most surprising

653
00:24:33,770 --> 00:24:31,860
things that we've learned is that the

654
00:24:37,190 --> 00:24:33,780
Moon is much older than we initially

655
00:24:38,810 --> 00:24:37,200
thought in fact startlingly lunar

656
00:24:41,029 --> 00:24:38,820
samples have been shown to be anywhere

657
00:24:43,190 --> 00:24:41,039
from 10 million to 100 million years

658
00:24:44,750 --> 00:24:43,200
older than the oldest rock samples that

659
00:24:47,870 --> 00:24:44,760
we've found on Earth

660
00:24:50,270 --> 00:24:47,880
so how could this be possible could the

661
00:24:52,430 --> 00:24:50,280
moon really be older than the Earth

662
00:24:54,289 --> 00:24:52,440
there's one theory for how the moon was

663
00:24:55,549 --> 00:24:54,299

formed that would allow for this and

664

00:24:58,610 --> 00:24:55,559

that's what is known as the capture

665

00:25:00,529 --> 00:24:58,620

Theory the basic idea is that way back

666

00:25:02,330 --> 00:25:00,539

in the chaos of the early solar system

667

00:25:04,850 --> 00:25:02,340

the path of the Moon and the Earth

668

00:25:06,710 --> 00:25:04,860

intersected in exactly the right way at

669

00:25:08,750 --> 00:25:06,720

exactly the right angle so that the moon

670

00:25:11,450 --> 00:25:08,760

was captured by the gravity of the earth

671

00:25:13,010 --> 00:25:11,460

and pulled into its orbit this would

672

00:25:14,990 --> 00:25:13,020

explain how the moon could have been

673

00:25:17,930 --> 00:25:15,000

formed before the Earth and then later

674

00:25:19,310 --> 00:25:17,940

came to orbit it however based on

675

00:25:22,010 --> 00:25:19,320

everything that we've discussed about

676

00:25:24,830 --> 00:25:22,020

the moon so far this is so unlikely as

677

00:25:26,930 --> 00:25:24,840

to be basically impossible the Moon is

678

00:25:29,149 --> 00:25:26,940

so large relative to the earth and its

679

00:25:31,730 --> 00:25:29,159

orbit is so close and so nearly

680

00:25:33,470 --> 00:25:31,740

perfectly circular that it's just simply

681

00:25:35,330 --> 00:25:33,480

not feasible for the earth to have

682

00:25:37,250 --> 00:25:35,340

captured the moon in this way

683

00:25:39,649 --> 00:25:37,260

so although this was once a popular

684

00:25:42,110 --> 00:25:39,659

Theory it's no longer considered to be

685

00:25:44,029 --> 00:25:42,120

viable And yet when we think about the

686

00:25:46,610 --> 00:25:44,039

moon and how perfectly placed it is

687

00:25:48,950 --> 00:25:46,620

bigger than it should be and closer than

688

00:25:51,470 --> 00:25:48,960

it should be tidally locked so that we

689

00:25:53,210 --> 00:25:51,480

only see one side rotating in perfect

690

00:25:55,730 --> 00:25:53,220

rhythm with the rotation of the earth

691

00:25:58,130 --> 00:25:55,740

creating the life-giving tides and

692

00:26:00,289 --> 00:25:58,140

perhaps even life itself while it's

693

00:26:03,169 --> 00:26:00,299

perfect alignment creates the profound

694

00:26:05,029 --> 00:26:03,179

Celestial cycle of the eclipses it's

695

00:26:07,250 --> 00:26:05,039

hard not to wonder

696

00:26:09,529 --> 00:26:07,260

if the moon wasn't captured by the

697

00:26:11,630 --> 00:26:09,539

gravity of the earth could it have been

698

00:26:14,090 --> 00:26:11,640

placed into orbit around it by some

699

00:26:15,529 --> 00:26:14,100

other means could the moon have been

700

00:26:17,450 --> 00:26:15,539

placed in orbit around the Earth

701
00:26:20,269 --> 00:26:17,460
intentionally

702
00:26:21,769 --> 00:26:20,279
it's an intriguing question considering

703
00:26:24,049 --> 00:26:21,779
the considerable role that the moon

704
00:26:26,330 --> 00:26:24,059
plays in making the Earth so hospitable

705
00:26:28,970 --> 00:26:26,340
to life and the Precision of its unusual

706
00:26:31,010 --> 00:26:28,980
placement in orbit could it be that an

707
00:26:34,190 --> 00:26:31,020
intelligent species either created the

708
00:26:36,470 --> 00:26:34,200
moon or more likely co-opted an existing

709
00:26:37,970 --> 00:26:36,480
Rocky body in space and place it in

710
00:26:39,590 --> 00:26:37,980
orbit around the Earth in order to

711
00:26:40,370 --> 00:26:39,600
Foster the development of life on the

712
00:26:43,250 --> 00:26:40,380
planet

713
00:26:45,350 --> 00:26:43,260

and could they still be watching us now

714

00:26:47,570 --> 00:26:45,360

it may sound like an absurd proposition

715

00:26:49,370 --> 00:26:47,580

but to be fair it fits the evidence

716

00:26:51,470 --> 00:26:49,380

better than many other more respectable

717

00:26:53,750 --> 00:26:51,480

theories around the moon's Origins

718

00:26:55,789 --> 00:26:53,760

and this theory is made all the more

719

00:26:58,970 --> 00:26:55,799

intriguing by the fact that there is

720

00:27:00,230 --> 00:26:58,980

evidence that the moon might in fact be

721

00:27:02,630 --> 00:27:00,240

Hollow

722

00:27:07,490 --> 00:27:02,640

that's right people we're talking about

723

00:27:12,350 --> 00:27:10,070

my deep and Abiding Love for the hollow

724

00:27:14,750 --> 00:27:12,360

Earth theory is well documented on this

725

00:27:16,549 --> 00:27:14,760

podcast and although you will drag the

726
00:27:19,070 --> 00:27:16,559
hollow Earth theory out of my cold dead

727
00:27:21,230 --> 00:27:19,080
hands I will grudgingly admit that the

728
00:27:24,289 --> 00:27:21,240
evidence for it actually being true is

729
00:27:26,269 --> 00:27:24,299
essentially non-existent however the

730
00:27:28,850 --> 00:27:26,279
same cannot be said for the hollow Moon

731
00:27:30,769 --> 00:27:28,860
Theory as wild as it may sound there

732
00:27:33,110 --> 00:27:30,779
actually is evidence that the moon might

733
00:27:34,970 --> 00:27:33,120
be Hollow or at the very least that it

734
00:27:36,769 --> 00:27:34,980
might have massive open Caverns

735
00:27:38,810 --> 00:27:36,779
concealed within it

736
00:27:40,549 --> 00:27:38,820
one of the goals of the Apollo missions

737
00:27:43,130 --> 00:27:40,559
was to learn more about the moon's

738
00:27:45,289 --> 00:27:43,140

internal structure and to do that they

739

00:27:47,510 --> 00:27:45,299

set up remote seismic stations on the

740

00:27:49,250 --> 00:27:47,520

moon's surface and it was through these

741

00:27:51,110 --> 00:27:49,260

experiments that they discovered that

742

00:27:52,549 --> 00:27:51,120

the moon's composition is very different

743

00:27:54,230 --> 00:27:52,559

than we thought

744

00:27:55,789 --> 00:27:54,240

the first indication that something

745

00:27:58,789 --> 00:27:55,799

might be strange about the moon's

746

00:28:02,690 --> 00:27:58,799

composition came during Apollo 12. on

747

00:28:05,210 --> 00:28:02,700

November 14 1969 Commander Charles Pete

748

00:28:08,330 --> 00:28:05,220

Conrad and lunar module pilot Alan L

749

00:28:10,370 --> 00:28:08,340

Bean landed on the lunar surface eight

750

00:28:12,529 --> 00:28:10,380

hours later they were reunited with dick

751
00:28:15,169 --> 00:28:12,539
Gordon in the Command Module and headed

752
00:28:17,090 --> 00:28:15,179
back to Earth but as they departed they

753
00:28:20,029 --> 00:28:17,100
intentionally crashed the lunar module

754
00:28:22,130 --> 00:28:20,039
into the Moon it impacted about 40 miles

755
00:28:25,610 --> 00:28:22,140
away from the Apollo 12 Landing site

756
00:28:27,830 --> 00:28:25,620
with the force of one ton of TNT the

757
00:28:30,350 --> 00:28:27,840
resulting shock wave built up and peaked

758
00:28:32,990 --> 00:28:30,360
in just eight minutes then it took an

759
00:28:35,210 --> 00:28:33,000
hour to fully dissipate much like a Gong

760
00:28:37,730 --> 00:28:35,220
that continues to vibrate long after it

761
00:28:40,070 --> 00:28:37,740
is struck something similar happened on

762
00:28:42,590 --> 00:28:40,080
Apollo 13 when the crew conducted a

763
00:28:46,070 --> 00:28:42,600

similar controlled crash it hit with the

764

00:28:48,289 --> 00:28:46,080

force of 11 and a half tons of TNT this

765

00:28:50,390 --> 00:28:48,299

translated to a seismic impact that

766

00:28:52,610 --> 00:28:50,400

peaked after seven minutes but this time

767

00:28:54,350 --> 00:28:52,620

it continued to reverberate for nearly

768

00:28:56,630 --> 00:28:54,360

four hours

769

00:28:58,789 --> 00:28:56,640

the vibrations from these two impacts

770

00:29:01,490 --> 00:28:58,799

lasted much longer than scientists

771

00:29:04,370 --> 00:29:01,500

expected far longer than any equivalent

772

00:29:06,409 --> 00:29:04,380

seismic vibrations last on Earth it was

773

00:29:09,110 --> 00:29:06,419

almost as if the moon was ringing like a

774

00:29:10,610 --> 00:29:09,120

bell this strange result forced

775

00:29:13,190 --> 00:29:10,620

scientists to think differently about

776

00:29:15,169 --> 00:29:13,200

the moon and its composition and has led

777

00:29:16,549 --> 00:29:15,179

many to speculate that the moon might in

778

00:29:18,830 --> 00:29:16,559

fact be Hollow

779

00:29:21,529 --> 00:29:18,840

and this raises even more disturbing

780

00:29:25,070 --> 00:29:21,539

questions because as famed astronomer Dr

781

00:29:28,070 --> 00:29:25,080

Carl Sagan wrote in 1966 a natural

782

00:29:31,130 --> 00:29:28,080

satellite cannot be a hollow object

783

00:29:32,870 --> 00:29:31,140

so if the moon is hollow we suddenly

784

00:29:34,310 --> 00:29:32,880

have to Grapple with the reality that

785

00:29:35,870 --> 00:29:34,320

the Moon is likely an artificial

786

00:29:37,190 --> 00:29:35,880

structure created by an unknown

787

00:29:39,590 --> 00:29:37,200

intelligence

788

00:29:42,230 --> 00:29:39,600

and to be honest I'm not totally sure

789

00:29:43,669 --> 00:29:42,240

what to make of any of this there are of

790

00:29:46,130 --> 00:29:43,679

course rebuttals to the hollow Moon

791

00:29:47,510 --> 00:29:46,140

theory in particular it has been argued

792

00:29:49,730 --> 00:29:47,520

that the bell-like seismic

793

00:29:51,710 --> 00:29:49,740

reverberations of the Moon relative to

794

00:29:53,570 --> 00:29:51,720

what we see on Earth is due to the fact

795

00:29:55,370 --> 00:29:53,580

that there is water on Earth that

796

00:29:57,049 --> 00:29:55,380

permeates the surface of the Earth like

797

00:29:59,510 --> 00:29:57,059

water in a sponge

798

00:30:01,730 --> 00:29:59,520

as energy from an earthquake moves

799

00:30:03,649 --> 00:30:01,740

through our planet that damp material

800

00:30:06,049 --> 00:30:03,659

absorbs the energy of the Waves

801
00:30:09,590 --> 00:30:06,059
ultimately deadening their effects

802
00:30:12,529 --> 00:30:09,600
but the Moon is dry cool and rigid more

803
00:30:14,870 --> 00:30:12,539
like a solid rock than a sponge so even

804
00:30:17,210 --> 00:30:14,880
if a moon Quake is less intense there's

805
00:30:18,830 --> 00:30:17,220
nothing to slow down the vibrations they

806
00:30:21,350 --> 00:30:18,840
just go back and forth through the moon

807
00:30:24,350 --> 00:30:21,360
until the solid Stone eventually stops

808
00:30:27,230 --> 00:30:24,360
them the ringing Bell is the shock waves

809
00:30:29,750 --> 00:30:27,240
reverberating through that stone and hey

810
00:30:31,909 --> 00:30:29,760
that could totally be the case I mean it

811
00:30:33,350 --> 00:30:31,919
sounds right but it also raises the

812
00:30:35,510 --> 00:30:33,360
question of why scientists were

813
00:30:36,710 --> 00:30:35,520

initially so puzzled by these results in

814

00:30:39,049 --> 00:30:36,720

the first place

815

00:30:41,330 --> 00:30:39,059

I mean they already knew that there

816

00:30:43,370 --> 00:30:41,340

wasn't water on the moon right there's

817

00:30:45,169 --> 00:30:43,380

something about that argument that just

818

00:30:47,810 --> 00:30:45,179

doesn't sit right with me

819

00:30:49,789 --> 00:30:47,820

and listen I'm totally prepared to

820

00:30:52,190 --> 00:30:49,799

accept the evidence that the Moon is not

821

00:30:54,830 --> 00:30:52,200

Hollow I just haven't really been able

822

00:30:56,690 --> 00:30:54,840

to find it the rebuttals that I've found

823

00:30:58,970 --> 00:30:56,700

all seem to give those vague

824

00:31:00,710 --> 00:30:58,980

condescending non-answers that the

825

00:31:02,450 --> 00:31:00,720

experts give when answering a question

826

00:31:05,269 --> 00:31:02,460

that they don't feel is even worthy of

827

00:31:07,190 --> 00:31:05,279

being entertained in this case it's

828

00:31:09,230 --> 00:31:07,200

usually vaguely referencing a more

829

00:31:12,950 --> 00:31:09,240

advanced understanding of lunar seismic

830

00:31:14,750 --> 00:31:12,960

activity to which I say fantastic what

831

00:31:17,029 --> 00:31:14,760

is that understanding I'd love to hear

832

00:31:19,549 --> 00:31:17,039

more about that but no one ever seems to

833

00:31:22,669 --> 00:31:19,559

take it further and that's frustrating

834

00:31:24,649 --> 00:31:22,679

that said I'm fairly certain that there

835

00:31:26,570 --> 00:31:24,659

is an explanation for why those lunar

836

00:31:28,730 --> 00:31:26,580

module crashes made the moon ring like a

837

00:31:30,769 --> 00:31:28,740

bell that doesn't involve an alien

838

00:31:32,389 --> 00:31:30,779

intelligence creating a giant spaceship

839

00:31:33,830 --> 00:31:32,399

out of a hollowed out Moon and using it

840

00:31:36,350 --> 00:31:33,840

to surveil the Earth

841

00:31:38,389 --> 00:31:36,360

it's just that I don't see any virtue in

842

00:31:41,029 --> 00:31:38,399

throwing out hypotheses based on the

843

00:31:42,289 --> 00:31:41,039

giggle Factor rather than on the actual

844

00:31:45,169 --> 00:31:42,299

evidence

845

00:31:46,970 --> 00:31:45,179

the reality is that we understand so

846

00:31:49,430 --> 00:31:46,980

little about the universe and our place

847

00:31:51,590 --> 00:31:49,440

within it we look at the moon in the sky

848

00:31:54,169 --> 00:31:51,600

every night but we still know so little

849

00:31:55,730 --> 00:31:54,179

about it that it remains at best a

850

00:31:58,730 --> 00:31:55,740

mysterious stranger

851
00:32:00,950 --> 00:31:58,740
it would be incredibly arrogant of us to

852
00:32:03,350 --> 00:32:00,960
assume that reality is bound by our

853
00:32:05,389 --> 00:32:03,360
naive and narrow conception of what is

854
00:32:07,310 --> 00:32:05,399
ridiculous and what is not

855
00:32:09,769 --> 00:32:07,320
but even if the moon is not a

856
00:32:11,210 --> 00:32:09,779
hollowed-out alien superstructure there

857
00:32:13,909 --> 00:32:11,220
are still some things about its

858
00:32:15,649 --> 00:32:13,919
composition that are very peculiar and

859
00:32:18,289 --> 00:32:15,659
which have perplexed scientists for

860
00:32:20,269 --> 00:32:18,299
decades and to understand why we have to

861
00:32:21,470 --> 00:32:20,279
go back to how the moon was formed in

862
00:32:23,090 --> 00:32:21,480
the first place

863
00:32:25,010 --> 00:32:23,100

the leading theory to explain the

864

00:32:27,830 --> 00:32:25,020

formation of the moon is called the

865

00:32:29,750 --> 00:32:27,840

giant impact theory in this Theory a

866

00:32:31,789 --> 00:32:29,760

mars-sized object collided with the

867

00:32:33,529 --> 00:32:31,799

Earth billions of years ago and the moon

868

00:32:35,029 --> 00:32:33,539

formed from the debris disc that

869

00:32:37,970 --> 00:32:35,039

subsequently formed around the planet

870

00:32:40,029 --> 00:32:37,980

this Theory Works to explain so many of

871

00:32:43,190 --> 00:32:40,039

the weird idiosyncrasies about the moon

872

00:32:45,830 --> 00:32:43,200

including its large size and close orbit

873

00:32:48,649 --> 00:32:45,840

it also worked in the models to explain

874

00:32:51,049 --> 00:32:48,659

the length of the Earth's day so this

875

00:32:54,830 --> 00:32:51,059

theory has a lot to recommend it

876

00:32:56,630 --> 00:32:54,840

however it has one major flaw this

877

00:32:59,330 --> 00:32:56,640

theory predicts that the moon is made

878

00:33:02,090 --> 00:32:59,340

mostly from the mars-sized planet but

879

00:33:04,010 --> 00:33:02,100

that's just not what we see in many ways

880

00:33:05,450 --> 00:33:04,020

the Earth and the moon are identical

881

00:33:07,549 --> 00:33:05,460

twins

882

00:33:09,590 --> 00:33:07,559

the isotopic elements of a planet

883

00:33:11,870 --> 00:33:09,600

function sort of like its genetic code

884

00:33:14,090 --> 00:33:11,880

the Isotopes from the Earth and the moon

885

00:33:16,130 --> 00:33:14,100

are the same which means that they were

886

00:33:18,230 --> 00:33:16,140

made of the same materials

887

00:33:20,330 --> 00:33:18,240

and of all of the things that don't make

888

00:33:22,669 --> 00:33:20,340

sense about the moon this is the thing

889

00:33:24,470 --> 00:33:22,679

that doesn't make sense the most and it

890

00:33:25,549 --> 00:33:24,480

also happens to be the hardest to

891

00:33:27,590 --> 00:33:25,559

dismiss

892

00:33:30,470 --> 00:33:27,600

we just don't see this with other

893

00:33:32,690 --> 00:33:30,480

planets every other planet and every

894

00:33:35,990 --> 00:33:32,700

other moon in the solar system all have

895

00:33:38,389 --> 00:33:36,000

their own distinct genetic code no other

896

00:33:41,630 --> 00:33:38,399

planet is a genetic twin with any of its

897

00:33:43,970 --> 00:33:41,640

moons so it's very weird and for many

898

00:33:47,149 --> 00:33:43,980

scientists this was clear evidence that

899

00:33:49,250 --> 00:33:47,159

the giant impact theory was doomed there

900

00:33:51,110 --> 00:33:49,260

was just no way to use the existing

901
00:33:52,850 --> 00:33:51,120
models to make a moon with the same

902
00:33:55,370 --> 00:33:52,860
genetic code as the Earth without

903
00:33:57,169 --> 00:33:55,380
assuming that they somehow had the same

904
00:33:59,750 --> 00:33:57,179
genetic code to begin with which is

905
00:34:01,549 --> 00:33:59,760
simply too astronomically unlikely to

906
00:34:03,590 --> 00:34:01,559
really be considered

907
00:34:06,169 --> 00:34:03,600
problem was that there weren't really

908
00:34:07,549 --> 00:34:06,179
any other better answers the fact that

909
00:34:10,490 --> 00:34:07,559
the Earth and the moon were genetic

910
00:34:12,050 --> 00:34:10,500
twins was seemingly impossible and yet

911
00:34:14,629 --> 00:34:12,060
they are

912
00:34:16,490 --> 00:34:14,639
and with that realization it suddenly

913
00:34:18,950 --> 00:34:16,500

doesn't seem so crazy that some look at

914

00:34:21,710 --> 00:34:18,960

our moon with suspicion because by all

915

00:34:23,389 --> 00:34:21,720

accounts it shouldn't be there and what

916

00:34:26,030 --> 00:34:23,399

are we to make of that

917

00:34:27,710 --> 00:34:26,040

well it turns out that this mystery may

918

00:34:30,470 --> 00:34:27,720

have an answer after all

919

00:34:33,230 --> 00:34:30,480

just a few years ago planetary scientist

920

00:34:35,450 --> 00:34:33,240

and MacArthur genius Sarah T Stewart and

921

00:34:37,849 --> 00:34:35,460

a team of her students decided to take

922

00:34:40,190 --> 00:34:37,859

on the task of saving the giant impact

923

00:34:42,050 --> 00:34:40,200

Theory they started by going back to the

924

00:34:43,609 --> 00:34:42,060

beginning and questioning all of their

925

00:34:45,710 --> 00:34:43,619

previous assumptions

926
00:34:48,470 --> 00:34:45,720
something that had made the giant impact

927
00:34:49,909 --> 00:34:48,480
Theory so popular in the first place was

928
00:34:52,190 --> 00:34:49,919
the way that it had been modeled was

929
00:34:54,530 --> 00:34:52,200
able to explain the size of the Moon and

930
00:34:56,869 --> 00:34:54,540
the length of the Earth's day however

931
00:34:58,430 --> 00:34:56,879
Stewart's team began to question if

932
00:35:00,349 --> 00:34:58,440
maybe there was something else that

933
00:35:02,150 --> 00:35:00,359
could have explained these things

934
00:35:04,609 --> 00:35:02,160
questioning these fundamental

935
00:35:06,410 --> 00:35:04,619
assumptions about the model allowed them

936
00:35:08,810 --> 00:35:06,420
to tweak the model and try out different

937
00:35:11,150 --> 00:35:08,820
scenarios including dramatically

938
00:35:13,609 --> 00:35:11,160

increasing the speed of the Earth's spin

939

00:35:16,730 --> 00:35:13,619

in these scenarios with a fast spinning

940

00:35:19,430 --> 00:35:16,740

Earth they found something astounding

941

00:35:22,430 --> 00:35:19,440

Stewart and her team had discovered a

942

00:35:24,530 --> 00:35:22,440

new kind of astronomical object it took

943

00:35:26,450 --> 00:35:24,540

the team three years of analyzing the

944

00:35:28,550 --> 00:35:26,460

data to really understand what they were

945

00:35:30,530 --> 00:35:28,560

looking at and part of the reason for

946

00:35:31,910 --> 00:35:30,540

that goes back to the very definition of

947

00:35:34,010 --> 00:35:31,920

a planet itself

948

00:35:36,170 --> 00:35:34,020

as you'll recall one of the main

949

00:35:37,970 --> 00:35:36,180

qualifications for being a planet is

950

00:35:40,430 --> 00:35:37,980

that a body must be massive enough for

951
00:35:42,890 --> 00:35:40,440
its own gravity to make it round

952
00:35:44,750 --> 00:35:42,900
however Stewart's team found that

953
00:35:47,329 --> 00:35:44,760
immediately after an impact of this

954
00:35:49,069 --> 00:35:47,339
nature the young Earth would no longer

955
00:35:51,770 --> 00:35:49,079
have had a surface

956
00:35:53,510 --> 00:35:51,780
with the entire planet vaporized the

957
00:35:55,670 --> 00:35:53,520
planet would have been made entirely of

958
00:35:58,490 --> 00:35:55,680
gas they got progressively more dense

959
00:36:01,069 --> 00:35:58,500
with depth essentially the Earth would

960
00:36:03,890 --> 00:36:01,079
have been just like Jupiter and as this

961
00:36:06,890 --> 00:36:03,900
hot fast spinning gaseous body continued

962
00:36:08,750 --> 00:36:06,900
its spin the equator would get wider and

963
00:36:11,810 --> 00:36:08,760

wider until it pushed Beyond a

964

00:36:15,230 --> 00:36:11,820

spheroidal shape and became a disc

965

00:36:17,930 --> 00:36:15,240

new object is no longer a planet but it

966

00:36:20,030 --> 00:36:17,940

is made of planets the model showed that

967

00:36:22,130 --> 00:36:20,040

in just a few hours the materials of

968

00:36:24,109 --> 00:36:22,140

both the earth and the mars-sized object

969

00:36:26,810 --> 00:36:24,119

that it collided with would have been

970

00:36:28,970 --> 00:36:26,820

entirely mixed together finally giving

971

00:36:31,010 --> 00:36:28,980

us an explanation for how the Moon and

972

00:36:33,589 --> 00:36:31,020

the Earth could share the same genetic

973

00:36:35,810 --> 00:36:33,599

code they named this new astronomical

974

00:36:38,270 --> 00:36:35,820

object a cenestia

975

00:36:39,950 --> 00:36:38,280

okay but wait that's a nice story and

976

00:36:41,810 --> 00:36:39,960

all but I'm sure some of you are

977

00:36:43,069 --> 00:36:41,820

wondering how does this explain how the

978

00:36:45,050 --> 00:36:43,079

moon could be older than the earth

979

00:36:47,450 --> 00:36:45,060

wouldn't this mean that they were

980

00:36:48,710 --> 00:36:47,460

technically formed or rather reformed at

981

00:36:50,210 --> 00:36:48,720

the same time

982

00:36:52,190 --> 00:36:50,220

there's actually another possible

983

00:36:54,109 --> 00:36:52,200

explanation for that and it all comes

984

00:36:56,390 --> 00:36:54,119

down to the geological activity of the

985

00:36:58,849 --> 00:36:56,400

Moon although we used to think that the

986

00:37:01,310 --> 00:36:58,859

moon had no geological activity we now

987

00:37:03,109 --> 00:37:01,320

know that isn't the case however the

988

00:37:05,210 --> 00:37:03,119

amount of geological activity on the

989

00:37:07,010 --> 00:37:05,220

moon is extremely limited when compared

990

00:37:09,170 --> 00:37:07,020

to what we see on Earth

991

00:37:11,450 --> 00:37:09,180

due to volcanic activity and plate

992

00:37:13,430 --> 00:37:11,460

tectonics the surface of the Earth is

993

00:37:15,710 --> 00:37:13,440

basically turned over over the course of

994

00:37:17,750 --> 00:37:15,720

hundreds of millions of years whereas

995

00:37:20,450 --> 00:37:17,760

the changes on the moon on the same

996

00:37:22,310 --> 00:37:20,460

timeline are much more subtle so this

997

00:37:23,990 --> 00:37:22,320

could be the explanation for why the

998

00:37:25,550 --> 00:37:24,000

rocks on the moon are older there are

999

00:37:28,190 --> 00:37:25,560

just older rocks still around to be

1000

00:37:30,230 --> 00:37:28,200

found it's too early to say for certain

1001
00:37:32,510 --> 00:37:30,240
if this new theory for the creation of

1002
00:37:34,370 --> 00:37:32,520
the moon will stand the test of time or

1003
00:37:36,950 --> 00:37:34,380
whether new emerging data will again

1004
00:37:39,650 --> 00:37:36,960
throw its Origins into question however

1005
00:37:42,290 --> 00:37:39,660
it does seem to tick most of the boxes

1006
00:37:43,730 --> 00:37:42,300
so should we feel silly for considering

1007
00:37:47,150 --> 00:37:43,740
that the moon might be an alien

1008
00:37:49,490 --> 00:37:47,160
superstructure I don't think so in fact

1009
00:37:51,589 --> 00:37:49,500
I'd argue that our wonder and curiosity

1010
00:37:54,349 --> 00:37:51,599
aren't mere child like Whimsy to be

1011
00:37:57,109 --> 00:37:54,359
subverted and grown out of they are our

1012
00:37:59,630 --> 00:37:57,119
most profound tools for discovery

1013
00:38:01,370 --> 00:37:59,640

in a TED talk about her Discovery Dr

1014

00:38:03,410 --> 00:38:01,380

Stewart said the following about the

1015

00:38:05,390 --> 00:38:03,420

process that allowed her and her team to

1016

00:38:08,690 --> 00:38:05,400

finally crack the mystery of the moon's

1017

00:38:10,990 --> 00:38:08,700

Origins quote what do you do when faced

1018

00:38:14,210 --> 00:38:11,000

with the unknown how do you even start

1019

00:38:16,609 --> 00:38:14,220

we questioned everything what is a

1020

00:38:19,130 --> 00:38:16,619

planet when is a planet no longer a

1021

00:38:21,829 --> 00:38:19,140

planet anymore we played with these new

1022

00:38:24,530 --> 00:38:21,839

ideas we had to get rid of our old ideas

1023

00:38:26,450 --> 00:38:24,540

and by playing I could throw away all of

1024

00:38:30,230 --> 00:38:26,460

the data all of the rules of the real

1025

00:38:32,270 --> 00:38:30,240

world and free my mind to explore and by

1026

00:38:34,730 --> 00:38:32,280

making a mental space where I could try

1027

00:38:37,490 --> 00:38:34,740

out outrageous ideas and then bring them

1028

00:38:40,730 --> 00:38:37,500

back into the real world to test them I

1029

00:38:43,010 --> 00:38:40,740

could learn and by playing we learned so

1030

00:38:45,170 --> 00:38:43,020

much unquote

1031

00:38:47,210 --> 00:38:45,180

so I don't think that we should ever

1032

00:38:49,069 --> 00:38:47,220

allow ourselves to be shamed for being

1033

00:38:51,050 --> 00:38:49,079

willing to throw out the rules and

1034

00:38:53,750 --> 00:38:51,060

simply play with ideas

1035

00:38:56,450 --> 00:38:53,760

speculation is not the same as belief

1036

00:38:59,030 --> 00:38:56,460

and entertaining an idea is not the same

1037

00:39:01,670 --> 00:38:59,040

as internalizing it and the willingness

1038

00:39:04,730 --> 00:39:01,680

to color Outside the Lines try on new

1039

00:39:06,650 --> 00:39:04,740

ideas and consider all possibilities no

1040

00:39:10,910 --> 00:39:06,660

matter how ridiculous they may seem

1041

00:39:13,010 --> 00:39:10,920

isn't just a virtue but is 100 necessary

1042

00:39:14,450 --> 00:39:13,020

to the rigorous application of the

1043

00:39:16,790 --> 00:39:14,460

scientific method

1044

00:39:18,890 --> 00:39:16,800

a problem that we've encountered many

1045

00:39:20,750 --> 00:39:18,900

times on this journey is that all too

1046

00:39:22,849 --> 00:39:20,760

often when confronted with a data point

1047

00:39:25,370 --> 00:39:22,859

that breaks the current Paradigm and

1048

00:39:28,069 --> 00:39:25,380

hints its strange new possibilities that

1049

00:39:29,930 --> 00:39:28,079

we're told simply can't be possible it

1050

00:39:32,089 --> 00:39:29,940

is the Instinct of the mainstream to

1051
00:39:34,130 --> 00:39:32,099
Simply ignore that data point and to

1052
00:39:36,170 --> 00:39:34,140
treat with derision anyone who dares to

1053
00:39:36,950 --> 00:39:36,180
question what the Rogue Data Point might

1054
00:39:39,589 --> 00:39:36,960
mean

1055
00:39:41,510 --> 00:39:39,599
the reality is that we went for decades

1056
00:39:44,089 --> 00:39:41,520
without a workable model for the origins

1057
00:39:46,010 --> 00:39:44,099
of the Moon the hollow Moon Theory might

1058
00:39:49,370 --> 00:39:46,020
sound ridiculous to you and that's

1059
00:39:51,109 --> 00:39:49,380
absolutely Fair however unlike other

1060
00:39:53,510 --> 00:39:51,119
theories that were being presented by

1061
00:39:55,849 --> 00:39:53,520
the mainstream at the time that theory

1062
00:39:57,349 --> 00:39:55,859
at least had the virtue of being able to

1063
00:39:59,810 --> 00:39:57,359

explain some of the moon's more

1064

00:40:01,550 --> 00:39:59,820

perplexing anomalies instead of Simply

1065

00:40:03,770 --> 00:40:01,560

brushing them under the rug

1066

00:40:06,589 --> 00:40:03,780

and who are we to say what is ridiculous

1067

00:40:08,630 --> 00:40:06,599

and what isn't the idea that giant

1068

00:40:10,970 --> 00:40:08,640

dragon-like lizards once roamed the

1069

00:40:13,430 --> 00:40:10,980

Earth but the universe isn't just

1070

00:40:15,470 --> 00:40:13,440

expanding but accelerating

1071

00:40:17,569 --> 00:40:15,480

that the mere Act of observing an event

1072

00:40:19,970 --> 00:40:17,579

can change its outcome

1073

00:40:22,069 --> 00:40:19,980

all of these are scientific realities

1074

00:40:23,810 --> 00:40:22,079

that would have once been considered to

1075

00:40:26,510 --> 00:40:23,820

be preposterous

1076

00:40:29,089 --> 00:40:26,520

true scientific rigor requires the

1077

00:40:30,950 --> 00:40:29,099

intellectual courage to always recognize

1078

00:40:34,150 --> 00:40:30,960

that the horizons of your understanding

1079

00:40:36,650 --> 00:40:34,160

do not constitute the limits of what is

1080

00:40:38,450 --> 00:40:36,660

imagination and speculation are

1081

00:40:41,390 --> 00:40:38,460

necessary ingredients for scientific

1082

00:40:44,150 --> 00:40:41,400

breakthroughs and cynicism though

1083

00:40:44,650 --> 00:40:44,160

fashionable will always be the enemy of

1084

00:41:12,849 --> 00:40:44,660

progress

1085

00:41:17,510 --> 00:41:15,050

thank you

1086

00:41:20,150 --> 00:41:17,520

and now it's finally time to talk about

1087

00:41:21,770 --> 00:41:20,160

the moon landing it's easy to speculate

1088

00:41:26,390 --> 00:41:21,780

about the Moon from down here on Earth

1089

00:41:29,210 --> 00:41:26,400

but between 1969 and 1972 12 human

1090

00:41:31,250 --> 00:41:29,220

beings actually walked on its surface

1091

00:41:34,130 --> 00:41:31,260

what did they find on that Barren world

1092

00:41:36,589 --> 00:41:34,140

and what might they be hiding

1093

00:41:38,750 --> 00:41:36,599

and as always when treading new ground

1094

00:41:40,910 --> 00:41:38,760

on our journey down the UFO Rabbit Hole

1095

00:41:42,710 --> 00:41:40,920

I like to stop to take a second to

1096

00:41:45,170 --> 00:41:42,720

recall what Tom DeLong has said about

1097

00:41:46,670 --> 00:41:45,180

the topic at hand if you're wondering

1098

00:41:49,310 --> 00:41:46,680

why we care about what the guy from

1099

00:41:50,930 --> 00:41:49,320

Blink 182 thinks I strongly recommend

1100

00:41:53,450 --> 00:41:50,940

that you go back and listen to episodes

1101
00:41:54,829 --> 00:41:53,460
6 and 7 in the Mr DeLong Goes to

1102
00:41:57,530 --> 00:41:54,839
Washington series

1103
00:41:59,210 --> 00:41:57,540
as most of you will recall the long had

1104
00:42:00,349 --> 00:41:59,220
some very interesting thoughts on the

1105
00:42:02,510 --> 00:42:00,359
moon landing

1106
00:42:03,950 --> 00:42:02,520
his assertion has been that all of the

1107
00:42:05,750 --> 00:42:03,960
conspiracy theories about the moon

1108
00:42:07,550 --> 00:42:05,760
landing being faked have actually been

1109
00:42:09,589 --> 00:42:07,560
the result of a massive misinformation

1110
00:42:12,290 --> 00:42:09,599
campaign on the part of the United

1111
00:42:14,030 --> 00:42:12,300
States government according to DeLong

1112
00:42:16,130 --> 00:42:14,040
the conspiracy theory that the moon

1113
00:42:18,050 --> 00:42:16,140

landing was faked was created by the

1114

00:42:19,609 --> 00:42:18,060

government to keep people from asking

1115

00:42:22,609 --> 00:42:19,619

the question that they didn't want them

1116

00:42:25,069 --> 00:42:22,619

to ask which is what did the Apollo

1117

00:42:27,770 --> 00:42:25,079

Astronauts find on the moon

1118

00:42:29,630 --> 00:42:27,780

and of course the fact that Tom DeLong

1119

00:42:32,270 --> 00:42:29,640

believes it doesn't necessarily mean

1120

00:42:34,910 --> 00:42:32,280

that it's true however we have to

1121

00:42:36,470 --> 00:42:34,920

Grapple with the fact that one we have

1122

00:42:38,210 --> 00:42:36,480

solid proof that de long was being

1123

00:42:39,710 --> 00:42:38,220

briefed by high-ranking members of the

1124

00:42:41,870 --> 00:42:39,720

military and intelligence communities

1125

00:42:45,410 --> 00:42:41,880

who would be the most likely to have

1126
00:42:47,390 --> 00:42:45,420
information about UFOs and two these

1127
00:42:50,150 --> 00:42:47,400
same individuals came forward publicly

1128
00:42:52,310 --> 00:42:50,160
alongside DeLong and if never publicly

1129
00:42:53,270 --> 00:42:52,320
disavowed him or directly disputed his

1130
00:42:56,030 --> 00:42:53,280
claims

1131
00:42:58,849 --> 00:42:56,040
so we have to assume that at the very

1132
00:43:00,170 --> 00:42:58,859
least some of what he is saying has some

1133
00:43:02,089 --> 00:43:00,180
truth to it

1134
00:43:03,470 --> 00:43:02,099
so could Tom be right about the moon

1135
00:43:05,390 --> 00:43:03,480
landing

1136
00:43:07,430 --> 00:43:05,400
it turns out that there is a story in

1137
00:43:10,430 --> 00:43:07,440
the UFO lore that supports this Theory

1138
00:43:12,650 --> 00:43:10,440

the story goes something like this

1139

00:43:14,710 --> 00:43:12,660

when Neil Armstrong and Buzz Aldrin

1140

00:43:17,390 --> 00:43:14,720

walked on the moon they were not alone

1141

00:43:20,150 --> 00:43:17,400

as they stepped onto the barren lunar

1142

00:43:22,670 --> 00:43:20,160

surface they saw giant craft near a

1143

00:43:25,069 --> 00:43:22,680

crater in the distance not wanting to

1144

00:43:26,990 --> 00:43:25,079

alarm the public Armstrong switched over

1145

00:43:28,970 --> 00:43:27,000

to a medical channel to communicate the

1146

00:43:32,089 --> 00:43:28,980

message back to NASA

1147

00:43:34,190 --> 00:43:32,099

however back on Earth some radio hams

1148

00:43:36,950 --> 00:43:34,200

with their own VHF receiving facilities

1149

00:43:39,050 --> 00:43:36,960

that bypass NASA's broadcasting Outlets

1150

00:43:40,250 --> 00:43:39,060

allegedly picked up the following

1151
00:43:43,670 --> 00:43:40,260
Exchange

1152
00:43:44,510 --> 00:43:43,680
Apollo 11. they're here they're watching

1153
00:43:47,510 --> 00:43:44,520
us

1154
00:43:49,609 --> 00:43:47,520
NASA what's there Mission Control

1155
00:43:52,970 --> 00:43:49,619
calling Apollo 11.

1156
00:43:56,089 --> 00:43:52,980
Apollo 11. these babies are huge sir

1157
00:43:58,550 --> 00:43:56,099
enormous oh my God you wouldn't believe

1158
00:44:00,770 --> 00:43:58,560
it I'm telling you there are other

1159
00:44:02,510 --> 00:44:00,780
spacecraft out here lined up on the far

1160
00:44:06,030 --> 00:44:02,520
side of the crater Edge

1161
00:44:14,930 --> 00:44:06,040
they're on the moon watching us

1162
00:44:19,849 --> 00:44:17,930
so could this actually be true could the

1163
00:44:21,890 --> 00:44:19,859

Apollo 11 astronauts really have made

1164

00:44:23,990 --> 00:44:21,900

contact with a non-human intelligence

1165

00:44:25,849 --> 00:44:24,000

that was watching them on the moon

1166

00:44:27,130 --> 00:44:25,859

if so it would make sense that the

1167

00:44:29,809 --> 00:44:27,140

government would want to cover that up

1168

00:44:31,970 --> 00:44:29,819

an occupied moon is one of the most

1169

00:44:33,349 --> 00:44:31,980

objectively terrifying ideas that one

1170

00:44:35,569 --> 00:44:33,359

can conjure up

1171

00:44:38,510 --> 00:44:35,579

the implications for Humanity would

1172

00:44:40,970 --> 00:44:38,520

almost certainly not be great

1173

00:44:44,210 --> 00:44:40,980

and might this explain why after landing

1174

00:44:46,490 --> 00:44:44,220

there six times between 1969 and 1972

1175

00:44:48,170 --> 00:44:46,500

and despite the near Universal

1176

00:44:49,970 --> 00:44:48,180

assumption that the Apollo missions

1177

00:44:52,370 --> 00:44:49,980

would lead to the eventual colonization

1178

00:44:55,130 --> 00:44:52,380

and development of the Moon though we

1179

00:44:57,829 --> 00:44:55,140

haven't returned to the Moon in 50 years

1180

00:44:59,930 --> 00:44:57,839

perhaps but it's impossible to know for

1181

00:45:02,089 --> 00:44:59,940

sure what's frustrating about this story

1182

00:45:04,970 --> 00:45:02,099

is that it's entirely based upon hearsay

1183

00:45:06,650 --> 00:45:04,980

both private citizens and alleged former

1184

00:45:08,630 --> 00:45:06,660

members of NASA's communication team

1185

00:45:09,890 --> 00:45:08,640

have come forward at various times to

1186

00:45:12,349 --> 00:45:09,900

confirm that this exchange really

1187

00:45:14,089 --> 00:45:12,359

happened but without a recording or some

1188

00:45:16,309 --> 00:45:14,099

other way to verify that this actually

1189

00:45:18,770 --> 00:45:16,319

happened it's impossible to make a call

1190

00:45:21,290 --> 00:45:18,780

on this one one way or the other it's a

1191

00:45:22,849 --> 00:45:21,300

cool story but we need more evidence to

1192

00:45:25,790 --> 00:45:22,859

consider it to be anything more than

1193

00:45:27,710 --> 00:45:25,800

just a story I will say though that this

1194

00:45:30,230 --> 00:45:27,720

story is a hard one to walk away from

1195

00:45:32,150 --> 00:45:30,240

entirely although There Is No Smoking

1196

00:45:33,829 --> 00:45:32,160

Gun to prove that the Apollo Astronauts

1197

00:45:36,109 --> 00:45:33,839

encountered a non-human intelligence

1198

00:45:38,510 --> 00:45:36,119

while on the moon this is one of those

1199

00:45:40,190 --> 00:45:38,520

cases where there is so much smoke that

1200

00:45:42,950 --> 00:45:40,200

it can sometimes feel impossible that

1201
00:45:45,470 --> 00:45:42,960
there isn't some sort of a fire and that

1202
00:45:48,530 --> 00:45:45,480
smoke comes in the form of the words and

1203
00:45:50,930 --> 00:45:48,540
actions of the astronauts themselves

1204
00:45:53,270 --> 00:45:50,940
to me one of the most haunting and

1205
00:45:55,069 --> 00:45:53,280
compelling images in all of the UFO lore

1206
00:45:57,170 --> 00:45:55,079
is that of the press conference that

1207
00:45:59,270 --> 00:45:57,180
occurred with the Apollo 11 astronauts

1208
00:46:01,550 --> 00:45:59,280
after they returned to Earth

1209
00:46:03,589 --> 00:46:01,560
while in many of their pre-launch media

1210
00:46:05,750 --> 00:46:03,599
appearances the Apollo team of Neil

1211
00:46:08,510 --> 00:46:05,760
Armstrong Buzz Aldrin and Michael

1212
00:46:10,849 --> 00:46:08,520
Collins seemed jovial and excited about

1213
00:46:13,130 --> 00:46:10,859

their mission the post-flight press

1214

00:46:14,510 --> 00:46:13,140

conference struck a decidedly different

1215

00:46:16,550 --> 00:46:14,520

tone

1216

00:46:18,349 --> 00:46:16,560

rather than seeming proud and

1217

00:46:20,990 --> 00:46:18,359

enthusiastic about their history-making

1218

00:46:23,870 --> 00:46:21,000

trip to the moon the three men seemed

1219

00:46:26,030 --> 00:46:23,880

subdued in somber they seem weirdly

1220

00:46:28,670 --> 00:46:26,040

disconnected and uncomfortable even

1221

00:46:30,230 --> 00:46:28,680

angry and resentful at times the words

1222

00:46:32,450 --> 00:46:30,240

coming out of their mouths are the right

1223

00:46:36,109 --> 00:46:32,460

ones but something about the whole press

1224

00:46:37,670 --> 00:46:36,119

conference just feels off many people

1225

00:46:39,770 --> 00:46:37,680

have pointed to this press conference

1226

00:46:41,750 --> 00:46:39,780

over the years as proof that the Apollo

1227

00:46:44,450 --> 00:46:41,760

11 team encountered something on the

1228

00:46:47,030 --> 00:46:44,460

moon that terrified them something that

1229

00:46:49,490 --> 00:46:47,040

they were told to keep quiet about and I

1230

00:46:51,230 --> 00:46:49,500

have to say when I watch the video it's

1231

00:46:53,930 --> 00:46:51,240

very easy to see where they get that

1232

00:46:56,450 --> 00:46:53,940

impression I am no expert on human

1233

00:46:59,390 --> 00:46:56,460

psychology or body language and I don't

1234

00:47:01,970 --> 00:46:59,400

claim to be but in my admittedly highly

1235

00:47:04,010 --> 00:47:01,980

subjective opinion when I watched that

1236

00:47:05,510 --> 00:47:04,020

press conference it's hard to not feel

1237

00:47:07,670 --> 00:47:05,520

like what you're looking at in the

1238

00:47:11,089 --> 00:47:07,680

behavior of the Apollo Astronauts is the

1239

00:47:13,010 --> 00:47:11,099

aftermath of significant trauma in short

1240

00:47:13,010 --> 00:47:13,970

they look like they've been through some

1241

00:47:19,130 --> 00:47:17,450

and to be fair they had even if we were

1242

00:47:20,930 --> 00:47:19,140

to take the possibility of an encounter

1243

00:47:23,270 --> 00:47:20,940

with a non-human intelligence off the

1244

00:47:24,589 --> 00:47:23,280

table what the Apollo Astronauts went

1245

00:47:26,329 --> 00:47:24,599

through is something that the vast

1246

00:47:29,270 --> 00:47:26,339

majority of humans that have ever lived

1247

00:47:31,309 --> 00:47:29,280

could scarcely even imagine leaving the

1248

00:47:33,230 --> 00:47:31,319

Earth and entering the endless black

1249

00:47:35,510 --> 00:47:33,240

vacuum of space

1250

00:47:37,609 --> 00:47:35,520

the profundity of that experience is as

1251

00:47:40,309 --> 00:47:37,619

hard to overstate as it is for us to

1252

00:47:42,829 --> 00:47:40,319

truly conceptualize we spend every

1253

00:47:45,050 --> 00:47:42,839

second of our lives here on Earth it is

1254

00:47:46,970 --> 00:47:45,060

our context in the stage upon which all

1255

00:47:49,130 --> 00:47:46,980

of human history as we know it has

1256

00:47:51,530 --> 00:47:49,140

unfolded and for even the most

1257

00:47:53,510 --> 00:47:51,540

well-traveled the Earth is so large that

1258

00:47:55,309 --> 00:47:53,520

any one person can only ever hope to see

1259

00:47:57,290 --> 00:47:55,319

a tiny fraction of it

1260

00:47:59,630 --> 00:47:57,300

so what would it mean to be able to see

1261

00:48:01,490 --> 00:47:59,640

the Earth from a distance to look out

1262

00:48:03,349 --> 00:48:01,500

the window and to see the fragility of

1263

00:48:05,630 --> 00:48:03,359

the planet that is home to everyone that

1264

00:48:08,630 --> 00:48:05,640

you've ever known to everyone that has

1265

00:48:10,490 --> 00:48:08,640

ever lived to see the delicate Whisper

1266

00:48:12,589 --> 00:48:10,500

of the atmosphere that envelops this

1267

00:48:14,930 --> 00:48:12,599

green and blue world and how little

1268

00:48:17,630 --> 00:48:14,940

separates this gleaming Jewel from the

1269

00:48:20,210 --> 00:48:17,640

infinite Blackness of space

1270

00:48:22,250 --> 00:48:20,220

I'd argue that it's impossible for any

1271

00:48:23,750 --> 00:48:22,260

of us to truly grasp what that

1272

00:48:26,510 --> 00:48:23,760

experience would be like without having

1273

00:48:28,730 --> 00:48:26,520

lived it and because this experience is

1274

00:48:30,349 --> 00:48:28,740

so foreign to us I don't know that we

1275

00:48:32,329 --> 00:48:30,359

can necessarily make assumptions about

1276

00:48:34,730 --> 00:48:32,339

the mental state of the astronauts after

1277

00:48:36,109 --> 00:48:34,740

their return no matter how tempting it

1278

00:48:38,390 --> 00:48:36,119

may be to do so

1279

00:48:40,250 --> 00:48:38,400

it could be that the strange demeanor of

1280

00:48:41,990 --> 00:48:40,260

the Apollo 11 astronauts at the

1281

00:48:43,430 --> 00:48:42,000

post-flight press conference was due to

1282

00:48:45,710 --> 00:48:43,440

the stress of going through such an

1283

00:48:47,329 --> 00:48:45,720

overwhelming experience

1284

00:48:48,829 --> 00:48:47,339

and there's another point that I think

1285

00:48:50,809 --> 00:48:48,839

is important to make about the press

1286

00:48:52,430 --> 00:48:50,819

conference which is that it didn't

1287

00:48:54,890 --> 00:48:52,440

happen immediately following the

1288

00:48:59,569 --> 00:48:54,900

astronauts return to Earth on July 24th

1289

00:49:01,250 --> 00:48:59,579

1969 but 19 days later on August 12th

1290

00:49:03,290 --> 00:49:01,260

most of the time when I hear people

1291

00:49:04,609 --> 00:49:03,300

reference this press conference it seems

1292

00:49:05,990 --> 00:49:04,619

like they're making the assumption that

1293

00:49:08,510 --> 00:49:06,000

it happened within a day or so after

1294

00:49:11,210 --> 00:49:08,520

Splashdown when in fact it happened

1295

00:49:13,490 --> 00:49:11,220

nearly three weeks later it doesn't make

1296

00:49:15,170 --> 00:49:13,500

their behavior any less strange but it

1297

00:49:16,790 --> 00:49:15,180

does significantly increase the

1298

00:49:18,530 --> 00:49:16,800

possibility that their demeanor was in

1299

00:49:20,270 --> 00:49:18,540

response to something other than their

1300

00:49:22,970 --> 00:49:20,280

experience in space

1301
00:49:25,130 --> 00:49:22,980
so while the Apollo 11 press conference

1302
00:49:27,829 --> 00:49:25,140
is certainly compelling it hardly

1303
00:49:30,230 --> 00:49:27,839
qualifies as proof of anything however

1304
00:49:32,329 --> 00:49:30,240
this press conference hardly represents

1305
00:49:34,130 --> 00:49:32,339
the only time that the words and actions

1306
00:49:35,450 --> 00:49:34,140
of former astronauts have seemed to hint

1307
00:49:37,490 --> 00:49:35,460
that there might have been something

1308
00:49:40,730 --> 00:49:37,500
more going on during the Apollo missions

1309
00:49:43,309 --> 00:49:40,740
than was ever admitted to the public

1310
00:49:45,109 --> 00:49:43,319
we've spoken before about Ross coltheart

1311
00:49:47,089 --> 00:49:45,119
the award-winning investigative

1312
00:49:48,890 --> 00:49:47,099
journalist and author of The phenomenal

1313
00:49:51,530 --> 00:49:48,900

book in plain sight

1314

00:49:53,630 --> 00:49:51,540

cold heart Sterling reputation as a

1315

00:49:55,430 --> 00:49:53,640

hard-nosed journalist who is unafraid to

1316

00:49:57,530 --> 00:49:55,440

tackle even the most daunting stories

1317

00:49:59,930 --> 00:49:57,540

has helped to bring a new level of

1318

00:50:01,370 --> 00:49:59,940

credibility to the UFO topic through his

1319

00:50:03,650 --> 00:50:01,380

investigations

1320

00:50:05,450 --> 00:50:03,660

listen to what he had to say on an

1321

00:50:07,849 --> 00:50:05,460

episode of theories of everything with

1322

00:50:09,410 --> 00:50:07,859

Kurt J mungle when asked about the moon

1323

00:50:13,510 --> 00:50:09,420

landing

1324

00:50:18,170 --> 00:50:15,950

I was watching this documentary by red

1325

00:50:19,609 --> 00:50:18,180

red panda koala and I'll link that in

1326
00:50:21,589 --> 00:50:19,619
the description it's a great documentary

1327
00:50:23,150 --> 00:50:21,599
on Tom DeLonge and he was saying that

1328
00:50:25,010 --> 00:50:23,160
what happened with

1329
00:50:28,010 --> 00:50:25,020
the US that went to the moon that

1330
00:50:29,870 --> 00:50:28,020
afterward the U.S was involved in

1331
00:50:32,210 --> 00:50:29,880
disinformation saying that we didn't go

1332
00:50:34,970 --> 00:50:32,220
to the moon so that people can

1333
00:50:37,550 --> 00:50:34,980
squabble over who over whether or not

1334
00:50:39,770 --> 00:50:37,560
the moon landing was real and then not

1335
00:50:41,990 --> 00:50:39,780
ask the question well what did they find

1336
00:50:43,970 --> 00:50:42,000
on the moon and apparently there was

1337
00:50:46,550 --> 00:50:43,980
something interesting so I'm curious

1338
00:50:49,609 --> 00:50:46,560

what was found on the moon

1339

00:50:51,890 --> 00:50:49,619

I don't die but what I can tell you is

1340

00:50:54,049 --> 00:50:51,900

that Edgar Mitchell told

1341

00:50:56,630 --> 00:50:54,059

my friend the spaceman who was one of

1342

00:50:58,970 --> 00:50:56,640

Edgar's closest personal friends

1343

00:51:01,130 --> 00:50:58,980

that he believed that every Apollo

1344

00:51:03,349 --> 00:51:01,140

mission was followed at

1345

00:51:05,750 --> 00:51:03,359

observed while there

1346

00:51:08,270 --> 00:51:05,760

and followed back

1347

00:51:10,190 --> 00:51:08,280

and Edgar even told his friend that when

1348

00:51:12,470 --> 00:51:10,200

he was on the moon

1349

00:51:15,589 --> 00:51:12,480

in the course of coming in flying the

1350

00:51:17,569 --> 00:51:15,599

letter module into a landing position

1351

00:51:19,069 --> 00:51:17,579

on I think it's the Sea of Morris I

1352

00:51:22,010 --> 00:51:19,079

can't remember again the precise name

1353

00:51:23,690 --> 00:51:22,020

but um he claimed to my friends that he

1354

00:51:25,370 --> 00:51:23,700

saw an object

1355

00:51:26,990 --> 00:51:25,380

which

1356

00:51:30,230 --> 00:51:27,000

funnily enough

1357

00:51:32,030 --> 00:51:30,240

when you actually look at the the film

1358

00:51:34,130 --> 00:51:32,040

The NASA film of the learner module

1359

00:51:36,890 --> 00:51:34,140

Landing if you look where he says he saw

1360

00:51:38,630 --> 00:51:36,900

the object you can see something that's

1361

00:51:40,549 --> 00:51:38,640

anomalous

1362

00:51:41,930 --> 00:51:40,559

but he says that when they landed and he

1363

00:51:44,150 --> 00:51:41,940

got out of the leader my children was

1364

00:51:45,589 --> 00:51:44,160

doing his walk he looked back across to

1365

00:51:47,089 --> 00:51:45,599

see if he could see that object and he

1366

00:51:49,069 --> 00:51:47,099

should have been able to see it but he

1367

00:51:51,710 --> 00:51:49,079

couldn't see it anymore

1368

00:51:53,210 --> 00:51:51,720

so echovital's not the only one he's not

1369

00:51:54,829 --> 00:51:53,220

the only astronaut and people really

1370

00:51:57,589 --> 00:51:54,839

should take a much closer look at this

1371

00:52:00,170 --> 00:51:57,599

he's not the only person who said that

1372

00:52:02,450 --> 00:52:00,180

he's seen stuff a lot of astronauts have

1373

00:52:04,549 --> 00:52:02,460

reported seeing anomalous phenomena but

1374

00:52:06,410 --> 00:52:04,559

frankly if there is stuff on the moon I

1375

00:52:08,870 --> 00:52:06,420

I just don't know I'm not privy to any

1376

00:52:10,069 --> 00:52:08,880

secret information nobody's a briefing

1377

00:52:12,349 --> 00:52:10,079

about it but

1378

00:52:14,089 --> 00:52:12,359

certainly astronauts have reported

1379

00:52:16,970 --> 00:52:14,099

seeing enormous phenomena of there for

1380

00:52:18,890 --> 00:52:16,980

years and I I don't think NASA has given

1381

00:52:20,990 --> 00:52:18,900

a full accounting of all of the

1382

00:52:23,390 --> 00:52:21,000

anomalous objects that have been seen

1383

00:52:26,390 --> 00:52:23,400

from the space station or indeed from

1384

00:52:28,309 --> 00:52:26,400

the Gemini or Apollo capsules

1385

00:52:30,650 --> 00:52:28,319

crazy right

1386

00:52:32,870 --> 00:52:30,660

and though I have no real way to confirm

1387

00:52:35,270 --> 00:52:32,880

coldheart's claims about what Apollo 14

1388

00:52:37,150 --> 00:52:35,280

astronaut and sixth man to walk on the

1389

00:52:39,890 --> 00:52:37,160

moon Edgar Mitchell said to his friend

1390

00:52:41,930 --> 00:52:39,900

there are plenty of publicly documented

1391

00:52:43,069 --> 00:52:41,940

instances of Mitchell making similar

1392

00:52:46,910 --> 00:52:43,079

claims

1393

00:52:49,490 --> 00:52:46,920

on April 19 1996 in an interview with

1394

00:52:51,349 --> 00:52:49,500

Dateline NBC Mitchell said that he had

1395

00:52:53,089 --> 00:52:51,359

met with officials from three different

1396

00:52:54,309 --> 00:52:53,099

countries who claimed to have had

1397

00:52:56,990 --> 00:52:54,319

personal encounters with

1398

00:52:59,870 --> 00:52:57,000

extraterrestrials he offered his opinion

1399

00:53:02,390 --> 00:52:59,880

the evidence for such alien contact was

1400

00:53:03,650 --> 00:53:02,400

very strong and had been classified by

1401

00:53:06,349 --> 00:53:03,660

governments who were covering up

1402

00:53:08,750 --> 00:53:06,359

visitations and the existence of aliens

1403

00:53:10,430 --> 00:53:08,760

beings bodies in places such as Roswell

1404

00:53:12,890 --> 00:53:10,440

New Mexico

1405

00:53:15,049 --> 00:53:12,900

in 2004 Mitchell told the Saint

1406

00:53:17,390 --> 00:53:15,059

Petersburg times that a cabal of

1407

00:53:19,670 --> 00:53:17,400

insiders in the U.S government were

1408

00:53:21,710 --> 00:53:19,680

studying recovered alien bodies and that

1409

00:53:24,589 --> 00:53:21,720

this group had stopped briefing U.S

1410

00:53:27,530 --> 00:53:24,599

presidents after John F Kennedy he said

1411

00:53:29,930 --> 00:53:27,540

we all know that UFOs are real now the

1412

00:53:33,109 --> 00:53:29,940

question is where they come from

1413

00:53:35,569 --> 00:53:33,119

on July 23 2008 Edgar Mitchell was

1414

00:53:37,609 --> 00:53:35,579

interviewed on karang radio in this

1415

00:53:39,770 --> 00:53:37,619

interview Mitchell claimed the Roswell

1416

00:53:42,230 --> 00:53:39,780

crash was real and that aliens have

1417

00:53:44,089 --> 00:53:42,240

contacted humans several times but that

1418

00:53:46,849 --> 00:53:44,099

governments have hidden the truth for 60

1419

00:53:48,589 --> 00:53:46,859

years stating I happen to have been

1420

00:53:50,390 --> 00:53:48,599

privileged enough to be in on the fact

1421

00:53:53,510 --> 00:53:50,400

that we've been visited on this planet

1422

00:53:56,210 --> 00:53:53,520

and the UFO phenomenon is real

1423

00:53:57,730 --> 00:53:56,220

in 2015 Mitchell said in an interview

1424

00:53:59,690 --> 00:53:57,740

with the Daily Mirror that

1425

00:54:01,430 --> 00:53:59,700

extraterrestrials had been attempting to

1426
00:54:04,430 --> 00:54:01,440
keep us from going to war with Russia

1427
00:54:06,290 --> 00:54:04,440
and help create peace on Earth he also

1428
00:54:08,390 --> 00:54:06,300
said that White Sands was a testing

1429
00:54:09,950 --> 00:54:08,400
ground for Atomic weapons and that's

1430
00:54:11,870 --> 00:54:09,960
what the extraterrestrials were

1431
00:54:13,910 --> 00:54:11,880
interested in they wanted to know about

1432
00:54:15,710 --> 00:54:13,920
our military capabilities

1433
00:54:17,569 --> 00:54:15,720
and Edgar Mitchell isn't the only

1434
00:54:19,430 --> 00:54:17,579
astronaut who's made claims about the

1435
00:54:22,670 --> 00:54:19,440
existence of UFOs

1436
00:54:24,530 --> 00:54:22,680
in September 1999 Gordon Cooper the

1437
00:54:26,750 --> 00:54:24,540
pilot of the last and longest Mercury

1438
00:54:29,569 --> 00:54:26,760

space flight appeared on the radio show

1439

00:54:31,549 --> 00:54:29,579

coast to coast in that interview Cooper

1440

00:54:33,829 --> 00:54:31,559

actually denied a long-standing report

1441

00:54:35,770 --> 00:54:33,839

that had been repeated over the years by

1442

00:54:38,750 --> 00:54:35,780

various well-respected ufologists

1443

00:54:41,450 --> 00:54:38,760

including Jay Allen heineck and Jacques

1444

00:54:43,490 --> 00:54:41,460

filet that he saw a greenish object with

1445

00:54:47,510 --> 00:54:43,500

a red tail move past his Mercury 9

1446

00:54:49,130 --> 00:54:47,520

spacecraft in 1963. no somebody made a

1447

00:54:51,710 --> 00:54:49,140

lot of money selling lies on that one

1448

00:54:53,690 --> 00:54:51,720

Cooper told host Art Bell it was totally

1449

00:54:56,270 --> 00:54:53,700

untrue sorry to say

1450

00:54:58,190 --> 00:54:56,280

however the retired Air Force Colonel

1451
00:55:00,890 --> 00:54:58,200
who once lectured the United Nations on

1452
00:55:02,750 --> 00:55:00,900
the reality of UFOs made it clear that

1453
00:55:04,849 --> 00:55:02,760
he held an unshakable belief in

1454
00:55:07,730 --> 00:55:04,859
extraterrestrial intelligence thanks

1455
00:55:09,290 --> 00:55:07,740
largely to a personal experience he told

1456
00:55:11,870 --> 00:55:09,300
Belle about an encounter which took

1457
00:55:13,849 --> 00:55:11,880
place over Germany in the early 1950s in

1458
00:55:16,730 --> 00:55:13,859
which he saw multiple flying saucers

1459
00:55:18,349 --> 00:55:16,740
flying in formation at the time he had

1460
00:55:20,809 --> 00:55:18,359
assumed that they must be some kind of

1461
00:55:22,730 --> 00:55:20,819
secret Soviet technology but looking

1462
00:55:24,349 --> 00:55:22,740
back he said that he suspected that it

1463
00:55:25,370 --> 00:55:24,359

was some kind of an extraterrestrial

1464

00:55:28,370 --> 00:55:25,380

vehicle

1465

00:55:30,349 --> 00:55:28,380

he also claimed that he saw a UFO land

1466

00:55:33,890 --> 00:55:30,359

at Edwards Air Force Base in California

1467

00:55:35,890 --> 00:55:33,900

in 1957. Cooper said that he filmed the

1468

00:55:38,390 --> 00:55:35,900

event with a camera crew at the base

1469

00:55:40,370 --> 00:55:38,400

afterward he handed it over to a

1470

00:55:42,230 --> 00:55:40,380

high-ranking officer from Washington and

1471

00:55:43,309 --> 00:55:42,240

he never saw or heard about it ever

1472

00:55:47,210 --> 00:55:43,319

again

1473

00:55:49,130 --> 00:55:47,220

in 2014 Apollo astronaut Buzz Aldrin and

1474

00:55:52,130 --> 00:55:49,140

the Sci-Fi documentary aliens on the

1475

00:55:53,750 --> 00:55:52,140

moon was shown saying quote I saw this

1476

00:55:56,150 --> 00:55:53,760

illumination that was moving with

1477

00:55:58,490 --> 00:55:56,160

respect to the Stars we were smart

1478

00:56:00,770 --> 00:55:58,500

enough not to say Houston there's a

1479

00:56:02,690 --> 00:56:00,780

light out there that's following us so

1480

00:56:06,589 --> 00:56:02,700

technically it becomes an unidentified

1481

00:56:08,390 --> 00:56:06,599

flying object now to be fair Aldrin did

1482

00:56:10,670 --> 00:56:08,400

later clarify that he felt that his

1483

00:56:12,470 --> 00:56:10,680

statement was taken out of context it's

1484

00:56:14,569 --> 00:56:12,480

pretty clear that he's not necessarily

1485

00:56:16,910 --> 00:56:14,579

saying that he saw a UFO but rather that

1486

00:56:19,730 --> 00:56:16,920

he saw something which was unidentified

1487

00:56:21,650 --> 00:56:19,740

that is an important distinction and

1488

00:56:23,750 --> 00:56:21,660

frankly given the freewheeling and

1489

00:56:25,609 --> 00:56:23,760

sensationalist approach of the film it

1490

00:56:27,230 --> 00:56:25,619

seems pretty unlikely that he was aware

1491

00:56:30,170 --> 00:56:27,240

ahead of time of the claims that were

1492

00:56:32,270 --> 00:56:30,180

being made so at best there's a big

1493

00:56:34,490 --> 00:56:32,280

asterisk thanks to this one

1494

00:56:36,290 --> 00:56:34,500

but at the same time it could also be

1495

00:56:37,730 --> 00:56:36,300

argued that Aldrin was just covering his

1496

00:56:40,430 --> 00:56:37,740

tracks after saying more than he should

1497

00:56:41,990 --> 00:56:40,440

have and I personally think that just

1498

00:56:43,549 --> 00:56:42,000

the fact that he made it clear that the

1499

00:56:45,410 --> 00:56:43,559

Apollo Astronauts would have known

1500

00:56:47,809 --> 00:56:45,420

better than to say anything to NASA

1501
00:56:49,970 --> 00:56:47,819
about it if they did in fact see a UFO

1502
00:56:51,530 --> 00:56:49,980
is an interesting enough claim to make

1503
00:56:53,809 --> 00:56:51,540
this worth noting

1504
00:56:56,450 --> 00:56:53,819
and there are former astronauts who have

1505
00:56:58,549 --> 00:56:56,460
made even more astonishing claims in

1506
00:57:01,430 --> 00:56:58,559
September of this year former Apollo

1507
00:57:03,650 --> 00:57:01,440
astronaut Al Warden shocked the hosts of

1508
00:57:05,690 --> 00:57:03,660
a British TV show Good Morning Britain

1509
00:57:08,930 --> 00:57:05,700
when he responded to a question about

1510
00:57:11,030 --> 00:57:08,940
aliens by saying quote we are the aliens

1511
00:57:13,010 --> 00:57:11,040
who come from somewhere else if you

1512
00:57:14,690 --> 00:57:13,020
don't believe me go get books on Ancient

1513
00:57:16,970 --> 00:57:14,700

Sumerians

1514

00:57:19,370 --> 00:57:16,980

and to me that's the most interesting

1515

00:57:21,109 --> 00:57:19,380

part of this whole story not so much

1516

00:57:22,790 --> 00:57:21,119

what the astronauts might have seen on

1517

00:57:24,710 --> 00:57:22,800

the moon but the way that their

1518

00:57:26,630 --> 00:57:24,720

involvement with the space program has

1519

00:57:29,329 --> 00:57:26,640

impacted their personal belief systems

1520

00:57:31,430 --> 00:57:29,339

because here's the thing maybe the

1521

00:57:33,770 --> 00:57:31,440

astronauts encountered UFOs in space and

1522

00:57:35,510 --> 00:57:33,780

on the moon or maybe they didn't I'd

1523

00:57:37,309 --> 00:57:35,520

argue that it seems like they saw

1524

00:57:39,829 --> 00:57:37,319

something up there but even if we

1525

00:57:41,990 --> 00:57:39,839

entirely seed that point we're still

1526
00:57:44,630 --> 00:57:42,000
left with a considerable mystery on our

1527
00:57:47,150 --> 00:57:44,640
hands and here's what I mean by that

1528
00:57:49,130 --> 00:57:47,160
I think it's fair to assume at the very

1529
00:57:51,710 --> 00:57:49,140
least that the astronauts of the early

1530
00:57:53,390 --> 00:57:51,720
Space Program would have had some level

1531
00:57:55,309 --> 00:57:53,400
of access to privileged information

1532
00:57:58,609 --> 00:57:55,319
regarding our government's interaction

1533
00:58:01,970 --> 00:57:58,619
with UFOs the Apollo missions began in

1534
00:58:03,530 --> 00:58:01,980
1961 which was 14 years after the

1535
00:58:05,750 --> 00:58:03,540
Kenneth Arnold sighting and the

1536
00:58:07,549 --> 00:58:05,760
subsequent Roswell incident which served

1537
00:58:09,829 --> 00:58:07,559
as the kickoff for our modern conception

1538
00:58:11,990 --> 00:58:09,839

of the UFO phenomenon and brought it

1539

00:58:13,970 --> 00:58:12,000

clearly into the public awareness

1540

00:58:16,010 --> 00:58:13,980

and you'll recall that in the following

1541

00:58:18,770 --> 00:58:16,020

weeks the National Security Act was

1542

00:58:20,809 --> 00:58:18,780

signed into law this Monumental piece of

1543

00:58:22,849 --> 00:58:20,819

legislation called for a restructuring

1544

00:58:24,470 --> 00:58:22,859

of the Department of Defense including

1545

00:58:27,049 --> 00:58:24,480

the creation of the National Security

1546

00:58:29,089 --> 00:58:27,059

Council the creation of the Air Force as

1547

00:58:32,450 --> 00:58:29,099

its own entity separate from the Army

1548

00:58:34,069 --> 00:58:32,460

and the creation of the CIA and just a

1549

00:58:37,549 --> 00:58:34,079

few weeks after that in September of

1550

00:58:39,890 --> 00:58:37,559

1947 General Nathan twinning penned a

1551
00:58:41,329 --> 00:58:39,900
now famous letter about the flying discs

1552
00:58:43,549 --> 00:58:41,339
that were being reported around the

1553
00:58:45,770 --> 00:58:43,559
country writing that the craft were

1554
00:58:48,230 --> 00:58:45,780
something real and not Visionary or

1555
00:58:50,510 --> 00:58:48,240
fictitious so we know that the

1556
00:58:52,789 --> 00:58:50,520
government believed UFOs to be real at

1557
00:58:54,710 --> 00:58:52,799
that time and there's extensive evidence

1558
00:58:56,690 --> 00:58:54,720
that Extreme Measures were being taken

1559
00:58:59,690 --> 00:58:56,700
behind the scenes to respond to this

1560
00:59:02,270 --> 00:58:59,700
unprecedented new threat so knowing that

1561
00:59:03,650 --> 00:59:02,280
it seems reasonable to assume that at

1562
00:59:06,170 --> 00:59:03,660
that point that they would have started

1563
00:59:07,970 --> 00:59:06,180

to send people into space that those

1564

00:59:09,789 --> 00:59:07,980

people were probably briefed on what

1565

00:59:12,770 --> 00:59:09,799

they could possibly run into up there

1566

00:59:15,109 --> 00:59:12,780

the last thing NASA wants to any mission

1567

00:59:18,109 --> 00:59:15,119

is a surprise because surprises in space

1568

00:59:19,849 --> 00:59:18,119

are how people wind up dead so the idea

1569

00:59:22,130 --> 00:59:19,859

that the astronauts wouldn't have been

1570

00:59:25,670 --> 00:59:22,140

made aware of the reality of the UFO

1571

00:59:28,190 --> 00:59:25,680

phenomenon seems incredibly unlikely and

1572

00:59:29,990 --> 00:59:28,200

to be clear astronauts are exactly the

1573

00:59:32,089 --> 00:59:30,000

kind of people that you would entrust

1574

00:59:34,309 --> 00:59:32,099

with this information they have

1575

00:59:36,349 --> 00:59:34,319

extensive military backgrounds they have

1576

00:59:38,569 --> 00:59:36,359

terminal degrees in scientific Fields

1577

00:59:40,910 --> 00:59:38,579

they've undergone extensive background

1578

00:59:43,210 --> 00:59:40,920

checks and psychological evaluations to

1579

00:59:45,289 --> 00:59:43,220

determine that they are of sound mind

1580

00:59:47,210 --> 00:59:45,299

astronauts are the very best and

1581

00:59:49,549 --> 00:59:47,220

brightest of our very best and brightest

1582

00:59:51,650 --> 00:59:49,559

in short these are not people who are

1583

00:59:52,910 --> 00:59:51,660

given to Flights of Fancy or irrational

1584

00:59:55,190 --> 00:59:52,920

beliefs

1585

00:59:57,170 --> 00:59:55,200

so whether or not they actually saw

1586

00:59:58,609 --> 00:59:57,180

anything up there what I find most

1587

01:00:00,349 --> 00:59:58,619

interesting are the beliefs that

1588

01:00:01,789 --> 01:00:00,359

astronauts have about things like the

1589

01:00:04,490 --> 01:00:01,799

reality of extraterrestrial

1590

01:00:06,530 --> 01:00:04,500

intelligences the meaning of the UFO

1591

01:00:08,809 --> 01:00:06,540

phenomenon and its interaction with

1592

01:00:10,730 --> 01:00:08,819

Humanity throughout history these are

1593

01:00:12,230 --> 01:00:10,740

people with privileged information and

1594

01:00:14,450 --> 01:00:12,240

with the military and education

1595

01:00:16,370 --> 01:00:14,460

background necessary to make some pretty

1596

01:00:17,750 --> 01:00:16,380

informed guesses about what they think

1597

01:00:20,210 --> 01:00:17,760

it all might mean

1598

01:00:22,609 --> 01:00:20,220

and with many of the former astronauts

1599

01:00:25,069 --> 01:00:22,619

what they believe is as fascinating as

1600

01:00:27,289 --> 01:00:25,079

it is bizarre take for instance Edgar

1601

01:00:30,289 --> 01:00:27,299

Mitchell Mitchell reported that on his

1602

01:00:32,809 --> 01:00:30,299

return to Earth after the 1971 Apollo 14

1603

01:00:36,170 --> 01:00:32,819

moon landing that he had an experience

1604

01:00:38,750 --> 01:00:36,180

comparable to savikalpa samadhi in the

1605

01:00:40,370 --> 01:00:38,760

Buddhist tradition savikalpa samadhi is

1606

01:00:42,410 --> 01:00:40,380

a state in which the mind is still

1607

01:00:45,049 --> 01:00:42,420

active and the yogi is still attached to

1608

01:00:47,030 --> 01:00:45,059

the bodily and worldly distractions but

1609

01:00:49,010 --> 01:00:47,040

he or she gets a glimpse of bliss and

1610

01:00:51,650 --> 01:00:49,020

the underlying Oneness that connects us

1611

01:00:53,809 --> 01:00:51,660

all that profound experience led him to

1612

01:00:57,530 --> 01:00:53,819

create the Institute of noetic Sciences

1613

01:00:58,970 --> 01:00:57,540

in 1973 an organization that is still

1614

01:01:01,010 --> 01:00:58,980

active today

1615

01:01:03,710 --> 01:01:01,020

the word noetic comes from the Greek

1616

01:01:06,109 --> 01:01:03,720

word nois which means mind or ways of

1617

01:01:08,089 --> 01:01:06,119

knowing writing in The Huffington Post

1618

01:01:10,329 --> 01:01:08,099

the institute's director of research

1619

01:01:13,910 --> 01:01:10,339

pointed to philosopher William James's

1620

01:01:16,190 --> 01:01:13,920

1902 definition of the word as quote

1621

01:01:18,349 --> 01:01:16,200

states of insight into the depths of

1622

01:01:20,710 --> 01:01:18,359

Truth unplumbed by the discursive

1623

01:01:23,329 --> 01:01:20,720

intellect they are illuminations

1624

01:01:25,789 --> 01:01:23,339

Revelations full of significance and

1625

01:01:28,309 --> 01:01:25,799

importance all inarticulate though they

1626

01:01:30,289 --> 01:01:28,319

remain and as a rule they carry with

1627

01:01:33,410 --> 01:01:30,299

them a curious sense of authority

1628

01:01:35,329 --> 01:01:33,420

unquote as for what it actually does the

1629

01:01:38,410 --> 01:01:35,339

Institute conducts research on topics

1630

01:01:40,970 --> 01:01:38,420

such as spontaneous remission meditation

1631

01:01:43,010 --> 01:01:40,980

Consciousness alternative healing

1632

01:01:45,470 --> 01:01:43,020

practices consciousness-based Health

1633

01:01:48,890 --> 01:01:45,480

Care spirituality human potential

1634

01:01:50,809 --> 01:01:48,900

psychic abilities psychokinesis and the

1635

01:01:51,589 --> 01:01:50,819

survival of Consciousness after bodily

1636

01:01:53,930 --> 01:01:51,599

death

1637

01:01:55,250 --> 01:01:53,940

I mean it's interesting right and even

1638

01:01:57,230 --> 01:01:55,260

more interesting when you think about

1639

01:01:59,510 --> 01:01:57,240

how his belief in those extraordinary

1640

01:02:01,549 --> 01:01:59,520

things might have been informed and

1641

01:02:03,589 --> 01:02:01,559

influenced by his belief in UFOs and

1642

01:02:05,990 --> 01:02:03,599

non-human intelligence

1643

01:02:08,030 --> 01:02:06,000

and then there's this story that is so

1644

01:02:10,490 --> 01:02:08,040

strange that at first I couldn't believe

1645

01:02:12,349 --> 01:02:10,500

it was real and once I confirmed that it

1646

01:02:14,809 --> 01:02:12,359

was I couldn't believe that I'd never

1647

01:02:16,730 --> 01:02:14,819

heard it before and it involves the

1648

01:02:20,089 --> 01:02:16,740

single most famous name in the history

1649

01:02:22,069 --> 01:02:20,099

of the Space Program Neil Armstrong

1650

01:02:24,890 --> 01:02:22,079

after returning from the Moon and doing

1651
01:02:27,049 --> 01:02:24,900
the obligatory press afterward Neil

1652
01:02:29,809 --> 01:02:27,059
Armstrong mostly shunned the spotlight

1653
01:02:31,370 --> 01:02:29,819
he was a private man and could even be

1654
01:02:35,150 --> 01:02:31,380
shy at times

1655
01:02:36,950 --> 01:02:35,160
however in August of 1976 Armstrong

1656
01:02:39,589 --> 01:02:36,960
emerged from his life of relative

1657
01:02:42,049 --> 01:02:39,599
anonymity to join an expedition deep

1658
01:02:43,370 --> 01:02:42,059
into the jungles of Ecuador but what was

1659
01:02:46,730 --> 01:02:43,380
he looking for

1660
01:02:48,829 --> 01:02:46,740
just a few years prior in 1973 Swiss

1661
01:02:51,170 --> 01:02:48,839
writer and ancient alien theorist Eric

1662
01:02:53,809 --> 01:02:51,180
Von daniken released his book The Gold

1663
01:02:56,150 --> 01:02:53,819

of the Gods in that book he recounted

1664

01:02:57,530 --> 01:02:56,160

the tale of an Argentinian explorer who

1665

01:03:00,650 --> 01:02:57,540

claimed to have explored a cave in

1666

01:03:03,470 --> 01:03:00,660

Ecuador called Cueva de los tayos in

1667

01:03:05,750 --> 01:03:03,480

1969. there he claimed to have

1668

01:03:08,210 --> 01:03:05,760

discovered an enormous ancient treasure

1669

01:03:11,510 --> 01:03:08,220

including mounds of gold unusual

1670

01:03:14,030 --> 01:03:11,520

sculptures and most notably a mysterious

1671

01:03:15,890 --> 01:03:14,040

library with giant books made of solid

1672

01:03:18,069 --> 01:03:15,900

metal the books were said to be

1673

01:03:20,270 --> 01:03:18,079

inscribed with some unknown language

1674

01:03:22,370 --> 01:03:20,280

Legends surrounding this metal Library

1675

01:03:24,650 --> 01:03:22,380

suggest that this Library contained

1676

01:03:26,630 --> 01:03:24,660

Knowledge from an advanced non-human

1677

01:03:29,030 --> 01:03:26,640

intelligent species that gave ancient

1678

01:03:31,670 --> 01:03:29,040

wisdom to humans and helped to plant the

1679

01:03:33,530 --> 01:03:31,680

seeds of civilization and the books were

1680

01:03:35,630 --> 01:03:33,540

said to contain information about

1681

01:03:37,970 --> 01:03:35,640

Advanced extraterrestrial technology

1682

01:03:39,589 --> 01:03:37,980

that could change Life as We Know It On

1683

01:03:41,930 --> 01:03:39,599

This Planet if it were to be discovered

1684

01:03:44,450 --> 01:03:41,940

as a result of the claims published in

1685

01:03:46,609 --> 01:03:44,460

vandana's book an expedition to the cave

1686

01:03:49,609 --> 01:03:46,619

was organized by a Scottish gentleman by

1687

01:03:51,589 --> 01:03:49,619

the name of Stan Hall in 1976. one of

1688

01:03:54,230 --> 01:03:51,599

the largest and most expensive cave

1689

01:03:56,030 --> 01:03:54,240

Explorations ever undertaken the

1690

01:03:58,370 --> 01:03:56,040

Expedition involved over a hundred

1691

01:04:00,950 --> 01:03:58,380

people including experts in a variety of

1692

01:04:03,589 --> 01:04:00,960

fields British and Ecuadorian military

1693

01:04:06,049 --> 01:04:03,599

personnel a eight experienced British

1694

01:04:08,329 --> 01:04:06,059

cavers and a film crew to capture it all

1695

01:04:10,130 --> 01:04:08,339

in short it doesn't sound at all like

1696

01:04:11,750 --> 01:04:10,140

the kind of scene that the notoriously

1697

01:04:14,569 --> 01:04:11,760

private Armstrong would have been into

1698

01:04:16,609 --> 01:04:14,579

and yet he was there front and center

1699

01:04:19,190 --> 01:04:16,619

helping to lead a team into the jungle

1700

01:04:21,470 --> 01:04:19,200

in search of a lost alien treasure

1701

01:04:23,750 --> 01:04:21,480

I mean what

1702

01:04:26,750 --> 01:04:23,760

granted the expedition was ultimately

1703

01:04:29,210 --> 01:04:26,760

unsuccessful but still the fact that

1704

01:04:31,490 --> 01:04:29,220

Neil Armstrong willingly and publicly

1705

01:04:33,530 --> 01:04:31,500

attached his name to this braved the

1706

01:04:35,569 --> 01:04:33,540

cameras and the press and went to the

1707

01:04:38,030 --> 01:04:35,579

Jungle In Search of Lost Knowledge from

1708

01:04:40,670 --> 01:04:38,040

an alien intelligence is just frankly

1709

01:04:42,890 --> 01:04:40,680

wild I don't even really know what to do

1710

01:04:45,109 --> 01:04:42,900

with that but at the very least we can

1711

01:04:47,210 --> 01:04:45,119

say that Neil Armstrong the first man on

1712

01:04:49,130 --> 01:04:47,220

the moon and someone whom I would argue

1713

01:04:51,349 --> 01:04:49,140

was certainly read into whatever

1714

01:04:53,930 --> 01:04:51,359

realities lie behind the US government's

1715

01:04:56,030 --> 01:04:53,940

secrecy regarding the UFO phenomenon

1716

01:04:58,670 --> 01:04:56,040

clearly didn't think that the existence

1717

01:05:01,609 --> 01:04:58,680

of a Secret store of alien treasure in a

1718

01:05:04,309 --> 01:05:01,619

cave in Ecuador was a crazy idea and not

1719

01:05:05,630 --> 01:05:04,319

only did he not think it was crazy he

1720

01:05:07,670 --> 01:05:05,640

thought that it was enough within the

1721

01:05:09,589 --> 01:05:07,680

realm of possibility that he was willing

1722

01:05:11,809 --> 01:05:09,599

to publicly attach his name to the

1723

01:05:14,510 --> 01:05:11,819

Expedition and join them with their

1724

01:05:16,609 --> 01:05:14,520

camera crews in the jungle and you have

1725

01:05:18,650 --> 01:05:16,619

to imagine that NASA couldn't have been

1726

01:05:19,730 --> 01:05:18,660

too thrilled about that but he went

1727

01:05:22,370 --> 01:05:19,740

anyway

1728

01:05:25,309 --> 01:05:22,380

it's impossible not to wonder what it

1729

01:05:27,289 --> 01:05:25,319

was that Neil Armstrong knew and what he

1730

01:05:29,870 --> 01:05:27,299

may have experienced that would lead him

1731

01:05:31,789 --> 01:05:29,880

on such an unlikely Adventure

1732

01:05:34,849 --> 01:05:31,799

and that's where we'll pick up next time

1733

01:05:37,010 --> 01:05:34,859

because as we'll see We've Only Just

1734

01:05:39,049 --> 01:05:37,020

Begun to scratch the surface of the

1735

01:05:42,049 --> 01:05:39,059

strangeness and mystery around the early

1736

01:05:43,730 --> 01:05:42,059

Space Program the reality is that the

1737

01:05:45,410 --> 01:05:43,740

strange beliefs and interests of the

1738

01:05:48,230 --> 01:05:45,420

likes of Edgar Mitchell and Neil

1739

01:05:50,450 --> 01:05:48,240

Armstrong are not the exception in the

1740

01:05:53,329 --> 01:05:50,460

story of our journey to space but the

1741

01:05:55,250 --> 01:05:53,339

rule occult and esoteric practices

1742

01:05:58,010 --> 01:05:55,260

permeated the culture of the early

1743

01:06:00,770 --> 01:05:58,020

rocket programs in the U.S Germany and

1744

01:06:03,109 --> 01:06:00,780

the Soviet Union providing both the

1745

01:06:05,510 --> 01:06:03,119

motivation and many would argue the

1746

01:06:08,809 --> 01:06:05,520

means by which Humanity took its first

1747

01:06:09,280 --> 01:06:08,819

Intrepid steps into the Stars until next

1748

01:06:16,990 --> 01:06:09,290

time

1749

01:06:17,000 --> 01:06:22,609

I'm flying to the Moon

1750

01:06:22,619 --> 01:06:30,430

tonight

1751
01:06:30,440 --> 01:06:35,569
I'm flying back home

1752
01:06:35,579 --> 01:06:43,450
with you tonight

1753
01:06:43,460 --> 01:06:47,950
and it's how far away

1754
01:06:55,240 --> 01:06:50,289
so long

1755
01:07:50,930 --> 01:07:17,770
[Music]

1756
01:07:50,940 --> 01:07:54,980
foreign

1757
01:08:21,169 --> 01:08:15,930
[Music]

1758
01:08:31,610 --> 01:08:23,780
foreign

1759
01:08:50,990 --> 01:08:40,769
[Music]

1760
01:08:51,000 --> 01:09:00,800
foreign