

FADE TO BLACK

with **JIMMY CHURCH**

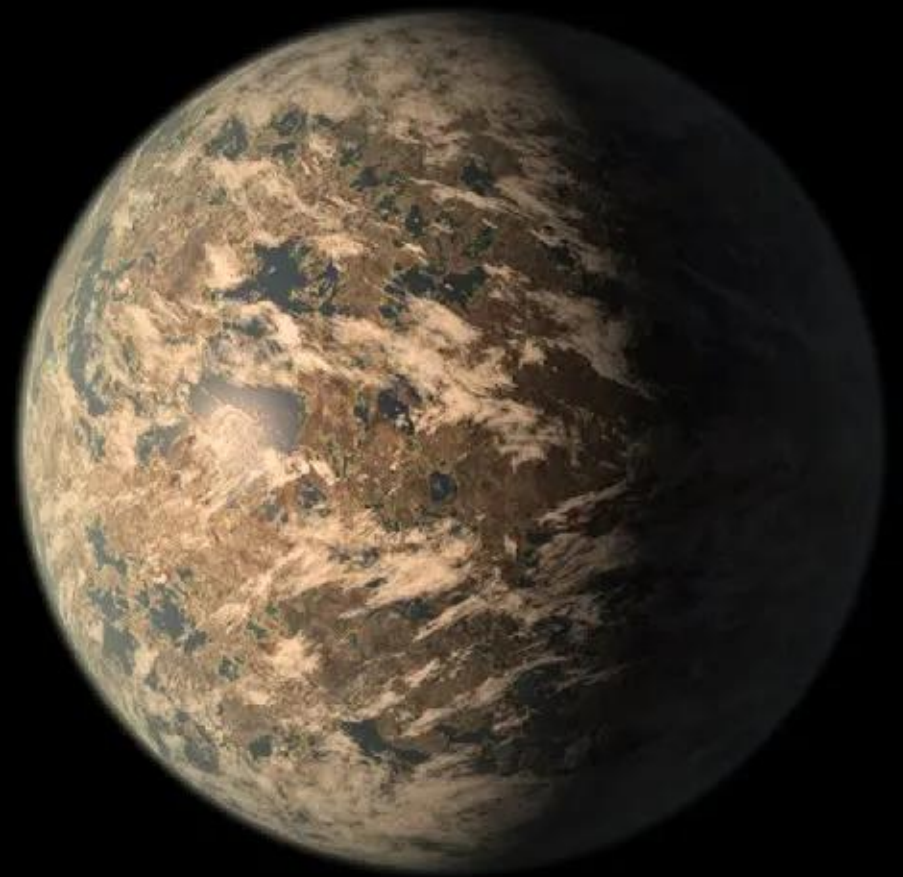
PRESENTS

JIMMY CHURCH

ALIENS AND EXOPLANETS

MON JULY 04 LIVE

7:00 PM PT/10:00PM ET



1
00:03:21,230 --> 00:03:32,470

[Music]

2
00:03:38,309 --> 00:03:35,430

the smoke radio for the masses headline

3
00:03:40,229 --> 00:03:38,319

edition july 8 1947

4
00:03:42,710 --> 00:03:40,239

the army air forces has announced that a

5
00:03:44,390 --> 00:03:42,720

flying disc has been found and is now in

6
00:03:47,110 --> 00:03:44,400

the possession of the army

7
00:03:49,110 --> 00:03:47,120

if the game is rigged change the game

8
00:03:51,910 --> 00:03:49,120

game changer

9
00:03:54,229 --> 00:03:51,920

i occasionally think how quickly

10
00:03:55,589 --> 00:03:54,239

our differences worldwide

11
00:03:58,309 --> 00:03:55,599

would vanish

12
00:04:00,180 --> 00:03:58,319

if we were facing an alien threat from

13
00:04:01,670 --> 00:04:00,190

outside this world

14

00:04:04,470 --> 00:04:01,680

[Music]

15

00:04:07,270 --> 00:04:04,480

[Applause]

16

00:04:13,589 --> 00:04:07,280

this is fade to black with your host

17

00:04:17,910 --> 00:04:15,750

i network your help to get to the year

18

00:04:22,629 --> 00:04:17,920

1985.

19

00:04:24,629 --> 00:04:22,639

[Music]

20

00:04:27,770 --> 00:04:24,639

you are listening to fate to flag with

21

00:04:32,550 --> 00:04:27,780

jimmy judge on the game changer network

22

00:04:35,270 --> 00:04:32,560

[Music]

23

00:04:37,950 --> 00:04:35,280

good evening

24

00:04:40,950 --> 00:04:37,960

fade to black

25

00:04:42,390 --> 00:04:40,960

bespoke radio

26

00:04:43,990 --> 00:04:42,400

for

27

00:04:46,070 --> 00:04:44,000

the

28

00:04:48,070 --> 00:04:46,080

masses

29

00:04:50,950 --> 00:04:48,080

uh yeah

30

00:04:53,710 --> 00:04:50,960

that's right today's monday the 4th of

31

00:04:59,660 --> 00:04:56,950

2022. happy 4th of july everybody let's

32

00:05:09,029 --> 00:05:07,670

[Music]

33

00:05:10,790 --> 00:05:09,039

i would like to welcome everybody

34

00:05:13,670 --> 00:05:10,800

listening all around the world all

35

00:05:15,909 --> 00:05:13,680

across the united states

36

00:05:18,550 --> 00:05:15,919

hither and tether to and fro back and

37

00:05:22,550 --> 00:05:18,560

forth up and down east and west north

38

00:05:25,670 --> 00:05:22,560

and south far and near

39

00:05:28,550 --> 00:05:25,680

this is fade to black for khacr the game

40

00:05:30,629 --> 00:05:28,560

changer and on x networks

41

00:05:33,430 --> 00:05:30,639

race hobbes

42

00:05:35,990 --> 00:05:33,440

i'm real jimmy church

43

00:05:37,749 --> 00:05:36,000

happy fourth of july everybody and thank

44

00:05:40,790 --> 00:05:37,759

you for being here tonight it's a very

45

00:05:47,189 --> 00:05:45,830

because tonight's our very special guest

46

00:05:49,830 --> 00:05:47,199

is me

47

00:05:52,150 --> 00:05:49,840

and tonight i am giving a full two and a

48

00:05:56,790 --> 00:05:52,160

half hour presentation

49

00:06:00,230 --> 00:05:56,800

on aliens and exoplanets

50

00:06:03,590 --> 00:06:00,240

i hope i get it all in i've got a lot of

51

00:06:05,590 --> 00:06:03,600

a lot of stuff lined up for tonight

52

00:06:06,710 --> 00:06:05,600

and i had so much fun

53

00:06:10,790 --> 00:06:06,720

doing

54

00:06:12,629 --> 00:06:10,800

this last monday i decided to do this

55

00:06:14,070 --> 00:06:12,639

this monday and it was the fourth of

56

00:06:17,270 --> 00:06:14,080

july and

57

00:06:20,070 --> 00:06:17,280

i thought you know we're gonna have

58

00:06:21,909 --> 00:06:20,080

our family hanging out with us tonight

59

00:06:23,909 --> 00:06:21,919

and so i thought it would be a lot of

60

00:06:25,990 --> 00:06:23,919

fun if it was just

61

00:06:27,029 --> 00:06:26,000

us okay so that's what we're gonna do

62

00:06:29,510 --> 00:06:27,039

tonight

63

00:06:32,390 --> 00:06:29,520

and uh i've got uh

64

00:06:35,350 --> 00:06:32,400

two really cool guests lined up for

65

00:06:38,469 --> 00:06:35,360

tomorrow and wednesday and i'm going to

66

00:06:39,350 --> 00:06:38,479

make those announcements uh tomorrow

67

00:06:40,150 --> 00:06:39,360

and

68

00:06:43,510 --> 00:06:40,160

uh

69

00:06:45,909 --> 00:06:43,520

deal with it

70

00:06:49,589 --> 00:06:45,919

and then thursday is another fader night

71

00:06:51,270 --> 00:06:49,599

and that may change too as well so

72

00:06:53,110 --> 00:06:51,280

but for now

73

00:06:55,189 --> 00:06:53,120

thursday is another fader night but i

74

00:06:58,150 --> 00:06:55,199

may have a special guest on thursday

75

00:07:01,110 --> 00:06:58,160

night so things are in flux

76

00:07:05,270 --> 00:07:01,120

just work with me on this

77

00:07:10,309 --> 00:07:08,629

this show tonight's show

78

00:07:13,589 --> 00:07:10,319

is dedicated

79

00:07:15,270 --> 00:07:13,599

to brian conroy and before i get a lump

80

00:07:16,469 --> 00:07:15,280

in my throat

81

00:07:19,830 --> 00:07:16,479

um

82

00:07:20,950 --> 00:07:19,840

uh i knew brian for

83

00:07:28,710 --> 00:07:20,960

uh

84

00:07:32,150 --> 00:07:28,720

and

85

00:07:35,430 --> 00:07:33,270

four

86

00:07:37,430 --> 00:07:35,440

short months ago

87

00:07:39,270 --> 00:07:37,440

i spoke to him

88

00:07:43,189 --> 00:07:39,280

the day that

89

00:07:45,909 --> 00:07:43,199

he got diagnosed with pancreatic cancer

90

00:07:48,710 --> 00:07:45,919

and i talked to him from the hospital

91

00:07:50,309 --> 00:07:48,720

that day and i talked to him a few times

92

00:07:53,749 --> 00:07:50,319

over that week

93

00:07:58,070 --> 00:07:53,759

and then a couple of more times and

94

00:08:01,589 --> 00:07:59,830

and uh

95

00:08:03,749 --> 00:08:01,599

and then just died

96

00:08:07,909 --> 00:08:03,759

and uh it's heartbreaking

97

00:08:09,350 --> 00:08:07,919

and uh it's a tremendous

98

00:08:12,150 --> 00:08:09,360

monster

99

00:08:13,589 --> 00:08:12,160

of a guitar player and i just enjoyed

100

00:08:16,309 --> 00:08:13,599

his company

101
00:08:20,309 --> 00:08:16,319
and uh he was just a just a good dude

102
00:08:23,430 --> 00:08:20,319
and and the cool dude and he has

103
00:08:26,390 --> 00:08:23,440
left this earth so brian this show is uh

104
00:08:27,589 --> 00:08:26,400
dedicated to you my man all right

105
00:08:29,830 --> 00:08:27,599
all right

106
00:08:32,870 --> 00:08:29,840
so there you go i'm just i'm i'm

107
00:08:36,550 --> 00:08:32,880
heartbroken but it's the fourth of july

108
00:08:37,509 --> 00:08:36,560
the show must go on and brian knows that

109
00:08:41,509 --> 00:08:37,519
all right

110
00:08:45,509 --> 00:08:43,190
how about some coffee

111
00:08:49,269 --> 00:08:45,519
how you doing

112
00:08:49,279 --> 00:08:53,269
brian was an amazing player all right

113
00:08:58,710 --> 00:08:55,829

right now you can get your free

114

00:08:59,310 --> 00:08:58,720

membership to the unex network

115

00:09:02,150 --> 00:08:59,320

at

116

00:09:04,630 --> 00:09:02,160

thenxnetwork.com and you will receive

117

00:09:06,790 --> 00:09:04,640

the monthly newsletter you're going to

118

00:09:08,389 --> 00:09:06,800

get access to the blog you're going to

119

00:09:10,949 --> 00:09:08,399

get event notices

120

00:09:13,190 --> 00:09:10,959

and a free digital copy of their

121

00:09:14,949 --> 00:09:13,200

quarterly magazine

122

00:09:17,269 --> 00:09:14,959

check it out right now i want you to go

123

00:09:20,550 --> 00:09:17,279

to nxnetwork.com

124

00:09:22,269 --> 00:09:20,560

our network the nx network and get your

125

00:09:25,190 --> 00:09:22,279

free membership over at the

126

00:09:25,990 --> 00:09:25,200

nxnetwork.com and if you just forgot

127

00:09:27,269 --> 00:09:26,000

that

128

00:09:32,150 --> 00:09:27,279

the link

129

00:09:33,030 --> 00:09:32,160

sponsors are in the description box

130

00:09:34,790 --> 00:09:33,040

below they're over at

131

00:09:38,310 --> 00:09:34,800

jimmychurchradio.com

132

00:09:40,550 --> 00:09:38,320

and we have them throughout social media

133

00:09:43,750 --> 00:09:40,560

so go now and get your free membership

134

00:09:45,310 --> 00:09:43,760

to the on x network you can follow me on

135

00:09:47,269 --> 00:09:45,320

twitter at

136

00:09:51,190 --> 00:09:47,279

jchurchradio

137

00:09:54,949 --> 00:09:51,200

yeah you can do that go follow me on

138

00:09:59,990 --> 00:09:54,959

instagram at jimmychurchradio

139

00:10:03,590 --> 00:10:02,470

there you go all right any questions or

140

00:10:06,790 --> 00:10:03,600

comments

141

00:10:09,430 --> 00:10:06,800

hashtag f2bq if you want to follow along

142

00:10:12,949 --> 00:10:09,440

tonight with the rest of the fader knots

143

00:10:14,870 --> 00:10:12,959

hashtag f2b is the sandbox and of course

144

00:10:19,750 --> 00:10:14,880

we have chat rooms open

145

00:10:21,430 --> 00:10:19,760

uh multiple networks and over at youtube

146

00:10:23,670 --> 00:10:21,440

all right all right it's going to be a

147

00:10:26,550 --> 00:10:23,680

busy night on the show

148

00:10:28,150 --> 00:10:26,560

tonight is a huge deep dive into aliens

149

00:10:30,630 --> 00:10:28,160

and exoplanets

150

00:10:32,470 --> 00:10:30,640

um two and a half hours

151

00:10:35,509 --> 00:10:32,480

it's going to be something that you're

152

00:10:39,590 --> 00:10:35,519

probably going to watch more than once

153

00:10:43,030 --> 00:10:39,600

and uh i i think uh the information is

154

00:10:44,230 --> 00:10:43,040

is uh not only is it comprehensive but

155

00:10:47,990 --> 00:10:44,240

hopefully you're going to learn

156

00:10:50,870 --> 00:10:48,000

something okay and and watch this show

157

00:10:54,470 --> 00:10:50,880

many many times in the future and uh so

158

00:10:57,350 --> 00:10:54,480

before we get to all of that

159

00:11:00,150 --> 00:10:57,360

man my brain is gonna be toast

160

00:11:01,829 --> 00:11:00,160

at the end of the night tonight so for

161

00:11:05,269 --> 00:11:01,839

now before

162

00:11:07,590 --> 00:11:05,279

before i unleash my frontal lobes let's

163

00:11:10,230 --> 00:11:07,600

get to the breaking news

164

00:11:12,550 --> 00:11:10,240

that's right it's the fourth of july all

165

00:11:15,190 --> 00:11:12,560

hail the hot dog king

166

00:11:18,710 --> 00:11:15,200

joey chestnut

167

00:11:20,870 --> 00:11:18,720

won his seventh consecutive nathan's hot

168

00:11:24,470 --> 00:11:20,880

dog eating contest title

169

00:11:25,990 --> 00:11:24,480

and 15th overall with a ridiculous are

170

00:11:29,990 --> 00:11:26,000

you ready for this

171

00:11:31,269 --> 00:11:30,000

63 hot dogs and their buns

172

00:11:32,870 --> 00:11:31,279

eaten

173

00:11:35,670 --> 00:11:32,880

in 10 minutes

174

00:11:37,750 --> 00:11:35,680

the next closest competitor

175

00:11:40,630 --> 00:11:37,760

43 hot dogs

176
00:11:42,550 --> 00:11:40,640
the 38 year old chestnut's feet was even

177
00:11:45,190 --> 00:11:42,560
more impressive after

178
00:11:47,829 --> 00:11:45,200
he arrived at coney island on crutches

179
00:11:50,310 --> 00:11:47,839
he said he suffered a ruptured tendon

180
00:11:53,990 --> 00:11:50,320
earlier this year but claimed it hadn't

181
00:11:56,629 --> 00:11:54,000
affected his ability to defend his title

182
00:12:00,790 --> 00:11:56,639
chestnut's 15th title

183
00:12:03,990 --> 00:12:00,800
surpassed rafael nadal's 14th french

184
00:12:07,670 --> 00:12:04,000
open titles for the most championships

185
00:12:13,910 --> 00:12:07,680
in a single event

186
00:12:20,389 --> 00:12:16,389
i can do like

187
00:12:21,990 --> 00:12:20,399
i can do two for sure three

188
00:12:25,910 --> 00:12:22,000

maybe four

189

00:12:28,310 --> 00:12:25,920

sixty three that's nuts

190

00:12:29,350 --> 00:12:28,320

all right you know what the big news is

191

00:12:32,470 --> 00:12:29,360

today

192

00:12:33,829 --> 00:12:32,480

after a three-year hiatus the lhc we

193

00:12:37,030 --> 00:12:33,839

call it cern

194

00:12:40,629 --> 00:12:37,040

has been turned back on and is probing

195

00:12:43,590 --> 00:12:40,639

the fundamental nature of reality

196

00:12:45,750 --> 00:12:43,600

the world's largest most powerful

197

00:12:47,670 --> 00:12:45,760

particle accelerator housed at the

198

00:12:49,509 --> 00:12:47,680

european organization for nuclear

199

00:12:51,590 --> 00:12:49,519

research cern

200

00:12:54,150 --> 00:12:51,600

near geneva switzerland

201
00:12:57,190 --> 00:12:54,160
is booted back up after being shut down

202
00:12:59,350 --> 00:12:57,200
for maintenance repairs and upgrades

203
00:13:02,550 --> 00:12:59,360
in 2018.

204
00:13:04,710 --> 00:13:02,560
as of this past friday morning

205
00:13:06,710 --> 00:13:04,720
two beams of protons had started

206
00:13:09,430 --> 00:13:06,720
circulating in the opposite directions

207
00:13:11,269 --> 00:13:09,440
around the 27 kilometer long large

208
00:13:13,750 --> 00:13:11,279
hadron collider

209
00:13:15,430 --> 00:13:13,760
physicists hoped the resumption of

210
00:13:17,350 --> 00:13:15,440
collisions

211
00:13:21,030 --> 00:13:17,360
will help in their quest

212
00:13:23,829 --> 00:13:21,040
for so-called dark matter that lies

213
00:13:25,430 --> 00:13:23,839

beyond the visible universe dark matter

214

00:13:28,389 --> 00:13:25,440

is thought to be five times more

215

00:13:32,629 --> 00:13:28,399

prevalent than ordinary matter but does

216

00:13:34,470 --> 00:13:32,639

does not absorb reflect or emit light

217

00:13:35,990 --> 00:13:34,480

searches so far have come up

218

00:13:37,990 --> 00:13:36,000

empty-handed

219

00:13:40,629 --> 00:13:38,000

i'll keep you posted

220

00:13:41,910 --> 00:13:40,639

with the results at cern

221

00:13:44,230 --> 00:13:41,920

all right

222

00:13:45,910 --> 00:13:44,240

researchers

223

00:13:48,470 --> 00:13:45,920

have discovered

224

00:13:51,110 --> 00:13:48,480

never be so never seen

225

00:13:53,670 --> 00:13:51,120

before types of crystals

226

00:13:57,189 --> 00:13:53,680

hidden in tiny grains of perfectly

227

00:13:59,430 --> 00:13:57,199

preserved meteorite dust the dust was

228

00:14:01,030 --> 00:13:59,440

left behind by a massive space rock that

229

00:14:03,750 --> 00:14:01,040

exploded over

230

00:14:06,069 --> 00:14:03,760

chelyabinsk russia nine years ago you

231

00:14:09,430 --> 00:14:06,079

remember when that went down the new

232

00:14:11,030 --> 00:14:09,440

crystals came in two distinct shapes

233

00:14:13,750 --> 00:14:11,040

quasi-spherical

234

00:14:17,030 --> 00:14:13,760

or almost spherical

235

00:14:19,030 --> 00:14:17,040

shells and hexagonal rods the

236

00:14:22,230 --> 00:14:19,040

researchers wrote all of this up in a

237

00:14:24,230 --> 00:14:22,240

study further analysis using x-rays

238

00:14:28,389 --> 00:14:24,240

revealed that the crystals were made of

239

00:14:30,790 --> 00:14:28,399

layers of graphite a form of carbon made

240

00:14:33,030 --> 00:14:30,800

from overlapping sheets of atoms

241

00:14:36,230 --> 00:14:33,040

commonly used in

242

00:14:38,389 --> 00:14:36,240

pencils you remember pencils

243

00:14:40,949 --> 00:14:38,399

right

244

00:14:44,150 --> 00:14:40,959

surrounding a central nanocluster at the

245

00:14:44,949 --> 00:14:44,160

heart of the crystal so there you go and

246

00:14:47,750 --> 00:14:44,959

uh

247

00:14:50,629 --> 00:14:47,760

they're using electron microscopes right

248

00:14:53,590 --> 00:14:50,639

now i haven't seen any published images

249

00:14:56,069 --> 00:14:53,600

but when i get them i will post them

250

00:14:57,350 --> 00:14:56,079

well you remember the song american

251
00:14:58,870 --> 00:14:57,360
woman

252
00:15:01,350 --> 00:14:58,880
right

253
00:15:03,350 --> 00:15:01,360
you remember that song it's a rock

254
00:15:05,430 --> 00:15:03,360
anthem and one of the biggest hits to

255
00:15:09,430 --> 00:15:05,440
come out of the 1970s

256
00:15:10,870 --> 00:15:09,440
in 1976 however guitarist randy bachman

257
00:15:12,870 --> 00:15:10,880
of the guess who

258
00:15:15,189 --> 00:15:12,880
discovered that the guitar he used to

259
00:15:19,430 --> 00:15:15,199
write the classic and a string of other

260
00:15:22,629 --> 00:15:19,440
hits had been stolen from his hotel room

261
00:15:25,750 --> 00:15:22,639
the theft haunted bachmann for the last

262
00:15:27,910 --> 00:15:25,760
50 years he poured over thousands of

263
00:15:31,590 --> 00:15:27,920

images online looking for a distinctive

264

00:15:33,910 --> 00:15:31,600

mark by the volume knob and then randy

265

00:15:37,509 --> 00:15:33,920

spotted an orange gretch

266

00:15:39,749 --> 00:15:37,519

at a vintage guitar shop in tokyo

267

00:15:40,790 --> 00:15:39,759

it was a perfect match

268

00:15:43,749 --> 00:15:40,800

but

269

00:15:46,790 --> 00:15:43,759

the gretch was already sold to a

270

00:15:49,509 --> 00:15:46,800

musician named takeshi

271

00:15:52,150 --> 00:15:49,519

who bachmann found online playing the

272

00:15:54,870 --> 00:15:52,160

christmas song in the video by the way

273

00:15:57,030 --> 00:15:54,880

and uh

274

00:16:00,629 --> 00:15:57,040

takashi returned the guitar

275

00:16:03,749 --> 00:16:00,639

when bachmann just played japan

276

00:16:07,110 --> 00:16:03,759

he got the guitar in trade for one of

277

00:16:10,310 --> 00:16:07,120

randy's other gretches that replaced the

278

00:16:13,350 --> 00:16:10,320

stolen gretch actually that randy had

279

00:16:16,150 --> 00:16:13,360

made the same week that the gretch was

280

00:16:17,509 --> 00:16:16,160

stolen that's another story right there

281

00:16:20,870 --> 00:16:17,519

but now

282

00:16:23,350 --> 00:16:20,880

all is right with the world

283

00:16:26,310 --> 00:16:23,360

an unknown threat actor has taken to

284

00:16:27,389 --> 00:16:26,320

underground forms to advertise a batch

285

00:16:35,670 --> 00:16:27,399

of

286

00:16:38,949 --> 00:16:35,680

data stolen from a database belonging to

287

00:16:41,509 --> 00:16:38,959

the shanghai police department the data

288

00:16:44,310 --> 00:16:41,519

is said to contain people's names

289

00:16:47,350 --> 00:16:44,320

addresses birthplaces national id

290

00:16:50,389 --> 00:16:47,360

numbers phone numbers and information on

291

00:16:52,069 --> 00:16:50,399

any criminal cases the individuals are

292

00:16:53,670 --> 00:16:52,079

involved in

293

00:16:56,389 --> 00:16:53,680

all of this going down right now in

294

00:16:59,350 --> 00:16:56,399

china the mystery attacker

295

00:17:02,790 --> 00:16:59,360

was asking for 10 bitcoin in exchange

296

00:17:05,590 --> 00:17:02,800

for the data which translates to roughly

297

00:17:07,829 --> 00:17:05,600

200 000 at the current market rate

298

00:17:09,909 --> 00:17:07,839

there's been no word from the shanghai

299

00:17:12,390 --> 00:17:09,919

police and the cyber space

300

00:17:14,390 --> 00:17:12,400

administration of china is still silent

301
00:17:17,189 --> 00:17:14,400
on the matter as well

302
00:17:20,390 --> 00:17:17,199
but late last night

303
00:17:21,829 --> 00:17:20,400
a billion chinese resident records went

304
00:17:24,230 --> 00:17:21,839
up for sale

305
00:17:25,510 --> 00:17:24,240
on the dark web

306
00:17:27,590 --> 00:17:25,520
that's right

307
00:17:29,830 --> 00:17:27,600
china should have given up that 10

308
00:17:31,430 --> 00:17:29,840
bitcoin oh well

309
00:17:33,830 --> 00:17:31,440
maybe the chinese were waiting for

310
00:17:34,950 --> 00:17:33,840
bitcoin to continue to tumble

311
00:17:38,549 --> 00:17:34,960
but

312
00:17:40,310 --> 00:17:38,559
it's been holding steady at 20 grand

313
00:17:41,669 --> 00:17:40,320

all day long

314

00:17:44,549 --> 00:17:41,679

so there you go

315

00:17:47,830 --> 00:17:44,559

a vampire slaying kit

316

00:17:50,630 --> 00:17:47,840

once owned by a british aristocrat

317

00:17:53,029 --> 00:17:50,640

sparked an international bidding war uh

318

00:17:55,029 --> 00:17:53,039

before selling for six times its

319

00:17:56,630 --> 00:17:55,039

estimated price according to hanson's

320

00:18:01,029 --> 00:17:56,640

auctioneers

321

00:18:03,510 --> 00:18:01,039

the late 19th century box kit which sold

322

00:18:05,669 --> 00:18:03,520

last thursday for fifteen thousand seven

323

00:18:06,710 --> 00:18:05,679

hundred and thirty six dollars and 49

324

00:18:10,390 --> 00:18:06,720

cents

325

00:18:14,150 --> 00:18:10,400

belonged to lord william malcolm haley

326

00:18:15,750 --> 00:18:14,160

who died back in 1969. now check this

327

00:18:18,310 --> 00:18:15,760

out

328

00:18:20,549 --> 00:18:18,320

the kit you should see the pictures

329

00:18:23,029 --> 00:18:20,559

features all those essential items

330

00:18:24,549 --> 00:18:23,039

needed to ward off bloodthirsty vampires

331

00:18:26,630 --> 00:18:24,559

including

332

00:18:29,190 --> 00:18:26,640

crucifixes

333

00:18:33,669 --> 00:18:29,200

holy water

334

00:18:35,510 --> 00:18:33,679

a wooden stake and its matching mallets

335

00:18:37,669 --> 00:18:35,520

rosary beads

336

00:18:39,669 --> 00:18:37,679

a gothic bible

337

00:18:41,990 --> 00:18:39,679

brass candlesticks

338

00:18:46,789 --> 00:18:42,000

matching pistols

339

00:18:55,190 --> 00:18:48,070

all that

340

00:19:00,230 --> 00:18:56,789

i wanted it

341

00:19:01,590 --> 00:19:00,240

let's get this show cracking on this day

342

00:19:06,230 --> 00:19:01,600

in history

343

00:19:09,470 --> 00:19:06,240

otd we know it went down 1776

344

00:19:11,029 --> 00:19:09,480

in philadelphia pennsylvania on july 4th

345

00:19:13,510 --> 00:19:11,039

1776

346

00:19:15,830 --> 00:19:13,520

the continental congress adopts the

347

00:19:18,230 --> 00:19:15,840

declaration of independence which

348

00:19:21,029 --> 00:19:18,240

proclaims the independence of the united

349

00:19:22,830 --> 00:19:21,039

states of america from great britain

350

00:19:25,270 --> 00:19:22,840

and its

351
00:19:27,029 --> 00:19:25,280
king but also

352
00:19:29,990 --> 00:19:27,039
on this day

353
00:19:33,909 --> 00:19:30,000
in 1997

354
00:19:35,669 --> 00:19:33,919
after traveling 120 million miles in

355
00:19:38,549 --> 00:19:35,679
seven months

356
00:19:42,710 --> 00:19:38,559
nasa's mars pathfinder becomes the first

357
00:19:45,510 --> 00:19:42,720
u.s spacecraft to land on mars allegedly

358
00:19:48,470 --> 00:19:45,520
in over 20 years

359
00:19:50,150 --> 00:19:48,480
and that went down in 1997.

360
00:19:53,029 --> 00:19:50,160
all right

361
00:19:56,549 --> 00:19:53,039
now another fourth of july

362
00:20:02,230 --> 00:19:58,390
there's a village

363
00:20:05,350 --> 00:20:02,240

in the spanish region of malaga

364

00:20:07,669 --> 00:20:05,360

that also celebrates

365

00:20:10,149 --> 00:20:07,679

the 4th of july

366

00:20:13,350 --> 00:20:10,159

like for real

367

00:20:14,950 --> 00:20:13,360

it was the birthplace of bernardo de

368

00:20:16,789 --> 00:20:14,960

galvez

369

00:20:19,110 --> 00:20:16,799

one of the founding fathers of the

370

00:20:20,390 --> 00:20:19,120

united states who supported the

371

00:20:23,190 --> 00:20:20,400

colonists

372

00:20:25,510 --> 00:20:23,200

in the revolutionary war

373

00:20:26,789 --> 00:20:25,520

but you didn't know that

374

00:20:29,190 --> 00:20:26,799

but that

375

00:20:31,750 --> 00:20:29,200

is your fader fact

376

00:20:33,909 --> 00:20:31,760

all right tonight we have a very special

377

00:20:35,430 --> 00:20:33,919

guest here on fade to black that special

378

00:20:36,470 --> 00:20:35,440

guest is

379

00:20:40,230 --> 00:20:36,480

me

380

00:20:41,830 --> 00:20:40,240

that's right and tonight i am giving

381

00:20:45,190 --> 00:20:41,840

a full

382

00:20:47,029 --> 00:20:45,200

two and a half hour presentation

383

00:20:50,230 --> 00:20:47,039

on aliens

384

00:20:51,310 --> 00:20:50,240

and exoplanets

385

00:20:53,029 --> 00:20:51,320

thorough

386

00:20:54,070 --> 00:20:53,039

comprehensive

387

00:20:57,830 --> 00:20:54,080

data

388

00:21:00,830 --> 00:20:57,840

images i've got over 50 charts

389

00:21:03,270 --> 00:21:00,840

illustrations graphics

390

00:21:06,230 --> 00:21:03,280

pictures that's right

391

00:21:07,830 --> 00:21:06,240

which uh average out uh to a 10 per

392

00:21:09,270 --> 00:21:07,840

segment i don't know how i'm going to

393

00:21:11,430 --> 00:21:09,280

get it all done but i'm going to give it

394

00:21:13,990 --> 00:21:11,440

my best shot tomorrow we're going to

395

00:21:16,390 --> 00:21:14,000

announce a tuesday and wednesday's guest

396

00:21:18,230 --> 00:21:16,400

because i'm shuffling things and i may

397

00:21:19,909 --> 00:21:18,240

have to move something over to thursday

398

00:21:22,149 --> 00:21:19,919

which is fade or night i don't want to

399

00:21:24,630 --> 00:21:22,159

do that but i may have to which will

400

00:21:26,789 --> 00:21:24,640

move fader night to wednesday maybe

401

00:21:29,190 --> 00:21:26,799

tuesday because tomorrow's guest

402

00:21:30,390 --> 00:21:29,200

is traveling right now and they don't

403

00:21:32,630 --> 00:21:30,400

know if they're going to be available

404

00:21:34,789 --> 00:21:32,640

tomorrow or wednesday so you know what

405

00:21:37,510 --> 00:21:34,799

everything is tba

406

00:21:40,789 --> 00:21:37,520

yeah it's 4th of july i should have just

407

00:21:42,789 --> 00:21:40,799

taken this week off

408

00:21:45,830 --> 00:21:42,799

but i can't do that

409

00:21:47,270 --> 00:21:45,840

not with the fade or not i i never will

410

00:21:52,710 --> 00:21:47,280

right now

411

00:21:58,710 --> 00:21:56,310

let me tell you what the best combo is

412

00:22:02,149 --> 00:21:58,720

river moon coffee

413

00:22:03,590 --> 00:22:02,159

and brain peak nine right there brain oh

414

00:22:06,390 --> 00:22:03,600

that's the back

415

00:22:09,350 --> 00:22:06,400

brain peak nine

416

00:22:12,470 --> 00:22:09,360

two month supply in this box

417

00:22:14,310 --> 00:22:12,480

that's right two a day brain peak nine

418

00:22:16,710 --> 00:22:14,320

i've got stuff on this side of the

419

00:22:17,430 --> 00:22:16,720

screen i don't know if this is showing

420

00:22:18,950 --> 00:22:17,440

up

421

00:22:20,470 --> 00:22:18,960

brain peak nine

422

00:22:21,830 --> 00:22:20,480

incredible two month supply right now

423

00:22:23,750 --> 00:22:21,840

it's special

424

00:22:25,750 --> 00:22:23,760

so click on the link below i think the

425

00:22:26,470 --> 00:22:25,760

promo codes fader

426
00:22:28,390 --> 00:22:26,480
yeah

427
00:22:29,830 --> 00:22:28,400
fader i think that i think that's what

428
00:22:31,990 --> 00:22:29,840
you do

429
00:22:34,230 --> 00:22:32,000
to the link below just just click on it

430
00:22:37,750 --> 00:22:34,240
and get yourself some brain peak nine

431
00:22:41,909 --> 00:22:37,760
i i you know what

432
00:22:45,350 --> 00:22:43,990
how do you think i'm able to do two and

433
00:22:48,710 --> 00:22:45,360
a half hours

434
00:22:51,590 --> 00:22:48,720
straight presentation graphics the

435
00:22:53,669 --> 00:22:51,600
writing the thought process there's only

436
00:22:56,149 --> 00:22:53,679
one way

437
00:22:58,390 --> 00:22:56,159
brain peak nine

438
00:23:00,390 --> 00:22:58,400

this is not a joke

439

00:23:02,710 --> 00:23:00,400

i wake up every day i'm like my brain

440

00:23:05,190 --> 00:23:02,720

peak nine it's it's

441

00:23:08,630 --> 00:23:07,110

it helps you remember things

442

00:23:10,950 --> 00:23:08,640

and uh

443

00:23:12,149 --> 00:23:10,960

and and putting stuff together for the

444

00:23:14,630 --> 00:23:12,159

show

445

00:23:17,270 --> 00:23:14,640

yeah you know i space out and

446

00:23:18,710 --> 00:23:17,280

procrastinate now down with brain peak

447

00:23:24,549 --> 00:23:18,720

i'm just like

448

00:23:28,070 --> 00:23:25,990

okay

449

00:23:29,190 --> 00:23:28,080

brain peak nine

450

00:23:30,070 --> 00:23:29,200

all right

451
00:23:31,590 --> 00:23:30,080
oh

452
00:23:34,230 --> 00:23:31,600
man

453
00:23:38,149 --> 00:23:34,240
the calm before the storm two and a half

454
00:23:39,430 --> 00:23:38,159
hours of aliens and exoplanets coming up

455
00:23:40,710 --> 00:23:39,440
but

456
00:23:43,669 --> 00:23:40,720
first

457
00:23:46,310 --> 00:23:43,679
it's fourth of july weekend

458
00:23:49,029 --> 00:23:46,320
and i was busy all week and i worked

459
00:23:50,789 --> 00:23:49,039
but i also got a little time off i got

460
00:23:53,830 --> 00:23:50,799
some entertainment in

461
00:23:56,789 --> 00:23:53,840
i just finished

462
00:23:58,950 --> 00:23:56,799
the man who fell to earth

463
00:23:59,770 --> 00:23:58,960

showtime amazing

464

00:24:01,430 --> 00:23:59,780

and uh

465

00:24:02,830 --> 00:24:01,440

[Music]

466

00:24:06,390 --> 00:24:02,840

a different

467

00:24:09,430 --> 00:24:06,400

take similar but different modern

468

00:24:11,110 --> 00:24:09,440

version of the bowie classic the film

469

00:24:12,870 --> 00:24:11,120

the man who felt earth

470

00:24:14,870 --> 00:24:12,880

which i watched

471

00:24:16,310 --> 00:24:14,880

again a couple of weeks ago

472

00:24:18,710 --> 00:24:16,320

in the middle of this

473

00:24:20,630 --> 00:24:18,720

so i just finished that

474

00:24:24,549 --> 00:24:20,640

i also just finished

475

00:24:26,630 --> 00:24:24,559

the terminal list starring chris pratt

476
00:24:29,510 --> 00:24:26,640
and you know guardians of the galaxy

477
00:24:32,630 --> 00:24:29,520
marvel chris pratt and

478
00:24:34,950 --> 00:24:32,640
he's not funny in this i don't think i

479
00:24:38,950 --> 00:24:34,960
don't think there was one joke

480
00:24:42,710 --> 00:24:40,789
no this is a different version of chris

481
00:24:44,070 --> 00:24:42,720
pratt and you could tell by the end of

482
00:24:45,510 --> 00:24:44,080
this

483
00:24:47,590 --> 00:24:45,520
uh

484
00:24:49,750 --> 00:24:47,600
the season finale that there's

485
00:24:51,750 --> 00:24:49,760
definitely gonna be a season two so

486
00:24:53,269 --> 00:24:51,760
you've got more serious chris pratt

487
00:24:57,430 --> 00:24:53,279
coming up it's pretty good

488
00:25:01,510 --> 00:24:57,440

and i also finished stranger things

489

00:25:05,590 --> 00:25:01,520

i did everything completed everything

490

00:25:09,029 --> 00:25:05,600

series finale two season finales all in

491

00:25:11,590 --> 00:25:09,039

one weekend now the man who fell to

492

00:25:14,710 --> 00:25:11,600

earth was easy uh i only had to watch

493

00:25:16,870 --> 00:25:14,720

one episode um it's show time

494

00:25:18,630 --> 00:25:16,880

you can't watch everything all once you

495

00:25:20,149 --> 00:25:18,640

can't binge it unless you wait for the

496

00:25:21,510 --> 00:25:20,159

season to end

497

00:25:23,990 --> 00:25:21,520

and then you watch everything at one

498

00:25:25,269 --> 00:25:24,000

time but uh this this series was just

499

00:25:28,230 --> 00:25:25,279

too good

500

00:25:29,750 --> 00:25:28,240

and i watched it one episode per week

501
00:25:32,549 --> 00:25:29,760
like i'm doing right now with the

502
00:25:34,549 --> 00:25:32,559
orville enough on that um

503
00:25:38,470 --> 00:25:34,559
the orville that is

504
00:25:39,909 --> 00:25:38,480
um the man who fell to earth uh pretty

505
00:25:43,830 --> 00:25:39,919
incredible

506
00:25:44,870 --> 00:25:43,840
um an unexpected ending

507
00:25:48,789 --> 00:25:44,880
um

508
00:25:51,430 --> 00:25:48,799
spoilers

509
00:25:52,950 --> 00:25:51,440
uh let me let me circle back to that

510
00:25:55,269 --> 00:25:52,960
um

511
00:25:57,510 --> 00:25:55,279
the terminal list was a serious

512
00:26:01,269 --> 00:25:57,520
10-episode binge

513
00:26:03,190 --> 00:26:01,279

uh that started uh midweek last week

514

00:26:05,750 --> 00:26:03,200

and it was just one of those things

515

00:26:07,350 --> 00:26:05,760

where i know when i start to binge

516

00:26:08,789 --> 00:26:07,360

something and i know that you do the

517

00:26:11,029 --> 00:26:08,799

same thing

518

00:26:12,310 --> 00:26:11,039

first episode it's a new series you

519

00:26:14,870 --> 00:26:12,320

don't know what's going on and you've

520

00:26:15,990 --> 00:26:14,880

got all 10 12 episodes up there in front

521

00:26:17,590 --> 00:26:16,000

of you

522

00:26:20,070 --> 00:26:17,600

um

523

00:26:21,029 --> 00:26:20,080

it's got one up it's got no wait a

524

00:26:23,830 --> 00:26:21,039

minute

525

00:26:26,230 --> 00:26:23,840

let's say it's a one-hour show it's got

526
00:26:28,710 --> 00:26:26,240
15 minutes

527
00:26:30,870 --> 00:26:28,720
to grab you or

528
00:26:33,669 --> 00:26:30,880
i've got i've got

529
00:26:35,029 --> 00:26:33,679
5 or 10 series right now

530
00:26:38,549 --> 00:26:35,039
on my

531
00:26:41,269 --> 00:26:38,559
continue watching right

532
00:26:42,789 --> 00:26:41,279
you can see right you got this much the

533
00:26:45,350 --> 00:26:42,799
the full view right

534
00:26:47,909 --> 00:26:45,360
that you could see that i've watched

535
00:26:49,990 --> 00:26:47,919
five minutes and if it doesn't get me in

536
00:26:52,149 --> 00:26:50,000
those five minutes that's it i i just

537
00:26:54,070 --> 00:26:52,159
won't go back to it the flight attendant

538
00:26:56,789 --> 00:26:54,080

season two

539

00:26:58,149 --> 00:26:56,799

bailed on it

540

00:27:00,789 --> 00:26:58,159

so many more

541

00:27:02,870 --> 00:27:00,799

but uh the terminal has got me

542

00:27:06,149 --> 00:27:02,880

it got me oh by the way

543

00:27:08,630 --> 00:27:06,159

uh the sun is setting i've uh i'm

544

00:27:11,110 --> 00:27:08,640

watching things now we're probably gonna

545

00:27:13,510 --> 00:27:11,120

have some loud fireworks tonight during

546

00:27:15,269 --> 00:27:13,520

the show it's the fourth of july

547

00:27:17,110 --> 00:27:15,279

um so if you hear something going on

548

00:27:19,269 --> 00:27:17,120

that's what it is

549

00:27:23,669 --> 00:27:19,279

but the terminal list is worth it

550

00:27:24,549 --> 00:27:23,679

so go and check that out it's uh

551
00:27:26,710 --> 00:27:24,559
uh

552
00:27:28,149 --> 00:27:26,720
man no spoilers i don't want to do it

553
00:27:33,190 --> 00:27:28,159
secret agent

554
00:27:35,750 --> 00:27:33,200
stuff

555
00:27:37,830 --> 00:27:35,760
pretty good chris pratt seal team

556
00:27:39,750 --> 00:27:37,840
go check it out it's worth it now

557
00:27:44,149 --> 00:27:39,760
stranger things

558
00:27:46,230 --> 00:27:44,159
wasn't a 10 episode binge i think it was

559
00:27:49,830 --> 00:27:46,240
just four episodes

560
00:27:52,149 --> 00:27:49,840
uh to complete the series

561
00:27:53,110 --> 00:27:52,159
again no spoilers here

562
00:27:55,430 --> 00:27:53,120
um

563
00:27:57,269 --> 00:27:55,440

there were so many things going on they

564

00:27:59,510 --> 00:27:57,279

split the season in half

565

00:28:01,190 --> 00:27:59,520

and the the way that they left the first

566

00:28:03,510 --> 00:28:01,200

half of this season

567

00:28:06,310 --> 00:28:03,520

there was like five six seven

568

00:28:10,470 --> 00:28:06,320

story lines going on at the same time

569

00:28:11,430 --> 00:28:10,480

um seemingly everywhere including russia

570

00:28:14,470 --> 00:28:11,440

and

571

00:28:16,230 --> 00:28:14,480

with with all of this happening

572

00:28:18,950 --> 00:28:16,240

i just thought how how are they going to

573

00:28:21,029 --> 00:28:18,960

do this so i thought i didn't bother to

574

00:28:23,750 --> 00:28:21,039

check but i was thinking that there was

575

00:28:26,870 --> 00:28:23,760

going to be another six eight episodes

576

00:28:30,789 --> 00:28:26,880

uh to wrap all of this up the last four

577

00:28:32,789 --> 00:28:30,799

episodes which is the series finale

578

00:28:33,830 --> 00:28:32,799

that's it that's the end of stranger

579

00:28:37,350 --> 00:28:33,840

things

580

00:28:38,710 --> 00:28:37,360

um it was rapid fire uh these uh four

581

00:28:41,110 --> 00:28:38,720

episodes

582

00:28:43,430 --> 00:28:41,120

and it seemed to happen really really

583

00:28:45,830 --> 00:28:43,440

fast and the next thing you know

584

00:28:48,630 --> 00:28:45,840

you're at the uh the end of the series

585

00:28:49,830 --> 00:28:48,640

and uh good ending

586

00:28:53,269 --> 00:28:49,840

good ending

587

00:28:56,830 --> 00:28:53,279

yeah yeah again no spoilers here but

588

00:29:00,230 --> 00:28:56,840

when it got to the end of

589

00:29:02,870 --> 00:29:00,240

this i'm just going to tell you this

590

00:29:04,789 --> 00:29:02,880

so when you get there

591

00:29:07,430 --> 00:29:04,799

i want you to think about what i'm about

592

00:29:12,549 --> 00:29:09,669

when the ending was happening and i'm

593

00:29:14,630 --> 00:29:12,559

watching it it's there's like 15 seconds

594

00:29:16,470 --> 00:29:14,640

left and i can see that

595

00:29:18,710 --> 00:29:16,480

i'm like wait a minute there's got to be

596

00:29:19,909 --> 00:29:18,720

another episode

597

00:29:22,950 --> 00:29:19,919

right

598

00:29:25,669 --> 00:29:22,960

there's look at hawkins there's there's

599

00:29:27,750 --> 00:29:25,679

there's got to be another episode

600

00:29:29,990 --> 00:29:27,760

but they left it right there

601
00:29:32,149 --> 00:29:30,000
and in a strange way for stranger things

602
00:29:35,350 --> 00:29:32,159
in a strange way it was uh pretty

603
00:29:37,990 --> 00:29:35,360
satisfying and it was uh

604
00:29:40,310 --> 00:29:38,000
an amazing amazing ending cam priest

605
00:29:42,230 --> 00:29:40,320
says watching the night sky that's

606
00:29:44,630 --> 00:29:42,240
incredible

607
00:29:46,389 --> 00:29:44,640
i pounded that out uh

608
00:29:49,669 --> 00:29:46,399
oh wait a minute i had to wait that was

609
00:29:51,830 --> 00:29:49,679
week to week two it was like 10 episodes

610
00:29:53,350 --> 00:29:51,840
but ken you're a little late man i i

611
00:29:55,029 --> 00:29:53,360
finished that like

612
00:29:56,549 --> 00:29:55,039
a month ago

613
00:29:59,430 --> 00:29:56,559

it's good though

614

00:30:02,230 --> 00:29:59,440

an incredible ending uh to that

615

00:30:04,710 --> 00:30:02,240

so that was my weekend i recommend all

616

00:30:06,830 --> 00:30:04,720

of these uh series uh to everybody the

617

00:30:10,310 --> 00:30:06,840

man uh who fell to earth is is

618

00:30:13,590 --> 00:30:10,320

incredible uh very fast-paced and very

619

00:30:15,190 --> 00:30:13,600

well written and it is a modern take of

620

00:30:17,029 --> 00:30:15,200

the bowie classic

621

00:30:18,070 --> 00:30:17,039

uh but the terminalist with uh chris

622

00:30:22,630 --> 00:30:18,080

pratt

623

00:30:24,789 --> 00:30:22,640

shows

624

00:30:26,950 --> 00:30:24,799

that he is so much more than just a

625

00:30:30,149 --> 00:30:26,960

comedic actor because he's very funny

626
00:30:31,430 --> 00:30:30,159
he's a great great funny comedic actor

627
00:30:34,630 --> 00:30:31,440
amazing

628
00:30:36,789 --> 00:30:34,640
no jokes in the terminal list and

629
00:30:40,230 --> 00:30:36,799
stranger things as stranger things so

630
00:30:42,310 --> 00:30:40,240
there you go i've got to um i think the

631
00:30:43,909 --> 00:30:42,320
next time that you see me

632
00:30:47,590 --> 00:30:43,919
i may have

633
00:30:48,789 --> 00:30:47,600
a hellfire club t-shirt

634
00:30:51,110 --> 00:30:48,799
yeah

635
00:30:52,950 --> 00:30:51,120
all right let's take our break right

636
00:30:55,269 --> 00:30:52,960
here this is fade to black i'm here's

637
00:30:57,190 --> 00:30:55,279
jimmy church tonight

638
00:30:58,070 --> 00:30:57,200

right here when we come back after the

639

00:31:00,070 --> 00:30:58,080

break

640

00:31:01,590 --> 00:31:00,080

we will start a two and a half hour

641

00:31:03,509 --> 00:31:01,600

presentation

642

00:31:06,070 --> 00:31:03,519

on aliens

643

00:31:08,549 --> 00:31:06,080

and exoplanets

644

00:31:10,870 --> 00:31:08,559

it's the deep dive for real i am your

645

00:31:13,509 --> 00:31:10,880

host jimmy church of the game changer

646

00:31:15,750 --> 00:31:13,519

and annex networks race hobbs

647

00:31:16,870 --> 00:31:15,760

this is fade to black i will be right

648

00:31:18,710 --> 00:31:16,880

back

649

00:31:20,230 --> 00:31:18,720

with this presentation of aliens and

650

00:31:21,940 --> 00:31:20,240

exoplanets right after this short break

651
00:31:40,600 --> 00:31:21,950
stay with us

652
00:31:51,029 --> 00:31:42,890
[Applause]

653
00:31:55,430 --> 00:31:53,190
this is nicole church daughter of you

654
00:31:56,430 --> 00:31:55,440
know who and you're listening to fade to

655
00:31:58,070 --> 00:31:56,440
black on

656
00:32:00,950 --> 00:31:58,080
jimmychurchradio.com and the game

657
00:32:03,110 --> 00:32:00,960
changer network

658
00:32:04,630 --> 00:32:03,120
you're listening to jimmy church and

659
00:32:11,029 --> 00:32:04,640
fade to black

660
00:32:17,509 --> 00:32:13,350
you're listening to jimmy church fade to

661
00:32:20,770 --> 00:32:19,669
fate to black will now pause for alien

662
00:32:26,070 --> 00:32:20,780
identification

663
00:32:30,870 --> 00:32:28,230

when you take the beans from central

664

00:32:33,269 --> 00:32:30,880

america with dashes of indonesian and

665

00:32:36,470 --> 00:32:33,279

african mixed in and then roasted to the

666

00:32:39,830 --> 00:32:36,480

dark side of fate to black you create

667

00:32:42,630 --> 00:32:39,840

the ultimate brew of fringe introducing

668

00:32:45,750 --> 00:32:42,640

the fade to black blend from river moon

669

00:32:48,230 --> 00:32:45,760

coffee yes river moon's darkest

670

00:32:50,789 --> 00:32:48,240

customized roast was created for the

671

00:32:53,430 --> 00:32:50,799

love of fade to black

672

00:32:55,990 --> 00:32:53,440

the alchemy of masterful roasting and

673

00:32:59,590 --> 00:32:56,000

smoking the beans is in every sip of

674

00:33:01,029 --> 00:32:59,600

this full-bodied dark java i need my

675

00:33:03,590 --> 00:33:01,039

coffee doc

676
00:33:06,630 --> 00:33:03,600
deep with distinct bittersweet chocolate

677
00:33:09,110 --> 00:33:06,640
highlights just like the bunker leaning

678
00:33:11,750 --> 00:33:09,120
further into the darkness of the roast

679
00:33:14,430 --> 00:33:11,760
is fade to black blend from river moon

680
00:33:16,389 --> 00:33:14,440
coffee just click on the banner at

681
00:33:20,149 --> 00:33:16,399
jimmychurchradio.com and use the promo

682
00:33:22,070 --> 00:33:20,159
code f2b blend for 15 off of your order

683
00:33:24,710 --> 00:33:22,080
today

684
00:33:27,509 --> 00:33:24,720
this is the only way forward

685
00:33:29,909 --> 00:33:27,519
this is paid to black

686
00:33:31,669 --> 00:33:29,919
make contact

687
00:33:34,470 --> 00:33:31,679
this is jimmy church of fade to black

688
00:33:36,789 --> 00:33:34,480

and you can get our podcast for just two

689

00:33:39,190 --> 00:33:36,799

dollars per month all you have to do is

690

00:33:41,590 --> 00:33:39,200

click on the podcast banner over at

691

00:33:43,669 --> 00:33:41,600

jimmychurchradio.com

692

00:33:46,870 --> 00:33:43,679

hello fader knots jimmy church here

693

00:33:49,110 --> 00:33:46,880

you've seen me with my thunderstorm now

694

00:33:51,350 --> 00:33:49,120

you can purify the air in your home and

695

00:33:53,669 --> 00:33:51,360

get healthy clean fresh smelling air and

696

00:33:55,669 --> 00:33:53,679

eliminate odors just like i do right

697

00:33:58,149 --> 00:33:55,679

here in the bunker the eden pier

698

00:34:00,710 --> 00:33:58,159

thunderstorm uses oxy technology that

699

00:34:02,950 --> 00:34:00,720

naturally sends out o3 molecules into

700

00:34:05,350 --> 00:34:02,960

the air which seek out odors and air

701
00:34:07,830 --> 00:34:05,360
pollutants in your home and destroys

702
00:34:10,389 --> 00:34:07,840
them it's called a thunderstorm because

703
00:34:12,869 --> 00:34:10,399
it purifies the air just like after a

704
00:34:14,629 --> 00:34:12,879
thunderstorm and right now you can save

705
00:34:17,430 --> 00:34:14,639
two hundred dollars on an eden pier

706
00:34:19,669 --> 00:34:17,440
thunderstorm three pack for whole home

707
00:34:21,750 --> 00:34:19,679
protection with this special offer

708
00:34:23,030 --> 00:34:21,760
you're getting three units for under two

709
00:34:24,389 --> 00:34:23,040
hundred dollars

710
00:34:26,550 --> 00:34:24,399
seriously

711
00:34:29,109 --> 00:34:26,560
go to edenpuredeals.com

712
00:34:31,669 --> 00:34:29,119
and use fader three

713
00:34:34,310 --> 00:34:31,679

shipping is free and it's easy just

714

00:34:35,190 --> 00:34:34,320

scroll down you'll see my name right

715

00:34:38,310 --> 00:34:35,200

there

716

00:34:43,829 --> 00:34:38,320

jimmy church click on it and get your

717

00:34:47,510 --> 00:34:45,109

do you have an interest in the

718

00:34:49,109 --> 00:34:47,520

paranormal that you'll love the on

719

00:34:51,589 --> 00:34:49,119

xnetwork.com

720

00:34:54,230 --> 00:34:51,599

the x is your streaming audio and video

721

00:34:57,990 --> 00:34:54,240

for everything supernatural strange and

722

00:35:00,230 --> 00:34:58,000

mysterious like ufos bigfoot ghosts and

723

00:35:03,030 --> 00:35:00,240

so much more from hosts like jimmy

724

00:35:05,390 --> 00:35:03,040

church whitley strieber nica hanks and

725

00:35:07,589 --> 00:35:05,400

christina gomez visit the

726

00:35:09,670 --> 00:35:07,599

unexnetwork.com show page for a complete

727

00:35:12,150 --> 00:35:09,680

list of all the paranormal programs

728

00:35:14,270 --> 00:35:12,160

you'll find on the axe be sure to follow

729

00:35:17,430 --> 00:35:14,280

us on twitter for updates at

730

00:35:20,230 --> 00:35:17,440

kunxdb follow our facebook group on x

731

00:35:23,510 --> 00:35:20,240

network find the podcast on spotify

732

00:35:25,349 --> 00:35:23,520

iheart audible and apple podcast it's

733

00:35:28,950 --> 00:35:25,359

time it's new

734

00:35:28,960 --> 00:35:34,069

nine out of ten geneticists agree

735

00:35:37,829 --> 00:35:36,470

fade to black

736

00:35:40,470 --> 00:35:37,839

is not

737

00:35:44,630 --> 00:35:40,480

your father's radio show

738

00:35:46,630 --> 00:35:44,640

on the game changer radio network

739

00:35:47,990 --> 00:35:46,640

hi this is rob reiner from anvil and

740

00:35:51,270 --> 00:35:48,000

you're listening to jimmy

741

00:35:54,790 --> 00:35:53,030

what's up chris what up this is kyle

742

00:35:56,830 --> 00:35:54,800

matson we're listening to jimmy church

743

00:36:14,630 --> 00:35:56,840

radio

744

00:36:20,069 --> 00:36:17,829

all right welcome back happy 4th of july

745

00:36:21,430 --> 00:36:20,079

everybody before we get things started

746

00:36:24,150 --> 00:36:21,440

we're going to run limited uh

747

00:36:27,190 --> 00:36:24,160

commercials tonight so

748

00:36:29,190 --> 00:36:27,200

i want you to check out the thunderstorm

749

00:36:32,630 --> 00:36:29,200

this is mine it sits in the studio you

750

00:36:38,390 --> 00:36:35,430

you can get the three pack special right

751
00:36:40,950 --> 00:36:38,400
now with free shipping just click on the

752
00:36:42,950 --> 00:36:40,960
link below for all of you fader knots

753
00:36:45,030 --> 00:36:42,960
promo code is fader three

754
00:36:46,550 --> 00:36:45,040
the thunderstorm

755
00:36:47,750 --> 00:36:46,560
kills viruses

756
00:36:50,390 --> 00:36:47,760
smells like

757
00:36:51,829 --> 00:36:50,400
rain it's incredible i keep it here in

758
00:36:52,710 --> 00:36:51,839
the bunker

759
00:36:55,990 --> 00:36:52,720
running

760
00:37:01,190 --> 00:36:56,000
all day it just it just runs

761
00:37:04,550 --> 00:37:01,200
okay here we go uh tonight i will be

762
00:37:05,750 --> 00:37:04,560
doing a full presentation of uh two and

763
00:37:09,430 --> 00:37:05,760

a half hours

764

00:37:12,950 --> 00:37:09,440

of aliens and exoplanets

765

00:37:14,950 --> 00:37:12,960

and i'm gonna do a few things uh to get

766

00:37:17,990 --> 00:37:14,960

ready for this one

767

00:37:21,430 --> 00:37:18,000

i am going to get rid of

768

00:37:23,670 --> 00:37:21,440

that because i need full screen i need

769

00:37:26,550 --> 00:37:23,680

everything up there's going to be a lot

770

00:37:28,710 --> 00:37:26,560

of images and a lot of information that

771

00:37:31,270 --> 00:37:28,720

is going to follow

772

00:37:34,390 --> 00:37:31,280

um i have been interested in this

773

00:37:35,750 --> 00:37:34,400

subject since the discovery of the first

774

00:37:38,390 --> 00:37:35,760

exoplanet

775

00:37:41,190 --> 00:37:38,400

we are going to go through all of that

776
00:37:42,310 --> 00:37:41,200
tonight and of course what may be

777
00:37:44,870 --> 00:37:42,320
visiting

778
00:37:47,349 --> 00:37:44,880
us here on this planet and we have

779
00:37:49,190 --> 00:37:47,359
um all of the conversation about ufos

780
00:37:51,030 --> 00:37:49,200
and uaps that is going down with the

781
00:37:53,270 --> 00:37:51,040
department of defense

782
00:37:55,510 --> 00:37:53,280
the uap task force of course the senate

783
00:37:58,710 --> 00:37:55,520
the house of representatives uh the

784
00:37:59,670 --> 00:37:58,720
efforts of uh lou elizondo and uh chris

785
00:38:01,109 --> 00:37:59,680
mellon

786
00:38:05,829 --> 00:38:01,119
and others

787
00:38:08,550 --> 00:38:05,839
and uh it is uh an extraordinary time

788
00:38:11,109 --> 00:38:08,560

and while all of this is going on we

789

00:38:13,030 --> 00:38:11,119

have the galileo project we have harvard

790

00:38:15,030 --> 00:38:13,040

university of course

791

00:38:18,390 --> 00:38:15,040

um and avi loeb

792

00:38:21,109 --> 00:38:18,400

and we have the other side of all of

793

00:38:22,310 --> 00:38:21,119

this which is the science and the facts

794

00:38:24,550 --> 00:38:22,320

behind it

795

00:38:27,190 --> 00:38:24,560

um and the search for exoplanets and the

796

00:38:29,670 --> 00:38:27,200

search for alien life

797

00:38:31,430 --> 00:38:29,680

and i talk about this subject nearly

798

00:38:32,550 --> 00:38:31,440

every single night on the show when i

799

00:38:34,550 --> 00:38:32,560

talk about

800

00:38:37,430 --> 00:38:34,560

all of the multiple

801
00:38:38,390 --> 00:38:37,440
fronts where this information is coming

802
00:38:40,470 --> 00:38:38,400
at us

803
00:38:42,390 --> 00:38:40,480
right and we have we have it all

804
00:38:43,589 --> 00:38:42,400
happening at the same time in the media

805
00:38:45,510 --> 00:38:43,599
coverage

806
00:38:48,790 --> 00:38:45,520
and but what

807
00:38:50,950 --> 00:38:48,800
is going on with the science side of

808
00:38:52,150 --> 00:38:50,960
things so that's what we are going to do

809
00:38:55,510 --> 00:38:52,160
tonight

810
00:38:59,589 --> 00:38:55,520
and uh so get ready for all of that

811
00:39:01,190 --> 00:38:59,599
and uh i am going to

812
00:39:03,829 --> 00:39:01,200
kick things off

813
00:39:05,270 --> 00:39:03,839

uh with a couple of direct things and

814

00:39:07,990 --> 00:39:05,280

we're going to do

815

00:39:09,589 --> 00:39:08,000

a little bit of history

816

00:39:13,109 --> 00:39:09,599

and uh

817

00:39:16,790 --> 00:39:13,119

and go backwards and then of course move

818

00:39:17,750 --> 00:39:16,800

forward but uh this presentation like i

819

00:39:20,870 --> 00:39:17,760

said

820

00:39:23,589 --> 00:39:20,880

is uh very com comprehensive and there

821

00:39:25,349 --> 00:39:23,599

is a oh that was a big boom

822

00:39:28,950 --> 00:39:25,359

right over the top of my house it is the

823

00:39:31,670 --> 00:39:28,960

fourth of july so um here we go let's

824

00:39:33,270 --> 00:39:31,680

get things started and um in this

825

00:39:36,950 --> 00:39:33,280

presentation

826

00:39:37,990 --> 00:39:36,960

um as uh we start to

827

00:39:40,870 --> 00:39:38,000

uh

828

00:39:42,550 --> 00:39:40,880

understand

829

00:39:45,670 --> 00:39:42,560

how we got here

830

00:39:49,670 --> 00:39:45,680

uh let's start with copernicus

831

00:39:51,589 --> 00:39:49,680

copernicus was born in 1473. he died in

832

00:39:53,829 --> 00:39:51,599

1543

833

00:39:55,990 --> 00:39:53,839

at the age of 70.

834

00:39:58,550 --> 00:39:56,000

copernicus formulated a model of the

835

00:39:59,829 --> 00:39:58,560

universe that placed the sun rather than

836

00:40:01,270 --> 00:39:59,839

the earth

837

00:40:04,230 --> 00:40:01,280

at its center

838

00:40:05,349 --> 00:40:04,240

his book on the revelations of celestial

839

00:40:09,109 --> 00:40:05,359

spheres

840

00:40:11,270 --> 00:40:09,119

published just before his death in 1543

841

00:40:12,950 --> 00:40:11,280

was a major event in the history of

842

00:40:16,950 --> 00:40:12,960

science because it triggered the

843

00:40:18,870 --> 00:40:16,960

copernican revolution and kick-started

844

00:40:22,390 --> 00:40:18,880

the scientific

845

00:40:25,190 --> 00:40:22,400

revolution his importance to all of this

846

00:40:27,190 --> 00:40:25,200

cannot be measured and the other part uh

847

00:40:30,710 --> 00:40:27,200

with uh copernicus

848

00:40:33,349 --> 00:40:30,720

is the development of of lenses and

849

00:40:37,190 --> 00:40:33,359

telescopes and experimenting

850

00:40:40,710 --> 00:40:37,200

on getting the best and clearest images

851
00:40:42,870 --> 00:40:40,720
and a lot of the scientists uh back then

852
00:40:45,109 --> 00:40:42,880
were friends and they were sharing

853
00:40:47,510 --> 00:40:45,119
information and they were trying to

854
00:40:50,550 --> 00:40:47,520
perfect these methods

855
00:40:51,510 --> 00:40:50,560
of looking to the heavens

856
00:40:55,430 --> 00:40:51,520
then

857
00:40:58,710 --> 00:40:55,440
came galileo now galileo

858
00:41:02,309 --> 00:40:58,720
was born in 1564

859
00:41:03,990 --> 00:41:02,319
uh 20 years after the death of

860
00:41:06,630 --> 00:41:04,000
copernicus a lot of people think that

861
00:41:09,750 --> 00:41:06,640
they lived at the same time they did not

862
00:41:12,630 --> 00:41:09,760
galileo died in 1642

863
00:41:14,470 --> 00:41:12,640

now of course galileo championed

864

00:41:18,069 --> 00:41:14,480

heliocentrism

865

00:41:21,030 --> 00:41:18,079

uh everything based on uh copernicus you

866

00:41:24,550 --> 00:41:21,040

know that the earth is rotating daily

867

00:41:27,430 --> 00:41:24,560

right and revolving around the sun and

868

00:41:29,990 --> 00:41:27,440

he fought the vatican over this until

869

00:41:33,510 --> 00:41:30,000

his death and of course the later part

870

00:41:35,829 --> 00:41:33,520

of his life was spent under house arrest

871

00:41:39,270 --> 00:41:35,839

now next here

872

00:41:41,030 --> 00:41:39,280

i want you to look at this image and i

873

00:41:43,349 --> 00:41:41,040

am going to

874

00:41:45,510 --> 00:41:43,359

uh take this up a scale

875

00:41:47,349 --> 00:41:45,520

and i want you to look at uh the

876
00:41:49,670 --> 00:41:47,359
telescope here

877
00:41:50,870 --> 00:41:49,680
okay because

878
00:41:53,829 --> 00:41:50,880
here

879
00:41:55,030 --> 00:41:53,839
our galileo's telescopes

880
00:41:58,790 --> 00:41:55,040
and

881
00:42:00,150 --> 00:41:58,800
this image are this image are two of his

882
00:42:05,190 --> 00:42:00,160
telescopes

883
00:42:08,470 --> 00:42:05,200
that are on display in a museum in italy

884
00:42:10,550 --> 00:42:08,480
now for the next just imagine what

885
00:42:13,109 --> 00:42:10,560
galileo was doing

886
00:42:13,990 --> 00:42:13,119
with those you know and changing the

887
00:42:18,390 --> 00:42:14,000
world

888
00:42:21,750 --> 00:42:18,400

now over uh the next uh 200 years now

889

00:42:26,069 --> 00:42:21,760

remember uh as we look at uh these these

890

00:42:29,589 --> 00:42:26,079

time scales here galileo died in 1642

891

00:42:31,030 --> 00:42:29,599

and uh for the next 200 years astronomy

892

00:42:34,390 --> 00:42:31,040

progressed

893

00:42:37,589 --> 00:42:34,400

telescopes got bigger they got better

894

00:42:39,910 --> 00:42:37,599

but things were just static

895

00:42:42,309 --> 00:42:39,920

yes discoveries were made

896

00:42:46,309 --> 00:42:42,319

things were getting measured but it

897

00:42:49,589 --> 00:42:46,319

wasn't until 1923 when edwin hubble made

898

00:42:50,870 --> 00:42:49,599

his breakthrough observations

899

00:42:55,750 --> 00:42:50,880

and

900

00:42:57,349 --> 00:42:55,760

a notch right here

901
00:42:58,390 --> 00:42:57,359
edwin hubble

902
00:42:59,349 --> 00:42:58,400
uh

903
00:43:02,550 --> 00:42:59,359
and

904
00:43:05,109 --> 00:43:02,560
uh his discoveries he made two

905
00:43:06,230 --> 00:43:05,119
uh nearly back to back

906
00:43:09,829 --> 00:43:06,240
and

907
00:43:15,510 --> 00:43:09,839
it uh it was an incredible time

908
00:43:19,430 --> 00:43:17,589
as he was watching

909
00:43:20,870 --> 00:43:19,440
the sky well there was two things that

910
00:43:23,109 --> 00:43:20,880
happened first

911
00:43:26,390 --> 00:43:23,119
while looking at

912
00:43:27,829 --> 00:43:26,400
gaseous nebulae which is what

913
00:43:29,030 --> 00:43:27,839

astronomers

914

00:43:32,309 --> 00:43:29,040

called them

915

00:43:34,309 --> 00:43:32,319

were these blobs up in the night sky and

916

00:43:36,950 --> 00:43:34,319

from the southern hemisphere you can see

917

00:43:38,069 --> 00:43:36,960

them with the naked eye

918

00:43:40,870 --> 00:43:38,079

and he

919

00:43:43,990 --> 00:43:40,880

discovered and proved that they weren't

920

00:43:46,790 --> 00:43:44,000

gaseous blobs

921

00:43:49,829 --> 00:43:46,800

but other galaxies

922

00:43:52,390 --> 00:43:49,839

and specifically he was looking at

923

00:43:53,750 --> 00:43:52,400

andromeda and the second thing that he

924

00:43:57,190 --> 00:43:53,760

proved was

925

00:43:58,790 --> 00:43:57,200

the universe was expanding now up until

926
00:44:00,710 --> 00:43:58,800
this point

927
00:44:02,150 --> 00:44:00,720
science thought including albert

928
00:44:05,109 --> 00:44:02,160
einstein

929
00:44:08,710 --> 00:44:05,119
that our universe was static that

930
00:44:12,550 --> 00:44:08,720
nothing moved it was completely unmoving

931
00:44:14,870 --> 00:44:12,560
and uh these were two huge huge

932
00:44:17,109 --> 00:44:14,880
discoveries for astronomy

933
00:44:21,510 --> 00:44:17,119
this is the

934
00:44:24,550 --> 00:44:21,520
photographic plate that edwin hubble uh

935
00:44:27,589 --> 00:44:24,560
used photographed from his palomar

936
00:44:31,910 --> 00:44:27,599
observatory and you can see on this

937
00:44:34,710 --> 00:44:31,920
plate it says 6 october 1923.

938
00:44:36,390 --> 00:44:34,720

that blob in the center that's andromeda

939

00:44:37,430 --> 00:44:36,400

and that's what he was looking at every

940

00:44:39,589 --> 00:44:37,440

night

941

00:44:42,309 --> 00:44:39,599

and you know figured out that that was a

942

00:44:43,910 --> 00:44:42,319

galaxy but then he also noticed that

943

00:44:46,870 --> 00:44:43,920

stars

944

00:44:50,870 --> 00:44:46,880

were moving objects were moving

945

00:44:53,349 --> 00:44:50,880

uh in this that shouldn't be and once

946

00:44:56,630 --> 00:44:53,359

they did the measurements and

947

00:45:01,030 --> 00:44:56,640

uh the conclusion was made and proven

948

00:45:02,069 --> 00:45:01,040

that our galaxy was indeed expanding

949

00:45:03,109 --> 00:45:02,079

now

950

00:45:05,270 --> 00:45:03,119

um

951
00:45:07,589 --> 00:45:05,280
copernicus and galileo proved that the

952
00:45:09,990 --> 00:45:07,599
sun was at the center of our star system

953
00:45:11,510 --> 00:45:10,000
and hubble discovered galaxies beyond

954
00:45:14,069 --> 00:45:11,520
our milky way

955
00:45:15,990 --> 00:45:14,079
but what about other planets and this

956
00:45:19,030 --> 00:45:16,000
was another

957
00:45:21,430 --> 00:45:19,040
you know one of the biggest questions

958
00:45:25,829 --> 00:45:21,440
that has always been asked

959
00:45:28,470 --> 00:45:25,839
right now this is our milky way and we

960
00:45:31,670 --> 00:45:28,480
are here depending on how you want to

961
00:45:35,030 --> 00:45:31,680
count this we're on the third spiral out

962
00:45:36,230 --> 00:45:35,040
uh there's two uh spirals on the inside

963
00:45:40,150 --> 00:45:36,240

so

964

00:45:43,589 --> 00:45:40,160

there we are

965

00:45:45,109 --> 00:45:43,599

in a pretty pleasant part of the milky

966

00:45:49,910 --> 00:45:45,119

way by the way

967

00:45:52,630 --> 00:45:49,920

and uh things here are pretty steady and

968

00:45:55,670 --> 00:45:52,640

not very chaotic

969

00:45:58,710 --> 00:45:55,680

and we are able to look out

970

00:46:00,870 --> 00:45:58,720

and and see things with uh

971

00:46:02,710 --> 00:46:00,880

the length of time that our planet has

972

00:46:04,309 --> 00:46:02,720

been here which we've been here for

973

00:46:07,589 --> 00:46:04,319

about four and a half billion years our

974

00:46:09,349 --> 00:46:07,599

sun has been here for about four and a

975

00:46:10,550 --> 00:46:09,359

half billion years

976
00:46:13,030 --> 00:46:10,560
um

977
00:46:15,750 --> 00:46:13,040
there are other parts of the milky way

978
00:46:17,990 --> 00:46:15,760
where things aren't as nice

979
00:46:20,150 --> 00:46:18,000
and as peaceful

980
00:46:25,430 --> 00:46:20,160
as it is right here but that's our milky

981
00:46:28,470 --> 00:46:25,440
way and it's 150 000 light years across

982
00:46:31,589 --> 00:46:28,480
so as we move forward here i want you to

983
00:46:35,589 --> 00:46:31,599
always picture and go back to this image

984
00:46:40,230 --> 00:46:35,599
of the milky way and understand how big

985
00:46:42,950 --> 00:46:40,240
the milky way really is it's 150 000

986
00:46:46,069 --> 00:46:42,960
light years across it will take you 150

987
00:46:48,950 --> 00:46:46,079
000 years at the speed of light to get

988
00:46:52,309 --> 00:46:48,960

from one side of our milky way to the

989

00:46:55,589 --> 00:46:52,319

other the milky way is a big place

990

00:46:59,430 --> 00:46:55,599

but other things are bigger

991

00:47:03,270 --> 00:47:01,510

the biggest question yet that hasn't

992

00:47:04,309 --> 00:47:03,280

been answered

993

00:47:07,109 --> 00:47:04,319

was

994

00:47:11,750 --> 00:47:09,270

is our earth

995

00:47:13,670 --> 00:47:11,760

and our eight little friends depending

996

00:47:16,790 --> 00:47:13,680

on how you're counting

997

00:47:18,950 --> 00:47:16,800

right all that there is

998

00:47:21,030 --> 00:47:18,960

are there other planets out there are

999

00:47:23,349 --> 00:47:21,040

there other things out there our

1000

00:47:24,870 --> 00:47:23,359

land-based observatories

1001

00:47:27,109 --> 00:47:24,880

were getting bigger

1002

00:47:29,430 --> 00:47:27,119

and their ability to look into deep

1003

00:47:30,950 --> 00:47:29,440

space was getting better and you know

1004

00:47:31,829 --> 00:47:30,960

although good

1005

00:47:34,870 --> 00:47:31,839

it was

1006

00:47:37,430 --> 00:47:34,880

always limited uh to our atmosphere

1007

00:47:39,589 --> 00:47:37,440

which was always getting in the way and

1008

00:47:42,230 --> 00:47:39,599

the chances of seeing another planet

1009

00:47:43,190 --> 00:47:42,240

orbiting another star that would be at a

1010

00:47:45,670 --> 00:47:43,200

minimum

1011

00:47:47,430 --> 00:47:45,680

many light years away it all seemed

1012

00:47:49,270 --> 00:47:47,440

nearly impossible

1013

00:47:52,470 --> 00:47:49,280

the answer seemed to be

1014

00:47:56,150 --> 00:47:52,480

you know with a space-based telescope

1015

00:47:59,829 --> 00:47:56,160

but everything changed in january 1992

1016

00:48:01,670 --> 00:47:59,839

when here astronomers alexander wolskan

1017

00:48:03,910 --> 00:48:01,680

and dale frail

1018

00:48:08,870 --> 00:48:03,920

announced the discovery of two planets

1019

00:48:11,670 --> 00:48:08,880

orbiting the pulsar psr 1257 plus 12

1020

00:48:14,230 --> 00:48:11,680

this discovery was confirmed and is

1021

00:48:16,309 --> 00:48:14,240

generally considered to be the first

1022

00:48:18,230 --> 00:48:16,319

definitive detection

1023

00:48:19,109 --> 00:48:18,240

of exoplanets

1024

00:48:21,470 --> 00:48:19,119

then

1025

00:48:23,349 --> 00:48:21,480

in october of

1026

00:48:25,190 --> 00:48:23,359

1995

1027

00:48:28,390 --> 00:48:25,200

it went down

1028

00:48:30,230 --> 00:48:28,400

michael mayer and didier kilos of the

1029

00:48:32,630 --> 00:48:30,240

university of geneva

1030

00:48:36,069 --> 00:48:32,640

announced the first definitive detection

1031

00:48:41,829 --> 00:48:36,079

of an exoplanet orbiting a main sequence

1032

00:48:43,910 --> 00:48:41,839

star nearby g-type star 51 pegasi

1033

00:48:47,670 --> 00:48:43,920

these first three exoplanets were

1034

00:48:50,390 --> 00:48:47,680

discovered with land-based telescopes

1035

00:48:53,349 --> 00:48:50,400

now until this point in history the

1036

00:48:54,710 --> 00:48:53,359

number of planets outside of our solar

1037

00:48:56,630 --> 00:48:54,720

system

1038

00:48:58,630 --> 00:48:56,640

was zero

1039

00:49:01,349 --> 00:48:58,640

in fact when anyone looked into the

1040

00:49:04,470 --> 00:49:01,359

night sky and observed the stars

1041

00:49:07,750 --> 00:49:04,480

you know that was the question i wonder

1042

00:49:09,349 --> 00:49:07,760

if any of these stars

1043

00:49:11,670 --> 00:49:09,359

have a planet

1044

00:49:14,549 --> 00:49:11,680

you know that's the question and we now

1045

00:49:18,870 --> 00:49:14,559

know when you walk outside

1046

00:49:20,950 --> 00:49:18,880

every star you see in the night sky

1047

00:49:22,390 --> 00:49:20,960

like this image here

1048

00:49:23,430 --> 00:49:22,400

has at least

1049

00:49:25,829 --> 00:49:23,440

one

1050

00:49:27,510 --> 00:49:25,839

exoplanet

1051

00:49:29,510 --> 00:49:27,520

today we know this

1052

00:49:33,190 --> 00:49:29,520

right and and and

1053

00:49:34,790 --> 00:49:33,200

if you see a star with your own eye

1054

00:49:39,510 --> 00:49:34,800

you're also

1055

00:49:40,710 --> 00:49:39,520

looking at a planet every single one

1056

00:49:43,750 --> 00:49:40,720

today

1057

00:49:45,430 --> 00:49:43,760

there are land-based telescopes

1058

00:49:47,430 --> 00:49:45,440

we have

1059

00:49:49,829 --> 00:49:47,440

space-based telescopes

1060

00:49:52,870 --> 00:49:49,839

and here

1061

00:49:55,430 --> 00:49:52,880

with the exoplanet missions

1062

00:49:57,270 --> 00:49:55,440

we have uh hubble

1063

00:49:58,790 --> 00:49:57,280

we have spitzer

1064

00:50:01,190 --> 00:49:58,800

we have kepler

1065

00:50:03,829 --> 00:50:01,200

we have the james webb which was just

1066

00:50:06,230 --> 00:50:03,839

launched and very soon we'll have the w

1067

00:50:08,710 --> 00:50:06,240

first or now as it is named

1068

00:50:13,430 --> 00:50:08,720

the roman space telescope and it's

1069

00:50:15,109 --> 00:50:13,440

actually called the nancy grace roman

1070

00:50:18,309 --> 00:50:15,119

space telescope

1071

00:50:20,950 --> 00:50:18,319

but space based is new

1072

00:50:23,750 --> 00:50:20,960

in in action for just 30 years

1073

00:50:26,309 --> 00:50:23,760

but for thousands of years everything

1074

00:50:28,950 --> 00:50:26,319

took place right here on terra firma

1075

00:50:31,829 --> 00:50:28,960

looking up that's what we did telescopes

1076

00:50:34,790 --> 00:50:31,839

like you know like real ones have only

1077

00:50:37,270 --> 00:50:34,800

been around for the last 500 years the

1078

00:50:39,030 --> 00:50:37,280

big stuff right the the big land-based

1079

00:50:42,150 --> 00:50:39,040

telescopes today

1080

00:50:43,750 --> 00:50:42,160

barely 100 years remember

1081

00:50:46,630 --> 00:50:43,760

edwin hubble's

1082

00:50:48,630 --> 00:50:46,640

telescope at mount palomar that you saw

1083

00:50:51,150 --> 00:50:48,640

in the image earlier

1084

00:50:52,790 --> 00:50:51,160

wasn't installed until

1085

00:50:54,589 --> 00:50:52,800

1922

1086

00:50:57,430 --> 00:50:54,599

that's just

1087

00:50:59,750 --> 00:50:57,440

100 years ago

1088

00:51:02,230 --> 00:50:59,760

now today

1089

00:51:06,230 --> 00:51:02,240

we have ground-based telescopes

1090

00:51:09,910 --> 00:51:06,240

and this first one is the magellan 2

1091

00:51:11,270 --> 00:51:09,920

which is in uh la campanas observatory

1092

00:51:14,470 --> 00:51:11,280

in chile

1093

00:51:17,430 --> 00:51:14,480

uh we have the neid

1094

00:51:18,630 --> 00:51:17,440

instrument at wind peak in arizona at

1095

00:51:20,390 --> 00:51:18,640

kitt peak

1096

00:51:23,750 --> 00:51:20,400

in arizona

1097

00:51:27,430 --> 00:51:23,760

uh we also have the very famous keck

1098

00:51:29,750 --> 00:51:27,440

observatory in mauna kea hawaii

1099

00:51:33,750 --> 00:51:29,760

and of course we have

1100

00:51:36,670 --> 00:51:33,760

the hale telescope at palomar in

1101
00:51:39,750 --> 00:51:36,680
california now for the

1102
00:51:41,990 --> 00:51:39,760
space-based side of things

1103
00:51:43,349 --> 00:51:42,000
let's get straight to hubble

1104
00:51:47,790 --> 00:51:43,359
hubble

1105
00:51:49,670 --> 00:51:47,800
in

1106
00:51:51,990 --> 00:51:49,680
1990

1107
00:51:53,670 --> 00:51:52,000
years before three years two years

1108
00:51:55,829 --> 00:51:53,680
depending how you want to count it

1109
00:51:57,190 --> 00:51:55,839
before the first exoplanet was

1110
00:51:59,510 --> 00:51:57,200
discovered

1111
00:52:01,990 --> 00:51:59,520
with a land-based telescope

1112
00:52:05,990 --> 00:52:02,000
hubble remains in operation today it was

1113
00:52:08,630 --> 00:52:06,000

not the first space telescope but it is

1114

00:52:10,549 --> 00:52:08,640

one of the largest when hubble was

1115

00:52:13,030 --> 00:52:10,559

launched we didn't actually know how

1116

00:52:15,589 --> 00:52:13,040

many galaxies were out there we still

1117

00:52:17,270 --> 00:52:15,599

don't but we also thought that the stars

1118

00:52:19,109 --> 00:52:17,280

we were seeing in our land-based

1119

00:52:20,950 --> 00:52:19,119

telescopes were

1120

00:52:24,309 --> 00:52:20,960

just stars

1121

00:52:27,190 --> 00:52:24,319

now the first images that came back from

1122

00:52:29,750 --> 00:52:27,200

hubble were absolutely incredible like

1123

00:52:32,470 --> 00:52:29,760

this here the ground-based image on the

1124

00:52:33,349 --> 00:52:32,480

left is from the la campanas observatory

1125

00:52:34,710 --> 00:52:33,359

right

1126
00:52:36,230 --> 00:52:34,720
that's there

1127
00:52:37,589 --> 00:52:36,240
we thought that was pretty good it's

1128
00:52:38,390 --> 00:52:37,599
pixelated

1129
00:52:40,230 --> 00:52:38,400
right

1130
00:52:43,030 --> 00:52:40,240
and then the hubble space telescope's

1131
00:52:44,230 --> 00:52:43,040
first image came back from the very same

1132
00:52:45,670 --> 00:52:44,240
area

1133
00:52:46,390 --> 00:52:45,680
and you can see

1134
00:52:50,069 --> 00:52:46,400
how

1135
00:52:52,950 --> 00:52:50,079
detailed it was and this was an exciting

1136
00:52:56,150 --> 00:52:52,960
exciting time for science

1137
00:53:00,950 --> 00:52:56,160
um now this next pick

1138
00:53:02,309 --> 00:53:00,960

is the first image from hubble of deep

1139

00:53:04,710 --> 00:53:02,319

space

1140

00:53:07,190 --> 00:53:04,720

and for the first time the world of

1141

00:53:10,069 --> 00:53:07,200

science and the world in general found

1142

00:53:12,630 --> 00:53:10,079

out that the stars

1143

00:53:14,790 --> 00:53:12,640

are not stars

1144

00:53:16,950 --> 00:53:14,800

each speck of light

1145

00:53:19,270 --> 00:53:16,960

that you see here

1146

00:53:20,630 --> 00:53:19,280

is another galaxy

1147

00:53:22,950 --> 00:53:20,640

galaxies

1148

00:53:24,150 --> 00:53:22,960

that seem to go on

1149

00:53:26,069 --> 00:53:24,160

forever

1150

00:53:29,109 --> 00:53:26,079

prior to this image

1151
00:53:30,549 --> 00:53:29,119
with land-based telescopes

1152
00:53:33,910 --> 00:53:30,559
we thought

1153
00:53:35,990 --> 00:53:33,920
those specks of light were stars

1154
00:53:37,750 --> 00:53:36,000
now we understood

1155
00:53:39,430 --> 00:53:37,760
that what we were observing from the

1156
00:53:40,829 --> 00:53:39,440
ground

1157
00:53:42,390 --> 00:53:40,839
was endless

1158
00:53:43,349 --> 00:53:42,400
galaxies

1159
00:53:45,270 --> 00:53:43,359
now

1160
00:53:47,510 --> 00:53:45,280
let's go to this next image

1161
00:53:51,030 --> 00:53:47,520
because this next image

1162
00:53:53,030 --> 00:53:51,040
is the first image from hubble's deep

1163
00:53:54,790 --> 00:53:53,040

field mission

1164

00:53:55,829 --> 00:53:54,800

nasa decided

1165

00:53:57,109 --> 00:53:55,839

that

1166

00:54:00,870 --> 00:53:57,119

to find

1167

00:54:03,910 --> 00:54:00,880

the most empty space in this image here

1168

00:54:07,589 --> 00:54:03,920

to find the most empty spot the most

1169

00:54:13,030 --> 00:54:07,599

lonesome spot with nothing going on

1170

00:54:17,030 --> 00:54:14,630

they just wanted to see what would be

1171

00:54:17,829 --> 00:54:17,040

found

1172

00:54:19,589 --> 00:54:17,839

so

1173

00:54:23,349 --> 00:54:19,599

in this next image

1174

00:54:26,309 --> 00:54:23,359

this is the area they decided on

1175

00:54:28,790 --> 00:54:26,319

that little red rectangle

1176
00:54:30,390 --> 00:54:28,800
as you can see there are no stars there

1177
00:54:31,990 --> 00:54:30,400
is nothing

1178
00:54:35,990 --> 00:54:32,000
in this image

1179
00:54:40,630 --> 00:54:36,000
they exposed this area with hubble

1180
00:54:45,589 --> 00:54:40,640
for two weeks and what did they find

1181
00:54:52,950 --> 00:54:48,069
i need you to take a close look at this

1182
00:54:57,670 --> 00:54:55,829
single speck of light

1183
00:55:02,630 --> 00:54:57,680
in this image

1184
00:55:10,470 --> 00:55:07,030
every single one

1185
00:55:13,349 --> 00:55:10,480
it's estimated that in this image

1186
00:55:17,670 --> 00:55:13,359
which uh you know just like uh the head

1187
00:55:18,870 --> 00:55:17,680
of a pin in the night sky there's 150

1188
00:55:21,829 --> 00:55:18,880

000

1189

00:55:22,950 --> 00:55:21,839

galaxies

1190

00:55:25,990 --> 00:55:22,960

now

1191

00:55:27,589 --> 00:55:26,000

100 years ago edwin hubble discovered

1192

00:55:31,030 --> 00:55:27,599

andromeda

1193

00:55:32,789 --> 00:55:31,040

the first galaxy beyond the milky way

1194

00:55:36,630 --> 00:55:32,799

today

1195

00:55:39,990 --> 00:55:36,640

a general number that is thrown around

1196

00:55:43,750 --> 00:55:40,000

is there are at least one trillion

1197

00:55:45,750 --> 00:55:43,760

galaxies in the universe

1198

00:55:46,829 --> 00:55:45,760

with each galaxy

1199

00:56:03,430 --> 00:55:46,839

on

1200

00:56:05,990 --> 00:56:03,440

at this image of hubble's deep deep

1201
00:56:07,190 --> 00:56:06,000
field image

1202
00:56:10,630 --> 00:56:07,200
right

1203
00:56:14,069 --> 00:56:10,640
it is just a tiny hole in the night sky

1204
00:56:16,630 --> 00:56:14,079
seriously the size of a head of a pin

1205
00:56:18,309 --> 00:56:16,640
now i want you to pick out

1206
00:56:20,630 --> 00:56:18,319
a light

1207
00:56:22,789 --> 00:56:20,640
just just pick out one little speck of

1208
00:56:25,589 --> 00:56:22,799
light

1209
00:56:26,950 --> 00:56:25,599
at

1210
00:56:29,750 --> 00:56:26,960
represents

1211
00:56:31,670 --> 00:56:29,760
our milky way

1212
00:56:34,230 --> 00:56:31,680
think about that

1213
00:56:36,069 --> 00:56:34,240

how big is our milky way 150 000 light

1214

00:56:38,230 --> 00:56:36,079

years across and it would just be a

1215

00:56:41,510 --> 00:56:38,240

little speck

1216

00:56:48,789 --> 00:56:44,630

yes that tiny light that you just picked

1217

00:56:50,230 --> 00:56:48,799

out our milky way is over 150 000 light

1218

00:56:52,950 --> 00:56:50,240

years across

1219

00:56:54,750 --> 00:56:52,960

now it is now understood

1220

00:56:58,789 --> 00:56:54,760

that there are over

1221

00:56:59,750 --> 00:56:58,799

500 billion stars surrounding our planet

1222

00:57:02,630 --> 00:56:59,760

earth

1223

00:57:06,390 --> 00:57:02,640

with one trillion planets

1224

00:57:09,349 --> 00:57:06,400

orbiting those stars

1225

00:57:11,910 --> 00:57:09,359

one million is a big number right one

1226
00:57:12,870 --> 00:57:11,920
million dollars one million is a big

1227
00:57:17,990 --> 00:57:12,880
number

1228
00:57:19,190 --> 00:57:18,000
well there are 1 000 millions in just 1

1229
00:57:24,230 --> 00:57:19,200
billion

1230
00:57:26,069 --> 00:57:24,240
for a trillion we all know this and

1231
00:57:28,549 --> 00:57:26,079
these big numbers are thrown around all

1232
00:57:30,470 --> 00:57:28,559
the time without real consideration of

1233
00:57:32,549 --> 00:57:30,480
how giant

1234
00:57:33,430 --> 00:57:32,559
they really are

1235
00:57:36,470 --> 00:57:33,440
so

1236
00:57:38,950 --> 00:57:36,480
if just one star

1237
00:57:41,430 --> 00:57:38,960
out of a million

1238
00:57:44,069 --> 00:57:41,440

had a habitable planet

1239

00:57:47,910 --> 00:57:44,079

that means there are at least

1240

00:57:50,789 --> 00:57:47,920

50 to 80 billion rocky earth-like

1241

00:57:51,670 --> 00:57:50,799

planets with water in the goldilocks

1242

00:57:54,630 --> 00:57:51,680

zone

1243

00:57:56,309 --> 00:57:54,640

right here in our neighborhood

1244

00:57:58,789 --> 00:57:56,319

our neighborhood

1245

00:58:01,190 --> 00:57:58,799

called the milky way

1246

00:58:02,950 --> 00:58:01,200

that's right in that little speck of

1247

00:58:05,589 --> 00:58:02,960

light that you picked out in the hubble

1248

00:58:08,789 --> 00:58:05,599

deep deep filled image

1249

00:58:11,589 --> 00:58:08,799

ponder that for a second

1250

00:58:13,829 --> 00:58:11,599

but the hubble telescope didn't find any

1251

00:58:17,030 --> 00:58:13,839

exoplanets

1252

00:58:21,990 --> 00:58:17,040

sure well it did eventually

1253

00:58:24,630 --> 00:58:22,000

but it showed us how big everything was

1254

00:58:27,750 --> 00:58:24,640

and is

1255

00:58:30,390 --> 00:58:27,760

but everything was still happening

1256

00:58:32,230 --> 00:58:30,400

on terra firma

1257

00:58:34,390 --> 00:58:32,240

by the year 2000

1258

00:58:37,829 --> 00:58:34,400

there was just eight confirmed

1259

00:58:39,829 --> 00:58:37,839

exoplanets discovered and confirmed

1260

00:58:44,069 --> 00:58:39,839

22 years ago

1261

00:58:45,430 --> 00:58:44,079

but things were about to change

1262

00:58:47,750 --> 00:58:45,440

this is fade to black i'm your host

1263

00:58:50,710 --> 00:58:47,760

jimmy church tonight

1264

00:58:52,470 --> 00:58:50,720

aliens and exoplanets

1265

00:58:54,470 --> 00:58:52,480

two and a half hours

1266

00:58:56,150 --> 00:58:54,480

of the good stuff

1267

00:58:57,910 --> 00:58:56,160

i'm your host jimmy church this is fade

1268

00:59:00,309 --> 00:58:57,920

to black on the unexit game changer

1269

00:59:02,549 --> 00:59:00,319

networks racehobbs

1270

00:59:05,349 --> 00:59:02,559

this is fade to black i will be right

1271

00:59:06,549 --> 00:59:05,359

back after this short break we're gonna

1272

00:59:10,290 --> 00:59:06,559

pick up

1273

00:59:10,300 --> 00:59:26,870

[Music]

1274

00:59:32,560 --> 00:59:29,109

this is fade to black with jimmy church

1275

00:59:34,069 --> 00:59:32,570

on the game changer radio network

1276

00:59:36,549 --> 00:59:34,079

[Music]

1277

00:59:39,990 --> 00:59:36,559

your 1 million gigawatt paranormal

1278

00:59:41,510 --> 00:59:40,000

powerhouse kumx db

1279

00:59:43,990 --> 00:59:41,520

vx

1280

00:59:46,870 --> 00:59:44,000

2022 mufon symposium is in denver

1281

00:59:48,470 --> 00:59:46,880

colorado july 7-10 and it's on if you

1282

00:59:51,109 --> 00:59:48,480

can't make it to denver get the live

1283

00:59:53,109 --> 00:59:51,119

stream you can watch it live and anytime

1284

00:59:54,950 --> 00:59:53,119

later this year's theme is ufos in the

1285

00:59:57,190 --> 00:59:54,960

spotlight our speaker lineup is

1286

00:59:59,910 --> 00:59:57,200

incredible join sheryl jones peter

1287

01:00:02,870 --> 00:59:59,920

robbins michael schrad kathleen martin

1288

01:00:05,510 --> 01:00:02,880

tom reed paul heineck peter davenport

1289

01:00:09,030 --> 01:00:05,520

dave scott craig compobaso donald

1290

01:00:11,109 --> 01:00:09,040

schmidt marc d'antonio and me ron james

1291

01:00:13,910 --> 01:00:11,119

for an exciting inside look at my new

1292

01:00:15,190 --> 01:00:13,920

film news flash congressman tim bruchett

1293

01:00:17,430 --> 01:00:15,200

has just confirmed that he will be

1294

01:00:20,150 --> 01:00:17,440

making an exclusive live presentation of

1295

01:00:22,309 --> 01:00:20,160

mufon 2022 tim is the most outspoken

1296

01:00:24,710 --> 01:00:22,319

member of congress on the uap topic you

1297

01:00:26,309 --> 01:00:24,720

do not want to miss what he has to say

1298

01:00:28,230 --> 01:00:26,319

sign up for our live stream get all

1299

01:00:31,030 --> 01:00:28,240

three days of the mufon symposium a

1300

01:00:33,349 --> 01:00:31,040

one-year subscription to mufon tv and an

1301

01:00:35,589 --> 01:00:33,359

awesome free gift what's the free gift

1302

01:00:37,430 --> 01:00:35,599

find out at mufon symposium dot com

1303

01:00:39,829 --> 01:00:37,440

forward slash jimmy that's mufon

1304

01:00:42,710 --> 01:00:39,839

symposium dot com forward slash jimmy

1305

01:00:44,789 --> 01:00:42,720

you do not want to miss a thing

1306

01:00:47,430 --> 01:00:44,799

hello fader knots jimmy church here and

1307

01:00:52,470 --> 01:00:47,440

i know what you're thinking lately jimmy

1308

01:00:54,710 --> 01:00:52,480

sounds so fresh he's so alert he's so

1309

01:00:57,670 --> 01:00:54,720

now well that's because of biotech

1310

01:01:00,630 --> 01:00:57,680

research and their new supplement brain

1311

01:01:02,630 --> 01:01:00,640

peak 9. brain peak 9 contains 9

1312

01:01:05,190 --> 01:01:02,640

nutrients that may help support brain

1313

01:01:07,430 --> 01:01:05,200

function of memory concentration recall

1314

01:01:10,230 --> 01:01:07,440

and improve focus other memory

1315

01:01:13,109 --> 01:01:10,240

supplements can cost as much as 129

1316

01:01:14,870 --> 01:01:13,119

bucks for a 60-day supply but right now

1317

01:01:17,630 --> 01:01:14,880

for a limited time if you use the

1318

01:01:19,910 --> 01:01:17,640

discount code fader that's right

1319

01:01:22,630 --> 01:01:19,920

f-a-d-e-r just for the fader knots

1320

01:01:25,030 --> 01:01:22,640

you'll get a 60-day supply for just 49

1321

01:01:26,870 --> 01:01:25,040

bucks there's no better time than right

1322

01:01:29,670 --> 01:01:26,880

now to see what others have been raving

1323

01:01:30,990 --> 01:01:29,680

about help improve your brain function

1324

01:01:33,270 --> 01:01:31,000

go to

1325

01:01:35,829 --> 01:01:33,280

brainpeak9.com and enter the discount

1326

01:01:39,109 --> 01:01:35,839

code fader that's right for the fader

1327

01:01:41,750 --> 01:01:39,119

knots that's brain brainpeak9.com

1328

01:01:44,069 --> 01:01:41,760

discount code fader and the links are

1329

01:01:47,990 --> 01:01:44,079

over at jimmychurchradio.com

1330

01:01:50,230 --> 01:01:48,000

click on it now seriously

1331

01:01:52,230 --> 01:01:50,240

this is billy carson founder and ceo of

1332

01:01:54,549 --> 01:01:52,240

forbidden knowledge dot tv forbidden

1333

01:01:56,309 --> 01:01:54,559

knowledge dot tv is the fastest growing

1334

01:01:58,150 --> 01:01:56,319

and one of the most watched networks in

1335

01:01:59,910 --> 01:01:58,160

the world and i would like to personally

1336

01:02:02,630 --> 01:01:59,920

invite you to check out our expanding

1337

01:02:04,870 --> 01:02:02,640

library of tv film lectures and special

1338

01:02:07,430 --> 01:02:04,880

presentations forbidden knowledge dot tv

1339

01:02:10,150 --> 01:02:07,440

has over 6 000 videos covering lost

1340

01:02:11,990 --> 01:02:10,160

history health ufos spirituality and our

1341

01:02:14,309 --> 01:02:12,000

future we are committed to our community

1342

01:02:16,710 --> 01:02:14,319

and with my personal invitation you can

1343

01:02:19,349 --> 01:02:16,720

right now get your own free 30-day

1344

01:02:21,670 --> 01:02:19,359

membership at forbidden knowledge dot tv

1345

01:02:26,309 --> 01:02:21,680

your own library of information starts

1346

01:02:30,549 --> 01:02:28,390

because you never got that pony you

1347

01:02:32,230 --> 01:02:30,559

always wanted

1348

01:02:34,630 --> 01:02:32,240

damn it

1349

01:02:37,510 --> 01:02:34,640

jimmy church and fade to black on the

1350

01:02:40,710 --> 01:02:37,520

game changer network

1351
01:02:43,109 --> 01:02:40,720
listen i know and you know that you've

1352
01:02:45,270 --> 01:02:43,119
always wanted your first crystal skull

1353
01:02:47,430 --> 01:02:45,280
or maybe you're a collector just like me

1354
01:02:49,270 --> 01:02:47,440
but you just don't know where to go to

1355
01:02:51,990 --> 01:02:49,280
find the real thing

1356
01:02:53,910 --> 01:02:52,000
then i met carolyn ford over at einstein

1357
01:02:56,390 --> 01:02:53,920
the crystalskull.com

1358
01:02:58,390 --> 01:02:56,400
carolyn is the guardian of einstein one

1359
01:03:00,789 --> 01:02:58,400
of the most respected ancient crystal

1360
01:03:02,710 --> 01:03:00,799
skulls in the world all of her unique

1361
01:03:05,029 --> 01:03:02,720
skulls have been imprinted sitting with

1362
01:03:07,029 --> 01:03:05,039
einstein in his sacred lodge and are

1363
01:03:09,670 --> 01:03:07,039

carved from the finest gemstone and

1364

01:03:11,750 --> 01:03:09,680

materials imprinting is the process of

1365

01:03:15,349 --> 01:03:11,760

receiving the ancient wisdom from the

1366

01:03:17,750 --> 01:03:15,359

master skull or master computer einstein

1367

01:03:19,510 --> 01:03:17,760

the ancient crystal skull to see

1368

01:03:22,829 --> 01:03:19,520

carolyn's current collection of crystal

1369

01:03:24,630 --> 01:03:22,839

skulls just visit her store at

1370

01:03:27,109 --> 01:03:24,640

einsteinthecrystalskull.com click on the

1371

01:03:29,750 --> 01:03:27,119

banner over on our site don't forget to

1372

01:03:32,470 --> 01:03:29,760

use the promo code jimmy at checkout to

1373

01:03:35,430 --> 01:03:32,480

receive 10 off of your order today

1374

01:03:38,309 --> 01:03:35,440

that's promo code jimmy finding your

1375

01:03:48,950 --> 01:03:38,319

first or next crystal skull is easy just

1376
01:03:52,710 --> 01:03:50,870
hi this is race hobbles here repping the

1377
01:03:56,140 --> 01:03:52,720
planet and you're listening to my good

1378
01:03:57,270 --> 01:03:56,150
friend jimmy church fade to black

1379
01:03:59,510 --> 01:03:57,280
[Music]

1380
01:04:01,589 --> 01:03:59,520
this is toby kebble you're listening to

1381
01:04:04,549 --> 01:04:01,599
jimmychurchradio.com

1382
01:04:06,870 --> 01:04:04,559
don't hurt me jimmy i'm only little hey

1383
01:04:09,730 --> 01:04:06,880
i'm adrian grenier and this is ari gold

1384
01:04:18,309 --> 01:04:09,740
we're the honey brothers

1385
01:04:19,910 --> 01:04:18,319
and you're listening to jimmy church a

1386
01:04:21,589 --> 01:04:19,920
revolution

1387
01:04:23,589 --> 01:04:21,599
this is jimmy church of fade to black

1388
01:04:25,910 --> 01:04:23,599

and you can become an official fate or

1389

01:04:26,789 --> 01:04:25,920

not by just going to our membership

1390

01:04:30,150 --> 01:04:26,799

section

1391

01:04:34,470 --> 01:04:32,150

hello this is serena wright taylor from

1392

01:04:36,870 --> 01:04:34,480

conscious life expo and you're listening

1393

01:04:39,190 --> 01:04:36,880

to fade to black with jimmy church who

1394

01:04:42,789 --> 01:04:39,200

holds the lucky pony record for the best

1395

01:04:44,710 --> 01:04:42,799

astrological chart since 1963. true

1396

01:04:46,390 --> 01:04:44,720

story

1397

01:04:47,990 --> 01:04:46,400

this is micah hanks of the ghrelian

1398

01:04:56,770 --> 01:04:48,000

report and you're listening to jimmy

1399

01:04:56,780 --> 01:05:06,710

[Music]

1400

01:05:06,720 --> 01:05:10,309

two

1401

01:05:15,589 --> 01:05:12,710

all right welcome back tonight

1402

01:05:17,510 --> 01:05:15,599

two and a half hours

1403

01:05:20,710 --> 01:05:17,520

i'm gonna get straight back to it of

1404

01:05:23,510 --> 01:05:20,720

aliens and exoplanets this is faded

1405

01:05:27,349 --> 01:05:23,520

black i am your host jimmy church

1406

01:05:30,870 --> 01:05:27,359

and this next image here

1407

01:05:33,990 --> 01:05:30,880

this is the spitzer this is the spitzer

1408

01:05:36,230 --> 01:05:34,000

space telescope launched in 2003

1409

01:05:40,470 --> 01:05:36,240

the spitzer space telescope's mission

1410

01:05:43,270 --> 01:05:40,480

ended on january 30th 2020 after

1411

01:05:45,670 --> 01:05:43,280

scanning the universe in the infrared

1412

01:05:48,630 --> 01:05:45,680

for over 16 years

1413

01:05:51,510 --> 01:05:48,640

spitzer discovered many exoplanets

1414

01:05:54,789 --> 01:05:51,520

including the trappist-1 system which we

1415

01:05:55,990 --> 01:05:54,799

will discuss later spitzer's uh original

1416

01:05:58,309 --> 01:05:56,000

missions

1417

01:06:00,150 --> 01:05:58,319

uh ended up getting modified about

1418

01:06:02,710 --> 01:06:00,160

halfway through

1419

01:06:06,230 --> 01:06:02,720

and they rewrote the software when they

1420

01:06:09,910 --> 01:06:06,240

found out that spitzer in the infrared

1421

01:06:13,829 --> 01:06:09,920

could help discover exoplanets

1422

01:06:15,829 --> 01:06:13,839

and it did and it did a lot of very

1423

01:06:17,349 --> 01:06:15,839

important work and

1424

01:06:19,990 --> 01:06:17,359

spitzer now

1425

01:06:21,349 --> 01:06:20,000

uh has been retired for about a year and

1426

01:06:25,190 --> 01:06:21,359

a half

1427

01:06:27,510 --> 01:06:25,200

but its mission was extended uh

1428

01:06:30,309 --> 01:06:27,520

by by years

1429

01:06:32,150 --> 01:06:30,319

and trappist-1

1430

01:06:34,630 --> 01:06:32,160

is one of the most important discoveries

1431

01:06:37,990 --> 01:06:34,640

and we will get uh to all of that the

1432

01:06:40,069 --> 01:06:38,000

trappist-1 system there's uh five six

1433

01:06:42,390 --> 01:06:40,079

exoplanets there

1434

01:06:45,270 --> 01:06:42,400

this is kepler

1435

01:06:48,390 --> 01:06:45,280

kepler is a retired space uh telescope

1436

01:06:54,870 --> 01:06:48,400

launched by nasa in 2009

1437

01:06:56,950 --> 01:06:54,880

earth-sized planets orbiting other stars

1438

01:06:59,910 --> 01:06:56,960

planned for just a three and a half year

1439

01:07:02,069 --> 01:06:59,920

mission it lasted for nine and a half

1440

01:07:06,470 --> 01:07:02,079

years after nasa announced his

1441

01:07:08,870 --> 01:07:06,480

retirement on october 30th in 2018. the

1442

01:07:10,309 --> 01:07:08,880

kepler space telescope and its follow-up

1443

01:07:15,230 --> 01:07:10,319

observations

1444

01:07:18,390 --> 01:07:17,029

confirmed

1445

01:07:20,549 --> 01:07:18,400

planets

1446

01:07:23,510 --> 01:07:20,559

the number is much greater than that and

1447

01:07:27,109 --> 01:07:23,520

they are still to this day

1448

01:07:29,829 --> 01:07:27,119

pouring over the data that kepler has

1449

01:07:31,109 --> 01:07:29,839

found for us and we'll be going over

1450

01:07:33,510 --> 01:07:31,119

those planets

1451

01:07:36,230 --> 01:07:33,520

uh later on tonight uh

1452

01:07:39,750 --> 01:07:36,240

kepler's importance to the search for

1453

01:07:40,870 --> 01:07:39,760

exoplanets cannot be measured

1454

01:07:43,910 --> 01:07:40,880

now

1455

01:07:47,349 --> 01:07:43,920

this is tess

1456

01:07:51,109 --> 01:07:47,359

tess is the transiting exoplanet survey

1457

01:07:53,349 --> 01:07:51,119

satellite telescope launched in 2018 and

1458

01:07:57,029 --> 01:07:53,359

designed to search for exoplanets using

1459

01:07:58,230 --> 01:07:57,039

the transit method in an area 400 times

1460

01:08:02,150 --> 01:07:58,240

larger

1461

01:08:05,910 --> 01:08:02,160

than that covered by the kepler mission

1462

01:08:10,150 --> 01:08:05,920

its mission will end in september of

1463

01:08:13,589 --> 01:08:10,160

this year the test missions are complex

1464

01:08:15,670 --> 01:08:13,599

approximately 500 000 stars are to be

1465

01:08:20,229 --> 01:08:15,680

studied during its mission

1466

01:08:21,990 --> 01:08:20,239

and including 1 000 closest red dwarf

1467

01:08:25,669 --> 01:08:22,000

stars confirming

1468

01:08:29,510 --> 01:08:25,679

3 000 transiting exoplanet candidates

1469

01:08:34,470 --> 01:08:29,520

with 500 earth-sized planets

1470

01:08:36,709 --> 01:08:34,480

now the survey is broken up into uh

1471

01:08:38,950 --> 01:08:36,719

this image here by the way

1472

01:08:40,950 --> 01:08:38,960

is the test assembly

1473

01:08:44,789 --> 01:08:40,960

and i included this here so you can see

1474

01:08:48,870 --> 01:08:44,799

the size of uh this telescope and it's

1475

01:08:51,910 --> 01:08:48,880

got four imaging cameras in the middle

1476
01:08:55,669 --> 01:08:51,920
and you can clearly see those there and

1477
01:08:57,430 --> 01:08:55,679
this was right before its launch

1478
01:09:00,309 --> 01:08:57,440
now

1479
01:09:02,630 --> 01:09:00,319
the survey is broken up into 26

1480
01:09:08,470 --> 01:09:02,640
observation sectors

1481
01:09:11,510 --> 01:09:08,480
13 per celestial hemisphere with 20 000

1482
01:09:14,870 --> 01:09:11,520
stars in each sector

1483
01:09:17,990 --> 01:09:14,880
the first year is the southern half

1484
01:09:21,269 --> 01:09:18,000
the second year is the northern sky and

1485
01:09:25,430 --> 01:09:21,279
repeating everything for year three and

1486
01:09:27,669 --> 01:09:25,440
four with a new set of target stars now

1487
01:09:29,189 --> 01:09:27,679
here you can see

1488
01:09:32,070 --> 01:09:29,199

each sector

1489

01:09:34,630 --> 01:09:32,080

and you can also see the northern and

1490

01:09:36,390 --> 01:09:34,640

southern hemispheres and how this is

1491

01:09:38,070 --> 01:09:36,400

done so again

1492

01:09:42,709 --> 01:09:38,080

one year south

1493

01:09:46,390 --> 01:09:42,719

one year north it focuses on each sector

1494

01:09:50,709 --> 01:09:46,400

and and measures the transiting light

1495

01:09:51,910 --> 01:09:50,719

changes for each star studying 20 000

1496

01:09:53,269 --> 01:09:51,920

stars

1497

01:09:54,870 --> 01:09:53,279

at a time

1498

01:09:55,669 --> 01:09:54,880

per spectra

1499

01:09:56,870 --> 01:09:55,679

per

1500

01:09:57,910 --> 01:09:56,880

section

1501

01:10:00,950 --> 01:09:57,920

now

1502

01:10:03,030 --> 01:10:00,960

here is the james webb

1503

01:10:06,709 --> 01:10:03,040

the james webb space telescope was

1504

01:10:09,910 --> 01:10:06,719

launched on december 25th 2021 last year

1505

01:10:13,510 --> 01:10:09,920

and its first official mission images

1506

01:10:15,030 --> 01:10:13,520

will be seen on july 12th uh next week

1507

01:10:19,350 --> 01:10:15,040

2022.

1508

01:10:20,630 --> 01:10:19,360

its mission duration is a planned 20

1509

01:10:23,110 --> 01:10:20,640

years

1510

01:10:24,950 --> 01:10:23,120

now next up and this is very interesting

1511

01:10:26,630 --> 01:10:24,960

this is oh oh

1512

01:10:31,030 --> 01:10:26,640

i want to talk about this really quick

1513

01:10:34,470 --> 01:10:31,040

this is the james webb l2 point now

1514

01:10:38,149 --> 01:10:34,480

this lagrange point l2 is very specific

1515

01:10:41,669 --> 01:10:38,159

it's one million miles from earth

1516

01:10:43,030 --> 01:10:41,679

now the reason why the l2 point is

1517

01:10:45,910 --> 01:10:43,040

selected

1518

01:10:48,870 --> 01:10:45,920

is because the earth

1519

01:10:50,390 --> 01:10:48,880

is positioned between the james webb

1520

01:10:52,630 --> 01:10:50,400

telescope

1521

01:10:55,830 --> 01:10:52,640

and our sun

1522

01:10:56,830 --> 01:10:55,840

this will block the sun's light and

1523

01:10:59,270 --> 01:10:56,840

allow

1524

01:11:02,630 --> 01:10:59,280

imaging looking out in the other

1525

01:11:04,630 --> 01:11:02,640

direction without any light pollution

1526

01:11:07,189 --> 01:11:04,640

and you know how it is

1527

01:11:09,189 --> 01:11:07,199

when you live in a populated city that's

1528

01:11:10,790 --> 01:11:09,199

lit up and you look up at the night sky

1529

01:11:12,550 --> 01:11:10,800

you don't see any stars you're lucky if

1530

01:11:14,470 --> 01:11:12,560

you see one or two

1531

01:11:16,470 --> 01:11:14,480

like i used to have

1532

01:11:17,830 --> 01:11:16,480

here in los angeles i would look up in

1533

01:11:20,149 --> 01:11:17,840

the sky

1534

01:11:22,870 --> 01:11:20,159

and i wouldn't see any stars i could go

1535

01:11:27,030 --> 01:11:22,880

out to joshua tree and i could see the

1536

01:11:29,270 --> 01:11:27,040

entire milky way just 60 miles from my

1537

01:11:33,510 --> 01:11:29,280

home over in burbank

1538

01:11:34,470 --> 01:11:33,520

the same sky above me over burbank i got

1539

01:11:37,590 --> 01:11:34,480

nothing

1540

01:11:40,470 --> 01:11:37,600

out and joshua tree no light pollution i

1541

01:11:42,630 --> 01:11:40,480

can see the milky way with its colors

1542

01:11:44,630 --> 01:11:42,640

and the magentas and the blues it was

1543

01:11:47,110 --> 01:11:44,640

absolutely incredible so i knew the

1544

01:11:49,590 --> 01:11:47,120

stars were there i just couldn't see him

1545

01:11:52,070 --> 01:11:49,600

in los angeles right now i'm out here in

1546

01:11:55,110 --> 01:11:52,080

the mojave desert i've got the milky way

1547

01:11:56,390 --> 01:11:55,120

again above me and i get to enjoy the

1548

01:11:59,990 --> 01:11:56,400

night sky

1549

01:12:02,790 --> 01:12:00,000

that is the purpose of the l2 lagrange

1550

01:12:06,229 --> 01:12:02,800

point it positions the earth perfectly

1551
01:12:08,390 --> 01:12:06,239
at a million miles away to block out the

1552
01:12:11,350 --> 01:12:08,400
sun now there's other reflectors and

1553
01:12:14,310 --> 01:12:11,360
there's uh screens that the james webb

1554
01:12:17,590 --> 01:12:14,320
is a very large telescope uh once it is

1555
01:12:18,870 --> 01:12:17,600
fully deployed like it is now and it its

1556
01:12:21,350 --> 01:12:18,880
mission

1557
01:12:23,830 --> 01:12:21,360
is to photograph everything and to image

1558
01:12:27,750 --> 01:12:23,840
everything in the infrared but to block

1559
01:12:29,430 --> 01:12:27,760
out as much sunlight as possible and

1560
01:12:34,390 --> 01:12:29,440
that's the purpose

1561
01:12:37,430 --> 01:12:34,400
of the l2 point now you know okay

1562
01:12:39,669 --> 01:12:37,440
these images uh that just came back from

1563
01:12:42,070 --> 01:12:39,679

the james webb telescope

1564

01:12:45,030 --> 01:12:42,080

um were amazing

1565

01:12:48,070 --> 01:12:45,040

now as great as hubble was

1566

01:12:49,270 --> 01:12:48,080

and if you look at the top uh to the top

1567

01:12:52,070 --> 01:12:49,280

left corner

1568

01:12:54,229 --> 01:12:52,080

that is hubble's first image of the

1569

01:12:55,910 --> 01:12:54,239

galaxy that we got back

1570

01:12:57,350 --> 01:12:55,920

and we were so impressed

1571

01:12:59,189 --> 01:12:57,360

of the universe that we got back we were

1572

01:13:02,390 --> 01:12:59,199

so impressed with the amount of galaxies

1573

01:13:03,750 --> 01:13:02,400

that were there and the imaging right

1574

01:13:04,550 --> 01:13:03,760

we loved it

1575

01:13:05,750 --> 01:13:04,560

now

1576

01:13:08,790 --> 01:13:05,760

below

1577

01:13:13,750 --> 01:13:08,800

is the james webb telescope's image of

1578

01:13:15,750 --> 01:13:13,760

the exact same part of the universe

1579

01:13:19,430 --> 01:13:15,760

and look at the difference

1580

01:13:20,709 --> 01:13:19,440

in the imaging quality okay so

1581

01:13:24,070 --> 01:13:20,719

on the left

1582

01:13:26,630 --> 01:13:24,080

lower left is the same image area

1583

01:13:29,590 --> 01:13:26,640

of the hubble telescope and then there

1584

01:13:31,830 --> 01:13:29,600

is a galaxy that is blown up in the

1585

01:13:35,189 --> 01:13:31,840

upper right hand corner was the image

1586

01:13:36,310 --> 01:13:35,199

that blew us away by hubble back in 1990

1587

01:13:39,590 --> 01:13:36,320

below

1588

01:13:43,590 --> 01:13:39,600

look at the james webb you can see

1589

01:13:47,189 --> 01:13:43,600

multiple large stars inside

1590

01:13:48,870 --> 01:13:47,199

of that galaxy that we had no idea were

1591

01:13:52,310 --> 01:13:48,880

there before

1592

01:13:53,990 --> 01:13:52,320

this is how good the james webb is and

1593

01:13:56,470 --> 01:13:54,000

it's imaging that's going to start

1594

01:13:59,990 --> 01:13:56,480

coming back to us on july 12th

1595

01:14:01,270 --> 01:14:00,000

be prepared because it is going to be

1596

01:14:05,430 --> 01:14:01,280

incredible

1597

01:14:07,669 --> 01:14:05,440

now there are many ways

1598

01:14:09,110 --> 01:14:07,679

to look

1599

01:14:13,270 --> 01:14:09,120

and

1600

01:14:16,390 --> 01:14:13,280

the wfirst or the roman space telescope

1601

01:14:19,270 --> 01:14:16,400

will launch in 2027.

1602

01:14:20,550 --> 01:14:19,280

its mission is to search for exoplanets

1603

01:14:23,669 --> 01:14:20,560

and also

1604

01:14:26,470 --> 01:14:23,679

the expansion history of the universe

1605

01:14:29,830 --> 01:14:26,480

it's also going to look for dark energy

1606

01:14:33,110 --> 01:14:29,840

and dark matter and the consistency

1607

01:14:35,669 --> 01:14:33,120

of general relativity from albert

1608

01:14:39,189 --> 01:14:35,679

einstein and also

1609

01:14:42,310 --> 01:14:39,199

the curvature of space time

1610

01:14:44,229 --> 01:14:42,320

this is where we are today with space

1611

01:14:47,189 --> 01:14:44,239

telescopes now

1612

01:14:49,510 --> 01:14:47,199

i've shown you five here we have many

1613

01:14:51,669 --> 01:14:49,520

space telescopes that are out there that

1614

01:14:53,510 --> 01:14:51,679

are doing different missions but these

1615

01:14:57,750 --> 01:14:53,520

are the space telescopes that are

1616

01:15:00,790 --> 01:14:57,760

focused on the search for exoplanets the

1617

01:15:04,870 --> 01:15:00,800

amazing part for me with all of this

1618

01:15:06,790 --> 01:15:04,880

is that we are now able to go and search

1619

01:15:09,910 --> 01:15:06,800

into deep space

1620

01:15:13,669 --> 01:15:09,920

thousands if not millions of light years

1621

01:15:14,870 --> 01:15:13,679

away where before none of this was even

1622

01:15:18,390 --> 01:15:14,880

seen

1623

01:15:21,110 --> 01:15:18,400

and once hubble kicked off in 1990 and

1624

01:15:23,189 --> 01:15:21,120

we realized the size of the universe and

1625

01:15:25,750 --> 01:15:23,199

how many galaxies were actually out

1626

01:15:28,229 --> 01:15:25,760

there this is when everything went up a

1627

01:15:31,270 --> 01:15:28,239

notch and we knew that the atmosphere

1628

01:15:34,390 --> 01:15:31,280

here on earth was limiting everything

1629

01:15:36,550 --> 01:15:34,400

with these giant telescopes that we are

1630

01:15:39,590 --> 01:15:36,560

using and still use

1631

01:15:42,870 --> 01:15:39,600

and they allow for incredible imaging

1632

01:15:43,910 --> 01:15:42,880

and the combination the way that tess is

1633

01:15:46,630 --> 01:15:43,920

working

1634

01:15:49,910 --> 01:15:46,640

the way that the james webb is is set to

1635

01:15:52,550 --> 01:15:49,920

do its missions and the wfirst all of

1636

01:15:54,070 --> 01:15:52,560

these um are working together in

1637

01:15:56,310 --> 01:15:54,080

conjunction with

1638

01:15:59,189 --> 01:15:56,320

and uh

1639

01:16:02,390 --> 01:15:59,199

synchronized with our land-based

1640

01:16:04,630 --> 01:16:02,400

observation platforms around the world

1641

01:16:06,550 --> 01:16:04,640

and it's this data collection that we

1642

01:16:10,149 --> 01:16:06,560

are able to do with computers and

1643

01:16:11,910 --> 01:16:10,159

sharing this we're able to do all of the

1644

01:16:13,189 --> 01:16:11,920

imaging that is going on right now

1645

01:16:14,470 --> 01:16:13,199

including

1646

01:16:16,310 --> 01:16:14,480

black holes

1647

01:16:18,790 --> 01:16:16,320

okay now

1648

01:16:22,310 --> 01:16:18,800

the different search methods that are

1649

01:16:24,229 --> 01:16:22,320

out there um the first one is the

1650

01:16:27,030 --> 01:16:24,239

transit method

1651

01:16:28,870 --> 01:16:27,040

now what is a transit

1652

01:16:31,990 --> 01:16:28,880

a transit

1653

01:16:34,390 --> 01:16:32,000

occurs when a planet's orbit

1654

01:16:36,630 --> 01:16:34,400

carries it directly in front of its

1655

01:16:39,830 --> 01:16:36,640

parent star as viewed from the

1656

01:16:42,070 --> 01:16:39,840

observer's perspective now remember

1657

01:16:43,590 --> 01:16:42,080

you would have to observe it on the

1658

01:16:46,070 --> 01:16:43,600

ecliptic

1659

01:16:48,709 --> 01:16:46,080

okay and that is how you are able to see

1660

01:16:50,950 --> 01:16:48,719

it so the planet is here and or the

1661

01:16:54,070 --> 01:16:50,960

stars here and the planet is orbiting

1662

01:16:54,870 --> 01:16:54,080

this way if the planet is orbiting this

1663

01:16:56,149 --> 01:16:54,880

way

1664

01:16:57,430 --> 01:16:56,159
you're not going to have a transit

1665

01:16:59,189 --> 01:16:57,440
you're not going to have a light

1666

01:17:00,790 --> 01:16:59,199
degradation so

1667

01:17:02,390 --> 01:17:00,800
there are different methods for that

1668

01:17:03,990 --> 01:17:02,400
i'll get to that in just a second but

1669

01:17:06,390 --> 01:17:04,000
the transit

1670

01:17:09,270 --> 01:17:06,400
is this way viewing

1671

01:17:10,149 --> 01:17:09,280
sideways on the elliptic

1672

01:17:13,110 --> 01:17:10,159
from

1673

01:17:16,149 --> 01:17:13,120
the observer's perspective

1674

01:17:18,550 --> 01:17:16,159
this results in a temporary and periodic

1675

01:17:21,030 --> 01:17:18,560
drop in the star's brightness and you

1676

01:17:22,870 --> 01:17:21,040

can see it here on how it's measured

1677

01:17:23,990 --> 01:17:22,880

i've got some more information coming up

1678

01:17:27,270 --> 01:17:24,000

in a second

1679

01:17:29,510 --> 01:17:27,280

now the results in this stars are the

1680

01:17:32,390 --> 01:17:29,520

drop in the stars brightness allow for a

1681

01:17:34,950 --> 01:17:32,400

few things and thousands of exoplanets

1682

01:17:37,350 --> 01:17:34,960

have been discovered through this method

1683

01:17:39,590 --> 01:17:37,360

and thousands of additional candidates

1684

01:17:42,790 --> 01:17:39,600

await confirmation

1685

01:17:45,270 --> 01:17:42,800

largely thanks to nasa's kepler mission

1686

01:17:46,790 --> 01:17:45,280

that i mentioned earlier

1687

01:17:48,149 --> 01:17:46,800

now um

1688

01:17:50,070 --> 01:17:48,159

what is

1689

01:17:51,669 --> 01:17:50,080

a habitable zone we're going to be

1690

01:17:53,590 --> 01:17:51,679

discussing that

1691

01:17:55,590 --> 01:17:53,600

in depth tonight

1692

01:17:58,630 --> 01:17:55,600

the habitable zone

1693

01:18:02,310 --> 01:17:58,640

is the range of distances from a star

1694

01:18:04,550 --> 01:18:02,320

where temperatures allow liquid water

1695

01:18:06,950 --> 01:18:04,560

right that's it you need to have liquid

1696

01:18:09,750 --> 01:18:06,960

water to persist on a planet's surface

1697

01:18:12,470 --> 01:18:09,760

right if you're going to have life or

1698

01:18:15,430 --> 01:18:12,480

the chance for life to develop you're

1699

01:18:17,590 --> 01:18:15,440

going to want liquid water now since

1700

01:18:20,709 --> 01:18:17,600

water is necessary for life as we know

1701

01:18:23,189 --> 01:18:20,719

it its presence is required for worlds

1702

01:18:26,149 --> 01:18:23,199

to be considered capable

1703

01:18:27,669 --> 01:18:26,159

of supporting life all right and all of

1704

01:18:30,310 --> 01:18:27,679

that is based on

1705

01:18:32,630 --> 01:18:30,320

what we know here on earth right we've

1706

01:18:35,030 --> 01:18:32,640

got liquid water we know the

1707

01:18:38,470 --> 01:18:35,040

temperatures we know how to measure it

1708

01:18:42,229 --> 01:18:38,480

and we now know what to look for

1709

01:18:43,830 --> 01:18:42,239

the second uh way of uh finding

1710

01:18:45,910 --> 01:18:43,840

exoplanets

1711

01:18:49,270 --> 01:18:45,920

um uh

1712

01:18:51,110 --> 01:18:49,280

is transit photometry which is part of

1713

01:18:53,430 --> 01:18:51,120

the transit method

1714

01:18:56,390 --> 01:18:53,440

monitoring the change in brightness of a

1715

01:18:59,030 --> 01:18:56,400

star as an orbiting planet passes in

1716

01:18:59,990 --> 01:18:59,040

front of it like nasa's kepler missions

1717

01:19:03,189 --> 01:19:00,000

tess

1718

01:19:06,229 --> 01:19:03,199

will use this method to find exoplanets

1719

01:19:09,350 --> 01:19:06,239

transits typically last from 1 to 10

1720

01:19:13,189 --> 01:19:09,360

hours most transits from planets tests

1721

01:19:16,550 --> 01:19:13,199

will find will last for just a few hours

1722

01:19:19,229 --> 01:19:16,560

and here is the actual software

1723

01:19:22,390 --> 01:19:19,239

as it comes back so you can see the

1724

01:19:24,790 --> 01:19:22,400

consistent line of the star's brightness

1725

01:19:28,229 --> 01:19:24,800

on the top and then you can see the

1726

01:19:31,990 --> 01:19:28,239

dramatic drops in brightness and as soon

1727

01:19:34,229 --> 01:19:32,000

as you see this tess's computer systems

1728

01:19:37,350 --> 01:19:34,239

will be triggered all of this is

1729

01:19:41,430 --> 01:19:37,360

happening automatically this is not done

1730

01:19:45,110 --> 01:19:41,440

with the human eye tess is scanning 20

1731

01:19:47,750 --> 01:19:45,120

000 stars at a time per sector

1732

01:19:49,350 --> 01:19:47,760

and as the computer is observing each

1733

01:19:52,229 --> 01:19:49,360

one of these stars

1734

01:19:54,630 --> 01:19:52,239

if a change happens with the transit

1735

01:19:57,189 --> 01:19:54,640

it's going to happen immediately we

1736

01:20:00,189 --> 01:19:57,199

don't have to wait for the data to be

1737

01:20:01,830 --> 01:20:00,199

observed by an astronomer or an

1738

01:20:04,950 --> 01:20:01,840

astrophysicist

1739

01:20:07,910 --> 01:20:04,960

now what is the radial velocity

1740

01:20:08,790 --> 01:20:07,920

exoplanet detection method now

1741

01:20:12,229 --> 01:20:08,800

um

1742

01:20:14,629 --> 01:20:12,239

most of the most of us know this as

1743

01:20:15,510 --> 01:20:14,639

the wobble effect

1744

01:20:18,390 --> 01:20:15,520

okay

1745

01:20:21,430 --> 01:20:18,400

now i'm going to take a little time here

1746

01:20:23,830 --> 01:20:21,440

to explain how this happened this occurs

1747

01:20:26,470 --> 01:20:23,840

in response to the gravitational tug of

1748

01:20:29,590 --> 01:20:26,480

an orbiting planet these movements

1749

01:20:32,149 --> 01:20:29,600

produce shifts in the stars spectrum and

1750

01:20:34,310 --> 01:20:32,159

tell us about the mass of the orbiting

1751

01:20:36,270 --> 01:20:34,320

planet some of the planets that test

1752

01:20:39,830 --> 01:20:36,280

finds will be observed by

1753

01:20:42,629 --> 01:20:39,840

ground-based telescopes using precise

1754

01:20:44,870 --> 01:20:42,639

instruments to measure radial velocity

1755

01:20:47,750 --> 01:20:44,880

now how this occurs is this

1756

01:20:51,669 --> 01:20:47,760

and especially if you are not on the

1757

01:20:55,350 --> 01:20:51,679

elliptic to observe a transit so if a

1758

01:20:58,709 --> 01:20:55,360

planet is going around a star

1759

01:21:01,189 --> 01:20:58,719

as it moves its gravity is going to tug

1760

01:21:04,229 --> 01:21:01,199

on the star and pull it in another

1761

01:21:07,270 --> 01:21:04,239

direction we will be able to see it's

1762

01:21:11,830 --> 01:21:07,280

very small measurements but we are able

1763

01:21:12,830 --> 01:21:11,840

to see the star move we are able to see

1764

01:21:15,590 --> 01:21:12,840

it

1765

01:21:18,790 --> 01:21:15,600

wobble now think about this i had

1766

01:21:20,310 --> 01:21:18,800

mentioned earlier this isn't all space

1767

01:21:25,189 --> 01:21:20,320

based

1768

01:21:27,750 --> 01:21:25,199

around the world around the world to do

1769

01:21:28,550 --> 01:21:27,760

these kind of measurements and all of

1770

01:21:30,550 --> 01:21:28,560

this

1771

01:21:32,550 --> 01:21:30,560

tests and the triangulation and the

1772

01:21:34,470 --> 01:21:32,560

communication with the

1773

01:21:37,430 --> 01:21:34,480

with the ground-based telescopes from

1774

01:21:39,430 --> 01:21:37,440

around the world we are able to use the

1775

01:21:41,510 --> 01:21:39,440

wobble method to detect the

1776

01:21:43,430 --> 01:21:41,520

gravitational changes

1777

01:21:46,550 --> 01:21:43,440

with a star

1778

01:21:48,470 --> 01:21:46,560

all right this is what to me this is one

1779

01:21:50,229 --> 01:21:48,480

of the coolest methods and was also one

1780

01:21:54,830 --> 01:21:50,239

of the first methods

1781

01:21:57,830 --> 01:21:54,840

used to detect exoplanets

1782

01:21:59,910 --> 01:21:57,840

now i want to take you through did you

1783

01:22:02,390 --> 01:21:59,920

hear that

1784

01:22:04,950 --> 01:22:02,400

that wasn't something falling in here

1785

01:22:05,830 --> 01:22:04,960

that was it was

1786

01:22:08,709 --> 01:22:05,840

yeah

1787

01:22:09,750 --> 01:22:08,719

it's uh it's getting a little loud and

1788

01:22:12,070 --> 01:22:09,760

uh

1789

01:22:14,149 --> 01:22:12,080

happy fourth of july

1790

01:22:15,990 --> 01:22:14,159

everybody

1791

01:22:19,430 --> 01:22:16,000

yeah that's pretty cool should we just

1792

01:22:21,350 --> 01:22:20,229

oh

1793

01:22:27,669 --> 01:22:21,360

of course

1794

01:22:31,030 --> 01:22:30,229

i want to uh go through

1795

01:22:39,910 --> 01:22:31,040

uh

1796

01:22:42,709 --> 01:22:39,920

just over a dozen

1797

01:22:46,709 --> 01:22:42,719

of some of the coolest exoplanets

1798

01:22:47,910 --> 01:22:46,719

that have been discovered so far

1799

01:22:50,950 --> 01:22:47,920

and uh

1800

01:22:54,629 --> 01:22:50,960

and their designations and you can also

1801
01:22:57,510 --> 01:22:54,639
go through and do your own research on

1802
01:22:59,750 --> 01:22:57,520
each one of these exoplanets and for me

1803
01:23:01,030 --> 01:22:59,760
to share all of the information that has

1804
01:23:03,830 --> 01:23:01,040
been gathered

1805
01:23:06,629 --> 01:23:03,840
uh would just take forever but i've got

1806
01:23:08,550 --> 01:23:06,639
a pretty cool collection here now

1807
01:23:10,550 --> 01:23:08,560
there's there's another

1808
01:23:11,910 --> 01:23:10,560
point that i want to make before we

1809
01:23:13,189 --> 01:23:11,920
continue

1810
01:23:15,430 --> 01:23:13,199
is that

1811
01:23:16,950 --> 01:23:15,440
the ability

1812
01:23:19,750 --> 01:23:16,960
to

1813
01:23:23,590 --> 01:23:21,590

a planet

1814

01:23:25,510 --> 01:23:23,600

not a star

1815

01:23:27,750 --> 01:23:25,520

but a planet

1816

01:23:31,669 --> 01:23:27,760

a thousand light years away 500 light

1817

01:23:35,830 --> 01:23:31,679

years away four light years away

1818

01:23:39,830 --> 01:23:35,840

is is an amazing leap in technology

1819

01:23:44,149 --> 01:23:39,840

and to think that we have come this far

1820

01:23:45,270 --> 01:23:44,159

in just 25 short years 1995 was 27 years

1821

01:23:48,550 --> 01:23:45,280

ago

1822

01:23:49,669 --> 01:23:48,560

and to go through that kind of timeline

1823

01:24:01,350 --> 01:23:49,679

to

1824

01:24:03,030 --> 01:24:01,360

by the year 2000 we only had five

1825

01:24:06,870 --> 01:24:03,040

eight

1826

01:24:10,070 --> 01:24:06,880

uh exoplanets in the books

1827

01:24:11,189 --> 01:24:10,080

by the year 2000

1828

01:24:13,430 --> 01:24:11,199

today

1829

01:24:16,550 --> 01:24:13,440

if you're an astronomer

1830

01:24:17,990 --> 01:24:16,560

or if you're an astrophysicist

1831

01:24:19,669 --> 01:24:18,000

one of the coolest things that you can

1832

01:24:21,030 --> 01:24:19,679

do is go to work

1833

01:24:23,270 --> 01:24:21,040

because

1834

01:24:26,310 --> 01:24:23,280

you are guaranteed

1835

01:24:28,470 --> 01:24:26,320

to find an exoplanet now i want you to

1836

01:24:29,590 --> 01:24:28,480

understand really quick how important

1837

01:24:32,310 --> 01:24:29,600

this is

1838

01:24:36,470 --> 01:24:32,320

when you look up in the night sky

1839

01:24:38,390 --> 01:24:36,480

and you are in your backyard typically

1840

01:24:40,870 --> 01:24:38,400

on a clear night

1841

01:24:43,590 --> 01:24:40,880

you can see up to

1842

01:24:47,030 --> 01:24:43,600

5 000 stars

1843

01:24:47,910 --> 01:24:47,040

5000 horizon horizon back and forth up

1844

01:24:48,950 --> 01:24:47,920

up

1845

01:24:51,990 --> 01:24:48,960

5

1846

01:24:54,390 --> 01:24:52,000

000 stars

1847

01:24:55,990 --> 01:24:54,400

every single one of those stars that you

1848

01:24:57,669 --> 01:24:56,000

were looking at has

1849

01:24:59,590 --> 01:24:57,679

at least

1850

01:25:02,870 --> 01:24:59,600

one planet

1851
01:25:03,910 --> 01:25:02,880
so if you're an astronomer how easy is

1852
01:25:05,910 --> 01:25:03,920
that

1853
01:25:08,070 --> 01:25:05,920
pick a star

1854
01:25:10,229 --> 01:25:08,080
and study it

1855
01:25:13,189 --> 01:25:10,239
that's why we have

1856
01:25:15,270 --> 01:25:13,199
uh ten 000 candidates right now i'll get

1857
01:25:18,629 --> 01:25:15,280
to all of that that's why we have 10 000

1858
01:25:21,030 --> 01:25:18,639
candidates we have 5 000 confirmed

1859
01:25:22,310 --> 01:25:21,040
exoplanets in the books

1860
01:25:24,709 --> 01:25:22,320
right now

1861
01:25:28,229 --> 01:25:24,719
everything that we look at we now know

1862
01:25:31,350 --> 01:25:28,239
and we understand that every star has at

1863
01:25:34,070 --> 01:25:31,360

least one exoplanet in it

1864

01:25:36,870 --> 01:25:34,080

and the the mountains of data which i'm

1865

01:25:38,790 --> 01:25:36,880

going to get to in in just a bit and and

1866

01:25:39,750 --> 01:25:38,800

go over all of this

1867

01:25:41,990 --> 01:25:39,760

is

1868

01:25:47,590 --> 01:25:42,000

overwhelming

1869

01:25:50,149 --> 01:25:47,600

astronomers to pour over the data uh the

1870

01:25:52,550 --> 01:25:50,159

computers are cranking through this we

1871

01:25:55,270 --> 01:25:52,560

still have to go back and confirm the

1872

01:25:57,910 --> 01:25:55,280

computer's data and analysis

1873

01:25:59,990 --> 01:25:57,920

and there just isn't enough time

1874

01:26:02,229 --> 01:26:00,000

and as we move forward and i'm going to

1875

01:26:03,350 --> 01:26:02,239

go through this as we move forward in

1876

01:26:05,510 --> 01:26:03,360

the month

1877

01:26:09,350 --> 01:26:05,520

days and years ahead

1878

01:26:11,189 --> 01:26:09,360

this data is going to compound

1879

01:26:14,709 --> 01:26:11,199

it's going to be

1880

01:26:16,790 --> 01:26:14,719

huge and overwhelming and those numbers

1881

01:26:20,229 --> 01:26:16,800

which i'm going to disclose to you after

1882

01:26:22,870 --> 01:26:20,239

the break are absolutely incredible so

1883

01:26:24,709 --> 01:26:22,880

when we come back i'm going to tease you

1884

01:26:26,470 --> 01:26:24,719

with this we're going to start going

1885

01:26:28,950 --> 01:26:26,480

through these exoplanets

1886

01:26:31,669 --> 01:26:28,960

and this first one that uh i'm going to

1887

01:26:32,470 --> 01:26:31,679

discuss right here before the break

1888

01:26:36,629 --> 01:26:32,480

is

1889

01:26:38,790 --> 01:26:36,639

and the sizes

1890

01:26:41,030 --> 01:26:38,800

of these planets now i want you to take

1891

01:26:42,390 --> 01:26:41,040

a look here and understand what i'm

1892

01:26:45,669 --> 01:26:42,400

talking about

1893

01:26:48,390 --> 01:26:45,679

okay so there's the moon there's earth

1894

01:26:49,910 --> 01:26:48,400

there's venus there's mars and here are

1895

01:26:52,390 --> 01:26:49,920

some of the exoplanets that we're going

1896

01:26:55,030 --> 01:26:52,400

to be discussing in just a bit and why

1897

01:26:58,709 --> 01:26:55,040

they are so important

1898

01:27:01,110 --> 01:26:58,719

our focus in the search for exoplanets

1899

01:27:02,830 --> 01:27:01,120

is we want to find

1900

01:27:04,470 --> 01:27:02,840

earth-like

1901

01:27:07,030 --> 01:27:04,480

earth-sized

1902

01:27:09,110 --> 01:27:07,040

rocky with water

1903

01:27:11,350 --> 01:27:09,120

in the habitable zone

1904

01:27:14,790 --> 01:27:11,360

that's what we're interested in yes we

1905

01:27:17,990 --> 01:27:14,800

can find a planet by a star that is a

1906

01:27:19,350 --> 01:27:18,000

gas giant that's great we're never going

1907

01:27:21,510 --> 01:27:19,360

to live there

1908

01:27:23,510 --> 01:27:21,520

right that that's not what we're

1909

01:27:25,030 --> 01:27:23,520

interested in and it certainly doesn't

1910

01:27:28,470 --> 01:27:25,040

support life

1911

01:27:29,990 --> 01:27:28,480

we are looking for signs of life

1912

01:27:33,510 --> 01:27:30,000

so we want

1913

01:27:35,830 --> 01:27:33,520

earth-like planets in the habitable in

1914

01:27:38,950 --> 01:27:35,840

the goldilocks zone

1915

01:27:40,629 --> 01:27:38,960

with water in an atmosphere and these

1916

01:27:42,950 --> 01:27:40,639

are some of the planets here that we are

1917

01:27:46,830 --> 01:27:42,960

going to look at and the first one

1918

01:27:52,950 --> 01:27:48,709

kepler-20b

1919

01:27:57,030 --> 01:27:52,960

is classified as a super-earth

1920

01:27:59,590 --> 01:27:57,040

this is an iron-rich rocky world

1921

01:28:02,870 --> 01:27:59,600

in the goldilocks zone

1922

01:28:04,950 --> 01:28:02,880

we are continuing to study every

1923

01:28:06,870 --> 01:28:04,960

every earth-like planet that we find in

1924

01:28:10,070 --> 01:28:06,880

the goldilocks zone

1925

01:28:12,149 --> 01:28:10,080

we can go and catalog it but then we

1926

01:28:14,550 --> 01:28:12,159

have to go back and look we have to

1927

01:28:16,790 --> 01:28:14,560

check for its temperature and one of the

1928

01:28:19,030 --> 01:28:16,800

things that the james webb is going to

1929

01:28:21,270 --> 01:28:19,040

do is going to go through the list of

1930

01:28:23,910 --> 01:28:21,280

data and candidates it's going to go

1931

01:28:26,070 --> 01:28:23,920

look at these rocky earth-like planets

1932

01:28:28,550 --> 01:28:26,080

in the goldilocks zone and start to

1933

01:28:31,110 --> 01:28:28,560

study their atmosphere what is there is

1934

01:28:32,950 --> 01:28:31,120

there nitrogen is there oxygen

1935

01:28:35,510 --> 01:28:32,960

is there water

1936

01:28:36,629 --> 01:28:35,520

is there carbon monoxide is there

1937

01:28:40,149 --> 01:28:36,639

methane

1938

01:28:42,790 --> 01:28:40,159

all of the things that we know we need

1939

01:28:46,149 --> 01:28:42,800

here on earth that will not only support

1940

01:28:49,110 --> 01:28:46,159

life but shows signs of life and of

1941

01:28:51,350 --> 01:28:49,120

course methane and how it is created

1942

01:28:55,030 --> 01:28:51,360

there's a few ways to do that

1943

01:28:56,550 --> 01:28:55,040

also is a strong indicator of life

1944

01:28:59,510 --> 01:28:56,560

organic life

1945

01:29:02,390 --> 01:28:59,520

on these planets kepler-20b

1946

01:29:04,470 --> 01:29:02,400

is one of the highest rated candidates

1947

01:29:06,550 --> 01:29:04,480

out of all of them

1948

01:29:09,350 --> 01:29:06,560

this is fade to black i am your host

1949

01:29:10,870 --> 01:29:09,360

jimmy church tonight

1950

01:29:13,990 --> 01:29:10,880

aliens

1951

01:29:16,310 --> 01:29:14,000

and exoplanets this is fade to black i

1952

01:29:17,750 --> 01:29:16,320

am your host jimmy church two and a half

1953

01:29:19,110 --> 01:29:17,760

hours tonight

1954

01:29:21,669 --> 01:29:19,120

of nothing

1955

01:29:23,189 --> 01:29:21,679

but the good stuff

1956

01:29:25,750 --> 01:29:23,199

that's right

1957

01:29:28,149 --> 01:29:25,760

on the game changer and nx networks race

1958

01:29:34,110 --> 01:29:28,159

hobbs i am your host jimmy church

1959

01:29:49,350 --> 01:29:46,149

[Music]

1960

01:29:54,149 --> 01:29:49,360

way out here we listen to jimmy church

1961

01:29:57,830 --> 01:29:56,310

you're listening to jimmy church and

1962

01:30:02,940 --> 01:29:57,840

fade to black

1963

01:30:02,950 --> 01:30:12,510

[Applause]

1964

01:30:16,790 --> 01:30:14,790

[Music]

1965

01:30:19,189 --> 01:30:16,800

the believer is the chilling true story

1966

01:30:21,510 --> 01:30:19,199

of dr john mack a renowned harvard

1967

01:30:23,990 --> 01:30:21,520

psychiatrist and pulitzer prize winner

1968

01:30:26,709 --> 01:30:24,000

this is a outreach program from the

1969

01:30:29,110 --> 01:30:26,719

cosmos to the consciously impaired he

1970

01:30:32,070 --> 01:30:29,120

risked it all to investigate human

1971

01:30:34,790 --> 01:30:32,080

encounters with aliens the believer

1972

01:30:37,030 --> 01:30:34,800

alien encounters hard science and the

1973

01:30:38,870 --> 01:30:37,040

passion of john mack written by

1974

01:30:41,189 --> 01:30:38,880

award-winning former new york times

1975

01:30:43,270 --> 01:30:41,199

journalist and author ralph blumenthal

1976

01:30:44,870 --> 01:30:43,280

now available in paperback from high

1977

01:30:47,110 --> 01:30:44,880

road books

1978

01:30:49,030 --> 01:30:47,120

introducing the game changer blend from

1979

01:30:51,510 --> 01:30:49,040

river moon coffee that delivers a

1980

01:30:54,629 --> 01:30:51,520

customized blend made specifically for

1981

01:30:57,590 --> 01:30:54,639

the fader knots if the game is rigged

1982

01:31:00,390 --> 01:30:57,600

change the game it's a boulder cup with

1983

01:31:02,629 --> 01:31:00,400

some bite game changer is the coffee of

1984

01:31:04,950 --> 01:31:02,639

choice for those that prefer an organic

1985

01:31:08,550 --> 01:31:04,960

dark roast that is slightly lighter and

1986

01:31:10,870 --> 01:31:08,560

milder but it's still dark with wild

1987

01:31:13,430 --> 01:31:10,880

notes of pecans and chocolate with a

1988

01:31:15,750 --> 01:31:13,440

rich balanced full-bodied cup that is

1989

01:31:18,470 --> 01:31:15,760

roasted to perfection for a great coffee

1990

01:31:21,750 --> 01:31:18,480

to start your day as an after dinner

1991

01:31:24,550 --> 01:31:21,760

coffee or anywhere in between artisan

1992

01:31:27,189 --> 01:31:24,560

small batch roasted to perfection usda

1993

01:31:29,510 --> 01:31:27,199

certified organic all river moon coffee

1994

01:31:32,390 --> 01:31:29,520

is freshly roasted and packaged in the

1995

01:31:34,470 --> 01:31:32,400

usa just go to rivermooncoffee.com or

1996

01:31:38,390 --> 01:31:34,480

click on the banners over on our site

1997

01:31:41,390 --> 01:31:38,400

and use the promo code f2b blend for 15

1998

01:31:43,189 --> 01:31:41,400

off of your order today

1999

01:31:45,270 --> 01:31:43,199

rivermooncoffee.com

2000

01:31:47,990 --> 01:31:45,280

do you want to be an official fate or

2001
01:31:50,229 --> 01:31:48,000
not of course you do this is jimmy

2002
01:31:51,510 --> 01:31:50,239
church of fade to black just go to our

2003
01:31:53,990 --> 01:31:51,520
membership section at

2004
01:31:55,990 --> 01:31:54,000
jimmychurchradio.com

2005
01:31:57,830 --> 01:31:56,000
vader knots when you think about the

2006
01:31:59,750 --> 01:31:57,840
future of our country and where we're

2007
01:32:02,790 --> 01:31:59,760
headed do you wonder about the food

2008
01:32:04,950 --> 01:32:02,800
supply i do disruptions in the food

2009
01:32:07,830 --> 01:32:04,960
supply chain could be disastrous and

2010
01:32:10,470 --> 01:32:07,840
they usually occur with little

2011
01:32:13,830 --> 01:32:10,480
that's why the thing you can do today is

2012
01:32:16,470 --> 01:32:13,840
to stockpile emergency food water and

2013
01:32:19,030 --> 01:32:16,480

other essentials i personally recommend

2014

01:32:21,510 --> 01:32:19,040

my patriot supply they're the nation's

2015

01:32:23,830 --> 01:32:21,520

largest emergency preparedness company

2016

01:32:26,629 --> 01:32:23,840

serving millions of customers for more

2017

01:32:28,550 --> 01:32:26,639

than a decade in fact they're the only

2018

01:32:31,669 --> 01:32:28,560

source my family trusts for our

2019

01:32:34,310 --> 01:32:31,679

preparedness plan you should too right

2020

01:32:36,229 --> 01:32:34,320

now save twenty percent off a full four

2021

01:32:38,870 --> 01:32:36,239

week supply of delicious meals that

2022

01:32:41,510 --> 01:32:38,880

provide two thousand calories a day

2023

01:32:44,390 --> 01:32:41,520

saving 20 helps too doesn't it

2024

01:32:48,030 --> 01:32:44,400

especially now so go to prepare with

2025

01:32:50,310 --> 01:32:48,040

jimmy.com and get ready that's

2026

01:32:51,189 --> 01:32:50,320

preparedwithjimmy.com there's no time to

2027

01:32:53,669 --> 01:32:51,199

lose

2028

01:32:56,790 --> 01:32:53,679

do it now

2029

01:32:59,030 --> 01:32:56,800

so you love talk radio then you'll love

2030

01:33:02,149 --> 01:32:59,040

talkstreamlive.com

2031

01:33:04,390 --> 01:33:02,159

talk stream live is always on 24 7 with

2032

01:33:06,310 --> 01:33:04,400

the best streaming talk shows find your

2033

01:33:09,189 --> 01:33:06,320

favorite talkers and discover some new

2034

01:33:11,270 --> 01:33:09,199

ones it's free readily available online

2035

01:33:13,350 --> 01:33:11,280

or on mobile with any smartphone or

2036

01:33:15,910 --> 01:33:13,360

tablet finding your favorite talk shows

2037

01:33:17,709 --> 01:33:15,920

all in one place has gotten a whole lot

2038

01:33:19,830 --> 01:33:17,719

easier just go to

2039

01:33:22,070 --> 01:33:19,840

talkstreamlive.com be sure to download

2040

01:33:25,030 --> 01:33:22,080

the free apps from google play or the

2041

01:33:28,229 --> 01:33:25,040

itunes app store

2042

01:33:30,150 --> 01:33:28,239

you listen to us and we listen to you

2043

01:33:34,310 --> 01:33:30,160

and so does the cia

2044

01:33:41,189 --> 01:33:36,390

you are listening to fate to black with

2045

01:33:46,629 --> 01:33:43,669

hi i'm rhys evans you're listening to

2046

01:33:49,430 --> 01:33:46,639

jimmy church this is revolution the

2047

01:33:50,470 --> 01:33:49,440

revolution will not be televised the

2048

01:33:52,709 --> 01:33:50,480

revolution

2049

01:33:56,360 --> 01:33:52,719

is on radio

2050

01:33:56,370 --> 01:34:27,650

[Music]

2051
01:34:27,660 --> 01:34:31,070
[Applause]

2052
01:34:38,709 --> 01:34:35,990
[Music]

2053
01:34:40,870 --> 01:34:38,719
welcome back fade to black tonight's

2054
01:34:42,629 --> 01:34:40,880
aliens and exoplanets we're gonna keep

2055
01:34:44,709 --> 01:34:42,639
going

2056
01:34:46,790 --> 01:34:44,719
straight back into this with the

2057
01:34:50,390 --> 01:34:46,800
fireworks going off in the background

2058
01:34:54,550 --> 01:34:50,400
because today is july 4th

2059
01:34:56,470 --> 01:34:54,560
now this next image this is

2060
01:34:59,350 --> 01:34:56,480
gliese

2061
01:35:02,390 --> 01:34:59,360
667cc

2062
01:35:05,270 --> 01:35:02,400
and it is just 22 light years from earth

2063
01:35:08,950 --> 01:35:05,280

it is one of the most studied exoplanet

2064

01:35:10,950 --> 01:35:08,960

and it is in the habitable zone this is

2065

01:35:13,310 --> 01:35:10,960

an artist's impression

2066

01:35:14,870 --> 01:35:13,320

of what gleese

2067

01:35:17,430 --> 01:35:14,880

667cc

2068

01:35:19,830 --> 01:35:17,440

just may look like on its surface and as

2069

01:35:20,709 --> 01:35:19,840

you can see it has got

2070

01:35:21,750 --> 01:35:20,719

two

2071

01:35:25,030 --> 01:35:21,760

suns

2072

01:35:27,430 --> 01:35:25,040

it is orbiting two stars now william

2073

01:35:28,790 --> 01:35:27,440

just posted in the chat room a little

2074

01:35:31,430 --> 01:35:28,800

bit ago

2075

01:35:33,590 --> 01:35:31,440

a great question and his question was

2076

01:35:35,350 --> 01:35:33,600

what about telescopes that can see

2077

01:35:38,790 --> 01:35:35,360

things in real time

2078

01:35:41,830 --> 01:35:38,800

right yeah absolutely we know

2079

01:35:45,030 --> 01:35:41,840

if we are looking at a star or a planet

2080

01:35:48,149 --> 01:35:45,040

that is 1 000 light years away it is 1

2081

01:35:49,030 --> 01:35:48,159

000 years in its past we are not looking

2082

01:35:55,109 --> 01:35:49,040

at

2083

01:35:57,270 --> 01:35:55,119

today it's 1 000 years ago

2084

01:35:58,550 --> 01:35:57,280

okay as light travels at the speed of

2085

01:36:00,709 --> 01:35:58,560

light so

2086

01:36:02,629 --> 01:36:00,719

something is a million years away we are

2087

01:36:04,229 --> 01:36:02,639

looking at something a million years in

2088

01:36:06,790 --> 01:36:04,239

the past and remember

2089

01:36:08,870 --> 01:36:06,800

that if an et civilization is doing the

2090

01:36:12,310 --> 01:36:08,880

same thing looking at us with the

2091

01:36:14,310 --> 01:36:12,320

telescope from a million years a

2092

01:36:17,109 --> 01:36:14,320

million light years away

2093

01:36:18,310 --> 01:36:17,119

they would be looking at earth a million

2094

01:36:20,070 --> 01:36:18,320

years ago

2095

01:36:22,830 --> 01:36:20,080

they would be looking at

2096

01:36:27,350 --> 01:36:22,840

a prehistoric man on

2097

01:36:29,350 --> 01:36:27,360

a in in southern africa right but about

2098

01:36:31,270 --> 01:36:29,360

65 million light years they would be

2099

01:36:32,709 --> 01:36:31,280

looking at dinosaurs

2100

01:36:34,070 --> 01:36:32,719

they wouldn't be looking at earth in

2101
01:36:35,310 --> 01:36:34,080
real time but

2102
01:36:36,950 --> 01:36:35,320
gliese

2103
01:36:40,310 --> 01:36:36,960
667cc

2104
01:36:43,990 --> 01:36:40,320
is just 22 light years away

2105
01:36:48,470 --> 01:36:44,000
so we are observing this planet

2106
01:36:52,070 --> 01:36:48,480
as it was just 22 years ago

2107
01:36:55,510 --> 01:36:52,080
james webb is going to be focused on

2108
01:36:59,109 --> 01:36:55,520
gliese 667 cc

2109
01:37:03,030 --> 01:36:59,119
it is a very important planet

2110
01:37:04,830 --> 01:37:03,040
now this next image this next planet

2111
01:37:08,470 --> 01:37:04,840
is

2112
01:37:12,390 --> 01:37:08,480
kepler-22b now kepler-22b

2113
01:37:15,750 --> 01:37:12,400

is 600 light years away and was the

2114

01:37:18,310 --> 01:37:15,760

first kepler planet found

2115

01:37:22,310 --> 01:37:18,320

in the habitable zone and you can see

2116

01:37:25,590 --> 01:37:22,320

here in this image where it lies in the

2117

01:37:27,830 --> 01:37:25,600

habitable zone and it is on the inside

2118

01:37:29,189 --> 01:37:27,840

of it fortunately

2119

01:37:32,070 --> 01:37:29,199

its star

2120

01:37:33,990 --> 01:37:32,080

is not that hot so even though it's

2121

01:37:37,189 --> 01:37:34,000

inside of what we would call the

2122

01:37:40,149 --> 01:37:37,199

habitable zone its sun

2123

01:37:41,830 --> 01:37:40,159

is running at a cooler temperature so we

2124

01:37:45,189 --> 01:37:41,840

would consider this

2125

01:37:47,870 --> 01:37:45,199

right in the middle of where it needs to

2126
01:37:49,510 --> 01:37:47,880
be and we also think that

2127
01:37:51,910 --> 01:37:49,520
kepler-22b

2128
01:37:55,430 --> 01:37:51,920
is covered in water

2129
01:37:57,189 --> 01:37:55,440
and maybe as much water as we have here

2130
01:38:00,310 --> 01:37:57,199
on earth again

2131
01:38:04,709 --> 01:38:00,320
this will be a major focus

2132
01:38:07,590 --> 01:38:04,719
for the james webb space telescope this

2133
01:38:09,310 --> 01:38:07,600
next exoplanet now there are a few here

2134
01:38:11,350 --> 01:38:09,320
this is in kepler

2135
01:38:12,149 --> 01:38:11,360
62 f

2136
01:38:15,669 --> 01:38:12,159
now

2137
01:38:18,070 --> 01:38:15,679
uh kepler 62 the system has one two

2138
01:38:20,470 --> 01:38:18,080

three four five six

2139

01:38:23,270 --> 01:38:20,480

five five uh

2140

01:38:28,149 --> 01:38:23,280

uh five planets orbiting it

2141

01:38:29,669 --> 01:38:28,159

um and this one which is kepler 62f

2142

01:38:32,709 --> 01:38:29,679

is about 40

2143

01:38:36,070 --> 01:38:32,719

larger than earth and orbits a star

2144

01:38:40,669 --> 01:38:36,080

again much cooler than our sun

2145

01:38:43,350 --> 01:38:40,679

it also has a very happening

2146

01:38:48,950 --> 01:38:43,360

267 day orbit

2147

01:38:53,189 --> 01:38:48,960

now this also puts a 62f kepler-62f

2148

01:38:56,950 --> 01:38:53,199

squarely within the habitable zone and

2149

01:39:00,950 --> 01:38:56,960

again this is a major focus

2150

01:39:01,750 --> 01:39:00,960

for the james webb space telescope

2151

01:39:08,950 --> 01:39:01,760

uh

2152

01:39:13,510 --> 01:39:08,960

69 c

2153

01:39:17,189 --> 01:39:13,520

now this is the kepler 69 system

2154

01:39:19,830 --> 01:39:17,199

which has uh for for now

2155

01:39:22,070 --> 01:39:19,840

two exoplanets orbiting

2156

01:39:24,510 --> 01:39:22,080

and 69c

2157

01:39:28,550 --> 01:39:24,520

completes one orbit every

2158

01:39:29,990 --> 01:39:28,560

242 days and its host star is again

2159

01:39:32,870 --> 01:39:30,000

about 80

2160

01:39:37,030 --> 01:39:32,880

as luminous as our sun

2161

01:39:41,189 --> 01:39:37,040

so the planet is right in the habitable

2162

01:39:45,270 --> 01:39:41,199

zone also because their sun runs at 80

2163

01:39:47,910 --> 01:39:45,280

percent of our sun so this is a big

2164

01:39:50,709 --> 01:39:47,920

candidate and we are also going to be

2165

01:39:54,390 --> 01:39:50,719

looking at its atmosphere

2166

01:39:55,669 --> 01:39:54,400

it's a another very important planet

2167

01:39:58,669 --> 01:39:55,679

now

2168

01:40:01,430 --> 01:39:58,679

up next is kepler

2169

01:40:02,390 --> 01:40:01,440

186 f

2170

01:40:04,390 --> 01:40:02,400

now

2171

01:40:07,990 --> 01:40:04,400

186 f

2172

01:40:11,030 --> 01:40:08,000

is interesting because it's just 10

2173

01:40:14,149 --> 01:40:11,040

larger than our earth

2174

01:40:17,030 --> 01:40:14,159

it also is right in the middle of its

2175

01:40:18,550 --> 01:40:17,040

habitable zone the goldilocks zone of

2176
01:40:21,669 --> 01:40:18,560
its star

2177
01:40:24,550 --> 01:40:21,679
it receives just one third of the energy

2178
01:40:25,910 --> 01:40:24,560
from its star that the earth gets from

2179
01:40:29,189 --> 01:40:25,920
our sun

2180
01:40:30,550 --> 01:40:29,199
we know uh through uh the research that

2181
01:40:35,109 --> 01:40:30,560
we have done

2182
01:40:36,790 --> 01:40:35,119
on 186f that its temperature is right

2183
01:40:39,189 --> 01:40:36,800
where it needs to be

2184
01:40:42,310 --> 01:40:39,199
for liquid water

2185
01:40:43,350 --> 01:40:42,320
and it is a very interesting planet

2186
01:40:45,590 --> 01:40:43,360
again

2187
01:40:48,629 --> 01:40:45,600
um everything that i'm presenting to you

2188
01:40:52,550 --> 01:40:48,639

now uh the james webb

2189

01:40:55,750 --> 01:40:52,560

and tess the james webb has uh

2190

01:40:58,390 --> 01:40:55,760

a very specific uh stars

2191

01:41:00,870 --> 01:40:58,400

star system and planets that it is going

2192

01:41:03,910 --> 01:41:00,880

to be looking at this list that i'm

2193

01:41:06,550 --> 01:41:03,920

presenting to you right now represents

2194

01:41:09,189 --> 01:41:06,560

a part of that list for the james webb

2195

01:41:12,870 --> 01:41:09,199

space telescope the james webb space

2196

01:41:15,350 --> 01:41:12,880

telescope is able to look at atmospheres

2197

01:41:18,070 --> 01:41:15,360

and for signs of life

2198

01:41:19,990 --> 01:41:18,080

one of the points that avi loeb has

2199

01:41:21,430 --> 01:41:20,000

brought up uh

2200

01:41:24,470 --> 01:41:21,440

is

2201

01:41:27,750 --> 01:41:24,480

would we be able to see

2202

01:41:29,669 --> 01:41:27,760

with the james webb space telescope

2203

01:41:32,550 --> 01:41:29,679

light

2204

01:41:35,430 --> 01:41:32,560

okay the dark side as

2205

01:41:38,709 --> 01:41:35,440

the planet is turning

2206

01:41:40,709 --> 01:41:38,719

right from day to night would we see

2207

01:41:43,830 --> 01:41:40,719

lights from cities

2208

01:41:45,910 --> 01:41:43,840

would we be able to see industry

2209

01:41:48,470 --> 01:41:45,920

would we be able to see this kind of

2210

01:41:51,109 --> 01:41:48,480

stuff on the dark side of a planet

2211

01:41:53,910 --> 01:41:51,119

and we're going to be looking at this

2212

01:41:55,109 --> 01:41:53,920

information from the james webb space

2213

01:41:56,470 --> 01:41:55,119

telescope

2214

01:41:59,430 --> 01:41:56,480

because

2215

01:42:01,990 --> 01:41:59,440

we want technical signatures

2216

01:42:04,390 --> 01:42:02,000

and carbon monoxide

2217

01:42:08,550 --> 01:42:04,400

is a technical signature

2218

01:42:10,229 --> 01:42:08,560

of an industrial age we also know that

2219

01:42:12,709 --> 01:42:10,239

with earth

2220

01:42:14,950 --> 01:42:12,719

that we entered the industrial age and

2221

01:42:18,229 --> 01:42:14,960

we've been in the middle of it for about

2222

01:42:20,709 --> 01:42:18,239

200 years a little little over 200 years

2223

01:42:23,350 --> 01:42:20,719

coal burning factories

2224

01:42:25,669 --> 01:42:23,360

uh creating pollution

2225

01:42:28,229 --> 01:42:25,679

carbon monoxide and other pollutants and

2226

01:42:30,149 --> 01:42:28,239

gases going into the air that mark a

2227

01:42:32,870 --> 01:42:30,159

technical signature

2228

01:42:35,109 --> 01:42:32,880

okay and we'll be able to look that's

2229

01:42:37,350 --> 01:42:35,119

what the james webb is going to be

2230

01:42:40,070 --> 01:42:37,360

looking for in addition to

2231

01:42:43,990 --> 01:42:40,080

the other stuff that is needed

2232

01:42:47,189 --> 01:42:44,000

for life and kepler 186f

2233

01:42:48,229 --> 01:42:47,199

is one of these candidates

2234

01:42:50,310 --> 01:42:48,239

all right

2235

01:42:52,709 --> 01:42:50,320

next up is

2236

01:42:54,629 --> 01:42:52,719

uh one of my favorite planets uh well

2237

01:42:56,629 --> 01:42:54,639

they all of these are

2238

01:42:59,109 --> 01:42:56,639

um i have been researching the subject

2239

01:43:00,390 --> 01:42:59,119

for a very long time and i announce on

2240

01:43:02,709 --> 01:43:00,400

the show

2241

01:43:05,750 --> 01:43:02,719

um uh when

2242

01:43:08,070 --> 01:43:05,760

uh another exoplanet that is earth-like

2243

01:43:10,390 --> 01:43:08,080

the gas giants that's exciting and i'm

2244

01:43:11,750 --> 01:43:10,400

glad that we have the the ability to

2245

01:43:14,229 --> 01:43:11,760

observe those

2246

01:43:17,669 --> 01:43:14,239

i want to know about

2247

01:43:19,990 --> 01:43:17,679

uh rocky earth-like planets with water

2248

01:43:22,229 --> 01:43:20,000

and an atmosphere in the habitable zone

2249

01:43:24,709 --> 01:43:22,239

in the goldilocks zone that's what i'm

2250

01:43:27,430 --> 01:43:24,719

interested in and when these

2251

01:43:31,030 --> 01:43:27,440

uh planets are announced i immediately

2252

01:43:33,790 --> 01:43:31,040

catalog them i have a huge list of them

2253

01:43:37,189 --> 01:43:33,800

and these are some of my favorites and

2254

01:43:38,390 --> 01:43:37,199

186f is one of those and this next

2255

01:43:40,189 --> 01:43:38,400

planet

2256

01:43:42,790 --> 01:43:40,199

kepler

2257

01:43:46,870 --> 01:43:42,800

442 b

2258

01:43:50,709 --> 01:43:46,880

is the first near-earth side planet that

2259

01:43:53,590 --> 01:43:50,719

orbits around a star the size

2260

01:43:55,510 --> 01:43:53,600

of our sun

2261

01:43:57,510 --> 01:43:55,520

now check this out

2262

01:44:00,390 --> 01:43:57,520

are you ready it's one of my favorite

2263

01:44:09,270 --> 01:44:00,400

planets for a lot of different reasons

2264

01:44:09,280 --> 01:44:12,229

holy crap

2265

01:44:17,270 --> 01:44:15,030

i've got headphones on and if it's that

2266

01:44:23,030 --> 01:44:17,280

loud

2267

01:44:27,030 --> 01:44:25,669

soundproof i can't hear anything outside

2268

01:44:29,830 --> 01:44:27,040

when i'm in here

2269

01:44:35,189 --> 01:44:29,840

and uh it is indeed the fourth of july

2270

01:44:37,669 --> 01:44:35,199

so um 442b has a sun the size of ours

2271

01:44:40,709 --> 01:44:37,679

um 442b

2272

01:44:43,910 --> 01:44:40,719

orbits in the habitable zone

2273

01:44:46,629 --> 01:44:43,920

and not only that it's rocky not only

2274

01:44:48,709 --> 01:44:46,639

that it appears to have water

2275

01:44:52,550 --> 01:44:48,719

and not only that

2276

01:44:54,149 --> 01:44:52,560

it has a 385

2277

01:44:55,990 --> 01:44:54,159

day year

2278

01:44:59,430 --> 01:44:56,000

so this planet

2279

01:45:01,990 --> 01:44:59,440

is turning this planet is orbiting a sun

2280

01:45:04,470 --> 01:45:02,000

like ours this planet is the same

2281

01:45:08,830 --> 01:45:04,480

distance from its sun

2282

01:45:14,830 --> 01:45:08,840

as we are from our sun and it also has a

2283

01:45:22,950 --> 01:45:19,510

442b is is is checking all of the boxes

2284

01:45:25,709 --> 01:45:22,960

and once again the james webb telescope

2285

01:45:27,270 --> 01:45:25,719

is going to be looking at kepler

2286

01:45:28,830 --> 01:45:27,280

442b

2287

01:45:33,030 --> 01:45:28,840

remember

2288

01:45:33,040 --> 01:45:36,070

next up

2289

01:45:39,830 --> 01:45:37,590

i knew it was gonna be interesting to

2290

01:45:41,189 --> 01:45:39,840

have this show tonight on the fourth of

2291

01:45:45,189 --> 01:45:41,199

july

2292

01:45:46,310 --> 01:45:45,199

kepler 16 uh oh wait wait wait hold on

2293

01:45:47,430 --> 01:45:46,320

hold on

2294

01:45:49,030 --> 01:45:47,440

uh

2295

01:45:51,350 --> 01:45:49,040

this is kepler

2296

01:45:54,470 --> 01:45:51,360

oh oh i did it out of order

2297

01:45:58,550 --> 01:45:55,390

this is

2298

01:46:00,310 --> 01:45:58,560

kepler-442b it's 33

2299

01:46:03,669 --> 01:46:00,320

larger than the earth completes its

2300

01:46:06,310 --> 01:46:03,679

orbit in 112 days this exoplanet

2301
01:46:08,390 --> 01:46:06,320
receives enough light to sustain are you

2302
01:46:10,830 --> 01:46:08,400
ready for this

2303
01:46:12,390 --> 01:46:10,840
a large

2304
01:46:14,790 --> 01:46:12,400
biosphere

2305
01:46:16,109 --> 01:46:14,800
right now the research is indicating

2306
01:46:17,990 --> 01:46:16,119
that

2307
01:46:19,070 --> 01:46:18,000
kepler-442b

2308
01:46:22,149 --> 01:46:19,080
has

2309
01:46:25,510 --> 01:46:22,159
photosynthesis so in this artist's

2310
01:46:27,189 --> 01:46:25,520
rendition of kepler-442b

2311
01:46:30,030 --> 01:46:27,199
you can see

2312
01:46:34,149 --> 01:46:31,669
kepler-4442b

2313
01:46:37,590 --> 01:46:34,159

absolutely incredible this

2314

01:46:43,510 --> 01:46:40,310

it is also another near-earth-sized

2315

01:46:47,709 --> 01:46:43,520

planet and this is the planet that i was

2316

01:46:51,750 --> 01:46:47,719

talking about i was going off of memory

2317

01:46:56,590 --> 01:46:51,760

kepler-452b not 442b 452b this is

2318

01:47:01,430 --> 01:46:56,600

another star system this orbits its sun

2319

01:47:05,910 --> 01:47:01,440

385 days a year now it is also rocky

2320

01:47:07,950 --> 01:47:05,920

and it is uh looks like with research

2321

01:47:10,310 --> 01:47:07,960

again we only have so many

2322

01:47:12,470 --> 01:47:10,320

astrophysicists and so many astronomers

2323

01:47:15,270 --> 01:47:12,480

on this planet to do all of this

2324

01:47:18,550 --> 01:47:15,280

research but we think

2325

01:47:22,900 --> 01:47:18,560

there is water and it is also in the

2326
01:47:24,390 --> 01:47:22,910
habitable zone okay next up

2327
01:47:25,669 --> 01:47:24,400
[Music]

2328
01:47:30,229 --> 01:47:25,679
next up

2329
01:47:35,510 --> 01:47:31,229
kepler

2330
01:47:36,470 --> 01:47:35,520
1649c i have uh chosen this picture here

2331
01:47:40,310 --> 01:47:36,480
because

2332
01:47:42,870 --> 01:47:40,320
it is nearly the exact size

2333
01:47:45,590 --> 01:47:42,880
of our earth

2334
01:47:46,950 --> 01:47:45,600
it's also orbiting its stars

2335
01:47:49,270 --> 01:47:46,960
two of them

2336
01:47:50,390 --> 01:47:49,280
in the habitable zone

2337
01:47:51,750 --> 01:47:50,400
it receives

2338
01:47:55,189 --> 01:47:51,760

75

2339

01:47:57,950 --> 01:47:55,199

of the light on earth that we get from

2340

01:48:03,030 --> 01:48:01,350

kepler-1649c again looks like it has an

2341

01:48:05,910 --> 01:48:03,040

atmosphere

2342

01:48:07,590 --> 01:48:05,920

it has oxygen it has nitrogen it appears

2343

01:48:10,390 --> 01:48:07,600

we're going to continue

2344

01:48:13,109 --> 01:48:10,400

the study of 1649c

2345

01:48:14,870 --> 01:48:13,119

and there is water

2346

01:48:21,189 --> 01:48:14,880

so again

2347

01:48:27,109 --> 01:48:23,510

okay now earlier

2348

01:48:29,030 --> 01:48:27,119

i talked about the spitzer telescope

2349

01:48:30,550 --> 01:48:29,040

and trappist-1

2350

01:48:32,709 --> 01:48:30,560

the spitzer

2351

01:48:33,830 --> 01:48:32,719

space telescope

2352

01:48:36,070 --> 01:48:33,840

uh

2353

01:48:39,669 --> 01:48:36,080

about halfway through its mission

2354

01:48:42,790 --> 01:48:39,679

got a new software installed

2355

01:48:45,590 --> 01:48:42,800

and its instruments were adjusted

2356

01:48:46,629 --> 01:48:45,600

because they found out that spitzer was

2357

01:48:50,390 --> 01:48:46,639

perfect

2358

01:48:53,030 --> 01:48:50,400

for looking at the tran zit method uh

2359

01:48:55,910 --> 01:48:53,040

for locating exoplanets

2360

01:48:57,590 --> 01:48:55,920

and what did it find

2361

01:49:02,550 --> 01:48:57,600

it found

2362

01:49:07,270 --> 01:49:02,560

trappist 1. now this is trappist-1 e

2363

01:49:09,350 --> 01:49:07,280

there are five exoplanets uh around uh

2364

01:49:11,030 --> 01:49:09,360

its star trappist

2365

01:49:12,950 --> 01:49:11,040

uh number one

2366

01:49:15,750 --> 01:49:12,960

um number two

2367

01:49:17,109 --> 01:49:15,760

each one of those planets and there are

2368

01:49:18,070 --> 01:49:17,119

five

2369

01:49:20,790 --> 01:49:18,080

are

2370

01:49:23,669 --> 01:49:20,800

nearly all of them perfectly in the

2371

01:49:26,790 --> 01:49:23,679

habitable zone but some are gas giants

2372

01:49:28,870 --> 01:49:26,800

but trappist-1 e

2373

01:49:31,830 --> 01:49:28,880

is just 40

2374

01:49:33,350 --> 01:49:31,840

light years away

2375

01:49:36,390 --> 01:49:33,360

it resides

2376

01:49:37,310 --> 01:49:36,400

in the constellation aquarius

2377

01:49:40,310 --> 01:49:37,320

okay

2378

01:49:42,629 --> 01:49:40,320

trappist-1 e is one of the most studied

2379

01:49:44,629 --> 01:49:42,639

exoplanets

2380

01:49:45,830 --> 01:49:44,639

that have been discovered so far and

2381

01:49:48,229 --> 01:49:45,840

confirmed

2382

01:49:50,950 --> 01:49:48,239

for a lot of different reasons

2383

01:49:54,709 --> 01:49:50,960

okay trappist-1e

2384

01:49:57,350 --> 01:49:54,719

may hold more water than earth

2385

01:49:59,990 --> 01:49:57,360

it is perfectly in the middle

2386

01:50:01,990 --> 01:50:00,000

of the goldilocks zone

2387

01:50:03,750 --> 01:50:02,000

it is also thought

2388

01:50:07,990 --> 01:50:03,760

to be

2389

01:50:10,550 --> 01:50:08,000

the planet most likely to support life

2390

01:50:13,189 --> 01:50:10,560

as we know it now

2391

01:50:16,470 --> 01:50:13,199

there are five planets in trappist

2392

01:50:17,990 --> 01:50:16,480

and out of all of the star systems out

2393

01:50:22,470 --> 01:50:18,000

there

2394

01:50:24,870 --> 01:50:22,480

trappist is is is the one

2395

01:50:26,870 --> 01:50:24,880

i mentioned earlier and i need you to

2396

01:50:27,830 --> 01:50:26,880

understand this

2397

01:50:30,229 --> 01:50:27,840

when

2398

01:50:32,870 --> 01:50:30,239

we look at our milky way

2399

01:50:35,189 --> 01:50:32,880

and we are guessing and guesstimating we

2400

01:50:38,310 --> 01:50:35,199

don't know for sure but we have

2401

01:50:41,030 --> 01:50:38,320

somewhere north of 500

2402

01:50:43,990 --> 01:50:41,040

billion stars in the milky way

2403

01:50:46,470 --> 01:50:44,000

when i last had avi loeb on the show one

2404

01:50:48,390 --> 01:50:46,480

of the things that he pointed out that

2405

01:50:51,510 --> 01:50:48,400

that doesn't mean

2406

01:50:54,950 --> 01:50:51,520

500 billion planets

2407

01:50:55,990 --> 01:50:54,960

it could be way over a trillion planets

2408

01:50:59,990 --> 01:50:56,000

why

2409

01:51:02,870 --> 01:51:00,000

well we know in our star system here

2410

01:51:04,390 --> 01:51:02,880

we have eight maybe nine with pluto

2411

01:51:05,350 --> 01:51:04,400

depending on how you want to count

2412

01:51:07,910 --> 01:51:05,360

things

2413

01:51:09,669 --> 01:51:07,920

we have eight maybe nine planets here

2414

01:51:11,189 --> 01:51:09,679

maybe ten

2415

01:51:13,109 --> 01:51:11,199

right

2416

01:51:16,550 --> 01:51:13,119

planet x

2417

01:51:17,510 --> 01:51:16,560

so how do we apply that to other stars

2418

01:51:19,350 --> 01:51:17,520

now

2419

01:51:21,189 --> 01:51:19,360

with the formation

2420

01:51:22,390 --> 01:51:21,199

when a star

2421

01:51:26,390 --> 01:51:22,400

forms

2422

01:51:28,629 --> 01:51:26,400

there is a ring of dust around that star

2423

01:51:29,510 --> 01:51:28,639

we have now seen

2424

01:51:40,470 --> 01:51:29,520

the

2425

01:51:42,950 --> 01:51:40,480

and this dust ring

2426
01:51:43,910 --> 01:51:42,960
accumulates that's where planets are

2427
01:51:45,830 --> 01:51:43,920
formed

2428
01:51:48,709 --> 01:51:45,840
and this is

2429
01:51:52,149 --> 01:51:48,719
every star this is the process that it

2430
01:51:54,390 --> 01:51:52,159
goes through that's why we now know

2431
01:51:57,189 --> 01:51:54,400
through research and data collection

2432
01:51:58,790 --> 01:51:57,199
that every star has to have at least one

2433
01:52:01,109 --> 01:51:58,800
planet there

2434
01:52:02,550 --> 01:52:01,119
and if it's a new star and it's a new

2435
01:52:05,109 --> 01:52:02,560
forming star

2436
01:52:06,229 --> 01:52:05,119
then at least one planet is about to

2437
01:52:09,350 --> 01:52:06,239
form

2438
01:52:12,390 --> 01:52:09,360

around that star but here

2439

01:52:13,350 --> 01:52:12,400

we have eight planets maybe nine

2440

01:52:14,709 --> 01:52:13,360

right

2441

01:52:16,470 --> 01:52:14,719

trappist

2442

01:52:17,430 --> 01:52:16,480

this star system

2443

01:52:19,350 --> 01:52:17,440

has

2444

01:52:23,510 --> 01:52:19,360

five planets

2445

01:52:25,109 --> 01:52:23,520

now what if uh we started to find two

2446

01:52:27,030 --> 01:52:25,119

three planets

2447

01:52:28,870 --> 01:52:27,040

per star system

2448

01:52:31,990 --> 01:52:28,880

in our milky way

2449

01:52:34,229 --> 01:52:32,000

that would push the numbers up to

2450

01:52:35,990 --> 01:52:34,239

over a trillion trillion and a half

2451
01:52:37,270 --> 01:52:36,000
maybe two

2452
01:52:38,709 --> 01:52:37,280
trillion

2453
01:52:42,070 --> 01:52:38,719
planets

2454
01:52:44,070 --> 01:52:42,080
just in our milky way now i'm going to

2455
01:52:46,709 --> 01:52:44,080
get back to the importance of these

2456
01:52:51,189 --> 01:52:46,719
numbers in just a bit but that's how

2457
01:52:53,030 --> 01:52:51,199
important trappist is to us and we know

2458
01:52:55,669 --> 01:52:53,040
wow

2459
01:52:59,750 --> 01:52:57,990
so i've got sirens

2460
01:53:03,270 --> 01:52:59,760
and fireworks

2461
01:53:06,629 --> 01:53:03,280
okay so that's a trappist-1e again it's

2462
01:53:08,310 --> 01:53:06,639
40 light years away we are observing

2463
01:53:09,430 --> 01:53:08,320

that's the other exciting part about

2464

01:53:12,470 --> 01:53:09,440

trappist

2465

01:53:13,750 --> 01:53:12,480

is we are observing these planets as

2466

01:53:17,109 --> 01:53:13,760

they were

2467

01:53:20,390 --> 01:53:17,119

just 40 years ago

2468

01:53:23,350 --> 01:53:20,400

nearly in real time going back to

2469

01:53:26,709 --> 01:53:23,360

williams question from earlier

2470

01:53:27,629 --> 01:53:26,719

next up

2471

01:53:29,589 --> 01:53:27,639

this is

2472

01:53:31,270 --> 01:53:29,599

kepler-440b

2473

01:53:35,149 --> 01:53:31,280

now

2474

01:53:40,470 --> 01:53:36,790

kepler-440b

2475

01:53:43,109 --> 01:53:40,480

is about twice the size of earth it's

2476

01:53:45,189 --> 01:53:43,119

also located within the habitable zone

2477

01:53:48,950 --> 01:53:45,199

of kepler-440

2478

01:53:51,270 --> 01:53:48,960

and liquid water probably exists and the

2479

01:53:54,149 --> 01:53:51,280

research is still coming in

2480

01:53:55,750 --> 01:53:54,159

and uh here's the other part about

2481

01:53:58,629 --> 01:53:55,760

kepler-440b

2482

01:54:00,229 --> 01:53:58,639

it's close number one uh but the other

2483

01:54:03,750 --> 01:54:00,239

part is

2484

01:54:07,830 --> 01:54:03,760

everything seems right the temperatures

2485

01:54:11,109 --> 01:54:07,840

measure right it's in the habitable zone

2486

01:54:12,470 --> 01:54:11,119

and it's uh it's the right size it's

2487

01:54:16,709 --> 01:54:12,480

rocky

2488

01:54:18,070 --> 01:54:16,719

this is a planet that could have life

2489

01:54:20,830 --> 01:54:18,080

right now

2490

01:54:22,470 --> 01:54:20,840

and it's close by

2491

01:54:25,030 --> 01:54:22,480

now

2492

01:54:29,589 --> 01:54:27,430

i'm kind of saving uh the best stuff for

2493

01:54:31,430 --> 01:54:29,599

last as we move on

2494

01:54:33,589 --> 01:54:31,440

this is kepler

2495

01:54:35,750 --> 01:54:33,599

1638

2496

01:54:37,030 --> 01:54:35,760

b

2497

01:54:41,430 --> 01:54:37,040

now

2498

01:54:42,550 --> 01:54:41,440

the cool things about uh 1638b

2499

01:54:45,109 --> 01:54:42,560

is

2500

01:54:47,030 --> 01:54:45,119

it's orbiting a star just like our sun

2501
01:54:50,470 --> 01:54:47,040
at about the same age a sun that's going

2502
01:54:52,870 --> 01:54:50,480
to last a star about 10 billion years

2503
01:54:55,830 --> 01:54:52,880
again like our own sun

2504
01:54:57,350 --> 01:54:55,840
now while it's not

2505
01:55:00,470 --> 01:54:57,360
identical

2506
01:55:04,149 --> 01:55:00,480
to earth it's close

2507
01:55:07,030 --> 01:55:04,159
there is a likelihood that water is

2508
01:55:08,149 --> 01:55:07,040
existing right now liquid water on this

2509
01:55:10,229 --> 01:55:08,159
planet

2510
01:55:13,510 --> 01:55:10,239
and it's thought to be

2511
01:55:16,070 --> 01:55:13,520
more earth-like than many other

2512
01:55:16,950 --> 01:55:16,080
exoplanets

2513
01:55:20,830 --> 01:55:16,960

life

2514

01:55:22,629 --> 01:55:20,840

could exist right now on kepler

2515

01:55:25,430 --> 01:55:22,639

1638 b

2516

01:55:27,669 --> 01:55:25,440

one of the other considerations uh that

2517

01:55:29,350 --> 01:55:27,679

we have to look at

2518

01:55:31,189 --> 01:55:29,360

is

2519

01:55:32,950 --> 01:55:31,199

as these fireworks are getting louder

2520

01:55:33,990 --> 01:55:32,960

and louder

2521

01:55:35,830 --> 01:55:34,000

is that

2522

01:55:37,030 --> 01:55:35,840

um

2523

01:55:39,109 --> 01:55:37,040

we know

2524

01:55:42,390 --> 01:55:39,119

that us

2525

01:55:46,149 --> 01:55:42,400

homo sapiens sapien

2526

01:55:49,350 --> 01:55:46,159

got upright and started to do things

2527

01:55:52,149 --> 01:55:49,360

about 5 000 years ago at about 3000 bc

2528

01:55:53,990 --> 01:55:52,159

now all of this has been debated and i i

2529

01:55:56,950 --> 01:55:54,000

i've discussed this

2530

01:55:59,669 --> 01:55:56,960

many many many many times including last

2531

01:56:02,310 --> 01:55:59,679

week on the show on my special about the

2532

01:56:03,669 --> 01:56:02,320

pyramids but let's just go with the data

2533

01:56:07,270 --> 01:56:03,679

the way that

2534

01:56:09,830 --> 01:56:07,280

um schools and our education system and

2535

01:56:11,750 --> 01:56:09,840

educators are telling us when it comes

2536

01:56:14,390 --> 01:56:11,760

to historical facts

2537

01:56:16,470 --> 01:56:14,400

so when we go and look at a planet

2538

01:56:19,270 --> 01:56:16,480

that may support life

2539

01:56:25,109 --> 01:56:22,229

is it still there

2540

01:56:28,550 --> 01:56:25,119

right so we're looking at a planet that

2541

01:56:31,189 --> 01:56:28,560

is 500 light years away think about us

2542

01:56:34,470 --> 01:56:31,199

here on this planet where we are now in

2543

01:56:37,910 --> 01:56:34,480

the year 2000 what's going to be here in

2544

01:56:39,430 --> 01:56:37,920

the year 2500 well one of the things to

2545

01:56:42,229 --> 01:56:39,440

consider

2546

01:56:45,589 --> 01:56:42,239

is that right now with radio and

2547

01:56:48,709 --> 01:56:45,599

television and and radio signals we've

2548

01:56:52,790 --> 01:56:48,719

only emitted those out from this planet

2549

01:56:56,310 --> 01:56:52,800

at most for about 150 years that's it

2550

01:56:59,109 --> 01:56:56,320

today everything is moving towards fiber

2551

01:57:01,990 --> 01:56:59,119

optics and our communication systems are

2552

01:57:04,950 --> 01:57:02,000

not necessarily with radio antennas and

2553

01:57:07,430 --> 01:57:04,960

we are not receiving television signals

2554

01:57:12,070 --> 01:57:07,440

with antennas anymore we're using

2555

01:57:14,390 --> 01:57:12,080

digital transmissions so our signature

2556

01:57:17,510 --> 01:57:14,400

of radio waves emitting off of this

2557

01:57:20,310 --> 01:57:17,520

planet are shrinking and we need to take

2558

01:57:23,189 --> 01:57:20,320

that into consideration when looking at

2559

01:57:25,270 --> 01:57:23,199

other exoplanets when we are looking for

2560

01:57:26,470 --> 01:57:25,280

technical signatures

2561

01:57:28,709 --> 01:57:26,480

another

2562

01:57:31,669 --> 01:57:28,719

civilization out there

2563

01:57:32,790 --> 01:57:31,679

looking at our planet would have to see

2564

01:57:35,510 --> 01:57:32,800

us

2565

01:57:37,350 --> 01:57:35,520

within the last 150 years if they are

2566

01:57:39,750 --> 01:57:37,360

looking for radio waves if they are

2567

01:57:42,310 --> 01:57:39,760

looking for television

2568

01:57:45,109 --> 01:57:42,320

and radio signals emitting off of this

2569

01:57:46,709 --> 01:57:45,119

planet because in the next 50 years we

2570

01:57:48,310 --> 01:57:46,719

may have

2571

01:57:51,189 --> 01:57:48,320

none

2572

01:57:54,070 --> 01:57:51,199

so if you are looking at us in that

2573

01:57:56,950 --> 01:57:54,080

window you'll be able to pick up those

2574

01:57:57,830 --> 01:57:56,960

signatures like the movie contact

2575

01:58:01,109 --> 01:57:57,840

okay

2576

01:58:03,270 --> 01:58:01,119

which went out to vega which was 39

2577

01:58:05,350 --> 01:58:03,280

light years away and they picked up the

2578

01:58:08,470 --> 01:58:05,360

radio and television signals from the

2579

01:58:11,030 --> 01:58:08,480

olympics in 1936 and they turned around

2580

01:58:14,189 --> 01:58:11,040

and sent those signals back to us 36

2581

01:58:15,750 --> 01:58:14,199

years later arriving here in

2582

01:58:16,629 --> 01:58:15,760

1996.

2583

01:58:19,109 --> 01:58:16,639

okay

2584

01:58:22,470 --> 01:58:19,119

it's the same thing that we need to

2585

01:58:23,589 --> 01:58:22,480

consider when observing in the other

2586

01:58:26,310 --> 01:58:23,599

direction

2587

01:58:29,109 --> 01:58:26,320

kepler 1638 b

2588

01:58:32,149 --> 01:58:29,119

could absolutely support and be

2589

01:58:33,430 --> 01:58:32,159

everything that we are on this planet

2590

01:58:36,709 --> 01:58:33,440

but if we're going to look for a

2591

01:58:39,589 --> 01:58:36,719

technical signature we may not see

2592

01:58:42,870 --> 01:58:39,599

a radio signal or a television signal or

2593

01:58:45,669 --> 01:58:42,880

radio waves because they may be

2594

01:58:48,870 --> 01:58:45,679

just 50 years in the future from us now

2595

01:58:51,270 --> 01:58:48,880

where they're not using radio waves

2596

01:58:54,709 --> 01:58:51,280

again that's where the james webb space

2597

01:58:57,109 --> 01:58:54,719

telescope comes into play with that i am

2598

01:58:58,390 --> 01:58:57,119

going to take a break right here and i'm

2599

01:58:59,510 --> 01:58:58,400

going to come back

2600

01:59:00,830 --> 01:58:59,520

with

2601
01:59:08,149 --> 01:59:00,840
numero

2602
01:59:10,149 --> 01:59:08,159
what is the number one exoplanet

2603
01:59:12,550 --> 01:59:10,159
i'm gonna show that to you next when we

2604
01:59:14,709 --> 01:59:12,560
come back after this short break this is

2605
01:59:17,109 --> 01:59:14,719
fade to black i am your host jimmy

2606
01:59:20,310 --> 01:59:17,119
church tonight is our aliens and

2607
01:59:25,240 --> 01:59:20,320
exoplanets special event on july 4th

2608
01:59:28,130 --> 01:59:27,350
[Music]

2609
01:59:29,109 --> 01:59:28,140
hi

2610
01:59:38,470 --> 01:59:29,119
[Music]

2611
01:59:41,910 --> 01:59:38,480
your one million gigawatt paranormal

2612
01:59:43,510 --> 01:59:41,920
powerhouse kumx db

2613
01:59:45,990 --> 01:59:43,520

VX

2614

01:59:48,229 --> 01:59:46,000

2022 mufon symposium is in denver

2615

01:59:50,070 --> 01:59:48,239

colorado july 7th through 10th and it's

2616

01:59:52,229 --> 01:59:50,080

on if you can't make it to denver get

2617

01:59:54,310 --> 01:59:52,239

the live stream you can watch it live

2618

01:59:56,709 --> 01:59:54,320

and any time later this year's theme is

2619

01:59:59,189 --> 01:59:56,719

ufos in the spotlight our speaker lineup

2620

02:00:01,910 --> 01:59:59,199

is incredible join cheryl jones peter

2621

02:00:04,870 --> 02:00:01,920

robbins michael schrad kathleen martin

2622

02:00:07,510 --> 02:00:04,880

tom reed paul heineck peter davenport

2623

02:00:11,030 --> 02:00:07,520

dave scott craig compobaso donald

2624

02:00:13,109 --> 02:00:11,040

schmidt mark d'antonio and me ron james

2625

02:00:15,910 --> 02:00:13,119

for an exciting inside look at my new

2626
02:00:17,189 --> 02:00:15,920
film news flash congressman tim bruchett

2627
02:00:19,350 --> 02:00:17,199
has just confirmed that he will be

2628
02:00:22,149 --> 02:00:19,360
making an exclusive live presentation of

2629
02:00:24,310 --> 02:00:22,159
mufon 2022 tim is the most outspoken

2630
02:00:26,629 --> 02:00:24,320
member of congress on the uap topic you

2631
02:00:28,310 --> 02:00:26,639
do not want to miss what he has to say

2632
02:00:30,149 --> 02:00:28,320
sign up for our live stream get all

2633
02:00:32,950 --> 02:00:30,159
three days of the mufon symposium a

2634
02:00:35,270 --> 02:00:32,960
one-year subscription to mufon tv and an

2635
02:00:37,589 --> 02:00:35,280
awesome free gift what's the free gift

2636
02:00:39,430 --> 02:00:37,599
find out at mufon symposium dot com

2637
02:00:41,830 --> 02:00:39,440
forward slash jimmy that's mufon

2638
02:00:44,470 --> 02:00:41,840

symposium dot com forward slash jimmy

2639

02:00:46,470 --> 02:00:44,480

you do not want to miss a thing

2640

02:00:48,870 --> 02:00:46,480

the believer is the chilling true story

2641

02:00:51,189 --> 02:00:48,880

of dr john mack a renowned harvard

2642

02:00:53,669 --> 02:00:51,199

psychiatrist and pulitzer prize winner

2643

02:00:56,390 --> 02:00:53,679

this is a outreach program from the

2644

02:00:58,790 --> 02:00:56,400

cosmos to the consciously impaired he

2645

02:01:00,550 --> 02:00:58,800

risked it all to investigate human

2646

02:01:01,750 --> 02:01:00,560

encounters with aelia

2647

02:01:04,470 --> 02:01:01,760

the believer

2648

02:01:06,709 --> 02:01:04,480

alien encounters hard science and the

2649

02:01:08,550 --> 02:01:06,719

passion of john mack written by

2650

02:01:10,870 --> 02:01:08,560

award-winning former new york times

2651
02:01:12,950 --> 02:01:10,880
journalist and author ralph blumenthal

2652
02:01:15,589 --> 02:01:12,960
now available in paperback from high

2653
02:01:17,910 --> 02:01:15,599
road books hello fader knots jimmy

2654
02:01:20,950 --> 02:01:17,920
church here you've seen me with my

2655
02:01:22,870 --> 02:01:20,960
thunderstorm now you can purify the air

2656
02:01:25,189 --> 02:01:22,880
in your home and get healthy clean fresh

2657
02:01:27,589 --> 02:01:25,199
smelling air and eliminate odors just

2658
02:01:29,830 --> 02:01:27,599
like i do right here in the bunker the

2659
02:01:32,310 --> 02:01:29,840
eden pier thunderstorm uses oxy

2660
02:01:34,709 --> 02:01:32,320
technology that naturally sends out o3

2661
02:01:36,870 --> 02:01:34,719
molecules into the air which seek out

2662
02:01:39,109 --> 02:01:36,880
odors and air pollutants in your home

2663
02:01:41,669 --> 02:01:39,119

and destroys them it's called a

2664

02:01:44,390 --> 02:01:41,679

thunderstorm because it purifies the air

2665

02:01:46,390 --> 02:01:44,400

just like after a thunderstorm and right

2666

02:01:49,109 --> 02:01:46,400

now you can save two hundred dollars on

2667

02:01:51,830 --> 02:01:49,119

an eden pier thunderstorm three pack for

2668

02:01:53,830 --> 02:01:51,840

whole home protection with this special

2669

02:01:55,589 --> 02:01:53,840

offer you're getting three units for

2670

02:01:57,950 --> 02:01:55,599

under two hundred dollars

2671

02:02:01,669 --> 02:01:57,960

seriously go to

2672

02:02:04,229 --> 02:02:01,679

edenpuredeals.com and use fader three

2673

02:02:06,870 --> 02:02:04,239

shipping is free and it's easy just

2674

02:02:07,750 --> 02:02:06,880

scroll down you'll see my name right

2675

02:02:10,870 --> 02:02:07,760

there

2676

02:02:16,629 --> 02:02:10,880

jimmy church click on it and get your

2677

02:02:20,950 --> 02:02:18,390

are you ready to read about true

2678

02:02:23,750 --> 02:02:20,960

paranormal events unex media publishes

2679

02:02:26,149 --> 02:02:23,760

non-fiction books about ufos ghosts and

2680

02:02:29,430 --> 02:02:26,159

haunted places time anomalies cryptid

2681

02:02:31,589 --> 02:02:29,440

creatures and more just like kunx db

2682

02:02:34,589 --> 02:02:31,599

radio it's all about unexplained

2683

02:02:36,629 --> 02:02:34,599

phenomena visit

2684

02:02:38,790 --> 02:02:36,639

www.unxmedia.com to see our list of

2685

02:02:41,430 --> 02:02:38,800

great book titles by debbie zigglemeyer

2686

02:02:43,990 --> 02:02:41,440

gene walker devin listrom wayne lawrence

2687

02:02:47,270 --> 02:02:44,000

bill spicer and yours truly margie k

2688

02:02:49,109 --> 02:02:47,280

that's on x xmedia.com

2689

02:02:52,470 --> 02:02:49,119

this is jimmy church of fade to black

2690

02:02:55,669 --> 02:02:52,480

and i only drink fade to black blend

2691

02:02:57,270 --> 02:02:55,679

coffee from river moon just click on the

2692

02:02:59,030 --> 02:02:57,280

river moon coffee banner at

2693

02:03:03,030 --> 02:02:59,040

jimmychurchradio.com

2694

02:03:05,750 --> 02:03:03,040

promo code f2b blend

2695

02:03:08,470 --> 02:03:05,760

this is the only way forward

2696

02:03:12,149 --> 02:03:08,480

this is paid to black

2697

02:03:16,950 --> 02:03:14,310

when you take the beans from central

2698

02:03:19,350 --> 02:03:16,960

america with dashes of indonesian and

2699

02:03:22,550 --> 02:03:19,360

african mixed in and then roasted to the

2700

02:03:25,030 --> 02:03:22,560

dark side of fade to black you create

2701

02:03:27,990 --> 02:03:25,040

the ultimate brew of fringe

2702

02:03:31,270 --> 02:03:28,000

introducing the fade to black blend from

2703

02:03:34,070 --> 02:03:31,280

river moon coffee yes river moon's

2704

02:03:36,870 --> 02:03:34,080

darkest customized roast was created for

2705

02:03:39,510 --> 02:03:36,880

the love of fade to black

2706

02:03:42,070 --> 02:03:39,520

the alchemy of masterful roasting and

2707

02:03:45,669 --> 02:03:42,080

smoking the beans is in every sip of

2708

02:03:48,629 --> 02:03:45,679

this full-bodied dark java i need my

2709

02:03:50,870 --> 02:03:48,639

coffee doc deep with distinct

2710

02:03:53,669 --> 02:03:50,880

bittersweet chocolate highlights just

2711

02:03:56,229 --> 02:03:53,679

like the bunker leaning further into the

2712

02:03:59,350 --> 02:03:56,239

darkness of the roast is fade to black

2713

02:04:01,510 --> 02:03:59,360

blend from river moon coffee just click

2714

02:04:05,189 --> 02:04:01,520

on the banner at jimmychurchradio.com

2715

02:04:16,470 --> 02:04:05,199

and use the promo code f2b blend for 15

2716

02:04:22,149 --> 02:04:18,310

you wanna know a secret

2717

02:04:23,430 --> 02:04:22,159

i love ponies i really love ponies i'm

2718

02:04:25,669 --> 02:04:23,440

serious

2719

02:04:27,030 --> 02:04:25,679

i couldn't stay sane without pulling mr

2720

02:04:29,109 --> 02:04:27,040

brush

2721

02:04:35,589 --> 02:04:29,119

why fade to black

2722

02:04:41,570 --> 02:04:37,750

this is fade to black with jimmy church

2723

02:04:57,350 --> 02:04:41,580

on the game changer radio network

2724

02:05:00,790 --> 02:04:57,360

[Music]

2725

02:05:03,270 --> 02:05:00,800

sitting here listening to the fireworks

2726

02:05:05,589 --> 02:05:03,280

happy fourth of july everyone and

2727

02:05:08,550 --> 02:05:05,599

tonight is a very special

2728

02:05:10,390 --> 02:05:08,560

presentation on aliens and exoplanets

2729

02:05:12,709 --> 02:05:10,400

and i want to thank all of you uh for

2730

02:05:15,109 --> 02:05:12,719

coming in tonight and spending your

2731

02:05:16,470 --> 02:05:15,119

fourth of july here with me it's a very

2732

02:05:19,270 --> 02:05:16,480

special day

2733

02:05:22,069 --> 02:05:19,280

and uh and thank you for that

2734

02:05:25,350 --> 02:05:22,079

uh let let's continue and and i want to

2735

02:05:26,470 --> 02:05:25,360

say this um really quick

2736

02:05:30,149 --> 02:05:26,480

that

2737

02:05:33,830 --> 02:05:30,159

i am cataloging uh exoplanets and the

2738

02:05:36,790 --> 02:05:33,840

interesting ones uh on on a daily basis

2739

02:05:38,709 --> 02:05:36,800

and i go and i look at them and and

2740

02:05:41,830 --> 02:05:38,719

consider you know what could be out

2741

02:05:44,629 --> 02:05:41,840

there could there be life there and we

2742

02:05:46,629 --> 02:05:44,639

know today uh with uh all of the

2743

02:05:49,750 --> 02:05:46,639

information coming at us

2744

02:05:51,030 --> 02:05:49,760

with uaps and ufos in our community and

2745

02:05:52,069 --> 02:05:51,040

and certainly

2746

02:05:56,709 --> 02:05:52,079

uh

2747

02:05:58,310 --> 02:05:56,719

within the media and the department of

2748

02:06:01,189 --> 02:05:58,320

defense and

2749

02:06:02,229 --> 02:06:01,199

and and congress and of course you know

2750

02:06:03,589 --> 02:06:02,239

the senate and the house of

2751

02:06:05,750 --> 02:06:03,599

representatives

2752

02:06:08,629 --> 02:06:05,760

um and their

2753

02:06:10,550 --> 02:06:08,639

questions about what may be visiting

2754

02:06:11,990 --> 02:06:10,560

this planet well we have to look in the

2755

02:06:15,750 --> 02:06:12,000

other direction

2756

02:06:18,470 --> 02:06:15,760

and what is science doing today and what

2757

02:06:21,270 --> 02:06:18,480

are they finding and the amount of

2758

02:06:23,910 --> 02:06:21,280

exoplanets that have been found so far

2759

02:06:26,870 --> 02:06:23,920

and what is continuing to happen

2760

02:06:28,470 --> 02:06:26,880

is just astonishing it's shocking

2761

02:06:29,750 --> 02:06:28,480

and

2762

02:06:34,790 --> 02:06:29,760

my

2763

02:06:35,910 --> 02:06:34,800

replaced by another and another and

2764

02:06:38,950 --> 02:06:35,920

another

2765

02:06:39,990 --> 02:06:38,960

and this next exoplanet which is

2766

02:06:42,069 --> 02:06:40,000

currently

2767

02:06:45,430 --> 02:06:42,079

you know at the top of the list for me

2768

02:06:47,990 --> 02:06:45,440

and science in general it is going to be

2769

02:06:48,950 --> 02:06:48,000

replaced and it could be replaced this

2770

02:06:52,390 --> 02:06:48,960

week

2771

02:06:55,589 --> 02:06:52,400

um with the james webb uh telescope

2772

02:06:57,910 --> 02:06:55,599

going online uh july well the first

2773

02:07:02,310 --> 02:06:57,920

images coming it's already online coming

2774

02:07:03,109 --> 02:07:02,320

back uh on july 12th which is just next

2775

02:07:05,669 --> 02:07:03,119

week

2776

02:07:07,830 --> 02:07:05,679

we could start to see confirmation of

2777

02:07:09,109 --> 02:07:07,840

some pretty exciting stuff

2778

02:07:12,550 --> 02:07:09,119

and

2779

02:07:15,350 --> 02:07:12,560

my current exoplanet favorite is going

2780

02:07:17,510 --> 02:07:15,360

to be replaced and it's that is going to

2781

02:07:19,350 --> 02:07:17,520

be replaced and it's going to be

2782

02:07:20,229 --> 02:07:19,360

replaced once again

2783

02:07:23,669 --> 02:07:20,239

so

2784

02:07:30,470 --> 02:07:24,830

lighten

2785

02:07:32,470 --> 02:07:30,480

take a good look

2786

02:07:33,430 --> 02:07:32,480

kind of reminds you of something doesn't

2787

02:07:37,830 --> 02:07:33,440

it

2788

02:07:40,550 --> 02:07:37,840

light and b

2789

02:07:44,629 --> 02:07:40,560

is both habitable

2790

02:07:45,910 --> 02:07:44,639

and could have life on it right now in

2791

02:07:48,790 --> 02:07:45,920

fact

2792

02:07:50,870 --> 02:07:48,800

scientists are so convinced right now of

2793

02:07:53,430 --> 02:07:50,880

potential life on the planet

2794

02:07:55,030 --> 02:07:53,440

they have been sending images to

2795

02:07:56,709 --> 02:07:55,040

communicate

2796

02:07:58,550 --> 02:07:56,719

with aliens

2797

02:08:01,910 --> 02:07:58,560

that's right

2798

02:08:06,189 --> 02:08:03,830

now why

2799

02:08:10,470 --> 02:08:06,199

the planet is just

2800

02:08:13,990 --> 02:08:10,480

12.4 light years away

2801
02:08:18,270 --> 02:08:14,000
it is three times the size of earth

2802
02:08:21,109 --> 02:08:18,280
it is right next door

2803
02:08:24,470 --> 02:08:21,119
12.4 light years away

2804
02:08:26,069 --> 02:08:24,480
we are observing this planet right now

2805
02:08:28,470 --> 02:08:26,079
in nearly

2806
02:08:30,069 --> 02:08:28,480
real time

2807
02:08:32,709 --> 02:08:30,079
that's light and b

2808
02:08:34,310 --> 02:08:32,719
we are sending images of us

2809
02:08:36,390 --> 02:08:34,320
to that planet

2810
02:08:37,589 --> 02:08:36,400
will we get a response

2811
02:08:41,350 --> 02:08:37,599
back

2812
02:08:42,709 --> 02:08:41,360
um in preparation for this show tonight

2813
02:08:45,109 --> 02:08:42,719

um

2814

02:08:46,550 --> 02:08:45,119

i watched contact

2815

02:08:50,310 --> 02:08:46,560

last night

2816

02:08:53,270 --> 02:08:50,320

and i watched it for many reasons now

2817

02:08:54,510 --> 02:08:53,280

contact which came out in

2818

02:08:59,270 --> 02:08:54,520

in

2819

02:09:01,030 --> 02:08:59,280

1996 1997 of course based on the book by

2820

02:09:03,109 --> 02:09:01,040

uh carl sagan

2821

02:09:05,270 --> 02:09:03,119

um i worked for a company back then

2822

02:09:08,790 --> 02:09:05,280

called alesi

2823

02:09:11,750 --> 02:09:08,800

and the director and some of the

2824

02:09:12,950 --> 02:09:11,760

producers of contact reached out to

2825

02:09:15,350 --> 02:09:12,960

alesis

2826

02:09:18,470 --> 02:09:15,360

for some of the gear that we

2827

02:09:23,430 --> 02:09:18,480

manufactured back then specifically

2828

02:09:24,629 --> 02:09:23,440

the aid at and the adat is it is and was

2829

02:09:27,350 --> 02:09:24,639

back then

2830

02:09:30,310 --> 02:09:27,360

a digital recorder that recorded well

2831

02:09:33,589 --> 02:09:30,320

audio but music specifically

2832

02:09:37,830 --> 02:09:33,599

and it was an impressive piece of kit

2833

02:09:40,470 --> 02:09:37,840

and the adat at that time was absolutely

2834

02:09:44,709 --> 02:09:40,480

leading-edge technology

2835

02:09:48,629 --> 02:09:44,719

um for recording uh digital audio

2836

02:09:53,750 --> 02:09:48,639

and many hit records were cut on adats

2837

02:09:55,030 --> 02:09:53,760

and they used adats in the film

2838

02:09:57,830 --> 02:09:55,040

so when

2839

02:10:00,310 --> 02:09:57,840

jodie foster you know they make a

2840

02:10:02,149 --> 02:10:00,320

detection you know that for right and

2841

02:10:03,030 --> 02:10:02,159

they make their detection

2842

02:10:09,669 --> 02:10:03,040

and

2843

02:10:11,189 --> 02:10:09,679

audio she's looking at aid at now why is

2844

02:10:14,069 --> 02:10:11,199

this important

2845

02:10:15,109 --> 02:10:14,079

well for me i was interested in alien

2846

02:10:18,390 --> 02:10:15,119

life

2847

02:10:20,870 --> 02:10:18,400

and and ufos uh i work for a music

2848

02:10:25,109 --> 02:10:20,880

company but this is what i did

2849

02:10:27,189 --> 02:10:25,119

uh in as my hobby i researched

2850

02:10:30,229 --> 02:10:27,199

the ufo phenomenon

2851
02:10:33,189 --> 02:10:30,239
and here this movie was being made i

2852
02:10:35,510 --> 02:10:33,199
hadn't seen it yet it was being made and

2853
02:10:38,470 --> 02:10:35,520
they were using our gear

2854
02:10:42,629 --> 02:10:38,480
they sent us clips from the film

2855
02:10:43,669 --> 02:10:42,639
um where the adapts were being used in

2856
02:10:45,589 --> 02:10:43,679
the

2857
02:10:48,629 --> 02:10:45,599
large array

2858
02:10:51,430 --> 02:10:48,639
radio telescope field in new mexico

2859
02:10:53,589 --> 02:10:51,440
where jody foster made the discovery

2860
02:11:03,189 --> 02:10:53,599
and

2861
02:11:06,069 --> 02:11:03,199
impact on me

2862
02:11:09,109 --> 02:11:06,079
there were some very specific things

2863
02:11:11,510 --> 02:11:09,119

that carl sagan had done in the movie

2864

02:11:14,069 --> 02:11:11,520

and one of them was this that i've

2865

02:11:15,750 --> 02:11:14,079

talked about a lot on this show

2866

02:11:18,550 --> 02:11:15,760

which is

2867

02:11:21,109 --> 02:11:18,560

around our planet

2868

02:11:24,790 --> 02:11:21,119

around our star system

2869

02:11:25,750 --> 02:11:24,800

we have a couple of hundred stars that

2870

02:11:28,790 --> 02:11:25,760

are

2871

02:11:31,830 --> 02:11:28,800

between four and a half light years and

2872

02:11:34,870 --> 02:11:31,840

50 light years away

2873

02:11:37,270 --> 02:11:34,880

we have been i just talked about this we

2874

02:11:39,750 --> 02:11:37,280

have been projecting out

2875

02:11:42,709 --> 02:11:39,760

radio and television signals for the

2876
02:11:44,149 --> 02:11:42,719
last 150 years okay

2877
02:11:46,950 --> 02:11:44,159
now

2878
02:11:49,990 --> 02:11:46,960
if somebody out there

2879
02:11:53,589 --> 02:11:50,000
was to receive those signals

2880
02:11:57,189 --> 02:11:53,599
and then turn around and contact us

2881
02:11:58,950 --> 02:11:57,199
when could we expect that

2882
02:12:00,629 --> 02:11:58,960
well

2883
02:12:02,470 --> 02:12:00,639
now

2884
02:12:04,629 --> 02:12:02,480
2022.

2885
02:12:09,189 --> 02:12:04,639
so let's cut that in half

2886
02:12:12,870 --> 02:12:09,199
let's say let's go with 70 years

2887
02:12:16,550 --> 02:12:12,880
that's 150 light years out 140 light

2888
02:12:18,629 --> 02:12:16,560

years out how many stars with planets

2889

02:12:22,229 --> 02:12:18,639

all of them have planets but how many

2890

02:12:23,910 --> 02:12:22,239

stars are out there that are 150 light

2891

02:12:25,109 --> 02:12:23,920

years away there's approximately

2892

02:12:27,030 --> 02:12:25,119

somewhere

2893

02:12:28,149 --> 02:12:27,040

depending on how you count that was a

2894

02:12:32,550 --> 02:12:28,159

loud one

2895

02:12:36,229 --> 02:12:32,560

um between 250 and 500

2896

02:12:37,030 --> 02:12:36,239

star systems and they all have planets

2897

02:12:38,790 --> 02:12:37,040

so

2898

02:12:41,189 --> 02:12:38,800

right now

2899

02:12:43,109 --> 02:12:41,199

we could expect

2900

02:12:45,350 --> 02:12:43,119

a response back

2901

02:12:48,629 --> 02:12:45,360

and it could be any day

2902

02:12:49,790 --> 02:12:48,639

now those signals now have been going

2903

02:12:51,910 --> 02:12:49,800

out for

2904

02:12:55,750 --> 02:12:51,920

150 years

2905

02:12:58,229 --> 02:12:55,760

now if somebody is 150 light years away

2906

02:13:01,270 --> 02:12:58,239

then we wouldn't hear anything back

2907

02:13:04,470 --> 02:13:01,280

for another 150 years so that would be

2908

02:13:07,750 --> 02:13:04,480

in the year 2170

2909

02:13:10,629 --> 02:13:07,760

but right now in the year 2022

2910

02:13:14,149 --> 02:13:10,639

we should look at the star systems and

2911

02:13:15,669 --> 02:13:14,159

those planets that are about 70 light

2912

02:13:17,189 --> 02:13:15,679

years away

2913

02:13:19,430 --> 02:13:17,199

now

2914

02:13:22,069 --> 02:13:19,440

having a response come back

2915

02:13:23,910 --> 02:13:22,079

after 70 years is pretty cool

2916

02:13:25,510 --> 02:13:23,920

but if we

2917

02:13:27,750 --> 02:13:25,520

find a planet

2918

02:13:30,950 --> 02:13:27,760

like light and b

2919

02:13:34,310 --> 02:13:30,960

which is 12 and a half light years away

2920

02:13:37,189 --> 02:13:34,320

and has everything

2921

02:13:40,390 --> 02:13:37,199

that it takes to be in earth

2922

02:13:41,669 --> 02:13:40,400

light and b is all of that it has

2923

02:13:44,470 --> 02:13:41,679

everything

2924

02:13:46,950 --> 02:13:44,480

it has water it has an atmosphere

2925

02:13:50,310 --> 02:13:46,960

it's in the habitable zone it's a rocky

2926
02:13:51,189 --> 02:13:50,320
planet it's got everything for signs of

2927
02:13:56,870 --> 02:13:51,199
life

2928
02:13:59,589 --> 02:13:56,880
it's going to be light and b

2929
02:14:00,669 --> 02:13:59,599
for sure but here's the kicker

2930
02:14:04,470 --> 02:14:00,679
it's only

2931
02:14:06,069 --> 02:14:04,480
12.4 light years away

2932
02:14:09,270 --> 02:14:06,079
that means

2933
02:14:10,870 --> 02:14:09,280
if we start sending signals to this

2934
02:14:14,790 --> 02:14:10,880
planet now

2935
02:14:16,470 --> 02:14:14,800
we could potentially hear back from them

2936
02:14:20,310 --> 02:14:16,480
in 12 years

2937
02:14:23,109 --> 02:14:20,320
not in 150 years not in 200 years

2938
02:14:24,629 --> 02:14:23,119

but by the year 2030 we've already been

2939

02:14:27,750 --> 02:14:24,639

doing it by the way for a couple of

2940

02:14:32,069 --> 02:14:27,760

years now so it's possible that by the

2941

02:14:34,069 --> 02:14:32,079

year 2030 we could get a hello response

2942

02:14:36,629 --> 02:14:34,079

back from leighton b

2943

02:14:37,510 --> 02:14:36,639

we are so focused on this planet right

2944

02:14:42,229 --> 02:14:37,520

now

2945

02:14:46,229 --> 02:14:42,239

and we really think that there is life

2946

02:14:49,109 --> 02:14:46,239

on light and b so that's why lighten b

2947

02:14:52,310 --> 02:14:49,119

right now is my number one

2948

02:14:55,189 --> 02:14:52,320

it's science is number one at this point

2949

02:14:56,550 --> 02:14:55,199

but it's going to get replaced

2950

02:14:57,990 --> 02:14:56,560

it's going to get replaced we're going

2951
02:15:00,390 --> 02:14:58,000
to find something else

2952
02:15:03,030 --> 02:15:00,400
right now you have to understand how

2953
02:15:05,350 --> 02:15:03,040
tess is looking at all of this

2954
02:15:06,790 --> 02:15:05,360
tests in each sector

2955
02:15:08,950 --> 02:15:06,800
every day

2956
02:15:12,149 --> 02:15:08,960
as it moves to another sector is looking

2957
02:15:14,390 --> 02:15:12,159
at 20 000 stars those computers are

2958
02:15:16,069 --> 02:15:14,400
going nuts they are looking at

2959
02:15:18,950 --> 02:15:16,079
everything and they are finding transit

2960
02:15:21,189 --> 02:15:18,960
they are finding candidate planets every

2961
02:15:23,750 --> 02:15:21,199
single day

2962
02:15:24,870 --> 02:15:23,760
all right now this is where

2963
02:15:27,750 --> 02:15:24,880

for me

2964

02:15:29,910 --> 02:15:27,760

things start to get a little nuts

2965

02:15:31,990 --> 02:15:29,920

because today

2966

02:15:35,350 --> 02:15:32,000

there are over 10

2967

02:15:38,550 --> 02:15:35,360

000 exoplanets waiting

2968

02:15:42,069 --> 02:15:40,470

thousands more

2969

02:15:42,950 --> 02:15:42,079

are being added

2970

02:15:45,030 --> 02:15:42,960

each

2971

02:15:47,510 --> 02:15:45,040

month

2972

02:15:49,750 --> 02:15:47,520

the data from tess

2973

02:15:52,069 --> 02:15:49,760

is still coming in

2974

02:15:55,830 --> 02:15:52,079

in fact it's pouring in

2975

02:15:58,310 --> 02:15:55,840

james webb is about to get involved

2976

02:16:02,229 --> 02:15:58,320

and we still have a backlog

2977

02:16:05,350 --> 02:16:03,270

and

2978

02:16:06,950 --> 02:16:05,360

we only have so many

2979

02:16:08,950 --> 02:16:06,960

astronomers

2980

02:16:11,270 --> 02:16:08,960

and astrophysicists

2981

02:16:14,629 --> 02:16:11,280

to pour over these numbers

2982

02:16:17,990 --> 02:16:14,639

the computers are going to do their work

2983

02:16:20,310 --> 02:16:18,000

right but you still have to get humans

2984

02:16:22,310 --> 02:16:20,320

involved

2985

02:16:24,870 --> 02:16:22,320

now this is

2986

02:16:26,310 --> 02:16:24,880

this is the concern

2987

02:16:29,589 --> 02:16:26,320

right now

2988

02:16:31,350 --> 02:16:29,599

there are about 10 000 professional

2989

02:16:33,349 --> 02:16:31,360

astronomers

2990

02:16:34,709 --> 02:16:33,359

in the entire world

2991

02:16:36,709 --> 02:16:34,719

that's it and i know what you're

2992

02:16:39,509 --> 02:16:36,719

thinking there must be hundreds of

2993

02:16:41,990 --> 02:16:39,519

thousands of astronomers there must be

2994

02:16:44,469 --> 02:16:42,000

tons of no we only have 10 000

2995

02:16:47,830 --> 02:16:44,479

professional astronomers right now on

2996

02:16:52,230 --> 02:16:47,840

the entire planet that's it

2997

02:16:55,110 --> 02:16:52,240

we have another 8 000 astrophysicists

2998

02:16:58,070 --> 02:16:55,120

and not all of them are focused on

2999

02:16:59,270 --> 02:16:58,080

looking out and and looking at exoplanet

3000

02:17:01,030 --> 02:16:59,280

data

3001
02:17:02,549 --> 02:17:01,040
they have other projects that they are

3002
02:17:03,990 --> 02:17:02,559
working on and that includes the

3003
02:17:05,669 --> 02:17:04,000
astronomers

3004
02:17:08,709 --> 02:17:05,679
that's it

3005
02:17:11,110 --> 02:17:08,719
and there is an entire

3006
02:17:14,309 --> 02:17:11,120
mountain of data

3007
02:17:16,950 --> 02:17:14,319
the data is huge

3008
02:17:19,830 --> 02:17:16,960
and it's overwhelming

3009
02:17:20,870 --> 02:17:19,840
computers are able to locate candidate

3010
02:17:24,950 --> 02:17:20,880
planets

3011
02:17:28,469 --> 02:17:24,960
at a rate that just 10 years ago

3012
02:17:30,950 --> 02:17:28,479
seemed utterly impossible

3013
02:17:35,030 --> 02:17:30,960

we are talking about again

3014

02:17:36,709 --> 02:17:35,040
scanning 20 000 stars at a time

3015

02:17:39,429 --> 02:17:36,719
every day

3016

02:17:41,429 --> 02:17:39,439
all year long

3017

02:17:43,509 --> 02:17:41,439
and we already know

3018

02:17:46,629 --> 02:17:43,519
that every star

3019

02:17:48,150 --> 02:17:46,639
has at least one planet

3020

02:17:50,549 --> 02:17:48,160
so what do we do

3021

02:17:52,950 --> 02:17:50,559
right how do we look at this

3022

02:17:54,709 --> 02:17:52,960
if we find a star with five exoplanets

3023

02:17:57,750 --> 02:17:54,719
on it that's five times the amount of

3024

02:17:58,709 --> 02:17:57,760
work and we've got to go on to the next

3025

02:18:01,589 --> 02:17:58,719
star

3026

02:18:03,910 --> 02:18:01,599

and analyze that data computers can only

3027

02:18:05,270 --> 02:18:03,920

do so much computers can give us the

3028

02:18:07,190 --> 02:18:05,280

candidates

3029

02:18:08,150 --> 02:18:07,200

right and then we have to go and look at

3030

02:18:12,870 --> 02:18:08,160

that

3031

02:18:17,110 --> 02:18:12,880

computer systems i've seen the

3032

02:18:19,830 --> 02:18:17,120

laboratories uh not personally in video

3033

02:18:22,150 --> 02:18:19,840

that are uh looking at all of this and

3034

02:18:24,709 --> 02:18:22,160

the amount of exoplanets that are being

3035

02:18:26,790 --> 02:18:24,719

looked at in real time and you can see

3036

02:18:28,549 --> 02:18:26,800

the data coming in

3037

02:18:32,309 --> 02:18:28,559

it's too much

3038

02:18:33,910 --> 02:18:32,319

and and one astronomer is potentially

3039

02:18:36,950 --> 02:18:33,920

analyzing

3040

02:18:40,070 --> 02:18:36,960

tens of thousands of candidates

3041

02:18:42,469 --> 02:18:40,080

at a time again there are only 10 000

3042

02:18:44,950 --> 02:18:42,479

astronomers on this planet

3043

02:18:49,509 --> 02:18:44,960

so you need to really think about that

3044

02:18:52,790 --> 02:18:51,270

today

3045

02:18:53,830 --> 02:18:52,800

to show you

3046

02:18:57,270 --> 02:18:53,840

how

3047

02:18:58,709 --> 02:18:57,280

crazy these numbers are

3048

02:19:01,830 --> 02:18:58,719

today

3049

02:19:03,509 --> 02:19:01,840

the oxford dictionary

3050

02:19:05,429 --> 02:19:03,519

today

3051
02:19:07,429 --> 02:19:05,439
contains

3052
02:19:11,389 --> 02:19:07,439
full entries

3053
02:19:17,429 --> 02:19:15,030
476 words

3054
02:19:19,030 --> 02:19:17,439
the hardcover addition

3055
02:19:23,110 --> 02:19:19,040
is three

3056
02:19:27,750 --> 02:19:24,150
okay

3057
02:19:32,309 --> 02:19:29,589
the milky way

3058
02:19:36,950 --> 02:19:32,319
not the universe

3059
02:19:39,429 --> 02:19:36,960
the milky way exoplanet dictionary

3060
02:19:41,030 --> 02:19:39,439
when it is completed

3061
02:19:42,629 --> 02:19:41,040
will contain

3062
02:19:45,589 --> 02:19:42,639
over 1

3063
02:19:49,670 --> 02:19:45,599

trillion entries

3064

02:19:52,469 --> 02:19:49,680

finished so let's think about this for a

3065

02:19:54,190 --> 02:19:52,479

second the oxford dictionary contains

3066

02:19:58,070 --> 02:19:54,200

171

3067

02:20:00,870 --> 02:19:58,080

476 words it's three inches thick now

3068

02:20:02,710 --> 02:20:00,880

just imagine if the oxford dictionary

3069

02:20:04,550 --> 02:20:02,720

had one

3070

02:20:06,550 --> 02:20:04,560

trillion

3071

02:20:09,670 --> 02:20:06,560

words

3072

02:20:11,429 --> 02:20:09,680

now let's go back and review

3073

02:20:15,670 --> 02:20:11,439

a million

3074

02:20:18,469 --> 02:20:15,680

one thousand times is a billion

3075

02:20:21,030 --> 02:20:18,479

one thousand billions

3076

02:20:23,830 --> 02:20:21,040

are a trillion

3077

02:20:27,270 --> 02:20:23,840

that's the amount of data

3078

02:20:29,110 --> 02:20:27,280

that 10 000 astronomers are trying to

3079

02:20:31,110 --> 02:20:29,120

tackle right now

3080

02:20:33,349 --> 02:20:31,120

it's impossible

3081

02:20:36,469 --> 02:20:33,359

the amount of exoplanets

3082

02:20:38,950 --> 02:20:36,479

out there that can support life

3083

02:20:42,150 --> 02:20:38,960

is extraordinarily huge

3084

02:20:43,830 --> 02:20:42,160

and we know that what we are facing

3085

02:20:44,950 --> 02:20:43,840

is over

3086

02:20:46,309 --> 02:20:44,960

50

3087

02:20:49,750 --> 02:20:46,319

billion

3088

02:20:51,990 --> 02:20:49,760

earth-like rocky planets with water in

3089

02:20:53,270 --> 02:20:52,000

the goldilocks zone

3090

02:20:56,389 --> 02:20:53,280

just

3091

02:20:57,670 --> 02:20:56,399

in our milky way

3092

02:20:59,910 --> 02:20:57,680

now

3093

02:21:02,950 --> 02:20:59,920

the milky way exoplanet dictionary will

3094

02:21:04,950 --> 02:21:02,960

contain when it's finished over one

3095

02:21:07,190 --> 02:21:04,960

trillion entries now i've done the

3096

02:21:09,830 --> 02:21:07,200

calculations

3097

02:21:13,990 --> 02:21:09,840

the oxford dictionary three inches thick

3098

02:21:15,469 --> 02:21:14,000

the milky way exoplanet edition

3099

02:21:19,910 --> 02:21:15,479

that's over

3100

02:21:21,670 --> 02:21:19,920

100 miles tall

3101

02:21:24,870 --> 02:21:21,680

think about it

3102

02:21:25,830 --> 02:21:24,880

that's the work that is going on today

3103

02:21:30,230 --> 02:21:25,840

so

3104

02:21:32,710 --> 02:21:30,240

out of those 50 billion beautiful

3105

02:21:34,389 --> 02:21:32,720

planets right now in the goldilocks zone

3106

02:21:35,590 --> 02:21:34,399

in our milky way

3107

02:21:39,670 --> 02:21:35,600

how many

3108

02:21:42,389 --> 02:21:40,950

now this is where things get

3109

02:21:45,590 --> 02:21:42,399

controversial

3110

02:21:48,469 --> 02:21:45,600

right and we've got the drake equation

3111

02:21:49,670 --> 02:21:48,479

but let's say

3112

02:21:51,349 --> 02:21:49,680

let's say if

3113

02:21:54,150 --> 02:21:51,359

we just go to

3114

02:21:55,910 --> 02:21:54,160

some extraordinarily

3115

02:21:57,190 --> 02:21:55,920

small number

3116

02:22:01,670 --> 02:21:57,200

like

3117

02:22:01,680 --> 02:22:08,710

are you doing the math in your head

3118

02:22:13,910 --> 02:22:11,030

50 billion earth-like planets in the

3119

02:22:18,950 --> 02:22:13,920

goldilocks zone in our milky way

3120

02:22:22,790 --> 02:22:21,590

had life

3121

02:22:24,309 --> 02:22:22,800

right

3122

02:22:25,830 --> 02:22:24,319

that's

3123

02:22:34,870 --> 02:22:25,840

50

3124

02:22:37,190 --> 02:22:34,880

planets with life

3125

02:22:39,590 --> 02:22:37,200

in our neighborhood

3126
02:22:41,590 --> 02:22:39,600
now let's go back to the presentation

3127
02:22:43,349 --> 02:22:41,600
when it started tonight

3128
02:22:47,270 --> 02:22:43,359
and i showed you

3129
02:22:50,469 --> 02:22:47,280
the hubble deep deep

3130
02:22:55,670 --> 02:22:50,479
deep neat field image

3131
02:22:57,670 --> 02:22:55,680
that had 150 000 galaxies in it in each

3132
02:23:00,870 --> 02:22:57,680
one of those galaxies

3133
02:23:05,190 --> 02:23:00,880
with an average of a trillion stars some

3134
02:23:08,070 --> 02:23:05,200
have more some have less but an average

3135
02:23:09,750 --> 02:23:08,080
of a trillion stars in each galaxy and i

3136
02:23:12,389 --> 02:23:09,760
had you pick out

3137
02:23:14,630 --> 02:23:12,399
a speck of light and i told you that

3138
02:23:17,670 --> 02:23:14,640

that speck of light that you picked out

3139

02:23:20,790 --> 02:23:17,680

would represent our milky way

3140

02:23:24,870 --> 02:23:20,800

that little speck of light in that image

3141

02:23:28,870 --> 02:23:24,880

which is the size of the head of a pin

3142

02:23:31,510 --> 02:23:28,880

in our night sky that has 150 000

3143

02:23:33,910 --> 02:23:31,520

galaxies in it

3144

02:23:37,590 --> 02:23:33,920

that little speck of light

3145

02:23:40,630 --> 02:23:37,600

would have 50 million planets

3146

02:23:43,110 --> 02:23:40,640

with life on it

3147

02:23:47,990 --> 02:23:43,120

that's our little speck of light

3148

02:23:48,790 --> 02:23:48,000

in that hubble deep deep field image

3149

02:23:52,309 --> 02:23:48,800

now

3150

02:23:59,590 --> 02:23:52,319

if you take that

3151

02:24:03,830 --> 02:24:01,910

think about what i just said

3152

02:24:05,910 --> 02:24:03,840

50 million earth-like planets in the

3153

02:24:07,750 --> 02:24:05,920

galaxy with life

3154

02:24:10,230 --> 02:24:07,760

with life on it

3155

02:24:12,630 --> 02:24:10,240

and then take that times

3156

02:24:15,910 --> 02:24:12,640

a trillion

3157

02:24:18,550 --> 02:24:15,920

that will put you in the ballpark

3158

02:24:20,550 --> 02:24:18,560

for the stuff out there like us

3159

02:24:22,710 --> 02:24:20,560

out there right now

3160

02:24:25,670 --> 02:24:22,720

in the universe

3161

02:24:27,670 --> 02:24:25,680

hanging out on their exoplanets

3162

02:24:29,830 --> 02:24:27,680

think about that for a second

3163

02:24:31,590 --> 02:24:29,840

so when we go to

3164

02:24:34,550 --> 02:24:31,600

the numbers game

3165

02:24:38,630 --> 02:24:34,560

of what is actually out there and how

3166

02:24:41,429 --> 02:24:38,640

many alien advanced alien civilizations

3167

02:24:43,830 --> 02:24:41,439

could be looking back at our planet

3168

02:24:46,070 --> 02:24:43,840

the number

3169

02:24:49,190 --> 02:24:46,080

we can't comprehend

3170

02:24:52,230 --> 02:24:49,200

and that is the challenge

3171

02:24:54,389 --> 02:24:52,240

that astronomers and astrophysicists

3172

02:24:58,309 --> 02:24:54,399

right now are facing

3173

02:25:01,349 --> 02:24:58,319

as they look at all of this data

3174

02:25:03,110 --> 02:25:01,359

now one thing is for sure

3175

02:25:05,349 --> 02:25:03,120

james webb

3176

02:25:06,630 --> 02:25:05,359

is going to come back with something

3177

02:25:09,990 --> 02:25:06,640

and it's going to come back with

3178

02:25:12,550 --> 02:25:10,000

something astounding

3179

02:25:14,550 --> 02:25:12,560

it's going to be earth changing

3180

02:25:16,630 --> 02:25:14,560

just like the fireworks that are

3181

02:25:19,030 --> 02:25:16,640

igniting right now

3182

02:25:23,110 --> 02:25:19,040

so when i come back after this break

3183

02:25:27,349 --> 02:25:23,120

we're going to start to discuss that

3184

02:25:30,550 --> 02:25:27,359

who is visiting this planet and how many

3185

02:25:33,990 --> 02:25:30,560

one of the considerations is what we are

3186

02:25:35,670 --> 02:25:34,000

doing right now i talked earlier that in

3187

02:25:39,190 --> 02:25:35,680

1997

3188

02:25:43,670 --> 02:25:39,200

we sent another rover back to

3189

02:25:44,630 --> 02:25:43,680

the planet mars in 1997 after 20 years

3190

02:25:46,870 --> 02:25:44,640

right

3191

02:25:48,710 --> 02:25:46,880

we are

3192

02:25:51,750 --> 02:25:48,720

getting off planet

3193

02:25:54,630 --> 02:25:51,760

we are sending probes to the other

3194

02:25:57,429 --> 02:25:54,640

planets in our solar system

3195

02:26:00,230 --> 02:25:57,439

voyager 1 and voyager 2 which are now

3196

02:26:03,110 --> 02:26:00,240

interstellar are being shut off

3197

02:26:04,389 --> 02:26:03,120

but now are we truly an interstellar

3198

02:26:07,670 --> 02:26:04,399

planet

3199

02:26:10,469 --> 02:26:07,680

well if this is what we are doing and we

3200

02:26:13,110 --> 02:26:10,479

are building space telescopes and we are

3201
02:26:14,630 --> 02:26:13,120
observing the stars and we now have

3202
02:26:17,750 --> 02:26:14,640
gotten to the point

3203
02:26:20,469 --> 02:26:17,760
in our history that we understand that

3204
02:26:22,550 --> 02:26:20,479
every star has a planet this has been

3205
02:26:24,150 --> 02:26:22,560
firmly established

3206
02:26:25,510 --> 02:26:24,160
right

3207
02:26:27,510 --> 02:26:25,520
aliens

3208
02:26:31,270 --> 02:26:27,520
and those civilizations

3209
02:26:35,030 --> 02:26:31,280
are doing the exact same thing

3210
02:26:36,710 --> 02:26:35,040
how long will it be until we have a

3211
02:26:39,030 --> 02:26:36,720
probe

3212
02:26:41,590 --> 02:26:39,040
that can go interstellar

3213
02:26:44,790 --> 02:26:41,600

and visit another planet

3214

02:26:45,590 --> 02:26:44,800

with the advent of 3d

3215

02:26:47,030 --> 02:26:45,600

uh

3216

02:26:51,030 --> 02:26:47,040

technology

3217

02:26:54,630 --> 02:26:51,040

of copy machines and being able to do 3d

3218

02:26:56,070 --> 02:26:54,640

printing we can take that technology

3219

02:26:59,830 --> 02:26:56,080

send it out

3220

02:27:02,630 --> 02:26:59,840

probes there

3221

02:27:05,190 --> 02:27:02,640

send more out those probes land on

3222

02:27:07,510 --> 02:27:05,200

another asteroid and

3223

02:27:10,150 --> 02:27:07,520

build themselves and then send

3224

02:27:13,110 --> 02:27:10,160

themselves out in search for

3225

02:27:15,590 --> 02:27:13,120

exoplanets and mapping the universe

3226

02:27:17,349 --> 02:27:15,600

right that's where we are headed

3227

02:27:22,550 --> 02:27:17,359

well e.t

3228

02:27:25,429 --> 02:27:22,560

is doing the exact same thing

3229

02:27:28,630 --> 02:27:25,439

that's what we are facing so as we

3230

02:27:31,590 --> 02:27:28,640

consider what is visiting this planet we

3231

02:27:33,510 --> 02:27:31,600

have to think about what we are doing

3232

02:27:36,230 --> 02:27:33,520

here we're going to talk about all of

3233

02:27:39,429 --> 02:27:36,240

that next what are we doing

3234

02:27:43,030 --> 02:27:39,439

we are visiting the planets in our solar

3235

02:27:44,389 --> 02:27:43,040

system our next challenge is to get to

3236

02:27:47,030 --> 02:27:44,399

alpha centauri

3237

02:27:48,230 --> 02:27:47,040

we're gonna we want to get to proxima a

3238

02:27:50,230 --> 02:27:48,240

and b

3239

02:27:52,870 --> 02:27:50,240

four and a half light years away it's

3240

02:27:55,590 --> 02:27:52,880

very close this is another project that

3241

02:27:57,190 --> 02:27:55,600

alveolo is working on right now to get

3242

02:27:58,389 --> 02:27:57,200

to proxima b

3243

02:28:00,389 --> 02:27:58,399

in our

3244

02:28:03,030 --> 02:28:00,399

lifetime it's four and a half light

3245

02:28:06,790 --> 02:28:03,040

years away if we are doing this

3246

02:28:08,870 --> 02:28:06,800

et is doing the very same thing so when

3247

02:28:10,630 --> 02:28:08,880

i come back after this break

3248

02:28:14,070 --> 02:28:10,640

i'm going to continue

3249

02:28:17,110 --> 02:28:14,080

with aliens and exoplanets this is fade

3250

02:28:20,230 --> 02:28:17,120

to black on july 4th and i do want to

3251

02:28:23,429 --> 02:28:20,240

thank everybody that is here tonight

3252

02:28:25,830 --> 02:28:23,439

listening to me hanging out on the 4th

3253

02:28:28,150 --> 02:28:25,840

of july this is fade to black and the

3254

02:28:29,190 --> 02:28:28,160

game changer and on x networks race

3255

02:28:31,110 --> 02:28:29,200

hobbs

3256

02:28:33,110 --> 02:28:31,120

our mules jimmy church this is fade to

3257

02:28:37,880 --> 02:28:33,120

black i'll be right back after this

3258

02:28:54,190 --> 02:28:42,230

[Music]

3259

02:29:02,230 --> 02:28:54,200

[Applause]

3260

02:29:05,830 --> 02:29:04,309

you're listening to jimmy church and

3261

02:29:10,870 --> 02:29:05,840

fade to black

3262

02:29:15,110 --> 02:29:12,309

hey what up y'all should feel biblical

3263

02:29:17,420 --> 02:29:15,120

fox here and you are listening to my boy

3264

02:29:20,389 --> 02:29:17,430

jimmy church on jimmychurchradio.com

3265

02:29:22,870 --> 02:29:20,399

[Music]

3266

02:29:27,270 --> 02:29:22,880

despite popular opinion

3267

02:29:32,950 --> 02:29:30,870

but listening to jimmy church will

3268

02:29:35,590 --> 02:29:32,960

hello fader knots jimmy church here and

3269

02:29:40,550 --> 02:29:35,600

i know what you're thinking lately jimmy

3270

02:29:42,790 --> 02:29:40,560

sounds so fresh he's so alert he's so

3271

02:29:45,670 --> 02:29:42,800

now well that's because of biotech

3272

02:29:48,710 --> 02:29:45,680

research and their new supplement brain

3273

02:29:50,630 --> 02:29:48,720

peak nine brain peak nine contains nine

3274

02:29:53,270 --> 02:29:50,640

nutrients that may help support brain

3275

02:29:55,429 --> 02:29:53,280

function of memory concentration recall

3276

02:29:58,230 --> 02:29:55,439

and improve focus other memory

3277

02:30:01,190 --> 02:29:58,240

supplements can cost as much as 129

3278

02:30:02,870 --> 02:30:01,200

bucks for a 60-day supply but right now

3279

02:30:05,630 --> 02:30:02,880

for a limited time if you use the

3280

02:30:07,990 --> 02:30:05,640

discount code fader that's right

3281

02:30:10,710 --> 02:30:08,000

f-a-d-e-r just for the fader knots

3282

02:30:13,110 --> 02:30:10,720

you'll get a 60-day supply for just 49

3283

02:30:14,870 --> 02:30:13,120

bucks there's no better time than right

3284

02:30:17,670 --> 02:30:14,880

now to see what others have been raving

3285

02:30:19,070 --> 02:30:17,680

about help improve your brain function

3286

02:30:21,349 --> 02:30:19,080

go to

3287

02:30:23,910 --> 02:30:21,359

brainpeak9.com and enter the discount

3288

02:30:26,030 --> 02:30:23,920

code fader that's right for the fader

3289

02:30:28,950 --> 02:30:26,040

knots that's

3290

02:30:30,150 --> 02:30:28,960

brainpeak9.com discount code fader and

3291

02:30:32,070 --> 02:30:30,160

the links are over at

3292

02:30:36,230 --> 02:30:32,080

jimmychurchradio.com

3293

02:30:38,389 --> 02:30:36,240

click on it now seriously

3294

02:30:40,469 --> 02:30:38,399

this is billy carson founder and ceo of

3295

02:30:42,710 --> 02:30:40,479

forbidden knowledge tv forbidden

3296

02:30:44,469 --> 02:30:42,720

knowledge dot tv is the fastest growing

3297

02:30:46,309 --> 02:30:44,479

and one of the most watched networks in

3298

02:30:48,070 --> 02:30:46,319

the world and i would like to personally

3299

02:30:50,790 --> 02:30:48,080

invite you to check out our expanding

3300

02:30:53,030 --> 02:30:50,800

library of tv film lectures and special

3301
02:30:55,590 --> 02:30:53,040
presentations forbidden knowledge dot tv

3302
02:30:58,309 --> 02:30:55,600
has over 6 000 videos covering lost

3303
02:31:00,150 --> 02:30:58,319
history health ufos spirituality and our

3304
02:31:02,469 --> 02:31:00,160
future we are committed to our community

3305
02:31:04,870 --> 02:31:02,479
and with my personal invitation you can

3306
02:31:07,510 --> 02:31:04,880
right now get your own free 30-day

3307
02:31:09,830 --> 02:31:07,520
membership at forbidden knowledge dot tv

3308
02:31:13,110 --> 02:31:09,840
your own library of information starts

3309
02:31:14,630 --> 02:31:13,120
today at forbidden knowledge dot tv

3310
02:31:17,110 --> 02:31:14,640
[Music]

3311
02:31:20,550 --> 02:31:17,120
your one million gigawatt paranormal

3312
02:31:22,309 --> 02:31:20,560
powerhouse kumx db

3313
02:31:23,990 --> 02:31:22,319

the x

3314

02:31:26,630 --> 02:31:24,000

are you ready to read about true

3315

02:31:29,429 --> 02:31:26,640

paranormal events unex media publishes

3316

02:31:31,830 --> 02:31:29,439

non-fiction books about ufos ghosts and

3317

02:31:35,110 --> 02:31:31,840

haunted places time anomalies cryptid

3318

02:31:37,270 --> 02:31:35,120

creatures and more just like kunx db

3319

02:31:40,270 --> 02:31:37,280

radio it's all about unexplained

3320

02:31:42,230 --> 02:31:40,280

phenomena visit

3321

02:31:44,469 --> 02:31:42,240

www.annexmedia.com to see our list of

3322

02:31:47,030 --> 02:31:44,479

great book titles by debbie zigglemeyer

3323

02:31:49,670 --> 02:31:47,040

gene walker devin listrom wayne lawrence

3324

02:31:53,590 --> 02:31:49,680

bill spicer and yours truly margie k

3325

02:31:57,830 --> 02:31:55,910

introducing the game changer blend from

3326

02:32:00,309 --> 02:31:57,840

river moon coffee that delivers a

3327

02:32:03,349 --> 02:32:00,319

customized blend made specifically for

3328

02:32:06,389 --> 02:32:03,359

the fader knots if the game is rigged

3329

02:32:09,190 --> 02:32:06,399

change the game it's a boulder cup with

3330

02:32:11,429 --> 02:32:09,200

some bite game changer is the coffee of

3331

02:32:13,750 --> 02:32:11,439

choice for those that prefer an organic

3332

02:32:17,349 --> 02:32:13,760

dark roast that is slightly lighter and

3333

02:32:19,590 --> 02:32:17,359

milder but it's still dark with wild

3334

02:32:22,230 --> 02:32:19,600

notes of pecans and chocolate with a

3335

02:32:24,630 --> 02:32:22,240

rich balanced full-bodied cup that is

3336

02:32:27,270 --> 02:32:24,640

roasted to perfection for a great coffee

3337

02:32:30,550 --> 02:32:27,280

to start your day as an after dinner

3338

02:32:33,349 --> 02:32:30,560

coffee or anywhere in between artisan

3339

02:32:35,910 --> 02:32:33,359

small batch roasted to perfection usda

3340

02:32:38,309 --> 02:32:35,920

certified organic all river moon coffee

3341

02:32:41,190 --> 02:32:38,319

is freshly roasted and packaged in the

3342

02:32:43,270 --> 02:32:41,200

usa just go to rivermooncoffee.com or

3343

02:32:47,190 --> 02:32:43,280

click on the banners over on our site

3344

02:32:49,270 --> 02:32:47,200

and use the promo code f2b blend for 15

3345

02:32:52,309 --> 02:32:49,280

off of your order today

3346

02:32:56,870 --> 02:32:54,550

are you intrigued by paranormal talk

3347

02:33:00,070 --> 02:32:56,880

radio you'll love the new paranormal

3348

02:33:01,830 --> 02:33:00,080

radio app from talk stream live

3349

02:33:04,630 --> 02:33:01,840

you'll find a great selection of talk

3350

02:33:07,270 --> 02:33:04,640

shows covering ufos ghosts strange

3351

02:33:09,590 --> 02:33:07,280

phenomena and much more download the

3352

02:33:11,590 --> 02:33:09,600

paranormal radio app now and start

3353

02:33:13,830 --> 02:33:11,600

listening to the very best in paranormal

3354

02:33:15,590 --> 02:33:13,840

talk entertainment including the network

3355

02:33:18,790 --> 02:33:15,600

you're listening to right now the

3356

02:33:27,300 --> 02:33:18,800

paranormal radio app free in google play

3357

02:33:32,550 --> 02:33:29,510

[Music]

3358

02:33:36,309 --> 02:33:32,560

it's not a lifestyle we chose we were

3359

02:33:40,150 --> 02:33:36,319

born this way this is kjcr

3360

02:33:56,389 --> 02:33:50,960

[Music]

3361

02:34:00,950 --> 02:33:56,399

welcome back fade to black 4th of july

3362

02:34:06,070 --> 02:34:03,910

thank you for being here tonight uh

3363

02:34:08,150 --> 02:34:06,080

for this very important presentation on

3364

02:34:10,469 --> 02:34:08,160

aliens and exoplanets now let's get to

3365

02:34:11,910 --> 02:34:10,479

the alien component of this

3366

02:34:14,469 --> 02:34:11,920

and uh

3367

02:34:16,550 --> 02:34:14,479

what what's the city you're thinking

3368

02:34:19,030 --> 02:34:16,560

uh during the break

3369

02:34:21,670 --> 02:34:19,040

what would e.t think

3370

02:34:25,510 --> 02:34:21,680

you know flying over uh the united

3371

02:34:29,030 --> 02:34:25,520

states on the fourth of july and seeing

3372

02:34:30,870 --> 02:34:29,040

uh what we do here maybe they've

3373

02:34:33,429 --> 02:34:30,880

done the same thing in their

3374

02:34:35,990 --> 02:34:33,439

evolutionary process but wouldn't they

3375

02:34:37,670 --> 02:34:36,000

be fascinated with that you know what

3376

02:34:39,190 --> 02:34:37,680

are they doing are they shooting at each

3377

02:34:43,670 --> 02:34:39,200

other

3378

02:34:47,510 --> 02:34:46,309

well i mean what would et think okay

3379

02:34:49,429 --> 02:34:47,520

so

3380

02:34:51,429 --> 02:34:49,439

now let's look at at the hard numbers

3381

02:34:53,750 --> 02:34:51,439

and let's take some things into

3382

02:34:56,389 --> 02:34:53,760

consideration

3383

02:34:59,990 --> 02:34:56,399

um when we look at

3384

02:35:02,710 --> 02:35:00,000

uh what we are dealing with here

3385

02:35:04,630 --> 02:35:02,720

all right which is

3386

02:35:07,110 --> 02:35:04,640

these numbers of

3387

02:35:09,590 --> 02:35:07,120

50 billion earth-like planets in our own

3388

02:35:12,469 --> 02:35:09,600

milky way how do we how do we start to

3389

02:35:14,550 --> 02:35:12,479

study that how much time

3390

02:35:18,150 --> 02:35:14,560

do you spend

3391

02:35:21,510 --> 02:35:18,160

on each planet's discovery

3392

02:35:24,790 --> 02:35:21,520

we are now finding out now how daunting

3393

02:35:26,870 --> 02:35:24,800

of a project that actually is where we

3394

02:35:29,110 --> 02:35:26,880

have only so many scientists and

3395

02:35:32,710 --> 02:35:29,120

astronomers and astrophysicists on this

3396

02:35:35,830 --> 02:35:32,720

planet that are looking at this data

3397

02:35:38,630 --> 02:35:35,840

how much time do you spend

3398

02:35:39,510 --> 02:35:38,640

on each exoplanet

3399

02:35:41,750 --> 02:35:39,520

right

3400

02:35:46,389 --> 02:35:41,760

do you spend a day

3401

02:35:47,910 --> 02:35:46,399

do you spend a week

3402

02:35:50,309 --> 02:35:47,920

you know

3403

02:35:53,670 --> 02:35:50,319

that waiting for you

3404

02:35:57,990 --> 02:35:56,469

not a dozen

3405

02:36:00,630 --> 02:35:58,000

thousands

3406

02:36:03,190 --> 02:36:00,640

of exoplanets that need to be looked at

3407

02:36:04,790 --> 02:36:03,200

and that data needs to be considered and

3408

02:36:06,830 --> 02:36:04,800

if these planets have to be named they

3409

02:36:09,349 --> 02:36:06,840

have to be cataloged they have to be

3410

02:36:11,670 --> 02:36:09,359

finalized and and documented and then

3411

02:36:14,309 --> 02:36:11,680

added to the database right

3412

02:36:16,469 --> 02:36:14,319

and then what do you do well you know

3413

02:36:18,630 --> 02:36:16,479

that your work is never done you are

3414

02:36:20,830 --> 02:36:18,640

work you are moving on

3415

02:36:25,349 --> 02:36:20,840

to the next

3416

02:36:28,309 --> 02:36:25,359

exoplanet and if there if the number

3417

02:36:30,790 --> 02:36:28,319

right now just in our milky way is

3418

02:36:34,870 --> 02:36:30,800

50 billion

3419

02:36:37,190 --> 02:36:34,880

when is this work going to get completed

3420

02:36:38,950 --> 02:36:37,200

it's going to be hundreds of years

3421

02:36:41,429 --> 02:36:38,960

in the future

3422

02:36:43,190 --> 02:36:41,439

and how many of those exoplanets have

3423

02:36:47,910 --> 02:36:43,200

life on it we don't know

3424

02:36:50,469 --> 02:36:47,920

everyone is going to be looked at yes

3425

02:36:54,870 --> 02:36:50,479

it's exciting that we've launched the

3426

02:36:57,190 --> 02:36:54,880

james webb and we have the wfirst roman

3427

02:36:59,910 --> 02:36:57,200

uh space telescope that is going to be

3428

02:37:01,510 --> 02:36:59,920

launched in in 2027

3429

02:37:04,070 --> 02:37:01,520

that is going to be looking at a lot of

3430

02:37:06,230 --> 02:37:04,080

different things including exoplanets

3431

02:37:10,389 --> 02:37:06,240

it's the best that we can do

3432

02:37:11,830 --> 02:37:10,399

we can't move any faster

3433

02:37:14,150 --> 02:37:11,840

so

3434

02:37:15,910 --> 02:37:14,160

what about et

3435

02:37:18,870 --> 02:37:15,920

so now let's flip

3436

02:37:20,950 --> 02:37:18,880

all of that in reverse

3437

02:37:22,790 --> 02:37:20,960

and let's consider

3438

02:37:25,750 --> 02:37:22,800

how e.t

3439

02:37:28,150 --> 02:37:25,760

is studying the milky way

3440

02:37:30,070 --> 02:37:28,160

and maybe the universe

3441

02:37:31,670 --> 02:37:30,080

well they've got to do everything that

3442

02:37:34,710 --> 02:37:31,680

we're doing

3443

02:37:35,590 --> 02:37:34,720

one planet at a time

3444

02:37:37,190 --> 02:37:35,600

and

3445

02:37:39,750 --> 02:37:37,200

earth

3446

02:37:43,670 --> 02:37:39,760

is just one

3447

02:37:46,790 --> 02:37:43,680

of those 50 billion planets

3448

02:37:49,590 --> 02:37:46,800

where is it in the timeline

3449

02:37:51,510 --> 02:37:49,600

e.t is cranking through

3450

02:37:53,910 --> 02:37:51,520

one planet at a time

3451
02:37:55,750 --> 02:37:53,920
has it gotten to earth yet

3452
02:37:57,830 --> 02:37:55,760
right

3453
02:38:01,190 --> 02:37:57,840
maybe not

3454
02:38:03,110 --> 02:38:01,200
but if these numbers are what they are

3455
02:38:06,389 --> 02:38:03,120
then we know

3456
02:38:08,469 --> 02:38:06,399
that if it's 0.1

3457
02:38:12,389 --> 02:38:08,479
of those 50 billion planets that there

3458
02:38:14,870 --> 02:38:12,399
are approximately 50 million

3459
02:38:16,150 --> 02:38:14,880
advanced civilizations

3460
02:38:17,349 --> 02:38:16,160
right

3461
02:38:18,630 --> 02:38:17,359
50

3462
02:38:21,830 --> 02:38:18,640
million

3463
02:38:25,349 --> 02:38:21,840

that are turning around and looking at

3464

02:38:26,469 --> 02:38:25,359

the universe and studying it so how much

3465

02:38:28,469 --> 02:38:26,479

time

3466

02:38:31,349 --> 02:38:28,479

would they spend

3467

02:38:33,030 --> 02:38:31,359

looking at a planet

3468

02:38:35,429 --> 02:38:33,040

let's consider

3469

02:38:38,630 --> 02:38:35,439

what has happened so far

3470

02:38:40,230 --> 02:38:38,640

it seems that

3471

02:38:42,870 --> 02:38:40,240

we have

3472

02:38:45,670 --> 02:38:42,880

multiple ufo sightings

3473

02:38:48,349 --> 02:38:45,680

every single day

3474

02:38:50,309 --> 02:38:48,359

there has been a strange

3475

02:38:53,990 --> 02:38:50,319

inconsistency

3476
02:38:57,510 --> 02:38:55,349
i have

3477
02:39:01,110 --> 02:38:57,520
had hundreds

3478
02:39:02,950 --> 02:39:01,120
of ufo sightings i have done sky watches

3479
02:39:05,270 --> 02:39:02,960
i have seen stuff during the day i've

3480
02:39:07,349 --> 02:39:05,280
seen stuff at night i've seen stuff that

3481
02:39:10,630 --> 02:39:07,359
i can't explain i've seen stuff with

3482
02:39:12,870 --> 02:39:10,640
shapes it's not just lights in the sky

3483
02:39:15,990 --> 02:39:12,880
i've seen these but

3484
02:39:16,870 --> 02:39:16,000
no two sightings that i have

3485
02:39:19,190 --> 02:39:16,880
have

3486
02:39:22,550 --> 02:39:19,200
been identical

3487
02:39:26,150 --> 02:39:22,560
now why would that be

3488
02:39:28,950 --> 02:39:26,160

okay i think the answer is

3489

02:39:30,950 --> 02:39:28,960

that these are different civilizations

3490

02:39:33,750 --> 02:39:30,960

visiting this planet

3491

02:39:36,469 --> 02:39:33,760

that are doing a drive-by

3492

02:39:39,270 --> 02:39:36,479

that are doing a catalog

3493

02:39:41,670 --> 02:39:39,280

stopping by here oh there's life

3494

02:39:43,670 --> 02:39:41,680

there's intelligent life

3495

02:39:44,710 --> 02:39:43,680

it looks pretty cool

3496

02:39:45,910 --> 02:39:44,720

okay

3497

02:39:47,910 --> 02:39:45,920

so

3498

02:39:50,710 --> 02:39:47,920

we call this planet earth but they're

3499

02:39:56,469 --> 02:39:53,750

one two three four five six seven

3500

02:40:00,309 --> 02:39:56,479

and they are going to move on

3501
02:40:05,670 --> 02:40:02,630
that's it

3502
02:40:08,469 --> 02:40:05,680
that is one of the only

3503
02:40:12,870 --> 02:40:08,479
the simplest explanation

3504
02:40:13,910 --> 02:40:12,880
to why things don't seem to repeat

3505
02:40:16,790 --> 02:40:13,920
now

3506
02:40:19,030 --> 02:40:16,800
um there is no question

3507
02:40:22,389 --> 02:40:19,040
that we love this planet this

3508
02:40:25,269 --> 02:40:22,399
beautiful blue gem of a planet and it's

3509
02:40:26,710 --> 02:40:25,279
pretty awesome most of the time

3510
02:40:28,950 --> 02:40:26,720
right

3511
02:40:29,910 --> 02:40:28,960
we do have las vegas

3512
02:40:35,349 --> 02:40:29,920
and

3513
02:40:37,030 --> 02:40:35,359

right but

3514

02:40:39,190 --> 02:40:37,040

e.t

3515

02:40:41,910 --> 02:40:39,200

coming across earth

3516

02:40:45,590 --> 02:40:41,920

some may be interested some may want to

3517

02:40:47,830 --> 02:40:45,600

stop and spend some more time here

3518

02:40:48,870 --> 02:40:47,840

e.t may stop by here and go yeah it's

3519

02:40:53,670 --> 02:40:48,880

pretty cool

3520

02:40:56,150 --> 02:40:53,680

what we just checked out and there's

3521

02:40:59,110 --> 02:40:56,160

another planet that we need to go and

3522

02:40:59,990 --> 02:40:59,120

look at that is also pretty cool

3523

02:41:03,429 --> 02:41:00,000

so

3524

02:41:05,750 --> 02:41:03,439

yes here here is where they are in their

3525

02:41:09,349 --> 02:41:05,760

in their evolution

3526

02:41:13,030 --> 02:41:09,359

let's document that and let's move on

3527

02:41:14,469 --> 02:41:13,040

it would also explain

3528

02:41:16,630 --> 02:41:14,479

why

3529

02:41:19,190 --> 02:41:16,640

it appears

3530

02:41:24,309 --> 02:41:19,200

like if we talk about the tic tac

3531

02:41:26,469 --> 02:41:24,319

and other uaps uh that appear to be

3532

02:41:29,110 --> 02:41:26,479

probe-like

3533

02:41:32,150 --> 02:41:29,120

now why would that be something to

3534

02:41:33,830 --> 02:41:32,160

consider it's what we are doing so what

3535

02:41:36,150 --> 02:41:33,840

we're doing with mars it's what we're

3536

02:41:39,670 --> 02:41:36,160

doing with saturn and jupiter and the

3537

02:41:42,550 --> 02:41:39,680

moon and venus right now we've got uh

3538

02:41:45,670 --> 02:41:42,560

probes uh going back to mercury and

3539

02:41:46,469 --> 02:41:45,680

doing flybys there

3540

02:41:51,750 --> 02:41:46,479

it's

3541

02:41:53,030 --> 02:41:51,760

easier to do that than put a human on it

3542

02:41:57,590 --> 02:41:53,040

right

3543

02:41:58,550 --> 02:41:57,600

well wouldn't et be doing the exact same

3544

02:42:01,670 --> 02:41:58,560

thing

3545

02:42:03,269 --> 02:42:01,680

but here's the rub

3546

02:42:05,670 --> 02:42:03,279

it would not be

3547

02:42:08,150 --> 02:42:05,680

one e.t race

3548

02:42:10,630 --> 02:42:08,160

it could potentially be

3549

02:42:12,870 --> 02:42:10,640

50 million

3550

02:42:15,910 --> 02:42:12,880

different

3551
02:42:17,269 --> 02:42:15,920
advanced alien civilizations out there

3552
02:42:19,990 --> 02:42:17,279
right now

3553
02:42:22,870 --> 02:42:20,000
mapping the milky way and mapping the

3554
02:42:26,230 --> 02:42:22,880
universe and observing planets and they

3555
02:42:28,550 --> 02:42:26,240
would do that the easiest way possible

3556
02:42:34,469 --> 02:42:28,560
with probes

3557
02:42:37,910 --> 02:42:35,510
yeah

3558
02:42:41,190 --> 02:42:37,920
there could be some ai involved but

3559
02:42:43,990 --> 02:42:41,200
there could also be some just basic

3560
02:42:45,429 --> 02:42:44,000
software involved there like

3561
02:42:49,030 --> 02:42:45,439
uh

3562
02:42:52,230 --> 02:42:49,040
collision avoidance right

3563
02:42:54,550 --> 02:42:52,240

we throw an f-18 out there to fly around

3564

02:42:55,830 --> 02:42:54,560

this probe and what does it do it flies

3565

02:42:58,469 --> 02:42:55,840

away

3566

02:42:59,670 --> 02:42:58,479

it doesn't want to be interfered with

3567

02:43:02,230 --> 02:42:59,680

right like

3568

02:43:05,429 --> 02:43:02,240

some of the traits that the

3569

02:43:06,710 --> 02:43:05,439

tic tac has exhibited as described by

3570

02:43:09,269 --> 02:43:06,720

dave fraver

3571

02:43:12,150 --> 02:43:09,279

that's that's a sign of

3572

02:43:14,389 --> 02:43:12,160

you know we're just here to look

3573

02:43:18,469 --> 02:43:14,399

but we don't want to interfere with you

3574

02:43:20,950 --> 02:43:18,479

and we don't want to be interfered with

3575

02:43:23,590 --> 02:43:20,960

that's what we would do

3576

02:43:25,030 --> 02:43:23,600

on another planet we would do the exact

3577

02:43:28,389 --> 02:43:25,040

same thing

3578

02:43:30,950 --> 02:43:28,399

and and and it's with curiosity and

3579

02:43:34,469 --> 02:43:30,960

perseverance on mars right now think

3580

02:43:37,910 --> 02:43:34,479

about it it's just a basic type of

3581

02:43:41,349 --> 02:43:37,920

software it's a basic type of surveying

3582

02:43:42,469 --> 02:43:41,359

equipment it's digging one inch two

3583

02:43:45,030 --> 02:43:42,479

inches

3584

02:43:48,230 --> 02:43:45,040

drilling into the the rocks and digging

3585

02:43:51,269 --> 02:43:48,240

up dirt squirting water on it to see if

3586

02:43:52,630 --> 02:43:51,279

if something will grow this is what e.t

3587

02:43:54,950 --> 02:43:52,640

would do

3588

02:43:58,150 --> 02:43:54,960

and it would spend a limited amount of

3589

02:44:01,830 --> 02:43:58,160

time and then turn around and move on

3590

02:44:03,750 --> 02:44:01,840

to the next planet the same problems

3591

02:44:06,230 --> 02:44:03,760

that we have here

3592

02:44:07,510 --> 02:44:06,240

are the same problems that e.t would

3593

02:44:10,630 --> 02:44:07,520

have to

3594

02:44:13,510 --> 02:44:10,640

be confronted with which is

3595

02:44:16,150 --> 02:44:13,520

billions of planets and only so much

3596

02:44:19,510 --> 02:44:16,160

time to get the research done and to

3597

02:44:22,309 --> 02:44:19,520

catalog it i want to make uh one quick

3598

02:44:24,870 --> 02:44:22,319

comment before i move on

3599

02:44:28,790 --> 02:44:24,880

i i keep going back to hollywood

3600

02:44:30,070 --> 02:44:28,800

and if you go back uh to well certainly

3601
02:44:34,070 --> 02:44:30,080
star trek

3602
02:44:36,710 --> 02:44:34,080
um star wars does this too as well

3603
02:44:39,750 --> 02:44:36,720
stargate stargate universe

3604
02:44:41,269 --> 02:44:39,760
uh did this amazingly well

3605
02:44:43,590 --> 02:44:41,279
which is

3606
02:44:45,830 --> 02:44:43,600
traveling through space warp speed

3607
02:44:48,630 --> 02:44:45,840
whatever light speed you're coming up

3608
02:44:50,630 --> 02:44:48,640
onto a planet what is that oh this is an

3609
02:44:52,550 --> 02:44:50,640
this is an uncharted planet this is an

3610
02:44:55,349 --> 02:44:52,560
unregistered planet this is an

3611
02:44:58,230 --> 02:44:55,359
uncatalogued planet what do they do they

3612
02:44:59,190 --> 02:44:58,240
number it right right then

3613
02:45:03,910 --> 02:44:59,200

and

3614

02:45:06,230 --> 02:45:03,920

are there signs of life

3615

02:45:08,710 --> 02:45:06,240

this is what is happening in hollywood

3616

02:45:10,469 --> 02:45:08,720

and it is now repeating

3617

02:45:13,510 --> 02:45:10,479

in in real life

3618

02:45:16,309 --> 02:45:13,520

that we are absolutely

3619

02:45:17,910 --> 02:45:16,319

finding stuff every day and having to

3620

02:45:20,230 --> 02:45:17,920

catalog it

3621

02:45:22,550 --> 02:45:20,240

the the numbers are incredible and this

3622

02:45:26,870 --> 02:45:22,560

is what e.t would be doing

3623

02:45:29,830 --> 02:45:26,880

that's why we don't see a repeat one of

3624

02:45:31,750 --> 02:45:29,840

the things uh that i need to to comment

3625

02:45:33,030 --> 02:45:31,760

on right now as i'm going through my

3626
02:45:35,429 --> 02:45:33,040
notes

3627
02:45:40,830 --> 02:45:37,750
types of et

3628
02:45:46,790 --> 02:45:44,469
now remember

3629
02:45:49,590 --> 02:45:46,800
it used to be just like

3630
02:45:52,710 --> 02:45:49,600
little green men

3631
02:45:55,670 --> 02:45:52,720
then than the grays

3632
02:45:56,870 --> 02:45:55,680
and then suddenly the grays were two and

3633
02:45:59,429 --> 02:45:56,880
three

3634
02:46:01,510 --> 02:45:59,439
four types and heights

3635
02:46:04,150 --> 02:46:01,520
and different attitudes

3636
02:46:06,550 --> 02:46:04,160
and then there were the nordics and then

3637
02:46:08,870 --> 02:46:06,560
we have we have the tall whites and we

3638
02:46:11,269 --> 02:46:08,880

have reptilians we have mantis beings

3639

02:46:12,230 --> 02:46:11,279

and it seems that

3640

02:46:17,750 --> 02:46:12,240

these

3641

02:46:20,630 --> 02:46:17,760

that are visiting this planet are

3642

02:46:22,389 --> 02:46:20,640

growing every single day and we turn

3643

02:46:25,269 --> 02:46:22,399

around and say to ourselves how can it

3644

02:46:27,910 --> 02:46:25,279

be this way why isn't it just one why

3645

02:46:29,750 --> 02:46:27,920

isn't it just one e.t and everybody's

3646

02:46:34,230 --> 02:46:29,760

just seeing all of these different types

3647

02:46:35,830 --> 02:46:34,240

of and mantis beings reptilians

3648

02:46:39,269 --> 02:46:35,840

dracos

3649

02:46:42,230 --> 02:46:39,279

what's going on here well of course

3650

02:46:45,750 --> 02:46:42,240

what is it that we would expect

3651
02:46:49,190 --> 02:46:45,760
if there are 50 million

3652
02:46:50,870 --> 02:46:49,200
potential advanced alien civilizations

3653
02:46:53,030 --> 02:46:50,880
just right here in our milky way i'm

3654
02:46:54,230 --> 02:46:53,040
talking about in our celestial

3655
02:46:56,469 --> 02:46:54,240
neighborhood

3656
02:46:57,750 --> 02:46:56,479
i laid it out in the very very beginning

3657
02:47:00,870 --> 02:46:57,760
of the show

3658
02:47:03,510 --> 02:47:00,880
um specifically for a a

3659
02:47:04,389 --> 02:47:03,520
very important reason

3660
02:47:07,110 --> 02:47:04,399
okay

3661
02:47:08,710 --> 02:47:07,120
the numbers are huge

3662
02:47:12,550 --> 02:47:08,720
they're huge

3663
02:47:15,510 --> 02:47:12,560

and if that is the case and this type

3664

02:47:17,190 --> 02:47:15,520

of life is out there then what is

3665

02:47:19,750 --> 02:47:17,200

visiting this earth

3666

02:47:23,110 --> 02:47:19,760

well potentially

3667

02:47:24,469 --> 02:47:23,120

on a daily basis it could be thousands

3668

02:47:26,469 --> 02:47:24,479

thousands

3669

02:47:28,710 --> 02:47:26,479

how many do we see

3670

02:47:30,870 --> 02:47:28,720

how many do we observe

3671

02:47:36,150 --> 02:47:30,880

how is it possible

3672

02:47:37,910 --> 02:47:36,160

that a craft with a live biological

3673

02:47:40,710 --> 02:47:37,920

being on it

3674

02:47:42,389 --> 02:47:40,720

could enter our atmosphere and leave and

3675

02:47:45,110 --> 02:47:42,399

nobody see it

3676

02:47:46,870 --> 02:47:45,120

that potential is high

3677

02:47:50,070 --> 02:47:46,880

is high now

3678

02:47:52,630 --> 02:47:50,080

the chances of us seeing one and then

3679

02:47:53,750 --> 02:47:52,640

turn around and describing what we are

3680

02:47:56,309 --> 02:47:53,760

seeing

3681

02:47:59,110 --> 02:47:56,319

and they leave and then somebody else

3682

02:48:02,710 --> 02:47:59,120

comes to this planet and they are seen

3683

02:48:04,469 --> 02:48:02,720

and witnessed by by us and we describe

3684

02:48:07,110 --> 02:48:04,479

it and it doesn't match what somebody

3685

02:48:10,309 --> 02:48:07,120

else has seen

3686

02:48:13,830 --> 02:48:10,319

it's probably not only a different race

3687

02:48:16,230 --> 02:48:13,840

of beings but a race of beings that are

3688

02:48:19,910 --> 02:48:16,240

millions of light years apart that

3689

02:48:22,710 --> 02:48:19,920

aren't even aware of each other

3690

02:48:27,429 --> 02:48:22,720

this is what is visiting us every single

3691

02:48:30,870 --> 02:48:27,439

day and i keep going back to this same

3692

02:48:35,590 --> 02:48:33,590

look at our fate or not audience

3693

02:48:37,830 --> 02:48:35,600

right and i can flick

3694

02:48:40,230 --> 02:48:37,840

to the comments right now

3695

02:48:41,590 --> 02:48:40,240

and dan nolan

3696

02:48:42,830 --> 02:48:41,600

perfect

3697

02:48:44,870 --> 02:48:42,840

sub

3698

02:48:47,110 --> 02:48:44,880

dual jay

3699

02:48:48,070 --> 02:48:47,120

juris nordic

3700

02:48:49,670 --> 02:48:48,080

um

3701

02:48:51,910 --> 02:48:49,680

there's bill

3702

02:48:54,550 --> 02:48:51,920

i can keep going back there's jacks

3703

02:48:56,550 --> 02:48:54,560

there's names i can't pronounce there's

3704

02:49:01,750 --> 02:48:56,560

jamie and jessica

3705

02:49:08,309 --> 02:49:05,110

and wr i i can keep going back

3706

02:49:11,349 --> 02:49:08,319

a variety right

3707

02:49:15,030 --> 02:49:11,359

no two fader knots look alike

3708

02:49:18,070 --> 02:49:15,040

and if i gathered 10 fader knots

3709

02:49:20,630 --> 02:49:18,080

at random and we all jumped on a ship

3710

02:49:22,389 --> 02:49:20,640

and and went to another planet and

3711

02:49:24,309 --> 02:49:22,399

started walking around what would they

3712

02:49:26,389 --> 02:49:24,319

see

3713

02:49:28,150 --> 02:49:26,399

they would think that we were from 10

3714

02:49:30,150 --> 02:49:28,160

different planets

3715

02:49:32,389 --> 02:49:30,160

somebody's white somebody's black

3716

02:49:33,990 --> 02:49:32,399

somebody's red

3717

02:49:36,230 --> 02:49:34,000

right

3718

02:49:37,990 --> 02:49:36,240

somebody's got blonde hair somebody's

3719

02:49:40,309 --> 02:49:38,000

got curly hair somebody's short

3720

02:49:43,429 --> 02:49:40,319

somebody's fat somebody's skinny what if

3721

02:49:47,030 --> 02:49:43,439

we brought a dog and a cat with us

3722

02:49:49,349 --> 02:49:47,040

right we would appear to be different

3723

02:49:51,429 --> 02:49:49,359

here on this planet and this is where

3724

02:49:52,790 --> 02:49:51,439

i'm going next and then we'll wrap up

3725

02:49:55,190 --> 02:49:52,800

this show

3726

02:49:56,389 --> 02:49:55,200

here on this planet everybody looks

3727

02:50:00,870 --> 02:49:56,399

different

3728

02:50:03,990 --> 02:50:00,880

but we have two arms two legs hopefully

3729

02:50:06,389 --> 02:50:04,000

ten fingers and ten toes two eyes nose

3730

02:50:07,429 --> 02:50:06,399

mouth ears

3731

02:50:09,590 --> 02:50:07,439

all right

3732

02:50:12,790 --> 02:50:09,600

that's dna

3733

02:50:16,150 --> 02:50:12,800

and the same dna that is inside of me is

3734

02:50:18,790 --> 02:50:16,160

on every living thing on this planet

3735

02:50:19,910 --> 02:50:18,800

that dna is distributed throughout the

3736

02:50:22,469 --> 02:50:19,920

universe

3737

02:50:24,550 --> 02:50:22,479

on asteroids and those amino acids are

3738

02:50:26,150 --> 02:50:24,560

crash landing into different planets

3739

02:50:29,030 --> 02:50:26,160

just like

3740

02:50:30,389 --> 02:50:29,040

life was jump started here and what we

3741

02:50:32,790 --> 02:50:30,399

have found

3742

02:50:36,070 --> 02:50:32,800

is that we cannot stop life on this

3743

02:50:38,630 --> 02:50:36,080

planet we have tried over and over again

3744

02:50:42,309 --> 02:50:38,640

to stop life on this planet nature and

3745

02:50:45,429 --> 02:50:42,319

cosmic uh disasters have

3746

02:50:48,630 --> 02:50:45,439

we've had five mass extinction events on

3747

02:50:51,349 --> 02:50:48,640

this planet everything wiped out but

3748

02:50:54,870 --> 02:50:51,359

life started again and thousands of

3749

02:50:57,990 --> 02:50:54,880

species are created that same dna

3750

02:50:59,030 --> 02:50:58,000

those same fundamental 20 and 22 amino

3751

02:51:02,469 --> 02:50:59,040

acids

3752

02:51:04,309 --> 02:51:02,479

and rna transferring that data into dna

3753

02:51:06,870 --> 02:51:04,319

and life starts again and it starts

3754

02:51:08,469 --> 02:51:06,880

again and it starts again we cannot stop

3755

02:51:11,990 --> 02:51:08,479

life on this planet

3756

02:51:14,710 --> 02:51:12,000

that same chemistry is universal and

3757

02:51:17,590 --> 02:51:14,720

universal means everywhere in the

3758

02:51:20,150 --> 02:51:17,600

universe it's the same chemistry the

3759

02:51:21,510 --> 02:51:20,160

same atoms the same molecules and the

3760

02:51:24,150 --> 02:51:21,520

same poly

3761

02:51:26,469 --> 02:51:24,160

particles are everywhere throughout the

3762

02:51:28,870 --> 02:51:26,479

universe which also means

3763

02:51:30,070 --> 02:51:28,880

in our milky way

3764

02:51:32,550 --> 02:51:30,080

that's it

3765

02:51:36,950 --> 02:51:32,560

life is everywhere

3766

02:51:39,590 --> 02:51:36,960

those same fundamental amino acids

3767

02:51:41,429 --> 02:51:39,600

are on every planet

3768

02:51:42,790 --> 02:51:41,439

they're everywhere

3769

02:51:45,990 --> 02:51:42,800

so

3770

02:51:47,830 --> 02:51:46,000

what is the difference between us and

3771

02:51:50,630 --> 02:51:47,840

them

3772

02:51:53,190 --> 02:51:50,640

if those same amino acids and the same

3773

02:51:55,349 --> 02:51:53,200

dna and the same rna is being

3774

02:51:57,269 --> 02:51:55,359

distributed throughout the universe and

3775

02:51:58,870 --> 02:51:57,279

throughout the milky way

3776

02:52:01,670 --> 02:51:58,880

well

3777

02:52:04,389 --> 02:52:01,680

two legs two arms

3778

02:52:07,590 --> 02:52:04,399

ten fingers and ten toes two eyes mouth

3779

02:52:12,950 --> 02:52:09,590

is universal

3780

02:52:14,790 --> 02:52:12,960

so why wouldn't we expect

3781

02:52:16,389 --> 02:52:14,800

to have

3782

02:52:17,910 --> 02:52:16,399

et

3783

02:52:20,870 --> 02:52:17,920

look like us

3784

02:52:22,469 --> 02:52:20,880

now the gravity on their planet

3785

02:52:24,710 --> 02:52:22,479

maybe they're short

3786

02:52:26,309 --> 02:52:24,720

maybe they're tall maybe they're fat

3787

02:52:28,950 --> 02:52:26,319

maybe they're skinny

3788

02:52:32,230 --> 02:52:28,960

maybe the radiation is different maybe

3789

02:52:33,670 --> 02:52:32,240

the the the ultraviolet particles that

3790

02:52:35,750 --> 02:52:33,680

are coming through their atmosphere is

3791

02:52:38,070 --> 02:52:35,760

different so maybe their skin looks a

3792

02:52:40,389 --> 02:52:38,080

little different maybe they see things

3793

02:52:42,150 --> 02:52:40,399

in a different light spectrum maybe they

3794

02:52:43,830 --> 02:52:42,160

see differently just like we see

3795

02:52:45,750 --> 02:52:43,840

differently and the other species on

3796

02:52:47,590 --> 02:52:45,760

this planet see differently

3797

02:52:49,590 --> 02:52:47,600

right but

3798

02:52:52,950 --> 02:52:49,600

two arms and two legs

3799

02:52:56,230 --> 02:52:52,960

stepping off of a spacecraft

3800

02:52:59,910 --> 02:52:56,240

should be expected

3801
02:53:01,349 --> 02:52:59,920
if we go to another planet and we step

3802
02:53:03,429 --> 02:53:01,359
off

3803
02:53:05,510 --> 02:53:03,439
why wouldn't we see

3804
02:53:06,550 --> 02:53:05,520
something that is fundamentally the same

3805
02:53:10,070 --> 02:53:06,560
as us

3806
02:53:13,110 --> 02:53:10,080
as rna and dna and amino acids are

3807
02:53:14,550 --> 02:53:13,120
distributed throughout why wouldn't life

3808
02:53:16,150 --> 02:53:14,560
just be

3809
02:53:18,070 --> 02:53:16,160
similar

3810
02:53:20,070 --> 02:53:18,080
and that includes fruits and vegetables

3811
02:53:22,309 --> 02:53:20,080
and trees and grass

3812
02:53:23,269 --> 02:53:22,319
why wouldn't it be similar of course it

3813
02:53:26,550 --> 02:53:23,279

would

3814

02:53:29,349 --> 02:53:26,560

so when we go and we observe

3815

02:53:30,469 --> 02:53:29,359

an exoplanet and we step off of the

3816

02:53:33,269 --> 02:53:30,479

craft

3817

02:53:35,030 --> 02:53:33,279

why wouldn't we see

3818

02:53:39,750 --> 02:53:35,040

this

3819

02:53:40,870 --> 02:53:39,760

is out there

3820

02:53:44,870 --> 02:53:40,880

this

3821

02:53:47,590 --> 02:53:44,880

is out there probably times

3822

02:53:48,950 --> 02:53:47,600

50 million planets

3823

02:53:52,550 --> 02:53:48,960

we have

3824

02:53:56,870 --> 02:53:52,560

50 billion rocky earth-like planets how

3825

02:54:02,150 --> 02:53:59,670

supporting an advanced civilization

3826
02:54:03,750 --> 02:54:02,160
that's 50 million planets that's 50

3827
02:54:05,910 --> 02:54:03,760
million planets

3828
02:54:09,670 --> 02:54:05,920
what if they are a thousand years ahead

3829
02:54:13,030 --> 02:54:09,680
of us we would see something like this

3830
02:54:15,830 --> 02:54:13,040
but we would probably see life that

3831
02:54:17,590 --> 02:54:15,840
looks very similar to us like this

3832
02:54:21,429 --> 02:54:17,600
little alien

3833
02:54:23,510 --> 02:54:21,439
standing out there surfing those waves

3834
02:54:25,670 --> 02:54:23,520
that's what is out there and we

3835
02:54:28,070 --> 02:54:25,680
shouldn't be surprised with that

3836
02:54:31,030 --> 02:54:28,080
and this atmosphere

3837
02:54:34,389 --> 02:54:31,040
this consideration the nitrogen the

3838
02:54:39,269 --> 02:54:34,399

methane the carbon monoxide the carbon

3839

02:54:41,670 --> 02:54:39,279

atmosphere all of it oxygen water h2o

3840

02:54:43,670 --> 02:54:41,680

in the habitable zone

3841

02:54:44,870 --> 02:54:43,680

this is what james webb is out there

3842

02:54:47,349 --> 02:54:44,880

looking for

3843

02:54:49,590 --> 02:54:47,359

signs like this

3844

02:54:52,550 --> 02:54:49,600

this is what is out there and this is

3845

02:54:55,110 --> 02:54:52,560

what is searching for us

3846

02:54:58,309 --> 02:54:55,120

the same wonder that we have as we look

3847

02:55:00,550 --> 02:54:58,319

out to the skies as we have done

3848

02:55:03,349 --> 02:55:00,560

since the dawn of man

3849

02:55:07,030 --> 02:55:03,359

is are we alone in the universe

3850

02:55:10,710 --> 02:55:07,040

well we now know that this is existing

3851
02:55:12,150 --> 02:55:10,720
out there this could be enlightened be

3852
02:55:14,790 --> 02:55:12,160
right now

3853
02:55:16,550 --> 02:55:14,800
this is the most exciting time in the

3854
02:55:19,110 --> 02:55:16,560
history of mankind

3855
02:55:22,070 --> 02:55:19,120
right now our technology

3856
02:55:25,030 --> 02:55:22,080
our consideration our consciousness our

3857
02:55:27,670 --> 02:55:25,040
wonderment and the ability to ponder

3858
02:55:29,510 --> 02:55:27,680
what is out there right now we have the

3859
02:55:31,110 --> 02:55:29,520
ability to go

3860
02:55:34,389 --> 02:55:31,120
and find it

3861
02:55:39,830 --> 02:55:34,399
we didn't have this 25 years ago we have

3862
02:55:42,870 --> 02:55:39,840
it in 2022 and i am of the belief

3863
02:55:46,230 --> 02:55:42,880

that our government and science knows

3864

02:55:49,030 --> 02:55:46,240

that we are being visited and right now

3865

02:55:52,070 --> 02:55:49,040

they need to talk about it technology is

3866

02:55:53,349 --> 02:55:52,080

about to show us that there is life out

3867

02:55:55,670 --> 02:55:53,359

there

3868

02:55:58,070 --> 02:55:55,680

i want to thank everybody for taking the

3869

02:56:01,590 --> 02:55:58,080

time tonight to come and hang out with

3870

02:56:04,950 --> 02:56:01,600

me for this very important presentation

3871

02:56:06,389 --> 02:56:04,960

of aliens and exoplanets on the 4th of

3872

02:56:07,590 --> 02:56:06,399

july

3873

02:56:09,910 --> 02:56:07,600

all right

3874

02:56:11,590 --> 02:56:09,920

i am your host jimmy church i will make

3875

02:56:13,110 --> 02:56:11,600

the announcements for our guests

3876

02:56:16,150 --> 02:56:13,120

throughout the week

3877

02:56:19,429 --> 02:56:16,160

tomorrow this is fade to black

3878

02:56:21,030 --> 02:56:19,439

on the game changer and on x networks

3879

02:56:24,070 --> 02:56:21,040

what a great night tonight i want to

3880

02:56:26,790 --> 02:56:24,080

thank everybody for hanging out on this

3881

02:56:30,550 --> 02:56:26,800

4th of july now you can hear what is

3882

02:56:32,309 --> 02:56:30,560

going on so i'm about to go

3883

02:56:35,429 --> 02:56:32,319

outside

3884

02:56:37,510 --> 02:56:35,439

and watch it for myself

3885

02:56:39,030 --> 02:56:37,520

this is fade to black i am your host

3886

02:56:41,030 --> 02:56:39,040

jimmy church

3887

02:56:43,830 --> 02:56:41,040

fade to black is produced by hilton j

3888

02:56:46,870 --> 02:56:43,840

palm renee dennis and kevin announcers

3889

02:56:47,910 --> 02:56:46,880

are steve harder gene bateau and mark d

3890

02:56:50,150 --> 02:56:47,920

kovar

3891

02:56:51,269 --> 02:56:50,160

webmaster is drew the geek music doug

3892

02:56:52,710 --> 02:56:51,279

aldrige

3893

02:56:55,110 --> 02:56:52,720

intro space boy space boy

3894

02:56:57,269 --> 02:56:55,120

spaceboymusic.com

3895

02:56:59,590 --> 02:56:57,279

fade to black is produced by kjcr for

3896

02:57:02,150 --> 02:56:59,600

the game changer network this broadcast

3897

02:57:04,389 --> 02:57:02,160

is owned copyrighted 2022 by fade to

3898

02:57:06,550 --> 02:57:04,399

black and the game changer network inc

3899

02:57:08,230 --> 02:57:06,560

it cannot be rebroadcast downloaded

3900

02:57:10,389 --> 02:57:08,240

copied or used anywhere in the known

3901
02:57:11,670 --> 02:57:10,399
universe without written permission from

3902
02:57:13,190 --> 02:57:11,680
fade to black of the game change your

3903
02:57:15,750 --> 02:57:13,200
network all right middle chevy church

3904
02:57:16,710 --> 02:57:15,760
i'll see everybody tomorrow night until

3905
02:57:19,269 --> 02:57:16,720
then

3906
02:57:21,590 --> 02:57:19,279
i want everybody to be safe go and

3907
02:57:24,469 --> 02:57:21,600
celebrate the 4th of july do it the

3908
02:57:35,550 --> 02:57:24,479
right way i'll see you tomorrow

3909
02:57:35,560 --> 02:57:42,150
[Music]

3910
02:57:42,160 --> 02:57:46,510
wow