



1
00:00:40,389 --> 00:00:16,100

[Music]

2
00:00:45,430 --> 00:00:42,549

ufos and electromagnetism

3
00:00:46,150 --> 00:00:45,440

by charles lear a common element of ufo

4
00:00:48,630 --> 00:00:46,160

reports

5
00:00:50,150 --> 00:00:48,640

is that cars or other vehicles cease

6
00:00:52,549 --> 00:00:50,160

functioning during the sighting

7
00:00:54,069 --> 00:00:52,559

and often restart on their own after the

8
00:00:56,150 --> 00:00:54,079

ufo's departure

9
00:00:58,470 --> 00:00:56,160

many researchers have speculated that

10
00:01:00,630 --> 00:00:58,480

this is an effect of electromagnetism

11
00:01:01,750 --> 00:01:00,640

possibly related to an advanced system

12
00:01:04,229 --> 00:01:01,760

of propulsion

13
00:01:05,910 --> 00:01:04,239

this seems to be a reasonable hypothesis

14

00:01:07,990 --> 00:01:05,920

and one that could be tested

15

00:01:09,910 --> 00:01:08,000

all one would need would be a car and a

16

00:01:12,230 --> 00:01:09,920

source of electromagnetism

17

00:01:14,070 --> 00:01:12,240

so the question is have there been any

18

00:01:16,070 --> 00:01:14,080

experiments done in laboratories

19

00:01:17,510 --> 00:01:16,080

and have the results been published in a

20

00:01:19,190 --> 00:01:17,520

peer-reviewed format

21

00:01:20,789 --> 00:01:19,200

the case that first brought attention to

22

00:01:23,670 --> 00:01:20,799

this aspect of the phenomenon

23

00:01:25,670 --> 00:01:23,680

was the 1957 incident that involved a

24

00:01:27,350 --> 00:01:25,680

series of extraordinary encounters

25

00:01:29,270 --> 00:01:27,360

in and around the small farming

26

00:01:31,670 --> 00:01:29,280

community of levelin texas

27

00:01:33,510 --> 00:01:31,680

patrolman abraham john fowler was

28

00:01:34,630 --> 00:01:33,520

working the evening shift at the level

29

00:01:36,630 --> 00:01:34,640

and police department

30

00:01:38,310 --> 00:01:36,640

on the night of november 2nd when the

31

00:01:40,149 --> 00:01:38,320

first of what would be a series of

32

00:01:43,109 --> 00:01:40,159

unusual calls came in

33

00:01:44,069 --> 00:01:43,119

just before 11 pm a farmworker pedro

34

00:01:45,749 --> 00:01:44,079

salcero

35

00:01:47,350 --> 00:01:45,759

called to report a very strange

36

00:01:48,149 --> 00:01:47,360

encounter that left him and his

37

00:01:51,190 --> 00:01:48,159

co-worker

38

00:01:53,590 --> 00:01:51,200

joe solas shaken and mystified according

39

00:01:55,590 --> 00:01:53,600

to salcedo they were in his pickup truck

40

00:01:57,190 --> 00:01:55,600

on their way to a farm 10 miles

41

00:02:00,630 --> 00:01:57,200

northwest of loveland

42

00:02:03,510 --> 00:02:00,640

at 10 30 p.m they turned off route 116

43

00:02:04,149 --> 00:02:03,520

now route 114 four miles west of

44

00:02:06,789 --> 00:02:04,159

levelland

45

00:02:07,270 --> 00:02:06,799

onto a side road off to the right in a

46

00:02:09,270 --> 00:02:07,280

field

47

00:02:10,309 --> 00:02:09,280

they saw a bright blue flash which drew

48

00:02:12,470 --> 00:02:10,319

their attention

49

00:02:13,830 --> 00:02:12,480

the source of the light was a cigar or

50

00:02:16,790 --> 00:02:13,840

torpedo shaped object

51
00:02:17,430 --> 00:02:16,800
around 200 feet long as they watched the

52
00:02:19,750 --> 00:02:17,440
object

53
00:02:20,869 --> 00:02:19,760
growing blue green lifted up and came

54
00:02:23,110 --> 00:02:20,879
towards the truck

55
00:02:24,070 --> 00:02:23,120
as it did so its color changed to bright

56
00:02:25,910 --> 00:02:24,080
yellow white

57
00:02:28,309 --> 00:02:25,920
saucedo thinking there was going to be a

58
00:02:31,030 --> 00:02:28,319
collision jumped out and hit the dirt

59
00:02:31,750 --> 00:02:31,040
salaz remained inside and fortunately

60
00:02:34,070 --> 00:02:31,760
for him

61
00:02:35,270 --> 00:02:34,080
the object went over the truck as the

62
00:02:36,869 --> 00:02:35,280
object passed over

63
00:02:39,110 --> 00:02:36,879

the truck's engine stalled and the

64

00:02:41,430 --> 00:02:39,120

headlights went out the object gave off

65

00:02:43,509 --> 00:02:41,440

a roaring sound its color changed to red

66

00:02:45,589 --> 00:02:43,519

and air rushed in behind it as it flew

67

00:02:47,589 --> 00:02:45,599

off leaving the truck rocking

68

00:02:48,710 --> 00:02:47,599

saucedo described feeling an intense

69

00:02:50,550 --> 00:02:48,720

heat from the object

70

00:02:53,670 --> 00:02:50,560

and estimated that it traveled to the

71

00:02:55,910 --> 00:02:53,680

east at 600 to 800 miles per hour

72

00:02:57,509 --> 00:02:55,920

as the object moved off the truck engine

73

00:03:00,309 --> 00:02:57,519

started back up on its own

74

00:03:02,470 --> 00:03:00,319

and the lights came back on saucedo then

75

00:03:03,030 --> 00:03:02,480

drove to the town of whiteface 10 miles

76

00:03:04,949 --> 00:03:03,040

away

77

00:03:07,350 --> 00:03:04,959

which was the location of the nearest

78

00:03:08,149 --> 00:03:07,360

pay phone patrolman fowler assumed that

79

00:03:10,390 --> 00:03:08,159

salcedo

80

00:03:12,070 --> 00:03:10,400

was either drunk or making a prank call

81

00:03:13,750 --> 00:03:12,080

and dismissed his report

82

00:03:16,550 --> 00:03:13,760

then he received another report from

83

00:03:18,309 --> 00:03:16,560

james wheeler of nearby witheral texas

84

00:03:20,630 --> 00:03:18,319

wheeler reported that he was on route

85

00:03:22,470 --> 00:03:20,640

116 on the east side of levelin

86

00:03:23,670 --> 00:03:22,480

when he came upon an object sitting on

87

00:03:25,910 --> 00:03:23,680

the road in front of him

88

00:03:27,190 --> 00:03:25,920

he described it as being egg-shaped over

89

00:03:29,750 --> 00:03:27,200

200 feet long

90

00:03:30,550 --> 00:03:29,760

and that it gave off a neon glow as he

91

00:03:32,869 --> 00:03:30,560

got close

92

00:03:34,630 --> 00:03:32,879

his engine and headlights both shut off

93

00:03:35,830 --> 00:03:34,640

wheeler got out of his car and walked

94

00:03:38,149 --> 00:03:35,840

towards the object

95

00:03:40,949 --> 00:03:38,159

it lifted up suddenly to a height of 200

96

00:03:42,869 --> 00:03:40,959

feet its glow faded out and it moved off

97

00:03:43,990 --> 00:03:42,879

after it was gone wheeler was able to

98

00:03:45,990 --> 00:03:44,000

restart the car

99

00:03:47,030 --> 00:03:46,000

or it started up on its own and the

100

00:03:49,110 --> 00:03:47,040

headlights were again

101
00:03:50,789 --> 00:03:49,120
operational several more callers

102
00:03:52,470 --> 00:03:50,799
described similar encounters

103
00:03:54,869 --> 00:03:52,480
and fowler began to take what they were

104
00:03:56,710 --> 00:03:54,879
telling him seriously he contacted the

105
00:03:58,390 --> 00:03:56,720
texas state highway patrol

106
00:04:00,229 --> 00:03:58,400
informed them of the reports and

107
00:04:02,789 --> 00:04:00,239
suggested they be on the lookout

108
00:04:04,710 --> 00:04:02,799
he contacted sheriff weir sam clem and

109
00:04:06,149 --> 00:04:04,720
deputy pat ira mcculloch

110
00:04:08,229 --> 00:04:06,159
of the hockley county sheriff's

111
00:04:09,910 --> 00:04:08,239
department he also called the lubbock

112
00:04:11,509 --> 00:04:09,920
texas police department

113
00:04:13,670 --> 00:04:11,519

thinking that airplanes might have been

114

00:04:13,990 --> 00:04:13,680

involved fowler called reese air force

115

00:04:16,069 --> 00:04:14,000

base

116

00:04:17,030 --> 00:04:16,079

in lubbock and the civil aeronautics

117

00:04:18,870 --> 00:04:17,040

administration

118

00:04:20,229 --> 00:04:18,880

he was told by both that there were no

119

00:04:22,310 --> 00:04:20,239

planes in the area

120

00:04:24,150 --> 00:04:22,320

after the calls were made there were 14

121

00:04:24,870 --> 00:04:24,160

police cruisers from various police

122

00:04:27,510 --> 00:04:24,880

departments

123

00:04:28,870 --> 00:04:27,520

along with major daniel r kester from

124

00:04:30,710 --> 00:04:28,880

reese air force base

125

00:04:33,270 --> 00:04:30,720

all on the lookout for mysterious

126
00:04:33,990 --> 00:04:33,280
objects kester spoke with members of law

127
00:04:36,150 --> 00:04:34,000
enforcement

128
00:04:37,990 --> 00:04:36,160
collected details of the reports and

129
00:04:38,710 --> 00:04:38,000
visited the sites where the encounters

130
00:04:40,150 --> 00:04:38,720
occurred

131
00:04:42,390 --> 00:04:40,160
after gathering what he thought was

132
00:04:43,510 --> 00:04:42,400
enough information kester wrote up the

133
00:04:45,990 --> 00:04:43,520
original report

134
00:04:47,990 --> 00:04:46,000
that initiated the investigation by the

135
00:04:50,230 --> 00:04:48,000
air force's project blue book

136
00:04:51,430 --> 00:04:50,240
sheriff clem and deputy mcculloch both

137
00:04:53,350 --> 00:04:51,440
became witnesses

138
00:04:54,790 --> 00:04:53,360

when they happen upon an oval-shaped

139

00:04:57,110 --> 00:04:54,800

light sitting on the road

140

00:04:58,070 --> 00:04:57,120

clem said that it lit up the entire road

141

00:05:00,310 --> 00:04:58,080

in front of them

142

00:05:02,469 --> 00:05:00,320

other officers reported distant flashes

143

00:05:03,110 --> 00:05:02,479

of light and leveling fire chief ray

144

00:05:05,510 --> 00:05:03,120

jones

145

00:05:07,029 --> 00:05:05,520

saw lights as his car engine sputtered

146

00:05:08,870 --> 00:05:07,039

and his headlights flickered

147

00:05:10,469 --> 00:05:08,880

throughout the morning of november 3rd

148

00:05:12,390 --> 00:05:10,479

and into the night of november

149

00:05:14,550 --> 00:05:12,400

6th there were many more reports from

150

00:05:15,270 --> 00:05:14,560

the surrounding areas of texas and new

151
00:05:17,670 --> 00:05:15,280
mexico

152
00:05:19,270 --> 00:05:17,680
that involved lights egg-shaped objects

153
00:05:21,430 --> 00:05:19,280
and stalled cars

154
00:05:23,270 --> 00:05:21,440
reporters came into leveling on november

155
00:05:25,430 --> 00:05:23,280
3rd and several witnesses

156
00:05:26,790 --> 00:05:25,440
including sheriff clem spoke to them

157
00:05:28,230 --> 00:05:26,800
about their encounters

158
00:05:30,310 --> 00:05:28,240
the stories were written up for the

159
00:05:32,950 --> 00:05:30,320
local papers and sent out over the

160
00:05:35,270 --> 00:05:32,960
associated press and united press wire

161
00:05:36,550 --> 00:05:35,280
the news quickly went national because

162
00:05:38,390 --> 00:05:36,560
of all the news coverage

163
00:05:40,390 --> 00:05:38,400

the air force was compelled to send a

164

00:05:40,710 --> 00:05:40,400

project blue book investigator to level

165

00:05:43,350 --> 00:05:40,720

it

166

00:05:45,270 --> 00:05:43,360

on november 5th staff sergeant norman p

167

00:05:46,310 --> 00:05:45,280

barth arrived at the hockley county

168

00:05:48,150 --> 00:05:46,320

sheriff's office

169

00:05:50,870 --> 00:05:48,160

he talked to clem and interviewed three

170

00:05:51,749 --> 00:05:50,880

witnesses including saucedo and wheeler

171

00:05:53,749 --> 00:05:51,759

he then spent

172

00:05:55,670 --> 00:05:53,759

three hours in levelland and three hours

173

00:05:56,469 --> 00:05:55,680

in lubbock he gathered some weather

174

00:05:58,790 --> 00:05:56,479

information

175

00:06:00,870 --> 00:05:58,800

and then left to write up his report in

176
00:06:01,510 --> 00:06:00,880
the case file mentions of missed rain

177
00:06:04,070 --> 00:06:01,520
and drizzle

178
00:06:04,629 --> 00:06:04,080
are circled and noted after exploring

179
00:06:06,870 --> 00:06:04,639
various

180
00:06:07,990 --> 00:06:06,880
possibilities including burning gas

181
00:06:10,629 --> 00:06:08,000
fires from nearby

182
00:06:12,629 --> 00:06:10,639
oil fields and st elmo's fire the

183
00:06:14,390 --> 00:06:12,639
conclusion is that ball lightning was

184
00:06:16,230 --> 00:06:14,400
the cause of all the fuss

185
00:06:18,230 --> 00:06:16,240
it's an odd conclusion to have settled

186
00:06:20,070 --> 00:06:18,240
on because at that time

187
00:06:22,150 --> 00:06:20,080
most scientists believed in ball

188
00:06:23,350 --> 00:06:22,160

lightning about as much as they believed

189

00:06:25,350 --> 00:06:23,360

in spaceships

190

00:06:27,270 --> 00:06:25,360

in spite of the air force conclusion the

191

00:06:28,550 --> 00:06:27,280

case remained significant in the minds

192

00:06:30,629 --> 00:06:28,560

of many researchers

193

00:06:32,309 --> 00:06:30,639

they soon came across other instances

194

00:06:33,510 --> 00:06:32,319

where ufos seem to have caused

195

00:06:35,830 --> 00:06:33,520

electrical failures

196

00:06:36,550 --> 00:06:35,840

not only in vehicles but also in power

197

00:06:38,469 --> 00:06:36,560

grids

198

00:06:41,110 --> 00:06:38,479

these cases caught the attention of the

199

00:06:42,870 --> 00:06:41,120

scientists at the university of colorado

200

00:06:43,830 --> 00:06:42,880

who were part of the air force funded

201
00:06:46,469 --> 00:06:43,840
ufo study

202
00:06:47,990 --> 00:06:46,479
headed by dr edward yu condon in the

203
00:06:50,309 --> 00:06:48,000
midst of what was primarily

204
00:06:51,350 --> 00:06:50,319
anecdotal evidence this aspect of the

205
00:06:53,270 --> 00:06:51,360
ufo mystery

206
00:06:55,350 --> 00:06:53,280
was something that could be tested an

207
00:06:57,350 --> 00:06:55,360
experiment was arranged to see if it was

208
00:07:00,070 --> 00:06:57,360
possible for electromagnetism

209
00:07:00,950 --> 00:07:00,080
to shut down an electromechanical system

210
00:07:03,270 --> 00:07:00,960
and if it was

211
00:07:04,390 --> 00:07:03,280
how much it would take chapter four of

212
00:07:06,950 --> 00:07:04,400
the published report

213
00:07:08,870 --> 00:07:06,960

encompassing the entire study is titled

214

00:07:11,029 --> 00:07:08,880

indirect physical evidence

215

00:07:12,150 --> 00:07:11,039

the results of an experiment involving

216

00:07:14,390 --> 00:07:12,160

an electromagnet

217

00:07:15,990 --> 00:07:14,400

and components of an automobile ignition

218

00:07:18,550 --> 00:07:16,000

system can be seen in

219

00:07:19,350 --> 00:07:18,560

section 4 titled automobile engine

220

00:07:21,830 --> 00:07:19,360

malfunction

221

00:07:23,189 --> 00:07:21,840

and headlight failure the experiment was

222

00:07:25,909 --> 00:07:23,199

done at an unnamed

223

00:07:27,350 --> 00:07:25,919

national laboratory and the experimenter

224

00:07:29,830 --> 00:07:27,360

requested anonymity

225

00:07:31,270 --> 00:07:29,840

the electromagnet was placed coaxial to

226

00:07:33,830 --> 00:07:31,280

the arc of a spark plug

227

00:07:35,749 --> 00:07:33,840

and there was a slightly brighter spark

228

00:07:36,150 --> 00:07:35,759

when it was placed perpendicular to the

229

00:07:37,990 --> 00:07:36,160

arc

230

00:07:39,270 --> 00:07:38,000

there was a movement of the spark to the

231

00:07:40,950 --> 00:07:39,280

side of the electrodes

232

00:07:42,469 --> 00:07:40,960

there was no interruption throughout the

233

00:07:45,029 --> 00:07:42,479

range of the electromagnet

234

00:07:46,309 --> 00:07:45,039

up to 20 kilograms to give the reader a

235

00:07:48,710 --> 00:07:46,319

sense of perspective

236

00:07:51,830 --> 00:07:48,720

a junkyard magnet capable of lifting a

237

00:07:53,990 --> 00:07:51,840

car has a magnetic field of 10 kilograms

238

00:07:56,150 --> 00:07:54,000

a lead acid battery showed a voltage

239

00:07:58,150 --> 00:07:56,160

drop from 12.3 to 12

240

00:07:59,270 --> 00:07:58,160

and a light showed no effect at 20

241

00:08:01,270 --> 00:07:59,280

kilogas but

242

00:08:02,790 --> 00:08:01,280

there were effects on coils which

243

00:08:03,830 --> 00:08:02,800

differed according to whether they were

244

00:08:06,390 --> 00:08:03,840

housed in steel

245

00:08:08,550 --> 00:08:06,400

or aluminum the coil and steel showed a

246

00:08:10,950 --> 00:08:08,560

spark interruption at 20 kilogauss

247

00:08:11,990 --> 00:08:10,960

and the one in aluminum began to miss at

248

00:08:14,309 --> 00:08:12,000

four kilograms

249

00:08:15,430 --> 00:08:14,319

and stopped at 20 kilograms the

250

00:08:17,830 --> 00:08:15,440

conclusion is

251
00:08:20,150 --> 00:08:17,840
that a car with a steel encased coil

252
00:08:21,670 --> 00:08:20,160
would continue to operate in fields less

253
00:08:24,469 --> 00:08:21,680
than 20 kilograms

254
00:08:26,070 --> 00:08:24,479
but because most ignition systems reside

255
00:08:28,309 --> 00:08:26,080
inside a steel car body

256
00:08:29,909 --> 00:08:28,319
the researcher concludes that very

257
00:08:32,149 --> 00:08:29,919
intense magnetic fields

258
00:08:34,469 --> 00:08:32,159
would be required to stop a car

259
00:08:37,589 --> 00:08:34,479
according to a 2007 article

260
00:08:40,070 --> 00:08:37,599
in the online mit technology review

261
00:08:40,870 --> 00:08:40,080
u.s army researchers not concerned with

262
00:08:43,350 --> 00:08:40,880
ufos

263
00:08:45,509 --> 00:08:43,360

but interested in stopping vehicles

264

00:08:48,630 --> 00:08:45,519

began experimenting with microwaves

265

00:08:51,350 --> 00:08:48,640

in 1997 at the time of the article

266

00:08:53,670 --> 00:08:51,360

a private company eureka aerospace was

267

00:08:56,070 --> 00:08:53,680

developing a system for police use

268

00:08:57,670 --> 00:08:56,080

their system a 200-pound unit attached

269

00:09:00,470 --> 00:08:57,680

to the top of a police car

270

00:09:02,870 --> 00:09:00,480

would generate 640 kilovolts that would

271

00:09:04,949 --> 00:09:02,880

be converted into microwave pulses

272

00:09:06,389 --> 00:09:04,959

it would only be effective however if

273

00:09:08,790 --> 00:09:06,399

directed through a window

274

00:09:09,590 --> 00:09:08,800

the grill or any other non-metallic part

275

00:09:11,750 --> 00:09:09,600

of the car

276

00:09:13,750 --> 00:09:11,760

it also only works on cars with

277

00:09:16,870 --> 00:09:13,760

electronic control modules which were

278

00:09:18,870 --> 00:09:16,880

not used in cars prior to 1972.

279

00:09:20,870 --> 00:09:18,880

an update on military progress

280

00:09:23,829 --> 00:09:20,880

experimenting with similar systems

281

00:09:25,990 --> 00:09:23,839

can be found in a 2018 article on the

282

00:09:28,230 --> 00:09:26,000

online site the war zone

283

00:09:29,590 --> 00:09:28,240

titled the pentagon wants to stop

284

00:09:32,070 --> 00:09:29,600

marauding vehicles

285

00:09:33,590 --> 00:09:32,080

with high-powered microwave beams this

286

00:09:36,470 --> 00:09:33,600

system also targets

287

00:09:37,990 --> 00:09:36,480

electronic control modules so it seems

288

00:09:38,870 --> 00:09:38,000

that it hasn't been sufficiently

289

00:09:41,190 --> 00:09:38,880

demonstrated

290

00:09:42,710 --> 00:09:41,200

that electromagnetism could have stopped

291

00:09:44,790 --> 00:09:42,720

the cars at leveling

292

00:09:58,620 --> 00:09:44,800

perhaps someone can come up with an