



# ASTROLOGY:

## SCIENCE, PSEUDOSCIENCE, OR ANOMALY?

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**SOCIETY  
FOR  
SCIENTIFIC  
EXPLORATION**

1  
00:00:10,299 --> 00:00:05,680  
awake after a nice tasty meal okay so

2  
00:00:12,440 --> 00:00:10,309  
I'd like to thank the ssee and IR VA

3  
00:00:14,029 --> 00:00:12,450  
program committee for inviting me to

4  
00:00:18,410 --> 00:00:14,039  
come and give this talk and I'd like to

5  
00:00:21,740 --> 00:00:18,420  
dedicate this talk to Betty Baron all

6  
00:00:25,540 --> 00:00:21,750  
right so how many of you know your

7  
00:00:26,870 --> 00:00:25,550  
astrological sign show hands all right

8  
00:00:28,790 --> 00:00:26,880  
good

9  
00:00:31,940 --> 00:00:28,800  
how many of your Leo's let's see all the

10  
00:00:35,000 --> 00:00:31,950  
Leos we should have about 12 figures I

11  
00:00:37,509 --> 00:00:35,010  
come on all right how many of you have

12  
00:00:43,009 --> 00:00:37,519  
seen these sorts of things newspapers

13  
00:00:47,419 --> 00:00:43,019

your daily horoscope okay how many of

14

00:00:48,500 --> 00:00:47,429

you think this is a science I see one

15

00:00:49,759 --> 00:00:48,510

person with their hand up a couple of

16

00:00:54,739 --> 00:00:49,769

people have hands up do you think that

17

00:00:57,160 --> 00:00:54,749

science good all right well the National

18

00:01:00,049 --> 00:00:57,170

Science Board thinks it's pseudoscience

19

00:01:01,669 --> 00:01:00,059

the National Science Board every year

20

00:01:03,619 --> 00:01:01,679

does a science and engineering indicator

21

00:01:06,260 --> 00:01:03,629

you and find these on the national

22

00:01:09,080 --> 00:01:06,270

science foundation's website and they do

23

00:01:11,719 --> 00:01:09,090

a number of surveys and other measures

24

00:01:14,480 --> 00:01:11,729

every year to determine the knowledge

25

00:01:19,240 --> 00:01:14,490

about science and engineering that in

26  
00:01:23,120 --> 00:01:19,250  
the American population and they cite

27  
00:01:24,830 --> 00:01:23,130  
one measure of a Americans views on

28  
00:01:28,459 --> 00:01:24,840  
whether astrology as scientific has been

29  
00:01:32,270 --> 00:01:28,469  
included since the 1970s and they say

30  
00:01:33,560 --> 00:01:32,280  
that astrology along with relief in

31  
00:01:35,450 --> 00:01:33,570  
lucky numbers and extrasensory

32  
00:01:37,580 --> 00:01:35,460  
perception and magnetic therapy and

33  
00:01:40,700 --> 00:01:37,590  
other things our examples of

34  
00:01:46,849 --> 00:01:40,710  
pseudoscience so and they ought to know

35  
00:01:53,080 --> 00:01:46,859  
the National Science Board so if you

36  
00:01:58,880 --> 00:01:55,490  
how many people are interested in

37  
00:02:00,650 --> 00:01:58,890  
cryptozoology ICU cryptozoologists in

38  
00:02:02,420 --> 00:02:00,660

the crowd okay how many people are

39

00:02:03,740 --> 00:02:02,430

interested in ESP and remote viewing I

40

00:02:07,749 --> 00:02:03,750

expect to see a fair number of remote

41

00:02:10,940 --> 00:02:07,759

viewing people in the crowd okay

42

00:02:12,890 --> 00:02:10,950

psychokinesis psychokinetic phenomena

43

00:02:15,980 --> 00:02:12,900

look at all this good here we are

44

00:02:17,500 --> 00:02:15,990

UFOs where are you of all people all

45

00:02:20,030 --> 00:02:17,510

right

46

00:02:23,240 --> 00:02:20,040

remote viewing we've got the remote

47

00:02:24,830 --> 00:02:23,250

viewing crowd you're good alright so are

48

00:02:26,570 --> 00:02:24,840

these good representations of these

49

00:02:28,070 --> 00:02:26,580

disciplines as you think of them when

50

00:02:31,670 --> 00:02:28,080

you see these kinds of representations

51  
00:02:33,140 --> 00:02:31,680  
or do you think that your discipline is

52  
00:02:35,020 --> 00:02:33,150  
having a little more substance to it

53  
00:02:42,080 --> 00:02:35,030  
than these kind of pop-culture

54  
00:02:45,020 --> 00:02:42,090  
representations so a few years ago bill

55  
00:02:48,350 --> 00:02:45,030  
Bengston our president presented a talk

56  
00:02:51,949 --> 00:02:48,360  
at our SSE meeting in 2012 bill had

57  
00:02:55,310 --> 00:02:51,959  
surveyed SSE members and had a really

58  
00:02:58,990 --> 00:02:55,320  
good response rate for a survey 428 of

59  
00:03:03,320 --> 00:02:59,000  
our members responded to this survey and

60  
00:03:05,420 --> 00:03:03,330  
they were asked to rank 10 phenomena

61  
00:03:09,050 --> 00:03:05,430  
that we'd like to talk about in the

62  
00:03:10,550 --> 00:03:09,060  
society in terms of how much acceptance

63  
00:03:12,920 --> 00:03:10,560

they have as to whether they had high

64

00:03:14,539 --> 00:03:12,930

confidence in them or whether they had

65

00:03:16,550 --> 00:03:14,549

some confidence some degree of

66

00:03:20,199 --> 00:03:16,560

skepticism or a high degree of

67

00:03:23,420 --> 00:03:20,209

skepticism on this Likert scale and

68

00:03:24,920 --> 00:03:23,430

astrology came out as number 10 or as I

69

00:03:30,949 --> 00:03:24,930

think we're number one we're the most

70

00:03:33,530 --> 00:03:30,959

skeptical skeptical of the disciplines

71

00:03:35,390 --> 00:03:33,540

here and you can see here general psy

72

00:03:36,680 --> 00:03:35,400

came out on top with this survey we're

73

00:03:38,240 --> 00:03:36,690

more viewing was right in the middle in

74

00:03:40,870 --> 00:03:38,250

terms of the level of acceptance among

75

00:03:43,670 --> 00:03:40,880

our members in the sse these are all

76

00:03:45,620 --> 00:03:43,680

phenomena that have had plenty of talks

77

00:03:47,479 --> 00:03:45,630

pair is the Princeton engineering

78

00:03:50,289 --> 00:03:47,489

anomalies research lab for those of you

79

00:03:53,000 --> 00:03:50,299

who are not familiar with what pair is

80

00:03:55,100 --> 00:03:53,010

he also asked people to rank their level

81

00:03:57,199 --> 00:03:55,110

of knowledge how much knowledge did the

82

00:03:58,640 --> 00:03:57,209

each of the members feel they had about

83

00:04:01,130 --> 00:03:58,650

those disciplines and you'll see a

84

00:04:03,260 --> 00:04:01,140

pretty strong correlation between the

85

00:04:03,900 --> 00:04:03,270

level of knowledge and the acceptance

86

00:04:07,530 --> 00:04:03,910

rank

87

00:04:09,090 --> 00:04:07,540

in this data again the majority of

88

00:04:12,210 --> 00:04:09,100

people rank their knowledge of general

89

00:04:16,229 --> 00:04:12,220

psy as most highly and their knowledge

90

00:04:18,390 --> 00:04:16,239

of astrology was ranked rather low they

91

00:04:20,400 --> 00:04:18,400

were also asked their understanding of

92

00:04:22,200 --> 00:04:20,410

published work on that particular topic

93

00:04:24,720 --> 00:04:22,210

and again you can see a tie on

94

00:04:27,780 --> 00:04:24,730

out-of-body experiences and remote

95

00:04:30,600 --> 00:04:27,790

viewing for third and fourth place again

96

00:04:35,010 --> 00:04:30,610

astrology the familiar with published

97

00:04:37,620 --> 00:04:35,020

work was ranked in number nine how much

98

00:04:41,310 --> 00:04:37,630

they based their rating on a credible

99

00:04:42,630 --> 00:04:41,320

authority not clear what however people

100

00:04:44,370 --> 00:04:42,640

would have defined that as a credible

101  
00:04:47,730 --> 00:04:44,380  
Authority and again a pretty strong

102  
00:04:50,280 --> 00:04:47,740  
correlation here between acceptance of

103  
00:04:53,130 --> 00:04:50,290  
phenomenon and the knowledge from a

104  
00:04:54,750 --> 00:04:53,140  
credible Authority and then finally they

105  
00:04:57,000 --> 00:04:54,760  
were asked to rank it based on personal

106  
00:04:59,580 --> 00:04:57,010  
experience rank that one piece is

107  
00:05:01,260 --> 00:04:59,590  
interesting here is that personal

108  
00:05:03,120 --> 00:05:01,270  
experience was ranked as number five I'm

109  
00:05:05,070 --> 00:05:03,130  
not clear but since all of you seem to

110  
00:05:08,280 --> 00:05:05,080  
know your son signs maybe that qualified

111  
00:05:10,770 --> 00:05:08,290  
as a personal experience how many of you

112  
00:05:13,230 --> 00:05:10,780  
have actually had a consultation with an

113  
00:05:16,170 --> 00:05:13,240

astrologer well there's a fair number of

114

00:05:17,580 --> 00:05:16,180

you here oh that's pretty good okay so

115

00:05:19,170 --> 00:05:17,590

we're going to talk not about the Sun

116

00:05:20,940 --> 00:05:19,180

sign astrology in the newspapers but

117

00:05:25,410 --> 00:05:20,950

we're going to talk about astrology as

118

00:05:27,300 --> 00:05:25,420

practiced by counseling astrologers so

119

00:05:29,120 --> 00:05:27,310

first off we'll start with a brief very

120

00:05:31,980 --> 00:05:29,130

brief history of Western astrology

121

00:05:33,510 --> 00:05:31,990

there's a long history of astrology

122

00:05:35,550 --> 00:05:33,520

around the world but I'm just going to

123

00:05:37,110 --> 00:05:35,560

concentrate on Western astrology for the

124

00:05:40,580 --> 00:05:37,120

purpose of this talk and a very brief

125

00:05:45,060 --> 00:05:40,590

history and then this history goes back

126

00:05:46,830 --> 00:05:45,070

35,000 to 30,000 BCE with some of the

127

00:05:49,100 --> 00:05:46,840

earliest archaeological artifacts

128

00:05:51,690 --> 00:05:49,110

finding bones with 29 notches that

129

00:05:54,360 --> 00:05:51,700

correspond to the synodic month new moon

130

00:05:58,290 --> 00:05:54,370

cycle and representations of the various

131

00:06:01,650 --> 00:05:58,300

constellations in cave paintings by

132

00:06:04,610 --> 00:06:01,660

5,000 to 3,000 BCE we start to find

133

00:06:07,770 --> 00:06:04,620

megalithic constructions large you know

134

00:06:09,390 --> 00:06:07,780

monuments that are pretty well accepted

135

00:06:11,700 --> 00:06:09,400

by the scientific community as being

136

00:06:13,310 --> 00:06:11,710

used to predict in a lot of the

137

00:06:17,700 --> 00:06:13,320

alignment of various astronomical

138

00:06:20,520 --> 00:06:17,710

phenomena well the time we get to three

139

00:06:24,870 --> 00:06:20,530

1000 BCE we start to find cuneiform

140

00:06:26,790 --> 00:06:24,880

tablets that not only show astronomical

141

00:06:29,130 --> 00:06:26,800

phenomena but begin to describe meaning

142

00:06:31,800 --> 00:06:29,140

to these astral astronomical phenomena

143

00:06:33,840 --> 00:06:31,810

so this could possibly be denoted as the

144

00:06:38,670 --> 00:06:33,850

beginning of astrology as we might think

145

00:06:41,280 --> 00:06:38,680

of it and by 2000 to 1000 BCE with the

146

00:06:43,020 --> 00:06:41,290

Egyptian astrology we find specific

147

00:06:47,570 --> 00:06:43,030

references to the constellations as a

148

00:06:54,330 --> 00:06:51,930

the time we get to a thousand 100 Common

149

00:06:57,150 --> 00:06:54,340

Era we with the Greeks the Greeks

150

00:07:00,600 --> 00:06:57,160

adapted Babylonia astrology and they

151  
00:07:04,080 --> 00:07:00,610  
began to integrate it into a larger

152  
00:07:05,850 --> 00:07:04,090  
philosophical framework Plato thought of

153  
00:07:07,500 --> 00:07:05,860  
the stars and planets as representing

154  
00:07:10,230 --> 00:07:07,510  
the world's soul or a universal

155  
00:07:13,440 --> 00:07:10,240  
intelligence and integrated this into a

156  
00:07:16,260 --> 00:07:13,450  
rationalized Pythagorean system elements

157  
00:07:19,110 --> 00:07:16,270  
of fire earth air and water which are

158  
00:07:22,830 --> 00:07:19,120  
still a part of an astrological

159  
00:07:25,170 --> 00:07:22,840  
tradition today and Aristotle thought of

160  
00:07:26,730 --> 00:07:25,180  
God as the prime mover and that the

161  
00:07:28,380 --> 00:07:26,740  
planets were not causes but there were

162  
00:07:30,780 --> 00:07:28,390  
secondary causes and they were way of

163  
00:07:39,200 --> 00:07:30,790

translating the will of the prime mover

164

00:07:41,670 --> 00:07:39,210

to beings on earth Ptolemy is often

165

00:07:44,160 --> 00:07:41,680

considered the father of the tropical

166

00:07:45,840 --> 00:07:44,170

zodiac which is a way of measuring again

167

00:07:47,370 --> 00:07:45,850

the positions of the plan is defined by

168

00:07:48,270 --> 00:07:47,380

the spring equinox rather than the

169

00:07:49,980 --> 00:07:48,280

constellations

170

00:07:52,110 --> 00:07:49,990

the ancients were aware of the

171

00:07:53,790 --> 00:07:52,120

precession of the equinoxes and they

172

00:07:57,390 --> 00:07:53,800

still defined at this point reference

173

00:07:59,220 --> 00:07:57,400

from the first day of spring and Ptolemy

174

00:08:01,530 --> 00:07:59,230

also described motions in terms of

175

00:08:03,330 --> 00:08:01,540

epicycles because in this platonic

176

00:08:05,490 --> 00:08:03,340

system the earth was the center of the

177

00:08:08,010 --> 00:08:05,500

universe everything revolved around the

178

00:08:09,750 --> 00:08:08,020

earth and in order to explain the

179

00:08:12,450 --> 00:08:09,760

motions and the apparent backward motion

180

00:08:14,460 --> 00:08:12,460

of planets from our perspective the

181

00:08:17,430 --> 00:08:14,470

Ptolemaic system created a series of

182

00:08:20,070 --> 00:08:17,440

epicycles as a way of describing me so

183

00:08:22,290 --> 00:08:20,080

we still starts to see again a theoretic

184

00:08:27,390 --> 00:08:22,300

framework that was being developed to

185

00:08:29,340 --> 00:08:27,400

describe the motions with the advent of

186

00:08:31,170 --> 00:08:29,350

Christianity on the Star of Bethlehem

187

00:08:33,780 --> 00:08:31,180

the Magi is pretty well known

188

00:08:35,460 --> 00:08:33,790

story that the Magi are pretty well

189

00:08:38,690 --> 00:08:35,470

considered to have been astrologers and

190

00:08:42,960 --> 00:08:38,700

followed an astronomical phenomena

191

00:08:44,310 --> 00:08:42,970

predicting the birth of Jesus in the New

192

00:08:46,080 --> 00:08:44,320

Testament however we find no

193

00:08:48,330 --> 00:08:46,090

condemnation of astrology there's really

194

00:08:52,350 --> 00:08:48,340

not much discussion of astrology per se

195

00:08:54,390 --> 00:08:52,360

in the New Testament but as Christianity

196

00:08:56,040 --> 00:08:54,400

developed and the doctrines begin to be

197

00:08:58,590 --> 00:08:56,050

developed st. Augustine developed the

198

00:09:00,420 --> 00:08:58,600

doctrine of original sin and the concept

199

00:09:02,700 --> 00:09:00,430

that you had to have free will and free

200

00:09:05,460 --> 00:09:02,710

will was a necessity for salvation and

201  
00:09:08,100 --> 00:09:05,470  
because of that idea the by the fourth

202  
00:09:09,570 --> 00:09:08,110  
century the church prohibited astrology

203  
00:09:11,790 --> 00:09:09,580  
because they felt that the future was

204  
00:09:13,950 --> 00:09:11,800  
unknowable and again that you needed to

205  
00:09:16,830 --> 00:09:13,960  
have free will in order to find

206  
00:09:21,480 --> 00:09:16,840  
salvation you had to accept Jesus in

207  
00:09:23,790 --> 00:09:21,490  
order to be saved by the Middle Ages the

208  
00:09:26,940 --> 00:09:23,800  
Arabs were translating of Greek

209  
00:09:28,680 --> 00:09:26,950  
astrology and then Latin scholars in

210  
00:09:31,830 --> 00:09:28,690  
turn translated those Arabic

211  
00:09:35,940 --> 00:09:31,840  
translations so to recover that some of

212  
00:09:38,070 --> 00:09:35,950  
this lost material and we find people

213  
00:09:41,360 --> 00:09:38,080

like Roger Bacon and Thomas Aquinas who

214

00:09:44,340 --> 00:09:41,370

accepted natural astrology again

215

00:09:46,710 --> 00:09:44,350

distinguishing that from the soul but

216

00:09:48,390 --> 00:09:46,720

talking about the impacts of astrology

217

00:09:50,430 --> 00:09:48,400

in relation to medicine alchemy

218

00:09:54,660 --> 00:09:50,440

meteorology and other more natural

219

00:09:57,540 --> 00:09:54,670

phenomena here by the Renaissance and

220

00:10:00,060 --> 00:09:57,550

enlightenment they was the rediscovery

221

00:10:01,440 --> 00:10:00,070

of Greek philosophy and the sort of the

222

00:10:03,840 --> 00:10:01,450

beginnings of what we start to think of

223

00:10:06,300 --> 00:10:03,850

as science we have refinements that the

224

00:10:08,850 --> 00:10:06,310

Ptolemaic system enough observations to

225

00:10:11,100 --> 00:10:08,860

begin to determine that this constant

226

00:10:12,690 --> 00:10:11,110

adding of epicycles wasn't an adequate

227

00:10:15,390 --> 00:10:12,700

way to predict the motions of the

228

00:10:17,610 --> 00:10:15,400

planets the Copernican revolution which

229

00:10:19,730 --> 00:10:17,620

then moved the center of the solar

230

00:10:22,140 --> 00:10:19,740

system to the Sun away from the earth

231

00:10:24,120 --> 00:10:22,150

Kepler's laws of planetary motion which

232

00:10:26,280 --> 00:10:24,130

now described the planetary motions in

233

00:10:28,530 --> 00:10:26,290

terms of ellipses rather than perfect

234

00:10:31,500 --> 00:10:28,540

circles moving away from the Platonic

235

00:10:35,280 --> 00:10:31,510

ideals and the Scientific Revolution

236

00:10:37,200 --> 00:10:35,290

occurred and we find this split with a

237

00:10:39,360 --> 00:10:37,210

scientific revelation science got the

238

00:10:41,460 --> 00:10:39,370

physical domain and religion got the

239

00:10:43,560 --> 00:10:41,470

spiritual domain and astrology was sort

240

00:10:44,910 --> 00:10:43,570

of left in the middle to be rejected and

241

00:10:50,579 --> 00:10:44,920

condemned by both

242

00:10:52,680 --> 00:10:50,589

these camps so that's again a very brief

243

00:10:54,090 --> 00:10:52,690

history of the sort of background of

244

00:10:56,670 --> 00:10:54,100

astrology as you can see it is probably

245

00:10:59,579 --> 00:10:56,680

the oldest cultural phenomena that we

246

00:11:00,810 --> 00:10:59,589

have as a species and we've talked a

247

00:11:02,600 --> 00:11:00,820

little bit about the astronomy of

248

00:11:04,620 --> 00:11:02,610

astrology some of you have seen an

249

00:11:06,180 --> 00:11:04,630

astrologer may have some ones to any of

250

00:11:07,530 --> 00:11:06,190

this but I don't want to make any

251  
00:11:10,680 --> 00:11:07,540  
assumptions about what we're talking

252  
00:11:12,150 --> 00:11:10,690  
about here so we started off with a view

253  
00:11:13,590 --> 00:11:12,160  
of the solar system which you've

254  
00:11:15,000 --> 00:11:13,600  
probably all seen we've got the Sun in

255  
00:11:18,509 --> 00:11:15,010  
the middle and we've got the orbiting

256  
00:11:21,780 --> 00:11:18,519  
Mercury Venus Earth Mars etc which are

257  
00:11:23,460 --> 00:11:21,790  
orbiting the Sun so that's the phenomena

258  
00:11:25,170 --> 00:11:23,470  
that we're actually trying to represent

259  
00:11:28,410 --> 00:11:25,180  
here and there's a number of ways of

260  
00:11:29,490 --> 00:11:28,420  
representing this astral astronomically

261  
00:11:31,889 --> 00:11:29,500  
that had nothing to do with astrology

262  
00:11:34,650 --> 00:11:31,899  
and the usual way of doing this is with

263  
00:11:36,930 --> 00:11:34,660

this representation of the celestial

264

00:11:39,090 --> 00:11:36,940

sphere and so here we see in the

265

00:11:41,250 --> 00:11:39,100

celestial sphere the Sun and the Earth

266

00:11:44,610 --> 00:11:41,260

orbits around the Sun you see the tilt

267

00:11:49,470 --> 00:11:44,620

of the Earth's axis which is tilted with

268

00:11:51,480 --> 00:11:49,480

respect to the Sun and north of course

269

00:11:54,569 --> 00:11:51,490

rotates on its axis every 24 hours which

270

00:11:56,519 --> 00:11:54,579

is what causes the days the Earth

271

00:11:59,100 --> 00:11:56,529

revolves around the Sun and we have the

272

00:12:01,230 --> 00:11:59,110

ecliptic defined by that plane which is

273

00:12:04,110 --> 00:12:01,240

a metric for measuring not only the

274

00:12:09,000 --> 00:12:04,120

locations of the Sun but the moon and

275

00:12:10,560 --> 00:12:09,010

other planets and so that describes the

276

00:12:13,910 --> 00:12:10,570

motion of the earth and the other

277

00:12:16,290 --> 00:12:13,920

planets similarly in that cryptic plane

278

00:12:19,139 --> 00:12:16,300

as I said of course we all know the

279

00:12:20,430 --> 00:12:19,149

earth rotates on this axis and so what

280

00:12:22,740 --> 00:12:20,440

before we talk about that first we'll go

281

00:12:25,079 --> 00:12:22,750

to talk location of the planets in the

282

00:12:28,259 --> 00:12:25,089

zodiac so from the Earth's perspective

283

00:12:30,870 --> 00:12:28,269

when we are on the earth and we look at

284

00:12:32,280 --> 00:12:30,880

say the Sun we look past the Sun Oven in

285

00:12:34,980 --> 00:12:32,290

the background we see the constellations

286

00:12:37,410 --> 00:12:34,990

and so that's the zodiac that is the

287

00:12:40,740 --> 00:12:37,420

reference point so as the Earth revolves

288

00:12:42,720 --> 00:12:40,750

around the Sun the apparent motion of

289

00:12:46,019 --> 00:12:42,730

the Sun is and the other planets is

290

00:12:47,910 --> 00:12:46,029

through the whole constellations so when

291

00:12:50,009 --> 00:12:47,920

we talk about planets being in a

292

00:12:51,269 --> 00:12:50,019

particular sign those signs originally

293

00:12:53,040 --> 00:12:51,279

were aligned with the constellations

294

00:12:54,930 --> 00:12:53,050

during the precession of the equinoxes

295

00:12:57,750 --> 00:12:54,940

that alignment is moved but we still use

296

00:13:01,950 --> 00:12:57,760

those names for the signs

297

00:13:04,080 --> 00:13:01,960

I'm getting back to being on the planet

298

00:13:05,160 --> 00:13:04,090

Earth here as we stand on the planet

299

00:13:07,680 --> 00:13:05,170

Earth

300

00:13:13,320 --> 00:13:07,690

and look at the celestial sphere the as

301  
00:13:15,270 --> 00:13:13,330  
we as we look north we see the Sun and

302  
00:13:17,880 --> 00:13:15,280  
other planets all appear to rise in the

303  
00:13:19,680 --> 00:13:17,890  
east culminate overhead at roughly noon

304  
00:13:21,450 --> 00:13:19,690  
and set in the West and so we were

305  
00:13:23,160 --> 00:13:21,460  
familiar with that phenomena with the

306  
00:13:26,220 --> 00:13:23,170  
Sun as it's obvious but all the planets

307  
00:13:29,550 --> 00:13:26,230  
appear to rotate rise and set throughout

308  
00:13:33,180 --> 00:13:29,560  
the day with the daily motion of the

309  
00:13:35,130 --> 00:13:33,190  
earth and so the representation of that

310  
00:13:36,930 --> 00:13:35,140  
and a horoscope is captured in this

311  
00:13:40,890 --> 00:13:36,940  
phenomena here so here we have a

312  
00:13:44,400 --> 00:13:40,900  
horoscope set for the 22nd of April 2014

313  
00:13:47,040 --> 00:13:44,410

in Manchester England this has been

314

00:13:50,970 --> 00:13:47,050

animated to show the motions as time

315

00:13:54,720 --> 00:13:50,980

progresses throughout the day and so the

316

00:13:56,480 --> 00:13:54,730

eastern horizon is represented here so

317

00:13:59,820 --> 00:13:56,490

we can see at this point that

318

00:14:02,490 --> 00:13:59,830

Sagittarius is rising in at this

319

00:14:04,800 --> 00:14:02,500

particular time the planets move as I

320

00:14:06,180 --> 00:14:04,810

said it throughout the day so we have

321

00:14:08,010 --> 00:14:06,190

Mars up here each of these lists are

322

00:14:09,870 --> 00:14:08,020

pieces of planet that's Saturn down

323

00:14:13,200 --> 00:14:09,880

there we have Pluto over here we have

324

00:14:16,260 --> 00:14:13,210

the moon these are moving around the

325

00:14:19,080 --> 00:14:16,270

daily motion of the planets rising and

326

00:14:21,420 --> 00:14:19,090

setting around the earth every 24 hours

327

00:14:23,820 --> 00:14:21,430

we see the locations of the planets in

328

00:14:25,740 --> 00:14:23,830

their zodiacal signs indicated here so

329

00:14:29,850 --> 00:14:25,750

as an example Jupiter's and cancer their

330

00:14:31,650 --> 00:14:29,860

Sun is in Taurus down here there are

331

00:14:34,290 --> 00:14:31,660

angular aspects that are measured

332

00:14:35,850 --> 00:14:34,300

between these planets and so we in this

333

00:14:38,340 --> 00:14:35,860

particular representation these blue

334

00:14:40,320 --> 00:14:38,350

lines with triangles represent angular

335

00:14:44,700 --> 00:14:40,330

relationships of approximately 120

336

00:14:47,310 --> 00:14:44,710

degrees or called trying these lines ok

337

00:14:51,690 --> 00:14:47,320

these lines here represent opposition's

338

00:14:54,000 --> 00:14:51,700

about 180 degrees apart and this line

339

00:14:56,670 --> 00:14:54,010

here represents a square about Nerys

340

00:15:01,350 --> 00:14:56,680

apart and there are astrological meaning

341

00:15:04,110 --> 00:15:01,360

assigned to each of these aspects and as

342

00:15:06,150 --> 00:15:04,120

I said you can see now here in about the

343

00:15:07,890 --> 00:15:06,160

four or five hours of animation that

344

00:15:09,929 --> 00:15:07,900

we've been watching here the planets

345

00:15:16,559 --> 00:15:09,939

have moved quite a bit through the

346

00:15:18,869 --> 00:15:16,569

diurnal cycle these wedges here that are

347

00:15:21,359 --> 00:15:18,879

numbered 1 2 3 4 are the houses in these

348

00:15:22,949 --> 00:15:21,369

houses you'll notice the different sizes

349

00:15:25,319 --> 00:15:22,959

of these houses that's because

350

00:15:28,079 --> 00:15:25,329

Manchester England is very far north so

351

00:15:31,049 --> 00:15:28,089

these house positions are the size of

352

00:15:33,210 --> 00:15:31,059

those houses varies depending on the

353

00:15:35,399 --> 00:15:33,220

time of day and latitude more Stream

354

00:15:37,229 --> 00:15:35,409

northern latitudes have these wide

355

00:15:39,119 --> 00:15:37,239

offices so now you can see the 12th

356

00:15:44,519 --> 00:15:39,129

house is rather wide in this particular

357

00:15:46,189 --> 00:15:44,529

chart by 6 o'clock in the morning so

358

00:15:48,659 --> 00:15:46,199

that's the frame of reference that

359

00:15:51,319 --> 00:15:48,669

astrologers using when interpreting a

360

00:15:55,499 --> 00:15:51,329

horoscope this is the representation

361

00:15:57,359 --> 00:15:55,509

okay so that's the mechanics of it but

362

00:16:00,109 --> 00:15:57,369

there's astrological interpretation

363

00:16:03,389 --> 00:16:00,119

astrology is all about the meaning and

364

00:16:07,109 --> 00:16:03,399

astral logos translates fairly loosely

365

00:16:10,469 --> 00:16:07,119

to star language and on astrologer who

366

00:16:12,569 --> 00:16:10,479

is working with a client uses these all

367

00:16:14,549 --> 00:16:12,579

of these various symbols and assigns

368

00:16:17,969 --> 00:16:14,559

meaning to those symbols to interpret

369

00:16:21,029 --> 00:16:17,979

them in the context of a person so for

370

00:16:22,949 --> 00:16:21,039

every person that the client meets they

371

00:16:25,619 --> 00:16:22,959

cast a horoscope for the time place and

372

00:16:28,919 --> 00:16:25,629

location of the time a location of birth

373

00:16:31,229 --> 00:16:28,929

to get that chart and then interpret the

374

00:16:35,129 --> 00:16:31,239

positions based on those position but

375

00:16:37,559 --> 00:16:35,139

based on that astrological chart and in

376

00:16:39,439 --> 00:16:37,569

this interpretation the planets can

377

00:16:42,749 --> 00:16:39,449

loosely be thought of as verbs or

378

00:16:44,999 --> 00:16:42,759

translating to Draï's or energies the

379

00:16:48,929 --> 00:16:45,009

signs can be thought of as adverts how

380

00:16:51,269 --> 00:16:48,939

the planets are expressed so the Sun in

381

00:16:56,069 --> 00:16:51,279

Taurus is interpreted differently than

382

00:16:57,989 --> 00:16:56,079

the Sun and Leo as an example the houses

383

00:17:00,419 --> 00:16:57,999

are adverbs in the area of life in which

384

00:17:03,269 --> 00:17:00,429

they express so in this case the Sun is

385

00:17:05,549 --> 00:17:03,279

in the Sun is in Taurus in the fifth

386

00:17:08,519 --> 00:17:05,559

house and that would be often attributed

387

00:17:09,840 --> 00:17:08,529

to children and creativity but if at the

388

00:17:13,069 --> 00:17:09,850

Sun were in the 10,000 would be

389

00:17:16,409 --> 00:17:13,079

attributed to career and public persona

390

00:17:19,109 --> 00:17:16,419

the ascendant which again varies every

391

00:17:21,689 --> 00:17:19,119

two hours or so based on time of birth

392

00:17:22,210 --> 00:17:21,699

is usually another key component of the

393

00:17:23,710 --> 00:17:22,220

Horus

394

00:17:26,200 --> 00:17:23,720

in this case this ascendant is in

395

00:17:28,510 --> 00:17:26,210

Scorpio and it has Saturn on the

396

00:17:30,280 --> 00:17:28,520

ascendant in the 12th house so that

397

00:17:34,810 --> 00:17:30,290

could be considered a malefic position

398

00:17:36,760 --> 00:17:34,820

by many astrologers and then finally

399

00:17:39,820 --> 00:17:36,770

again these aspects either strengthen or

400

00:17:41,770 --> 00:17:39,830

weaken the positions of trying is

401  
00:17:44,380 --> 00:17:41,780  
considered a beneficial aspect it makes

402  
00:17:46,690 --> 00:17:44,390  
the harmonious relationship between the

403  
00:17:50,110 --> 00:17:46,700  
planets a square is considered dis

404  
00:17:51,070 --> 00:17:50,120  
harmonious and the tension aspect and so

405  
00:17:52,900 --> 00:17:51,080  
the key to an astrological

406  
00:17:54,550 --> 00:17:52,910  
interpretation is to combine all of

407  
00:17:57,010 --> 00:17:54,560  
these elements into a story and/or

408  
00:17:59,320 --> 00:17:57,020  
reading for a particular person to

409  
00:18:01,690 --> 00:17:59,330  
assess personality and other traits and

410  
00:18:03,190 --> 00:18:01,700  
characteristics there's a whole lot of

411  
00:18:04,900 --> 00:18:03,200  
other complexity to think about it to

412  
00:18:06,520 --> 00:18:04,910  
this you can now look at the movements

413  
00:18:08,800 --> 00:18:06,530

of the planets as they are at the moment

414

00:18:11,380 --> 00:18:08,810

it are called transits and these things

415

00:18:13,120 --> 00:18:11,390

are used to indicate timing and so

416

00:18:14,980 --> 00:18:13,130

oftentimes if the talking about

417

00:18:16,420 --> 00:18:14,990

astrology and they talk about what would

418

00:18:19,150 --> 00:18:16,430

be coming up in the next year they would

419

00:18:23,170 --> 00:18:19,160

be using those kinds of transits to make

420

00:18:25,510 --> 00:18:23,180

those predictions so that's a rough

421

00:18:28,990 --> 00:18:25,520

introduction to the mechanics and

422

00:18:30,460 --> 00:18:29,000

interpretation of astrology and so back

423

00:18:32,830 --> 00:18:30,470

to the original title here so it is

424

00:18:35,080 --> 00:18:32,840

astrology science pseudoscience or

425

00:18:36,670 --> 00:18:35,090

something else I'm going to talk a

426

00:18:40,180 --> 00:18:36,680

little bit about some of the scientific

427

00:18:42,460 --> 00:18:40,190

evidence for astrology and in this case

428

00:18:44,080 --> 00:18:42,470

this is scientific evidence for what we

429

00:18:46,060 --> 00:18:44,090

would think of as natal astrology the

430

00:18:49,060 --> 00:18:46,070

relationship of these planetary

431

00:18:52,930 --> 00:18:49,070

positions to personalities and human

432

00:18:54,850 --> 00:18:52,940

behavior so there's in terms of research

433

00:18:56,560 --> 00:18:54,860

on human behavior there's three types of

434

00:18:59,020 --> 00:18:56,570

astrological research broadly we can

435

00:19:00,670 --> 00:18:59,030

categorize these as test of astrologers

436

00:19:02,050 --> 00:19:00,680

that is this is what astrologers claim

437

00:19:05,190 --> 00:19:02,060

they can do so we're going to try to

438

00:19:08,050 --> 00:19:05,200

evaluate whether they can do it or not

439

00:19:09,940 --> 00:19:08,060

comparisons of astrological factors with

440

00:19:11,620 --> 00:19:09,950

psychological inventories that's a

441

00:19:13,870 --> 00:19:11,630

fairly popular thing in the 20th century

442

00:19:16,030 --> 00:19:13,880

with the advent of psychology psychology

443

00:19:18,160 --> 00:19:16,040

claims to do that which astrologers are

444

00:19:21,160 --> 00:19:18,170

claiming to do be able to characterize

445

00:19:23,530 --> 00:19:21,170

people's behavior and motives and so

446

00:19:25,660 --> 00:19:23,540

there are tests that compared at

447

00:19:28,180 --> 00:19:25,670

astrology to psychological factors and

448

00:19:30,310 --> 00:19:28,190

then finally comparisons of astrological

449

00:19:34,180 --> 00:19:30,320

factors with something that one might

450

00:19:35,570 --> 00:19:34,190

call an objective behavior as a third

451  
00:19:39,600 --> 00:19:35,580  
type of time

452  
00:19:41,220 --> 00:19:39,610  
so in terms of tests of astrologers some

453  
00:19:43,710 --> 00:19:41,230  
of the best known test of astrologers

454  
00:19:47,999 --> 00:19:43,720  
were conducted by Vernon Clark and the

455  
00:19:50,039 --> 00:19:48,009  
60s and I think 70s and there are three

456  
00:19:52,200 --> 00:19:50,049  
pretty well known tests at Clark did the

457  
00:19:55,860 --> 00:19:52,210  
first of which all of these use

458  
00:19:58,590 --> 00:19:55,870  
experienced astrologers as their test

459  
00:20:01,289 --> 00:19:58,600  
subjects and in the first test

460  
00:20:04,409 --> 00:20:01,299  
they astrologers were given charts of

461  
00:20:06,989 --> 00:20:04,419  
five males and five females and they

462  
00:20:08,820 --> 00:20:06,999  
were asked to match the charts to the

463  
00:20:12,330 --> 00:20:08,830

people based on descriptions of their

464

00:20:14,600 --> 00:20:12,340

occupations they varied in ages from 45

465

00:20:16,980 --> 00:20:14,610

to 65 so they were all fairly

466

00:20:19,109 --> 00:20:16,990

experienced in whatever occupation they

467

00:20:20,669 --> 00:20:19,119

had and they all had accurate birth

468

00:20:22,200 --> 00:20:20,679

times and we'll talk about the

469

00:20:24,480 --> 00:20:22,210

importance of accurate birth signs but

470

00:20:27,899 --> 00:20:24,490

to do a horoscope you do need an

471

00:20:29,549 --> 00:20:27,909

accurate birth time in this case the

472

00:20:31,950 --> 00:20:29,559

astrologers were able to perform fairly

473

00:20:34,769 --> 00:20:31,960

well on average six point four out of

474

00:20:40,350 --> 00:20:34,779

ten of these charts were matched

475

00:20:42,149 --> 00:20:40,360

correctly the teeth are less than 10 to

476  
00:20:45,680 --> 00:20:42,159  
minus 7 so they did a pretty good job

477  
00:20:47,999 --> 00:20:45,690  
with that one in the second test

478  
00:20:51,210 --> 00:20:48,009  
astrologers were given 10 charts to

479  
00:20:52,440 --> 00:20:51,220  
match against 10 case histories and

480  
00:20:53,730 --> 00:20:52,450  
these were written case histories they

481  
00:20:55,950 --> 00:20:53,740  
were not actually interacting with the

482  
00:20:58,259 --> 00:20:55,960  
clients and any of these cases they had

483  
00:21:00,269 --> 00:20:58,269  
to identify a true chart from a randomly

484  
00:21:01,739 --> 00:21:00,279  
generated control so for each of the 10

485  
00:21:03,840 --> 00:21:01,749  
case histories they had a pair of charts

486  
00:21:07,259 --> 00:21:03,850  
or authentic chart and a randomly

487  
00:21:09,299 --> 00:21:07,269  
generated false chart and there they

488  
00:21:14,930 --> 00:21:09,309

were able to perform very well 7.2 out

489

00:21:17,909 --> 00:21:14,940

of 10 P to minus 10 to the minus ninth

490

00:21:19,470 --> 00:21:17,919

in the third test they were given 10

491

00:21:21,330 --> 00:21:19,480

pairs of charts and in these case they

492

00:21:23,940 --> 00:21:21,340

were all authentic charts one chart was

493

00:21:26,159 --> 00:21:23,950

a subject that had cerebral palsy severe

494

00:21:29,369 --> 00:21:26,169

mental debility and the other chart was

495

00:21:31,739 --> 00:21:29,379

a subject that had high intelligence and

496

00:21:33,930 --> 00:21:31,749

they were asked to identify which was

497

00:21:35,549 --> 00:21:33,940

which in each of these ten pairs here

498

00:21:37,889 --> 00:21:35,559

they didn't perform quite as well five

499

00:21:40,109 --> 00:21:37,899

point nine out of ten but it's still

500

00:21:45,509 --> 00:21:40,119

statistically significant P less than

501  
00:21:47,549 --> 00:21:45,519  
0.02 so there's several problems with

502  
00:21:48,270 --> 00:21:47,559  
these matching experiments the first eye

503  
00:21:50,520 --> 00:21:48,280  
that there's several

504  
00:21:52,050 --> 00:21:50,530  
hidden clues dates or ages of an

505  
00:21:53,820 --> 00:21:52,060  
experienced astrologer even without the

506  
00:21:56,040 --> 00:21:53,830  
date by looking at a horoscope can

507  
00:21:57,660 --> 00:21:56,050  
pretty well identify what data was done

508  
00:22:00,390 --> 00:21:57,670  
because they know where the planets are

509  
00:22:02,370 --> 00:22:00,400  
if they've done enough horoscopes the

510  
00:22:03,750 --> 00:22:02,380  
self descriptions can be influenced by

511  
00:22:05,010 --> 00:22:03,760  
knowledge of astrology and we'll talk

512  
00:22:07,950 --> 00:22:05,020  
about that a little more there's other

513  
00:22:10,020 --> 00:22:07,960

instances of that impacting research and

514

00:22:11,940 --> 00:22:10,030

there are some statistical and sampling

515

00:22:14,600 --> 00:22:11,950

challenges here we have a few charts and

516

00:22:16,410 --> 00:22:14,610

a large number of astrologers and the

517

00:22:18,540 --> 00:22:16,420

particulars of the charts that were

518

00:22:22,530 --> 00:22:18,550

selected could have a substantial impact

519

00:22:24,480 --> 00:22:22,540

on the outcome and a lot of criticism of

520

00:22:26,040 --> 00:22:24,490

these tests suggests that they would be

521

00:22:28,110 --> 00:22:26,050

better to use a large number of charts

522

00:22:29,700 --> 00:22:28,120

and a smaller number of astrologers but

523

00:22:31,350 --> 00:22:29,710

of course that's an exhausting task to

524

00:22:36,420 --> 00:22:31,360

ask somebody to do hundreds of charts

525

00:22:38,640 --> 00:22:36,430

and compare and match them the second

526

00:22:41,190 --> 00:22:38,650

type of test astrology is compared to

527

00:22:42,840 --> 00:22:41,200

psychological inventories and the

528

00:22:45,060 --> 00:22:42,850

subjects for psychological inventories

529

00:22:46,790 --> 00:22:45,070

ask a series of questions with which

530

00:22:49,470 --> 00:22:46,800

they usually strongly agree disagree

531

00:22:51,750 --> 00:22:49,480

strongly disagree and then these

532

00:22:53,520 --> 00:22:51,760

questions are used to characterize their

533

00:22:56,370 --> 00:22:53,530

personalities and there's a several of

534

00:22:59,220 --> 00:22:56,380

these kinds of tests the Minnesota

535

00:23:01,320 --> 00:22:59,230

multiphasic personality inventory the

536

00:23:03,000 --> 00:23:01,330

aiasec personality inventory the

537

00:23:04,710 --> 00:23:03,010

California personality inventory the

538

00:23:06,630 --> 00:23:04,720

sixteen personality factor there's a

539

00:23:11,280 --> 00:23:06,640

bunch of these things that are out there

540

00:23:13,020 --> 00:23:11,290

and one of the earliest of these tests

541

00:23:14,460 --> 00:23:13,030

was done by male white and I think and I

542

00:23:16,230 --> 00:23:14,470

think is the icing of the icing

543

00:23:18,720 --> 00:23:16,240

personality inventory so he was involved

544

00:23:21,720 --> 00:23:18,730

in this test he was not an astrologer

545

00:23:24,300 --> 00:23:21,730

but was very interested in the

546

00:23:28,320 --> 00:23:24,310

possibility of confirming the utility of

547

00:23:29,970 --> 00:23:28,330

his personality inventory and the

548

00:23:31,350 --> 00:23:29,980

hypothesis here was that extraversion

549

00:23:34,080 --> 00:23:31,360

and introversion which are one of the

550

00:23:37,200 --> 00:23:34,090

scales on the DPI would correlate with

551  
00:23:38,760 --> 00:23:37,210  
alternating Sun signs that Aries is

552  
00:23:41,820 --> 00:23:38,770  
extraverted Taurus is introverted

553  
00:23:43,770 --> 00:23:41,830  
Gemini's extroverted and so forth and in

554  
00:23:45,960 --> 00:23:43,780  
this case they found a very strong

555  
00:23:48,900 --> 00:23:45,970  
support for this hypothesis P less than

556  
00:23:50,970 --> 00:23:48,910  
0.001 and this test was replicated by

557  
00:23:53,700 --> 00:23:50,980  
other people and so this was considered

558  
00:23:56,460 --> 00:23:53,710  
a fairly significant result at the time

559  
00:23:59,160 --> 00:23:56,470  
that it happened however subsequent

560  
00:24:00,780 --> 00:23:59,170  
research revealed that the subjects had

561  
00:24:02,330 --> 00:24:00,790  
some knowledge of astrology and that

562  
00:24:04,340 --> 00:24:02,340  
confounded the results and

563  
00:24:07,010 --> 00:24:04,350

only required a modest knowledge of Sun

564

00:24:09,050 --> 00:24:07,020

sign traits and so you all as an example

565

00:24:11,210 --> 00:24:09,060

indicated you know your Sun signs you

566

00:24:13,160 --> 00:24:11,220

probably have some idea of what those

567

00:24:14,930 --> 00:24:13,170

traits that are associated with those

568

00:24:17,210 --> 00:24:14,940

Sun signs are and the point was that

569

00:24:20,660 --> 00:24:17,220

that indicated just having that

570

00:24:22,850 --> 00:24:20,670

knowledge alone was enough to impact the

571

00:24:24,230 --> 00:24:22,860

results which is probably more of a

572

00:24:25,910 --> 00:24:24,240

condemnation of the personality

573

00:24:31,490 --> 00:24:25,920

inventory than of astrology at that

574

00:24:34,250 --> 00:24:31,500

point one of the more famous test that

575

00:24:35,540 --> 00:24:34,260

was done of comparing astrology to

576

00:24:37,580 --> 00:24:35,550

personality inventory it was done by

577

00:24:40,850 --> 00:24:37,590

Sean Carlson and it was published in

578

00:24:42,620 --> 00:24:40,860

nature in 1985 and one thing that's in

579

00:24:44,330 --> 00:24:42,630

thing to keep in mind it was published

580

00:24:47,420 --> 00:24:44,340

as a commentary in nature so was not

581

00:24:49,490 --> 00:24:47,430

peer-reviewed but in this test

582

00:24:52,940 --> 00:24:49,500

astrologers were asked to interpret

583

00:24:54,620 --> 00:24:52,950

subject horoscopes and then prepare a

584

00:24:56,480 --> 00:24:54,630

written interpretation of those

585

00:24:59,750 --> 00:24:56,490

horoscope and then each subject took the

586

00:25:02,030 --> 00:24:59,760

California personality inventory and the

587

00:25:04,670 --> 00:25:02,040

subjects were asked to then pick their

588

00:25:06,890 --> 00:25:04,680

horoscope from one of three pick out the

589

00:25:08,630 --> 00:25:06,900

one that describes you and they were

590

00:25:11,210 --> 00:25:08,640

unable to do that had a statistically

591

00:25:14,300 --> 00:25:11,220

significant Bible they were also unable

592

00:25:17,600 --> 00:25:14,310

to select their own CPI description from

593

00:25:19,580 --> 00:25:17,610

among the three and astrologers were

594

00:25:22,100 --> 00:25:19,590

unable to match their horoscope to any

595

00:25:24,980 --> 00:25:22,110

of the three CPI profiles in that test

596

00:25:27,320 --> 00:25:24,990

so that was considered refutation of

597

00:25:31,450 --> 00:25:27,330

astrology and it's been well publicized

598

00:25:34,220 --> 00:25:31,460

in the skeptical community and that has

599

00:25:37,850 --> 00:25:34,230

that stood the test of time until not

600

00:25:40,190 --> 00:25:37,860

too long ago when sweet burger tell did

601  
00:25:43,790 --> 00:25:40,200  
an interesting reanalysis of this test

602  
00:25:45,680 --> 00:25:43,800  
and so among the criticisms of this test

603  
00:25:47,420 --> 00:25:45,690  
it had been voiced before was that this

604  
00:25:50,210 --> 00:25:47,430  
California personality inventory has

605  
00:25:52,280 --> 00:25:50,220  
very poor psychometrics technical

606  
00:25:53,570 --> 00:25:52,290  
details about the way in which the CPI

607  
00:25:57,050 --> 00:25:53,580  
was developed and it's actually a

608  
00:25:58,940 --> 00:25:57,060  
critique of the CPI itself and the other

609  
00:26:00,860 --> 00:25:58,950  
major critique is that the subjects and

610  
00:26:04,220 --> 00:26:00,870  
astrologers themselves are not trained

611  
00:26:05,690 --> 00:26:04,230  
in the CPI and the manual for the CPI is

612  
00:26:07,580 --> 00:26:05,700  
very clear that you have to be trained

613  
00:26:11,810 --> 00:26:07,590

in order to be able to do an

614

00:26:13,790 --> 00:26:11,820

interpretation of the CPI the data

615

00:26:16,049 --> 00:26:13,800

analysis is also a three way comparison

616

00:26:17,849 --> 00:26:16,059

versus a two way comparison so the

617

00:26:20,219 --> 00:26:17,859

correct statistical comparison should be

618

00:26:23,070 --> 00:26:20,229

pickier correct one from among the three

619

00:26:24,899 --> 00:26:23,080

not a one out of three but it's you know

620

00:26:26,099 --> 00:26:24,909

if you got right versus wrong as the way

621

00:26:29,129 --> 00:26:26,109

in which that should be compared

622

00:26:31,409 --> 00:26:29,139

statistically and it also had a very low

623

00:26:33,239 --> 00:26:31,419

test power because the small and there

624

00:26:35,519 --> 00:26:33,249

was a small number of participants and

625

00:26:38,909 --> 00:26:35,529

there were no effect size calculations

626  
00:26:40,889 --> 00:26:38,919  
but when hotel reanalyzed these data if

627  
00:26:44,639 --> 00:26:40,899  
they actually with a binomial test had a

628  
00:26:47,940 --> 00:26:44,649  
very modest effect size of 0.12 0.5 so

629  
00:26:51,239 --> 00:26:47,950  
in that sense in Carlson's own data or

630  
00:26:57,799 --> 00:26:51,249  
tell show that there there actually was

631  
00:26:59,909 --> 00:26:57,809  
a positive result so we'll move on from

632  
00:27:03,149 --> 00:26:59,919  
tests of personality inventories to

633  
00:27:04,469 --> 00:27:03,159  
tests of objective behavior and in this

634  
00:27:06,389 --> 00:27:04,479  
case we talked about some of the

635  
00:27:08,729 --> 00:27:06,399  
dependent variable being some behavior

636  
00:27:11,119 --> 00:27:08,739  
trait is defined on a non astrological

637  
00:27:14,430 --> 00:27:11,129  
basis and the independent variable is

638  
00:27:15,959 --> 00:27:14,440

one or more astrological factors and the

639

00:27:17,489 --> 00:27:15,969

guy he's the way in which you determine

640

00:27:19,680 --> 00:27:17,499

whether this works or not is by a

641

00:27:23,729 --> 00:27:19,690

measuring the statistical deviation from

642

00:27:26,310 --> 00:27:23,739

chance the best known of this work has

643

00:27:28,619 --> 00:27:26,320

done by Michele and Francois Fillon and

644

00:27:31,769 --> 00:27:28,629

then 1950s all the way up through the

645

00:27:36,289 --> 00:27:31,779

90s when with their respective deaths

646

00:27:38,729 --> 00:27:36,299

and the golf clown research basically

647

00:27:42,269 --> 00:27:38,739

they had three major thrusts of the

648

00:27:44,339 --> 00:27:42,279

research one was to look at the eminent

649

00:27:46,379 --> 00:27:44,349

professionals in a variety of

650

00:27:48,810 --> 00:27:46,389

professions sports champions military

651  
00:27:51,509 --> 00:27:48,820  
and physicians a number of other

652  
00:27:53,039 --> 00:27:51,519  
professions they looked at the

653  
00:27:54,779 --> 00:27:53,049  
relationships and heredity between

654  
00:27:56,549 --> 00:27:54,789  
parents and children this is some of

655  
00:27:58,729 --> 00:27:56,559  
their less known work and then they also

656  
00:28:01,289 --> 00:27:58,739  
looked at various character traits and

657  
00:28:04,709 --> 00:28:01,299  
in the goblins own research they found

658  
00:28:07,589 --> 00:28:04,719  
no evidence for astrological signs they

659  
00:28:09,629 --> 00:28:07,599  
found no evidence for aspects but they

660  
00:28:11,459 --> 00:28:09,639  
did find evidence for planets rising and

661  
00:28:13,889 --> 00:28:11,469  
culminating in that daily motion that we

662  
00:28:15,359 --> 00:28:13,899  
showed you earlier and that's fairly

663  
00:28:17,489 --> 00:28:15,369

strong evidence we should talk about

664

00:28:19,859 --> 00:28:17,499

that in a moment so going back to this

665

00:28:23,459 --> 00:28:19,869

representation of a horoscope here with

666

00:28:27,479 --> 00:28:23,469

the eastern horizon here in the planets

667

00:28:28,830 --> 00:28:27,489

rising and culminating setting the coke

668

00:28:30,630 --> 00:28:28,840

lines basically are using a host

669

00:28:35,100 --> 00:28:30,640

but they numbered them clockwise instead

670

00:28:37,049 --> 00:28:35,110

of counterclockwise and what I call it

671

00:28:40,769 --> 00:28:37,059

the Coughlin plus zone start just before

672

00:28:42,090 --> 00:28:40,779

the rising up through the about what

673

00:28:44,789 --> 00:28:42,100

would be considered the twelfth house in

674

00:28:46,470 --> 00:28:44,799

standard astrology and just before

675

00:28:47,850 --> 00:28:46,480

culminating through what would because

676  
00:28:50,310 --> 00:28:47,860  
they're to the ninth house in standard

677  
00:28:55,289 --> 00:28:50,320  
astrology as the primary call kalam plus

678  
00:28:57,269 --> 00:28:55,299  
zones and in those zones the Mars sports

679  
00:28:59,100 --> 00:28:57,279  
champion is data are the best-known and

680  
00:29:02,310 --> 00:28:59,110  
this is of Aditya of Sports Champions

681  
00:29:03,690 --> 00:29:02,320  
where Mars is rising and culminating

682  
00:29:06,149 --> 00:29:03,700  
much more frequently and expected by

683  
00:29:08,159 --> 00:29:06,159  
chance the inner circle represents the

684  
00:29:10,830 --> 00:29:08,169  
expected frequency and so you see a

685  
00:29:13,649 --> 00:29:10,840  
surplus of Mars rising and surplus of

686  
00:29:16,200 --> 00:29:13,659  
Mars culminating much more frequently

687  
00:29:21,450 --> 00:29:16,210  
than expected by chance now this result

688  
00:29:26,610 --> 00:29:21,460

oh no way five minutes I said I've only

689

00:29:30,350 --> 00:29:26,620

been going thirty ok well I guess we

690

00:29:33,330 --> 00:29:30,360

have to move it on here all right so the

691

00:29:34,950 --> 00:29:33,340

go Klein professions several professions

692

00:29:36,779 --> 00:29:34,960

several planets these align with

693

00:29:40,620 --> 00:29:36,789

traditional astrological interpretation

694

00:29:43,919 --> 00:29:40,630

but rising and culminating does not and

695

00:29:46,049 --> 00:29:43,929

the go clunky findings are that this in

696

00:29:48,630 --> 00:29:46,059

fact increases with eminence and that

697

00:29:51,330 --> 00:29:48,640

children tend to be born with planets in

698

00:29:54,000 --> 00:29:51,340

the same sector as their parents okay

699

00:29:57,389 --> 00:29:54,010

but there was a great controversy with

700

00:30:00,210 --> 00:29:57,399

his data in the Belgian Committee for

701  
00:30:02,100 --> 00:30:00,220  
analyzed that ad in 1968 replicating

702  
00:30:05,039 --> 00:30:02,110  
their results and refusing to publish

703  
00:30:07,730 --> 00:30:05,049  
for eight years challenging their

704  
00:30:09,720 --> 00:30:07,740  
expected frequency calculations

705  
00:30:11,310 --> 00:30:09,730  
objections to astrology this is the

706  
00:30:13,169 --> 00:30:11,320  
actual beginning document for the

707  
00:30:14,610 --> 00:30:13,179  
committee for this like typic

708  
00:30:17,549 --> 00:30:14,620  
investigation of claims of the

709  
00:30:19,169 --> 00:30:17,559  
paranormal the Zelan tests of expected

710  
00:30:21,899 --> 00:30:19,179  
frequencies in which they matched

711  
00:30:23,880 --> 00:30:21,909  
ordinary bursts confirm the results but

712  
00:30:26,639 --> 00:30:23,890  
psychic failed to acknowledge that and

713  
00:30:30,930 --> 00:30:26,649

the star baby was the beginning of this

714

00:30:32,850 --> 00:30:30,940

controversy this is that controversy has

715

00:30:34,680 --> 00:30:32,860

been well documented by sweet burger

716

00:30:36,389 --> 00:30:34,690

telling Kenneth Irving Canada's here if

717

00:30:37,770 --> 00:30:36,399

you wanted more questions about this

718

00:30:41,310 --> 00:30:37,780

he'd be happy to talk with you I'm sure

719

00:30:42,140 --> 00:30:41,320

and covered this eminence effect in this

720

00:30:43,670 --> 00:30:42,150

kept takes data

721

00:30:47,300 --> 00:30:43,680

showing all the skeptics had fudged

722

00:30:51,230 --> 00:30:47,310

their own data in order to overcome the

723

00:30:57,410 --> 00:30:51,240

astrology the Copeland effect size has

724

00:30:59,690 --> 00:30:57,420

got a large n but with its phorid and 35

725

00:31:03,380 --> 00:30:59,700

sports champions having Mars rising you

726

00:31:05,090 --> 00:31:03,390

expect 358 it's very significant but

727

00:31:06,920 --> 00:31:05,100

it's really a very small effect size so

728

00:31:07,880 --> 00:31:06,930

you can't really use it in practice it

729

00:31:09,680 --> 00:31:07,890

doesn't do you very good

730

00:31:12,710 --> 00:31:09,690

I see Mars rising I can't predict you'll

731

00:31:15,080 --> 00:31:12,720

get sports champion and it's a similar

732

00:31:18,590 --> 00:31:15,090

effect size to size phenomenon that's an

733

00:31:19,940 --> 00:31:18,600

interesting piece that get back to

734

00:31:21,830 --> 00:31:19,950

shortly I hope if I don't run out of

735

00:31:25,160 --> 00:31:21,840

time so there's several methodological

736

00:31:26,540 --> 00:31:25,170

challenges with this work here astrology

737

00:31:29,270 --> 00:31:26,550

has a lot of research problems these

738

00:31:31,310 --> 00:31:29,280

effects are subtle we compare expected

739

00:31:33,500 --> 00:31:31,320

to observe values and the control

740

00:31:35,570 --> 00:31:33,510

procedures are usually aware astrology

741

00:31:39,740 --> 00:31:35,580

research fails for a failure to have

742

00:31:41,750 --> 00:31:39,750

inanimate controls there's a number of

743

00:31:43,880 --> 00:31:41,760

astronomical factors planet position

744

00:31:47,210 --> 00:31:43,890

interactions demographic factors that

745

00:31:49,040 --> 00:31:47,220

impact these things one of the more

746

00:31:50,810 --> 00:31:49,050

interesting ones is induced births the

747

00:31:53,030 --> 00:31:50,820

golems found that these effects go away

748

00:31:55,250 --> 00:31:53,040

with induced births and currently in the

749

00:31:57,170 --> 00:31:55,260

u.s. forty percent of births are induced

750

00:32:01,370 --> 00:31:57,180

which makes astrological research

751  
00:32:02,840 --> 00:32:01,380  
extremely challenging and as I mentioned

752  
00:32:04,610 --> 00:32:02,850  
controls groups are very important I'm

753  
00:32:06,340 --> 00:32:04,620  
going to skip these pieces here because

754  
00:32:09,620 --> 00:32:06,350  
I want to get to the end here so I

755  
00:32:12,290 --> 00:32:09,630  
apologize my time and your time are not

756  
00:32:16,640 --> 00:32:12,300  
the same ball so I guess we're in

757  
00:32:19,280 --> 00:32:16,650  
different time zones okay let's see so

758  
00:32:22,940 --> 00:32:19,290  
in univariate analyses were doing one of

759  
00:32:25,160 --> 00:32:22,950  
these things one at a time but in

760  
00:32:27,830 --> 00:32:25,170  
multivariate analysis we can compare

761  
00:32:29,630 --> 00:32:27,840  
more than two variables at once and so

762  
00:32:32,180 --> 00:32:29,640  
here if we're comparing two variables on

763  
00:32:33,770 --> 00:32:32,190

two different things we measure them and

764

00:32:38,470 --> 00:32:33,780

then we do it again for another variable

765

00:32:41,570 --> 00:32:38,480

and we do them one at a time we can

766

00:32:43,250 --> 00:32:41,580

actually astrological interpretation is

767

00:32:45,020 --> 00:32:43,260

an is an integration of all these

768

00:32:48,740 --> 00:32:45,030

variables and so that's an a key piece

769

00:32:53,960 --> 00:32:48,750

here in multivariate analysis is a way

770

00:32:57,410 --> 00:32:53,970

of doing that and so we can flip this

771

00:32:59,450 --> 00:32:57,420

axis and map the individual components

772

00:33:01,280 --> 00:32:59,460

and now we look at the correlations and

773

00:33:05,360 --> 00:33:01,290

covariances of our variables and use

774

00:33:06,500 --> 00:33:05,370

that for multivariate analysis I've done

775

00:33:08,390 --> 00:33:06,510

a couple of these tests with

776

00:33:10,730 --> 00:33:08,400

discriminant analysis one comparing

777

00:33:14,120 --> 00:33:10,740

alcoholic anonymous members to control

778

00:33:21,260 --> 00:33:14,130

groups and we were able to correctly

779

00:33:25,280 --> 00:33:21,270

classify people as a members or not have

780

00:33:28,010 --> 00:33:25,290

a pretty high statistical power and also

781

00:33:30,310 --> 00:33:28,020

attempted to differentiate eight of the

782

00:33:32,330 --> 00:33:30,320

Coplan professions using that test

783

00:33:34,700 --> 00:33:32,340

randomly we would be able to do this

784

00:33:37,100 --> 00:33:34,710

twelve and a half percent of the time in

785

00:33:38,840 --> 00:33:37,110

the first test nineteen percent and the

786

00:33:43,660 --> 00:33:38,850

second test sixteen percent again very

787

00:33:46,190 --> 00:33:43,670

good statistical power here so

788

00:33:47,330 --> 00:33:46,200

astrologers do synthesize variables but

789

00:33:49,370 --> 00:33:47,340

we think that multivariate techniques

790

00:33:51,080 --> 00:33:49,380

might be a better way to model that and

791

00:33:54,140 --> 00:33:51,090

this that does provide much higher

792

00:33:55,790 --> 00:33:54,150

resolution a much more authentic test so

793

00:33:59,150 --> 00:33:55,800

back to the original question is as

794

00:34:02,060 --> 00:33:59,160

science pseudoscience or an anomaly well

795

00:34:05,840 --> 00:34:02,070

science is a study of a body of facts or

796

00:34:07,430 --> 00:34:05,850

truths we can call the discipline like

797

00:34:10,640 --> 00:34:07,440

chemistry or physics but it's also a

798

00:34:14,210 --> 00:34:10,650

systematic it's a procedure for studying

799

00:34:16,540 --> 00:34:14,220

the physical and material world and in

800

00:34:18,980 --> 00:34:16,550

normal science according to Thomas Kuhn

801  
00:34:20,570 --> 00:34:18,990  
when finding previously unpredicted

802  
00:34:23,600 --> 00:34:20,580  
phenomena we show how that phenomena is

803  
00:34:26,210 --> 00:34:23,610  
explained with an existing paradigm but

804  
00:34:30,860 --> 00:34:26,220  
in pseudo science we have a number of

805  
00:34:32,360 --> 00:34:30,870  
phenomena here that are outside of the

806  
00:34:34,700 --> 00:34:32,370  
bounds of normal science because they

807  
00:34:37,130 --> 00:34:34,710  
fall outside of our existing theories

808  
00:34:40,370 --> 00:34:37,140  
and so rather than just trying to deal

809  
00:34:42,760 --> 00:34:40,380  
with those anomalies often the label of

810  
00:34:46,130 --> 00:34:42,770  
pseudoscience is applied to that but we

811  
00:34:50,810 --> 00:34:46,140  
it really is a more of a pejorative term

812  
00:34:54,920 --> 00:34:50,820  
than a technical definition and in in

813  
00:34:58,910 --> 00:34:54,930

Kunz thinking anomalies violate

814

00:35:00,290 --> 00:34:58,920

paradigms and induce a crisis in science

815

00:35:02,420 --> 00:35:00,300

until you can come up with a new

816

00:35:03,440 --> 00:35:02,430

paradigm that would explain those

817

00:35:07,099 --> 00:35:03,450

phenomena

818

00:35:09,440 --> 00:35:07,109

and so the goal of scientific

819

00:35:11,359 --> 00:35:09,450

revolutions and as far as kun is

820

00:35:14,120 --> 00:35:11,369

concerned is to move paradigms forward

821

00:35:15,410 --> 00:35:14,130

and that that's what we think astrology

822

00:35:17,630 --> 00:35:15,420

and many of these are the phenomena

823

00:35:19,220 --> 00:35:17,640

represent those anomalies and the reason

824

00:35:22,099 --> 00:35:19,230

that they're reported by science is

825

00:35:25,370 --> 00:35:22,109

because they do violate those paradigms

826

00:35:27,799 --> 00:35:25,380

and makes it difficult for scientists to

827

00:35:34,280 --> 00:35:27,809

conduct normal science as we usually

828

00:35:35,900 --> 00:35:34,290

have so with that I'd like to again we

829

00:35:38,809 --> 00:35:35,910

have no known mechanism in astrology

830

00:35:40,370 --> 00:35:38,819

there's a phenomena there it's amenable

831

00:35:42,109 --> 00:35:40,380

to scientific research we have strong

832

00:35:45,020 --> 00:35:42,119

statistical evidence but we have small

833

00:35:47,120 --> 00:35:45,030

effect sized again and like we have with

834

00:35:50,750 --> 00:35:47,130

many other of the phenomena that are

835

00:35:52,299 --> 00:35:50,760

investigated here in SSE and IR da well

836

00:35:54,680 --> 00:35:52,309

we'll all the claims are practitioners

837

00:35:58,460 --> 00:35:54,690

so of that I'd like to thank you and

838

00:35:58,470 --> 00:36:24,070

[Applause]

839

00:36:33,110 --> 00:36:29,990

okay you may be familiar with the name

840

00:36:34,970 --> 00:36:33,120

of Jeffrey Armstrong the Vedic Astrology

841

00:36:37,010 --> 00:36:34,980

I'm sure you're familiar with the name

842

00:36:38,930 --> 00:36:37,020

Michael Shermer right well Michael

843

00:36:42,470 --> 00:36:38,940

Shermer had a program called exploring

844

00:36:46,460 --> 00:36:42,480

the uninvited astrologers to come up we

845

00:36:48,740 --> 00:36:46,470

could show how they work it turned out

846

00:36:51,380 --> 00:36:48,750

though after he did this investigation

847

00:36:54,230 --> 00:36:51,390

that whole thing where you swapped the

848

00:36:56,150 --> 00:36:54,240

real astrology reading with someone

849

00:36:59,890 --> 00:36:56,160

else's and then you do a comparative

850

00:37:02,660 --> 00:36:59,900

analysis it turned out that it came out

851

00:37:08,180 --> 00:37:02,670

77% accuracy on the part of Jeff

852

00:37:10,280 --> 00:37:08,190

Armstrong did okay so I guess the

853

00:37:12,830 --> 00:37:10,290

question is what about abetik vedic

854

00:37:17,800 --> 00:37:12,840

astrology seems to be much more accurate

855

00:37:23,540 --> 00:37:20,960

yeah I'm cutting out how in the world

856

00:37:25,880 --> 00:37:23,550

did Michael Shermer the famous skeptic

857

00:37:28,550 --> 00:37:25,890

allow that to go through you actually

858

00:37:31,670 --> 00:37:28,560

can find it on the Internet and Michael

859

00:37:33,080 --> 00:37:31,680

Shermer does make a fairly weak argument

860

00:37:36,110 --> 00:37:33,090

about he didn't have enough time to

861

00:37:39,860 --> 00:37:36,120

debunk it but this the science showed

862

00:37:41,420 --> 00:37:39,870

otherwise sure again in this refresh

863

00:37:42,890 --> 00:37:41,430

question there are several schools of

864

00:37:45,040 --> 00:37:42,900

astrology obviously I didn't have time

865

00:37:47,950 --> 00:37:45,050

to begin to scratch the surface here

866

00:37:51,710 --> 00:37:47,960

different frameworks for interpretation

867

00:37:54,020 --> 00:37:51,720

I wouldn't begin there are strong

868

00:37:55,820 --> 00:37:54,030

debates between the two schools I

869

00:37:58,280 --> 00:37:55,830

wouldn't begin to get involved in that

870

00:38:00,470 --> 00:37:58,290

debate and I guess I would say good to

871

00:38:06,230 --> 00:38:00,480

Michael Shermer for not burying the

872

00:38:08,600 --> 00:38:06,240

positive result I see hi mark as you

873

00:38:12,320 --> 00:38:08,610

know my spousal unit as a gifted

874

00:38:13,330 --> 00:38:12,330

astrology yes genus contention is that

875

00:38:15,280 --> 00:38:13,340

most a straw

876

00:38:17,590 --> 00:38:15,290

don't know how to correct for time of

877

00:38:19,210 --> 00:38:17,600

birth that the correct time of birth is

878

00:38:20,800 --> 00:38:19,220

the one where the major events in a

879

00:38:23,800 --> 00:38:20,810

person's life fall out on the chart

880

00:38:26,230 --> 00:38:23,810

where they should write so perhaps if

881

00:38:27,700 --> 00:38:26,240

this which was being tested knew how to

882

00:38:31,000 --> 00:38:27,710

correct for time of birth the effect

883

00:38:31,690 --> 00:38:31,010

wouldn't be so small that's a you're

884

00:38:34,090 --> 00:38:31,700

talking about what's called

885

00:38:37,420 --> 00:38:34,100

rectification where you use event timing

886

00:38:40,180 --> 00:38:37,430

to adjust the time of birth there's

887

00:38:41,860 --> 00:38:40,190

several ways of doing that of course

888

00:38:43,960 --> 00:38:41,870

that becomes a challenge now because

889

00:38:45,550 --> 00:38:43,970

have you basically corrected the chart

890

00:38:48,250 --> 00:38:45,560

for research purposes have you corrected

891

00:38:50,410 --> 00:38:48,260

the horoscope to align with research

892

00:38:51,790 --> 00:38:50,420

results that would it's a thing that an

893

00:38:55,960 --> 00:38:51,800

individual astrologer does with the

894

00:38:58,420 --> 00:38:55,970

client just let you know mark because we

895

00:39:00,160 --> 00:38:58,430

had some tech issues early on you got

896

00:39:01,510 --> 00:39:00,170

started too late so I'm gonna copy a few

897

00:39:04,690 --> 00:39:01,520

minutes and I'll get forgiveness from

898

00:39:06,820 --> 00:39:04,700

Garret later well-well go okay sorry for

899

00:39:08,230 --> 00:39:06,830

rushing you I'd be happy to review

900

00:39:10,270 --> 00:39:08,240

anything that was too fast at the end

901  
00:39:14,590 --> 00:39:10,280  
sorry anyway hi York

902  
00:39:17,050 --> 00:39:14,600  
hi I'd like to say that for me one of

903  
00:39:21,960 --> 00:39:17,060  
the most convincing pieces of evidence

904  
00:39:23,980 --> 00:39:21,970  
is the fact that the astrological

905  
00:39:27,370 --> 00:39:23,990  
correlations that have turned up in

906  
00:39:29,620 --> 00:39:27,380  
these various analyses disappear with

907  
00:39:32,500 --> 00:39:29,630  
people who have had induced births yes

908  
00:39:36,220 --> 00:39:32,510  
and I'm wondering if you have any

909  
00:39:38,770 --> 00:39:36,230  
opinions to offer about the increasing

910  
00:39:41,380 --> 00:39:38,780  
prevalence of induced birth and its

911  
00:39:44,230 --> 00:39:41,390  
impact on this field aside from making

912  
00:39:46,920 --> 00:39:44,240  
research harder about it makes Reaser

913  
00:39:49,630 --> 00:39:46,930

enormous lead ifficult

914

00:39:51,820 --> 00:39:49,640

the Copeland's had a couple of

915

00:39:54,790 --> 00:39:51,830

hypotheses about what was actually going

916

00:39:57,160 --> 00:39:54,800

on here I think they would call this one

917

00:40:00,400 --> 00:39:57,170

the astrological midwife in other words

918

00:40:02,350 --> 00:40:00,410

it's not being born with particular

919

00:40:04,600 --> 00:40:02,360

configurations that cause things but

920

00:40:06,550 --> 00:40:04,610

that you have a propensity a genetic

921

00:40:09,100 --> 00:40:06,560

propensity to be born at a particular

922

00:40:12,100 --> 00:40:09,110

astrological configuration so if the

923

00:40:13,540 --> 00:40:12,110

verses induce you don't see the accurate

924

00:40:15,430 --> 00:40:13,550

chart and that would get back to the

925

00:40:17,860 --> 00:40:15,440

rectification that Steve was asking

926

00:40:20,440 --> 00:40:17,870

about in the previous question it does

927

00:40:21,890 --> 00:40:20,450

make the research to virtually

928

00:40:26,120 --> 00:40:21,900

impossible to do

929

00:40:29,949 --> 00:40:26,130

if you're using natal astrology with 40%

930

00:40:33,219 --> 00:40:29,959

of the purse being induced in the US or

931

00:40:35,749 --> 00:40:33,229

recording of the birth times and then

932

00:40:37,400 --> 00:40:35,759

new privacy restrictions makes it

933

00:40:39,049 --> 00:40:37,410

virtually impossible to get data so the

934

00:40:42,199 --> 00:40:39,059

Copeland's were able to just go into the

935

00:40:45,289 --> 00:40:42,209

records in Europe in the 50s and obtain

936

00:40:46,939 --> 00:40:45,299

these data without any hassle you could

937

00:40:52,099 --> 00:40:46,949

no longer go get birthday don't like

938

00:40:55,239 --> 00:40:52,109

that yes sir attempt to correlate these

939

00:40:57,819 --> 00:40:55,249

data with the moment of conception

940

00:41:01,429 --> 00:40:57,829

because that would seem a more accurate

941

00:41:03,370 --> 00:41:01,439

criterion you could get certain genetic

942

00:41:08,449 --> 00:41:03,380

changes whereas the moment of birth

943

00:41:10,849 --> 00:41:08,459

nothing much happens Suzy would seem the

944

00:41:12,859 --> 00:41:10,859

two are related to a certain extent

945

00:41:14,150 --> 00:41:12,869

certainly timing the moment of

946

00:41:15,589 --> 00:41:14,160

conception would probably be more

947

00:41:17,559 --> 00:41:15,599

challenging than timing the moment of

948

00:41:19,999 --> 00:41:17,569

birth

949

00:41:22,519 --> 00:41:20,009

we could probably time the day of

950

00:41:23,900 --> 00:41:22,529

conception pretty well but assuming a

951  
00:41:26,209 --> 00:41:23,910  
conception is when you actually have the

952  
00:41:28,849 --> 00:41:26,219  
sperm fertilizing the egg that event

953  
00:41:35,329 --> 00:41:28,859  
isn't always concurrent with the event

954  
00:41:38,390 --> 00:41:35,339  
that caused that so thanks so much for

955  
00:41:41,679 --> 00:41:38,400  
your presentation then Ingo Swan had

956  
00:41:45,309 --> 00:41:41,689  
written an unpublished manuscript that

957  
00:41:48,109 --> 00:41:45,319  
about mass murderers that their

958  
00:41:52,539 --> 00:41:48,119  
astrological charts actually lined up

959  
00:41:55,400 --> 00:41:52,549  
pretty closely and he had transparent

960  
00:41:57,620 --> 00:41:55,410  
plastic sheets that showed their

961  
00:42:00,429 --> 00:41:57,630  
different charts you could lay them on

962  
00:42:03,140 --> 00:42:00,439  
top of each other he did 70 mm-hmm and

963  
00:42:05,689 --> 00:42:03,150

the problem he said was trying to find

964

00:42:07,969 --> 00:42:05,699

the true birth time right of these

965

00:42:09,469 --> 00:42:07,979

criminals certainly well the true growth

966

00:42:11,439 --> 00:42:09,479

times always are a challenge and then

967

00:42:15,949 --> 00:42:11,449

again you still have this issue of

968

00:42:18,199 --> 00:42:15,959

expected frequencies so you know how

969

00:42:20,660 --> 00:42:18,209

many for at any particular time how many

970

00:42:21,529 --> 00:42:20,670

other non mass murderers are born and

971

00:42:23,660 --> 00:42:21,539

there's a number of other challenges

972

00:42:25,249 --> 00:42:23,670

that you have here but this would be

973

00:42:27,529 --> 00:42:25,259

another example potentially of an

974

00:42:29,959 --> 00:42:27,539

eminent professional maybe not the kind

975

00:42:31,549 --> 00:42:29,969

of eminence of a profession that you

976

00:42:33,049 --> 00:42:31,559

might be interested in but that's an

977

00:42:34,070 --> 00:42:33,059

interesting thought I'm not familiar

978

00:42:44,600 --> 00:42:34,080

with that

979

00:42:48,410 --> 00:42:44,610

a big work though oh hello I do how are

980

00:42:52,100 --> 00:42:48,420

you fine okay so according to study real

981

00:42:54,880 --> 00:42:52,110

time when our planet is aligned with the

982

00:42:57,890 --> 00:42:54,890

galactic center psy abilities are

983

00:43:00,320 --> 00:42:57,900

enhanced by like four times according to

984

00:43:03,590 --> 00:43:00,330

experimentation so I was wondering if

985

00:43:07,820 --> 00:43:03,600

there's any research done between people

986

00:43:11,090 --> 00:43:07,830

being born when the cola when we find

987

00:43:12,590 --> 00:43:11,100

what the galactic center inside he's I'm

988

00:43:14,270 --> 00:43:12,600

not aware that would be relatively

989

00:43:16,190 --> 00:43:14,280

straightforward to do if you have the

990

00:43:17,180 --> 00:43:16,200

first time week that's another point

991

00:43:19,010 --> 00:43:17,190

that you can calculate

992

00:43:21,230 --> 00:43:19,020

so that would be straightforward to do

993

00:43:28,010 --> 00:43:21,240

I'm not aware of that though cool thanks