

1

00:00:00,000 --> 00:00:04,000

You know what? I've been around for a while.

2

00:00:04,000 --> 00:00:07,000

I've traveled the world, met some interesting people,

3

00:00:07,000 --> 00:00:10,000

done some crazy things.

4

00:00:10,000 --> 00:00:14,000

So you might just think there's not much that could take me by surprise.

5

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

You'd be wrong.

6

00:00:18,000 --> 00:00:22,000

The world is full of stories and science and things that amaze

7

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

and confound me every single day.

8

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

Incredible mysteries that keep me awake at night.

9

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

Some I can answer. Others justify logic.

10

00:00:34,000 --> 00:00:38,000

Like the heart transplant patient who undergoes an uncanny transformation,

11

00:00:38,000 --> 00:00:41,000

assuming the personality of his donor,

12

00:00:41,000 --> 00:00:47,000

scientists ask, could the story of Dr. Jekyll and Mr. Hyde be real?

13

00:00:47,000 --> 00:00:51,000

A weird phenomenon is appearing in lakes and rivers.

14

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

Perfect circles of ice, some so big,

15

00:00:54,000 --> 00:00:58,000

they're visible from space. What are they?

16

00:00:58,000 --> 00:01:01,000

And a DNA test that suggests the impossible,

17

00:01:01,000 --> 00:01:05,000

a mother somehow genetically unrelated to her own children.

18

00:01:05,000 --> 00:01:09,000

Could the tests be wrong? Or is the truth beyond reason?

19

00:01:09,000 --> 00:01:14,000

Could it be possible for a human being to have more than one set of DNA?

20

00:01:14,000 --> 00:01:18,000

Yep. It's a weird world.

21

00:01:18,000 --> 00:01:21,000

It's a weird world.

22

00:01:21,000 --> 00:01:24,000

And I love it.

23

00:01:24,000 --> 00:01:27,000

The World

24

00:01:45,000 --> 00:01:48,000

It only to me to tell you that modern medicine is utterly remarkable.

25

00:01:48,000 --> 00:01:51,000

The kind of procedures that only exist in the room.

26

00:01:51,000 --> 00:01:54,000

Science fiction 50 years ago are now commonplace.

27

00:01:54,000 --> 00:01:57,000

Take heart failure. Still the world's biggest killer,

28

00:01:57,000 --> 00:02:03,000

but these days, if you're lucky, doctors can transplant a healthy heart

29

00:02:03,000 --> 00:02:09,000

into your chest within weeks you can be up and running with a whole new lease on life

30

00:02:09,000 --> 00:02:12,000

thanks to the kindness of some recently departed donor. Incredible.

31

00:02:12,000 --> 00:02:19,000

But as this next, weird tale will reveal transplant patients

32

00:02:19,000 --> 00:02:25,000

may be getting more than they bargained for, not simply someone else's heart.

33

00:02:25,000 --> 00:02:29,000

But their personality too.

34

00:02:29,000 --> 00:02:34,000

I had worked very hard and I had sold my soul for the greenback.

35

00:02:34,000 --> 00:02:40,000

I was a fat, out of shape businessman, not taking care of myself.

36

00:02:40,000 --> 00:02:45,000

My exercise regime was going to two banks each day to deposit

37

00:02:45,000 --> 00:02:51,000

and walking to my office, which was across the driveway from the home we had built.

38

00:02:51,000 --> 00:02:54,000

Bill Wall was obsessed with making money.

39

00:02:54,000 --> 00:03:00,000

But when he suffered a massive heart attack in 1999, his life changed forever.

40

00:03:00,000 --> 00:03:06,000

They told me a number of times I was their worst cardiac case ever.

41

00:03:06,000 --> 00:03:14,000

Bill needed a new heart and on February 22, 2000, a suitable organ became available.

42

00:03:14,000 --> 00:03:19,000

The donor was a Hollywood stuntman named Brady Michaels,

43

00:03:19,000 --> 00:03:25,000

a fit, focused, passionate man who tragically died doing the job he loved.

44

00:03:25,000 --> 00:03:31,000

Brady's death would ultimately save Bill Wall's life.

45

00:03:31,000 --> 00:03:39,000

I remember waking up that afternoon very sore, but I had a new heart and I was smiling.

46

00:03:39,000 --> 00:03:44,000

I was grinning from ear to ear because I was so thankful because living in the hospital,

47

00:03:44,000 --> 00:03:53,000

you get to appreciate and if you're smart, you learn love, patience, tolerance and understanding

48

00:03:53,000 --> 00:03:56,000

because there's so many angry people in the world.

49

00:03:56,000 --> 00:04:01,000

But after his operation, Bill says he started acting in strange new ways.

50

00:04:01,000 --> 00:04:05,000

Well, the first thing that really shocked me was that day driving to work.

51

00:04:05,000 --> 00:04:10,000

I usually listen to classic hard rock, Led Zeppelin, things like that.

52

00:04:10,000 --> 00:04:15,000

Don't ask me why, but that morning I flipped it to like a jazz station.

53

00:04:15,000 --> 00:04:23,000

And I'm driving to work and I hear this song and it was Shadei the Kiss of Life.

54

00:04:23,000 --> 00:04:27,000

I started crying and it was like butter going through a knife.

55

00:04:27,000 --> 00:04:31,000

And I usually don't cry. It takes a lot to make me cry.

56

00:04:31,000 --> 00:04:36,000

And here I was like freaking out.

57

00:04:36,000 --> 00:04:42,000

Bill learned later that his heart's donor, Brady Michaels, was also a jazz aficionado.

58

00:04:42,000 --> 00:04:49,000

According to Bill, the transplant didn't just change his musical tastes, it also changed his vocabulary.

59

00:04:49,000 --> 00:04:58,000

And it's really funny. I can tell you as a cutthroat businessman, the surfalingo and dude did not fit into my character.

60

00:04:58,000 --> 00:05:06,000

It just, you know, big CEOs are working with people like Apollo Allen or Jerry Rheinstorf.

61

00:05:06,000 --> 00:05:09,000

They didn't know from dude. They didn't want to hear that.

62

00:05:09,000 --> 00:05:13,000

He also found he was copying Michael's taste for healthy food.

63

00:05:13,000 --> 00:05:19,000

He was a health nut. He was very big on salads.

64

00:05:19,000 --> 00:05:27,000

In the old days, if there weren't French fries, if there wasn't a steak or a lobster tail or something fried,

65

00:05:27,000 --> 00:05:31,000

it wasn't going to happen now. Once in a while as a treat, I'll have something like that.

66

00:05:31,000 --> 00:05:36,000

But I actually love salads and one other little thing.

67

00:05:36,000 --> 00:05:41,000

When I work out, I found and when I drive now I'm drumming and I'm beating.

68

00:05:41,000 --> 00:05:48,000

And I never had a beat before. And now I've gotten pretty good with it, especially when I'm in the gym working out.

69

00:05:48,000 --> 00:05:54,000

I play my music and I rock in the gym. I'm totally oblivious.

70

00:05:54,000 --> 00:06:05,000

Most astonishingly, Bill's new heart transformed him from an overweight couch potato into a physical fitness freak just like Brady Michael's.

71

00:06:05,000 --> 00:06:15,000

Bill believes that in taking Brady Michael's heart, he has taken some of Michael's personality.

72

00:06:15,000 --> 00:06:19,000

I'm living with a part of him that he's blessed me.

73

00:06:19,000 --> 00:06:31,000

And with that blessing has come some ideas and thoughts and characteristics that have kind of melded and become a part of my everyday life.

74

00:06:31,000 --> 00:06:35,000

Wow, this is all very weird. I told you it was weird.

75

00:06:35,000 --> 00:06:41,000

The guy gets a heart transplant and he believes he got a bonus. You got the donor's personality too.

76

00:06:41,000 --> 00:06:47,000

And it's more than the heart. Think about it, there are thousands of other transplants done each year. Lungs, kidneys, livers.

77

00:06:47,000 --> 00:06:56,000

If this guy's right, are those people getting their donor's personalities as well? Is this even possible?

78

00:06:56,000 --> 00:07:02,000

Bill Wall's remarkable story suggests something that common sense says cannot be.

79

00:07:02,000 --> 00:07:06,000

Could our organs really store the essence of our being?

80

00:07:06,000 --> 00:07:12,000

Can one person's body assimilate the personality of someone long since dead?

81

00:07:12,000 --> 00:07:15,000

Psychology professor Dr. Gary Schwartz thinks so.

82

00:07:15,000 --> 00:07:31,000

If all tissues could store information and energy, then if a tissue was removed from one person and was surgically placed in another, there would be a transplant not only of the matter, but of the memory as well.

83

00:07:31,000 --> 00:07:36,000

Bill's case is not all that unusual when compared to other extraordinary cases.

84

00:07:36,000 --> 00:07:45,000

Schwartz has researched the transfer of memory for 30 years and has tracked down some 70 cases of similar donor stories.

85

00:07:45,000 --> 00:07:56,000

I have seen too many cases of uncanny and accurate parallels for me to question whether there's a phenomenon here.

86

00:07:57,000 --> 00:08:04,000

In 1988, Claire Sylvia received the heart and lungs of a young man who died in a motorcycle accident.

87

00:08:04,000 --> 00:08:13,000

After the operation, she develops a new taste for beer, green peppers and chicken nuggets, things her former self would never have eaten.

88

00:08:13,000 --> 00:08:20,000

The donor's parents tell her that their son Tim loved nothing more than beer and green peppers and chillingly.

89

00:08:20,000 --> 00:08:27,000

On the night Tim died, he was riding his motorcycle with a box of chicken nuggets in his pocket.

90

00:08:27,000 --> 00:08:39,000

There are examples from Bill's case which indicate the specificity above and beyond simple changes in diet or exercise, which a lot of people might do because they had a heart transplant.

91

00:08:39,000 --> 00:08:50,000

Can't these personality changes be explained as a reaction to a brush with death or even as side effects of the powerful anti-rejection drugs used after transplant surgery?

92

00:08:50,000 --> 00:09:04,000

The first thing we want to entertain are conventional explanations like side effects of the drugs, stress of the surgery or just changes in philosophy of life.

93

00:09:05,000 --> 00:09:16,000

The side effects from major organ transplant are mostly related to the immunosuppression that's required because the recipient immune system wants to fight against the new organ.

94

00:09:16,000 --> 00:09:29,000

And so they're given drugs and medication to tame down their immune system and most of the side effects and toxicity come from these immunosuppressant drugs that reduce the response of the body to the new organ.

95

00:09:29,000 --> 00:09:42,000

A side effect of a steroid might change people's anxiety level or it might change maybe a certain food preference, but it's going to be random in relationship to the preferences and personality of the donor.

96

00:09:42,000 --> 00:09:49,000

In order for that change to match the donor, there has to be some coupling and that coupling is not going to come from the drug.

97

00:09:49,000 --> 00:10:02,000

Now the drugs may facilitate sometimes those connections, but they're not causing the match. The matches can only be explained by some sort of memory or informational connection.

98

00:10:02,000 --> 00:10:15,000

I don't think the anti-rejection drugs as toxic as they may be could explain the specific information that gets transferred. That would have to be pure luck or some actual mechanism of transference from the donor to the recipient.

99

00:10:16,000 --> 00:10:31,000

So it appears to be too much of a coincidence to be the drugs. Dr. Stuart Hamarov has a radical theory that suggests something almost beyond belief. Can the human heart actually store our memories?

100

00:10:31,000 --> 00:10:40,000

It's not only the brain that can store a memory. We have muscle memory. We learn to play tennis and there's information stored in the nerves that control the muscles.

101

00:10:40,000 --> 00:10:57,000

And the heart has a lot of neurons. Outside of the brain, that's one of the largest collections of neurons in the body. The nodes that control the beating of the heart and the conduction and the synchrony of the muscle so the heart beats together synchronously are fairly a substantial complex of neurons.

102

00:10:58,000 --> 00:11:03,000

In Dangling A.V. knows that we form a network of neurons inside the heart.

103

00:11:03,000 --> 00:11:13,000

Neurons are specialized cells that transmit information via electric impulses and chemical signals throughout the body's nervous system.

104

00:11:13,000 --> 00:11:23,000

The information they carry allows us to move, think, learn and feel. Most neuroscientists believe that long-term memories are stored exclusively by neurons in the brain.

105

00:11:23,000 --> 00:11:26,500

Dr. Hamarov has a more radical theory.

106

00:11:26,500 --> 00:11:30,500

He believes memories can also be stored by neurons in other parts of the body,

107

00:11:30,500 --> 00:11:34,800

within a cellular structure called a microtubule.

108

00:11:34,800 --> 00:11:38,600

Microtubules seem to be the most likely site

109

00:11:38,600 --> 00:11:42,960

for memory to be housed because we know that in Alzheimer's disease where you lose memory,

110

00:11:42,960 --> 00:11:46,000

it's the microtubules in the brain neurons that fall apart.

111

00:11:46,000 --> 00:11:49,960

So there's a number of avenues of evidence to lead to the fact that the

112

00:11:49,960 --> 00:11:54,720

microtubules are housing and storing memory, but it would be focused and more

113

00:11:54,720 --> 00:11:59,320

prevalent in parts of the body that have the most neurons, the most microtubules,

114

00:11:59,320 --> 00:12:02,960

namely the brain and the big nervous ganglia like the heart.

115

00:12:02,960 --> 00:12:07,520

If Dr. Hamarov is right, memories can be stored by microtubules in the brain,

116

00:12:07,520 --> 00:12:11,960

the heart, and the spinal cord, or anywhere else there are neurons.

117

00:12:11,960 --> 00:12:16,160

This could explain why when Bill Wall got a heart transplant,

118

00:12:16,160 --> 00:12:18,960

he got a memory transplant too.

119

00:12:19,960 --> 00:12:26,460

Dr. Hamarov came to his theory of memory initially by studying neurons and anesthesia

120

00:12:26,460 --> 00:12:30,460

and then extending that to other organs, particularly the heart.

121

00:12:30,460 --> 00:12:37,460

So he's looking at a very special case of how a particular component of a cell can have memory.

122

00:12:37,460 --> 00:12:39,460

And I wouldn't disagree with him.

123

00:12:39,460 --> 00:12:44,460

Throughout human history, poets and philosophers have invested the heart

124

00:12:44,460 --> 00:12:47,460

with powers and meaning beyond that of a simple organ.

125

00:12:47,460 --> 00:12:53,960

In Papua New Guinea, victorious warrior tribes would consume the hearts of the vanquished

126

00:12:53,960 --> 00:12:55,460

to absorb their qualities.

127

00:12:55,460 --> 00:13:01,960

In the arts, the heart has always been seen as the source of all love and passion.

128

00:13:01,960 --> 00:13:08,460

Who could refrain that had a heart to love and in that heart courage to make love known

129

00:13:08,460 --> 00:13:09,960

that Shakespeare?

130

00:13:09,960 --> 00:13:15,460

The heart is central to our culture and it is our own center.

131

00:13:15,460 --> 00:13:17,960

From the heart, everything flows.

132

00:13:17,960 --> 00:13:23,460

Now, some scientists believe the heart literally has a mind of its own.

133

00:13:23,460 --> 00:13:30,460

But could memory and intelligence be found in more than our hearts and heads?

134

00:13:30,460 --> 00:13:36,460

Could it be coursing through our whole bodies?

135

00:13:36,460 --> 00:13:39,460

Dr. Schwartz's theory takes things a step further.

136

00:13:39,460 --> 00:13:44,960

He thinks memory can be stored in all cells throughout the body, not just the neurons.

137

00:13:44,960 --> 00:13:48,460

Thanks to something called feedback.

138

00:13:48,460 --> 00:13:52,460

Feedback is the essence of learning and memory.

139

00:13:52,460 --> 00:13:56,460

Now, that same feedback process operates at any level.

140

00:13:56,460 --> 00:14:01,460

It's what operates within the neurons that allow the neurons to learn between them.

141

00:14:01,460 --> 00:14:06,460

But that same feedback that allows the neuron cells to learn is feedback that can operate

142

00:14:06,460 --> 00:14:13,460

within the interconnected network of cells in the heart or the lungs or any other organ.

143

00:14:13,460 --> 00:14:20,960

That's why feedback memory is, if you would, a universal memory model which then can in

144

00:14:20,960 --> 00:14:24,960

unique ways be applied to any system at any level.

145

00:14:24,960 --> 00:14:29,960

Feedback occurs when a past event influences the response to the same event in the present

146

00:14:29,960 --> 00:14:30,960

or future.

147

00:14:30,960 --> 00:14:36,960

According to Schwartz, this loop allows individual cells to have a sort of memory.

148

00:14:36,960 --> 00:14:39,960

That's another thing about these feedback loops, the recurring process.

149

00:14:39,960 --> 00:14:44,460

Every time you repeat the process over and over again, it makes the memory stronger.

150

00:14:44,460 --> 00:14:49,460

Could our individual cells have a form of memory?

151

00:14:49,460 --> 00:14:51,460

Schwartz believes they do.

152

00:14:51,460 --> 00:14:55,460

And what's more, he thinks he can prove it.

153

00:14:55,460 --> 00:15:00,460

We typically think of muscle memory as being mostly the brain.

154

00:15:00,460 --> 00:15:05,460

But it turns out the muscles have the potential to learn as well because all muscles have

155

00:15:05,460 --> 00:15:06,460

feedback.

156

00:15:06,460 --> 00:15:11,460

There go feedback memory and muscle memory in the muscles themselves.

157

00:15:11,460 --> 00:15:13,960

Schwartz can show this principle in action.

158

00:15:13,960 --> 00:15:19,460

A person is able to train his muscles to shoot basketball hoops using feedback so that he

159

00:15:19,460 --> 00:15:23,960

continues to hit the basket even when blindfolded.

160

00:15:23,960 --> 00:15:27,960

According to Schwartz, it is not just groups of tissue that can have memories.

161

00:15:27,960 --> 00:15:35,460

He thinks it is possible that every single cell in the body can store information.

162

00:15:35,460 --> 00:15:39,460

Since feedback loops are operating at every level in the body at every level, there's

163

00:15:39,460 --> 00:15:45,460

going to be theoretically memory and to various degrees learning at every level in the body.

164

00:15:45,460 --> 00:15:50,460

And so this is not a theory about brain learning or heart learning.

165

00:15:50,460 --> 00:15:54,460

It's really even not a theory about cellular learning per se.

166

00:15:54,460 --> 00:16:00,960

It's a theory about feedback learning and to the extent that cells have feedback loops

167

00:16:00,960 --> 00:16:02,960

that they will learn as well.

168

00:16:02,960 --> 00:16:07,460

Although unproven, this theory could help explain the cases of transplant recipients

169

00:16:07,460 --> 00:16:13,960

who report receiving the donor's memories, tastes, and behavior along with their new organ.

170

00:16:14,960 --> 00:16:17,460

Interesting, but unfortunately all theoretical.

171

00:16:17,460 --> 00:16:21,960

Maybe to find the answer to this mystery we should take a look at a different organ,

172

00:16:21,960 --> 00:16:23,460

the human brain.

173

00:16:23,460 --> 00:16:25,960

Maybe, just maybe.

174

00:16:25,960 --> 00:16:30,960

Now that Bill has his new heart and his health, it's gone to his head.

175

00:16:31,960 --> 00:16:38,960

Could getting a new lease on life convince you that you are a whole new person?

176

00:16:38,960 --> 00:16:41,960

Bill doesn't think it's all that simple.

177

00:16:41,960 --> 00:16:47,960

Certainly just getting a transplant and a second chance at life changed me in a major way,

178

00:16:48,460 --> 00:16:55,460

but I also totally believe that certain characteristics of my donor have become a basic part of my life

179

00:16:55,460 --> 00:16:59,460

and I feel that this is the cellular memory that's changed my life.

180

00:16:59,460 --> 00:17:03,460

I honestly feel made me a better person, a happier person,

181

00:17:03,460 --> 00:17:09,460

and I actually love now caring and helping and wanting to make a difference.

182

00:17:09,460 --> 00:17:13,460

Most neuroscientists remain skeptical that cellular memory exists at all.

183

00:17:13,460 --> 00:17:19,960

Nevertheless, Bill all believes memories, just like organs, can be transplanted.

184

00:17:20,960 --> 00:17:27,960

One thing is true, Bill's experiences have definitely been weird or what.

185

00:17:43,960 --> 00:17:52,960

Pie, warm round, delicious, simply nothing weird at all here,

186

00:17:52,960 --> 00:17:54,960

but this got me thinking about pie.

187

00:17:54,960 --> 00:17:58,960

No, not this pie, the number pie.

188

00:17:58,960 --> 00:18:01,960

You need the number pie to explain the simple circle

189

00:18:01,960 --> 00:18:07,960

and just like the simple round delicious pie, when you dig deeper it gets more complicated.

190

00:18:07,960 --> 00:18:12,960

Pie is a constant, the ratio of any circle's circumference to its diameter,

191

00:18:12,960 --> 00:18:18,460

but that ratio can be calculated forever without coming to a final decimal.

192

00:18:18,460 --> 00:18:28,460

Circles, they start off looking so simple, but when you get down to it, they're really complicated.

193

00:18:29,460 --> 00:18:35,460

On December 13, 2007, amateur photographer Brooke Taylor was walking through

194

00:18:35,460 --> 00:18:38,460

Rat Ray Marsh Conservation Area, Southern Ontario.

195

00:18:38,960 --> 00:18:42,460

Well, I love to do nature photography landscapes primarily,

196

00:18:42,460 --> 00:18:47,960

creeks and waterfalls and anything that's sort of remote and off the beaten path.

197

00:18:47,960 --> 00:18:55,960

When he got to Sheridan Creek, Brooke saw something bizarre, majestic and totally unexplained.

198

00:18:55,960 --> 00:18:58,960

Well, I was coming down here to see what the creek looked like

199

00:18:58,960 --> 00:19:02,960

and as I was coming around to the boardwalk over there, I happened to see it.

200

00:19:02,960 --> 00:19:07,960

It was about six feet, maybe a little bit more in diameter and it was turning.

201

00:19:11,460 --> 00:19:16,460

Brooke had stumbled upon a strange, beautiful and mysterious phenomenon.

202

00:19:16,460 --> 00:19:21,460

I was really amazed, it was so cool, a perfectly round circle inscribed in the ice.

203

00:19:21,460 --> 00:19:25,460

And so I set up my camera and started shooting.

204

00:19:28,460 --> 00:19:31,460

Brooke posted the photo on the internet and after 150,000 hits,

205

00:19:31,460 --> 00:19:38,960

he quickly learned that ice circles were a global mystery found across the US, Canada, Europe, Russia.

206

00:19:39,960 --> 00:19:43,960

But what or who was creating them?

207

00:19:43,960 --> 00:19:48,960

To Taylor, this similarity to a famous English hoax seemed obvious.

208

00:19:49,960 --> 00:19:53,960

Well, I entitled my photograph, Creek Circle, take off on Crop Circle

209

00:19:53,960 --> 00:19:57,960

because the crop circles are obviously a little bit mysterious.

210

00:19:58,460 --> 00:20:01,460

Perfectly round circles forming naturally in the ice.

211

00:20:01,460 --> 00:20:04,460

Come on, it's too good to be true, right?

212

00:20:04,460 --> 00:20:06,460

Too perfect, too weird.

213

00:20:07,460 --> 00:20:14,460

Surely someone is messing with us, creating ice circles like they would create crop circles.

214

00:20:15,460 --> 00:20:21,460

For over two decades, strange geometrical designs known as crop circles appeared in British farmland.

215

00:20:21,960 --> 00:20:24,960

In 1991, two men admitted they were behind the hoax.

216

00:20:24,960 --> 00:20:29,960

They created these amazing patterns with little more than a length of rope and a plank of wood.

217

00:20:31,960 --> 00:20:38,960

So could the ice circles be the handiwork of human hoaxers, just like many crop circles turned out to be?

218

00:20:39,960 --> 00:20:43,960

It's impossible for somebody to generate these circles.

219

00:20:43,960 --> 00:20:47,960

The ice is very, very thin, very delicate, very fragile.

220

00:20:48,460 --> 00:20:53,460

And you try and put any sort of thing to cut the ice, you're going to leave evidence of it.

221

00:20:53,460 --> 00:21:00,460

Or you're going to have to somehow be standing in the ice or standing in the water to be able to hold whatever tool that you have to cut the circle.

222

00:21:00,460 --> 00:21:05,460

So I wouldn't, it's mother nature doing her finest.

223

00:21:06,460 --> 00:21:12,460

Len Zabelanski is an engineer at the Cold Region's Research and Engineering Laboratory in New Hampshire.

224

00:21:12,460 --> 00:21:16,460

Their research helps the U.S. military operate in cold climates.

225

00:21:16,960 --> 00:21:19,960

Ice is nice. This is what we do day in and day out.

226

00:21:19,960 --> 00:21:25,960

We have three facilities here that we replicate the different processes, the ice processes in different phases.

227

00:21:25,960 --> 00:21:28,960

We're in the test basin where we do flat ice, sheet ice.

228

00:21:28,960 --> 00:21:35,960

We have another facility where we bring a river system inside and then we have a large general

research area.

229

00:21:36,960 --> 00:21:41,960

Len sees a fundamental problem facing people wanting to hoax an ice circle.

230

00:21:42,460 --> 00:21:47,460

Because ice floats on top of the flowing river, there's no support below.

231

00:21:48,460 --> 00:21:51,460

The ice doesn't have any strength whatsoever.

232

00:21:51,460 --> 00:21:56,460

It's a very delicate process and it's the water that's sort of holding it together.

233

00:21:56,460 --> 00:21:59,460

And there's basically no strength in this.

234

00:21:59,460 --> 00:22:03,460

For anybody trying to go out and do that, the ice has no strength.

235

00:22:03,460 --> 00:22:10,460

And so he has to basically stand in mid-air to be able to do this and that's physically impossible.

236

00:22:10,960 --> 00:22:17,960

Zablinsky believes these perfect ice circles are formed by a unique combination of natural processes.

237

00:22:17,960 --> 00:22:22,960

And for the first time, using a unique experiment, he intends to prove it.

238

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

The way the ice circles form is basically in a back-eddy.

239

00:22:25,960 --> 00:22:28,960

The ice will follow the water.

240

00:22:28,960 --> 00:22:30,960

And if the water goes in a circle, so will the ice.

241

00:22:30,960 --> 00:22:34,960

Back-eddies can be found on bends and rivers where a constriction

242

00:22:35,460 --> 00:22:40,460

forces some of the water to flow back on itself, creating a rotating pool.

243

00:22:40,460 --> 00:22:44,460

So the theory goes that in the winter, when ice flows into an eddy,

244

00:22:44,460 --> 00:22:48,460

it too becomes part of the rotation and begins to grow and grow outward,

245

00:22:48,460 --> 00:22:53,460

until it grinds against the surrounding static ice like a gristmill,

246

00:22:53,460 --> 00:22:57,460

creating the perfect, beautiful ice circle.

247

00:22:57,460 --> 00:23:04,460

And what happens in the winter environment, ice that's coming down into this backwater area,

248

00:23:04,460 --> 00:23:06,460

actually goes around as well.

249

00:23:06,460 --> 00:23:11,460

And as the ice is contributing into this background, it continues to grow in a larger and larger circle.

250

00:23:11,460 --> 00:23:16,460

If you look at an ice circle that we've had pictures of, it looks like a vinyl record,

251

00:23:16,460 --> 00:23:20,460

because everything is all very circular with different little ridges around.

252

00:23:20,460 --> 00:23:23,460

So what's happening is the ice is coming down, bangs into the circle,

253

00:23:23,460 --> 00:23:26,460

and it just sort of squashes in and you get a little ridge.

254

00:23:26,460 --> 00:23:31,460

And that ridge just keeps building up in time and getting larger and larger and larger and larger in diameter.

255

00:23:32,460 --> 00:23:37,460

Like a gristmill, the rotating ice circles grind against the surrounding ice,

256

00:23:37,460 --> 00:23:42,460

creating a perfectly round circle and its mirror image.

257

00:23:42,460 --> 00:23:46,460

The two pieces will sort of nest together with a little bit of open water between them.

258

00:23:47,460 --> 00:23:52,460

And there's a very narrow gap, but you can actually see the milling process actually taking place.

259

00:23:52,460 --> 00:23:57,460

Len believes this is exactly what happened to create the ice circle in Brook Taylor's photo.

260

00:23:57,460 --> 00:24:03,460

You can actually still see rings. This is the kind of ice circle that we're going to duplicate today.

261

00:24:04,460 --> 00:24:08,460

What are these mysterious circles of ice? Are they a natural process of nature?

262

00:24:08,460 --> 00:24:15,460

Can they be recreated in a lab or does the answer to this bizarre mystery lie beyond our planet?

263

00:24:16,460 --> 00:24:19,460

At the Cole Region's Research and Engineering Laboratory in New Hampshire,

264

00:24:19,460 --> 00:24:25,460

engineer Len Zabanski intends to find out with an experiment that has never been attempted before.

265

00:24:25,460 --> 00:24:30,460

Recreating the conditions that he believes will lead to the creation of an ice circle.

266

00:24:32,460 --> 00:24:40,460

What we've created here is the river process that would contribute to the formation of an ice circle.

267

00:24:40,460 --> 00:24:46,460

In a temperature-controlled laboratory, Len has recreated the prevailing physical and environmental conditions

268

00:24:46,460 --> 00:24:49,460

that existed when Brook Tyler photographed the ice circle.

269

00:24:49,460 --> 00:24:54,460

The water is coming from our upstream reach of the river. It's coming down past,

270

00:24:54,460 --> 00:24:59,460

but we have more water coming into this section of the river that we can actually allow to leave

271

00:24:59,460 --> 00:25:04,460

to sort of create a backwater ready. What happens is the water coming into our ready reach,

272

00:25:04,460 --> 00:25:12,460

our hydraulic section, is less than the water that we're allowing to release from our control

section.

273

00:25:12,460 --> 00:25:15,460

So we're continually recirculating. That's the recirculating section.

274

00:25:15,460 --> 00:25:20,460

And so a little bit of the water will come out, but the ice will actually stay in and continually circulate.

275

00:25:20,460 --> 00:25:27,460

The back-eddy is a rotating pool of water Len believes is needed to trap and grow ice into a circle.

276

00:25:27,460 --> 00:25:33,460

We're generating small snow crystals that are settling on the water surface,

277

00:25:33,460 --> 00:25:39,460

and that's what we're using to initiate ice. And as the ice forms and creates and circulates around,

278

00:25:39,460 --> 00:25:46,460

we're controlling the amount of ice that we're generating so we're not plugging up the system.

279

00:25:46,460 --> 00:25:52,460

The snow acts like a seed and helps ice crystals to form in the flowing water.

280

00:25:52,460 --> 00:25:59,460

And once the merci will pump, and as the water comes around, it just shoots it forward along with the ice

281

00:25:59,460 --> 00:26:02,460

down into our ready section.

282

00:26:03,460 --> 00:26:09,460

The experiment begins. Will Lens River form an elusive ice circle?

283

00:26:09,460 --> 00:26:13,460

You'll see there's a piece of ice that just started spinning around in our circle.

284

00:26:13,460 --> 00:26:21,460

It will continue to build. And as it continues to rotate, ice that's coming from upstream, we accumulate on the edge,

285

00:26:21,460 --> 00:26:25,460

and that's why you're going to start seeing these ridges.

286

00:26:25,460 --> 00:26:32,460

At first the ice in the back-eddy grows as predicted, but it isn't forming as a uniform disk.

287

00:26:32,460 --> 00:26:37,460

It's ice, but nowhere near the perfect ice circles he is trying to recreate.

288

00:26:37,460 --> 00:26:39,460

We just jammed it.

289

00:26:41,460 --> 00:26:46,460

Joe Dysloges is a fluvial geomorphologist or river expert.

290

00:26:46,460 --> 00:26:51,460

He believes he has a better theory to explain this weird quirk of nature.

291

00:26:51,460 --> 00:26:58,460

Let's not assume the most wild to start with and let's start thinking about the true explanations that really help

292

00:26:58,460 --> 00:27:01,460

understand these, and that is the science.

293

00:27:01,460 --> 00:27:07,460

But can science explain the three-mile-wide ice circle in Russia's Lake Baikal?

294

00:27:07,460 --> 00:27:15,460

Features from space look fantastic, but when you're actually on the ground, you get a better sense of what's likely to be controlling them

295

00:27:15,460 --> 00:27:20,460

and probably a different perception entirely about what the composition of them are and what they're made of.

296

00:27:20,460 --> 00:27:25,460

The best science relates to good field evidence, good field investigations,

297

00:27:25,460 --> 00:27:33,460

and a lot of the speculation, if you like, or the guesswork that comes from standing afar is a good first approximation,

298

00:27:33,460 --> 00:27:36,460

but good science really requires you to be out in the field.

299

00:27:36,460 --> 00:27:43,460

Joe has spent years studying how rivers behave in cold regions like Canada and Scandinavia.

300

00:27:43,460 --> 00:27:49,460

Well, cold climates are fantastic in terms of water and the way water freezes.

301

00:27:49,460 --> 00:27:54,460

You can see a whole range of shapes, but one of the most common one is circular,

302

00:27:54,460 --> 00:27:56,460

and they come in a whole variety of sizes.

303

00:27:56,460 --> 00:28:01,460

They form at different types in times of the year during the cold season,

304

00:28:01,460 --> 00:28:11,460

and it's just a tremendous way of understanding how rivers interact with freezing or cold environments.

305

00:28:11,460 --> 00:28:16,460

Joe believes there's another natural process that forms frozen circles on a river.

306

00:28:16,460 --> 00:28:18,460

It's called phrasal ice.

307

00:28:18,460 --> 00:28:25,460

Phrasal ice forms in rivers when the water cools to a point where you begin forming these ice crystals,

308

00:28:25,460 --> 00:28:27,460

or we call them ice nuclei.

309

00:28:27,460 --> 00:28:35,460

The process is called supercooling when water is just slightly below the freezing temperature and

these nuclei begin to form.

310

00:28:35,460 --> 00:28:40,460

As the tiny ice crystals start to collide, they grow into larger clumps of phrasal ice.

311

00:28:41,460 --> 00:28:46,460

Ice is lighter than water, so as the clumps grow, the more buoyant they become.

312

00:28:46,460 --> 00:28:51,460

And as they float to the surface, they tend to form these nice circular ice pans,

313

00:28:51,460 --> 00:28:56,460

so they actually look like a rather weird phenomenon on the river surface.

314

00:28:56,460 --> 00:29:02,460

It's a promising theory, but Joe's ice pans don't look like the spinning perfect ice circles

315

00:29:02,460 --> 00:29:05,460

Brooke Taylor photographed in Ontario.

316

00:29:05,460 --> 00:29:09,460

Back at the US Army Cold Regions Research and Engineering Laboratory,

317

00:29:09,460 --> 00:29:15,460

Len Zablansky is still having difficulty creating an ice circle in the lab.

318

00:29:15,460 --> 00:29:23,460

It's possible the rate of freezing is too slow, meaning new ice isn't filling in the gaps to make a circular shape.

319

00:29:23,460 --> 00:29:30,460

So that just shows you how delicate this process is when Mother Nature is generating these ice circles.

320

00:29:30,460 --> 00:29:33,460

Len decides to drop the ambient temperature.

321

00:29:33,460 --> 00:29:39,460

We've just dropped the temperature two degrees and we're generating more ice and it's freezing faster.

322

00:29:39,460 --> 00:29:42,460

The experiment begins again.

323

00:29:42,460 --> 00:29:49,460

This time the colder temperature is helping build the ice as quickly as it has melted or eroded away.

324

00:29:51,460 --> 00:29:55,460

You can see that some of the ice is starting to freeze into a circle.

325

00:29:55,460 --> 00:30:00,460

As Len predicted, the ice is growing thanks to new ice crystals joining from upstream

326

00:30:00,460 --> 00:30:04,460

and sheet ice growing out from the circle itself.

327

00:30:04,460 --> 00:30:09,460

If we let this run for another 6-12 hours, that ice will become very, very strong.

328

00:30:13,460 --> 00:30:19,460

Allowing his man-made river to flow for hours, Len hopes his experiment will produce a genuine ice circle.

329

00:30:19,460 --> 00:30:22,460

The results are remarkable.

330

00:30:22,460 --> 00:30:26,460

This is the first time we've created an ice circle of this quality in the lab.

331

00:30:26,460 --> 00:30:30,460

Sometimes we've been able to kick out, sometimes we've almost had it,

332

00:30:30,460 --> 00:30:33,460

but this is the first one that's actually starting to become circular.

333

00:30:33,460 --> 00:30:36,460

This is because it's starting to be mature.

334

00:30:37,460 --> 00:30:42,460

For the first time, Zabłanski has shown one way ice circles can form.

335

00:30:45,460 --> 00:30:51,460

But many of these beautiful natural phenomena remain mysterious and not just on Earth.

336

00:30:51,460 --> 00:30:56,460

In 2010, NASA discovered circular grooves hundreds of miles wide

337

00:30:56,460 --> 00:31:00,460

etched into the surface of Europa, Jupiter's ice-bowl moon.

338

00:31:00,460 --> 00:31:05,460

And that, for now, will remain weird.

339

00:31:05,460 --> 00:31:07,460

What?

340

00:31:22,460 --> 00:31:27,460

Four unremarkable letters, A, T, G, and C.

341

00:31:27,460 --> 00:31:30,460

That's all there are in our DNA alphabet.

342

00:31:30,460 --> 00:31:34,460

Take those four letters, multiply them by billions, and arrange them in a unique sequence

343

00:31:34,460 --> 00:31:37,460

long enough to fill hundreds of telephone directories.

344

00:31:37,460 --> 00:31:45,460

And you have one strand of DNA, the source of the information that makes you, you, and me, me.

345

00:31:45,460 --> 00:31:53,460

But what if someone examined your DNA and revealed that you were not who you thought you were,

346

00:31:53,460 --> 00:31:57,460

and in fact you were sharing your body with someone else?

347

00:31:58,460 --> 00:32:04,460

In 2002, Lydia Fairchild, mother to four children fathered by her partner Jamie Townsend,

348

00:32:04,460 --> 00:32:08,460

applied for state benefits to help raise her young family.

349

00:32:08,460 --> 00:32:14,460

In accordance with state law, Lydia and her children had DNA tests to prove parentage

350

00:32:14,460 --> 00:32:20,460

at conception, we inherit half our DNA from our mother and half from our father.

351

00:32:20,460 --> 00:32:27,460

When all is normal, every child will have a genetic inheritance that can be easily traced to both parents.

352

00:32:27,460 --> 00:32:33,460

But Lydia's DNA results would prove to be far from normal.

353

00:32:33,460 --> 00:32:40,460

I got a call and the prosecutor had asked that I come up to the office.

354

00:32:41,460 --> 00:32:47,460

He started asking like, was I trying to do fraud by getting help from the state,

355

00:32:47,460 --> 00:32:51,460

because these kids aren't yours, and I was just, I stopped him from it, and I was like,

356

00:32:51,460 --> 00:32:53,460

what do you mean these kids aren't mine?

357

00:32:53,460 --> 00:33:00,460

And he says, well, the test came back, Jamie is the father of all the kids, but you are not the mother.

358

00:33:00,460 --> 00:33:06,460

The tests were repeated twice more, but both times the results were the same.

359

00:33:07,460 --> 00:33:12,460

Jamie was the father. None of the four children appeared to be related to Lydia.

360

00:33:12,460 --> 00:33:19,460

I was so scared. They said that they were going to take it to court, because they didn't find that I was telling the truth.

361

00:33:19,460 --> 00:33:21,460

They thought that I was lying.

362

00:33:21,460 --> 00:33:27,460

The state prosecutor started an investigation and Lydia found herself in front of a judge.

363

00:33:27,460 --> 00:33:31,460

The judge looked at me and he says, are these your children? I said, yes they are.

364

00:33:31,460 --> 00:33:37,460

You know, I got pregnant, I carried them, I delivered them. The doctor has ultrasounds of them being in my stomach.

365

00:33:37,460 --> 00:33:42,460

The judge said you opened a big kind of worms. He's like, we don't know what's going on here, but we're going to figure it out.

366

00:33:42,460 --> 00:33:49,460

He said he wants me to go down to a special lab and had DNA tested on me and my children again,

367

00:33:49,460 --> 00:33:54,460

but now not through the nurse, through the prosecutor's office, where she could possibly be making this mistake.

368

00:33:54,460 --> 00:34:04,460

Despite overwhelming evidence, supporting Lydia's claim, four DNA tests show that she is not the biological mother of the children she gave birth to.

369

00:34:04,460 --> 00:34:06,460

But why?

370

00:34:06,460 --> 00:34:14,460

First and most obvious reason to be explored, the possibility that the DNA tests could be wrong.

371

00:34:14,460 --> 00:34:19,460

To be told that DNA is essentially foolproof is very problematic.

372

00:34:19,460 --> 00:34:24,460

Dr. Kerry Bowman specializes in the ethics of medicine.

373

00:34:24,460 --> 00:34:31,460

Many people in medicine, and I'm one of them, would say nothing in medicine is 100%. It can get close to it, but it's not 100%.

374

00:34:31,460 --> 00:34:39,460

The talk, though, with DNA is that there's an exception and that DNA is virtually foolproof as a testing strategy.

375

00:34:39,460 --> 00:34:44,460

When in fact, they may be rare, but there are exceptions to that.

376

00:34:44,460 --> 00:34:50,460

So in fact, did Lydia really have a fair consent process? I would say not.

377

00:34:50,460 --> 00:34:57,460

Parental DNA tests themselves are more than 99% accurate, but humans can, and do, make mistakes.

378

00:34:57,460 --> 00:35:00,460

Had this happened to Lydia's tests?

379

00:35:00,460 --> 00:35:03,460

My first thought is perhaps somehow the samples got screwed up.

380

00:35:03,460 --> 00:35:11,460

Maybe they mixed up her DNA sample with some other women's and then when they tested it, of course it would show that it wasn't her kid.

381

00:35:11,460 --> 00:35:19,460

And my first goal was I was going to ask the court to order a whole new set of DNA tests done with a separate, a new laboratory to do it.

382

00:35:19,460 --> 00:35:23,460

See if the second laboratory came back with the same problem.

383

00:35:23,460 --> 00:35:33,460

Medical mix-ups do happen. In 2002, Linda McDougal from Woodville, Wisconsin, was diagnosed with breast cancer and underwent a double mastectomy.

384

00:35:33,460 --> 00:35:38,460

However, two days after the operation, doctors told Linda it had all been a mistake.

385

00:35:38,460 --> 00:35:42,460

Her biopsy results had been accidentally switched with another patient.

386

00:35:42,460 --> 00:35:47,460

Linda never had cancer and so the surgery had been completely unnecessary.

387

00:35:47,460 --> 00:35:52,460

Did a similar human error skew Lydia's DNA results?

388

00:35:52,460 --> 00:35:59,460

Or is the real answer to this mystery beyond anything medical science has ever imagined?

389

00:35:59,460 --> 00:36:01,460

So what is going on?

390

00:36:01,460 --> 00:36:07,460

Another theory suggests that Lydia could have given birth to her children and yet not have been their biological mother.

391

00:36:07,460 --> 00:36:13,460

It is speculated that Lydia was an IVF surrogate.

392

00:36:13,460 --> 00:36:18,460

So what a surrogate pregnancy is, is what used to be called test tube babies.

393

00:36:18,460 --> 00:36:31,460

When egg and sperm are introduced outside the womb in a lab condition, put together, they create an embryo and that embryo is then put into the uterus of a surrogate mother.

394

00:36:31,460 --> 00:36:37,460

So this woman has no biological relationship to the child that she is carrying and will eventually bear.

395

00:36:37,460 --> 00:36:43,460

But why would Lydia have carried the fertilized eggs of another woman four times over?

396

00:36:43,460 --> 00:36:45,460

It certainly wouldn't benefit fraud.

397

00:36:45,460 --> 00:36:53,460

IVF itself is extremely expensive and to speak in American dollars, you could easily be talking about 30 or 50 thousand dollars

398

00:36:53,460 --> 00:37:01,460

and how someone like Lydia Fairtale would want or could possibly do this to create some kind of welfare scam.

399

00:37:01,460 --> 00:37:03,460

I can't even imagine how that would work.

400

00:37:03,460 --> 00:37:11,460

The costs simply don't line up to whatever benefits someone could pull from this in terms of a welfare scam.

401

00:37:11,460 --> 00:37:13,460

It doesn't make any sense.

402

00:37:13,460 --> 00:37:17,460

And as Dr. Chitaid explains, IVF is not something that can be done at home.

403

00:37:17,460 --> 00:37:21,460

It's impossible to do in your kitchen in vitro fertilization.

404

00:37:21,460 --> 00:37:30,460

You have to stimulate the ovary of the mother and you have to make sure that you don't over-stimulate because then it will produce huge cysts in the ovary

405

00:37:30,460 --> 00:37:34,460

and can cause her to have dehydration and even death.

406

00:37:34,460 --> 00:37:39,460

So it has to be monitored very carefully by experts in this field.

407

00:37:39,460 --> 00:37:41,460

There's an even bigger problem with this theory.

408

00:37:41,460 --> 00:37:48,460

The father of all four of Lydia's children had been confirmed as her partner Jamie Townsend.

409

00:37:48,460 --> 00:37:54,460

It wasn't logical that somebody would hire Lydia to carry surrogacy and then have them all fathered by Jamie Townsend.

410

00:37:54,460 --> 00:37:56,460

Why would they pick him?

411

00:37:56,460 --> 00:38:02,460

And besides that, the children didn't go off to live with the contracting people who would hire Lydia to be a surrogate.

412

00:38:02,460 --> 00:38:03,460

It was just illogical.

413

00:38:03,460 --> 00:38:08,460

I mean, it had to be, it could have been an explanation that she was a surrogate parent,

414

00:38:08,460 --> 00:38:12,460

but I'd ask her, was there any surrogacy contract between you and anybody else?

415

00:38:12,460 --> 00:38:13,460

No.

416

00:38:13,460 --> 00:38:17,460

She was adamant she was not a surrogate parent for anybody.

417

00:38:17,460 --> 00:38:23,460

None of the theories seem plausible and case seemed destined to remain as mysterious as it was bizarre

418

00:38:23,460 --> 00:38:28,460

until Lydia's attorney discovered something almost too weird to be believed.

419

00:38:28,460 --> 00:38:33,460

A description in a medical journal of a rare and almost unheard of genetic condition

420

00:38:33,460 --> 00:38:38,460

only known to affect around 40 people in the whole world.

421

00:38:38,460 --> 00:38:43,460

Something called tetragametic chimerism.

422

00:38:43,460 --> 00:38:50,460

I was doing a little trolling on the internet and wondered if maybe it fit our scenario.

423

00:38:50,460 --> 00:38:56,460

And so I read it as much as I could understand, but it sounded very much like what we were dealing with.

424

00:38:56,460 --> 00:39:02,460

So I contacted Dr. Kruskal, who was one of the authors of the paper.

425

00:39:02,460 --> 00:39:07,460

She's now deceased and introduced myself in the phone and said,

426

00:39:07,460 --> 00:39:09,460

I think I've read your article.

427

00:39:09,460 --> 00:39:11,460

I think I have a case very much like it.

428

00:39:11,460 --> 00:39:14,460

Of course, they were intrigued about it.

429

00:39:14,460 --> 00:39:20,460

So could I send you the test results we have and maybe you can give us an insight of what's happening here.

430

00:39:20,460 --> 00:39:24,460

One way a chimeric can form is when two separate aches are fertilized by two sperm

431

00:39:24,460 --> 00:39:26,460

and then merged to form a single embryo.

432

00:39:26,460 --> 00:39:32,460

But simply, it's two non-identical twins merging very early on in pregnancy.

433

00:39:32,460 --> 00:39:38,460

Their two sets of DNA are then intermingled throughout the body.

434

00:39:38,460 --> 00:39:46,460

If Lydia Fairchild was a chimera, it could explain how her biological children have different DNA.

435

00:39:46,460 --> 00:39:50,460

They would have inherited one set of DNA from one area of her body,

436

00:39:50,460 --> 00:39:57,460

while the laboratory sampled other areas that contained a completely different set of DNA.

437

00:39:57,460 --> 00:40:00,460

Everybody then, I think, is when they kind of stepped back a little bit more.

438

00:40:00,460 --> 00:40:02,460

The prosecutors were confused now.

439

00:40:02,460 --> 00:40:06,460

All this time they've been trying to take them from me and I can just see on their faces like,

440

00:40:06,460 --> 00:40:09,460

whoa, you know what I mean, what did we almost just do?

441

00:40:09,460 --> 00:40:15,460

The problem with chimerism is that you have to actually do biopsies from different body organs,

442

00:40:15,460 --> 00:40:24,460

liver, kidney, intestine perhaps, and find out if all of them contain the same genetic material as we check in the blood.

443

00:40:24,460 --> 00:40:27,460

Lydia was sent back for more DNA tests.

444

00:40:27,460 --> 00:40:31,460

This time they took samples from all over her body.

445

00:40:32,460 --> 00:40:37,460

And my hair, blood, and swabs from my cheek came back as the same DNA,

446

00:40:37,460 --> 00:40:43,460

but my cervical smear came back as a different DNA, and it was actually the DNA that matched my children.

447

00:40:45,460 --> 00:40:48,460

The chimera theory was confirmed incredibly.

448

00:40:48,460 --> 00:40:51,460

Lydia Fairchild has two sets of DNA.

449

00:40:51,460 --> 00:40:58,460

The DNA in Lydia's ovaries being completely different from the DNA found in the rest of her body.

450

00:40:59,460 --> 00:41:06,460

Lydia Fairchild shows that DNA testing, fingerprinting, may not be perfect.

451

00:41:06,460 --> 00:41:12,460

So what happened in her was that the ovaries were produced by different cells

452

00:41:12,460 --> 00:41:18,460

than the cells that produced the white blood cells and the platelets in her blood.

453

00:41:18,460 --> 00:41:25,460

So those ovaries produced her children as if they are produced by her sister,

454

00:41:26,460 --> 00:41:29,460

but her blood contained completely different DNA.

455

00:41:29,460 --> 00:41:32,460

And your ovaries are what hold your eggs.

456

00:41:32,460 --> 00:41:38,460

So when your egg comes down and then you get pregnant, your child is going to carry the DNA that's in your ovaries.

457

00:41:38,460 --> 00:41:42,460

And my ovaries is actually my twin's DNA.

458

00:41:42,460 --> 00:41:45,460

And that's when she, I was like, my twin, what are you talking about?

459

00:41:45,460 --> 00:41:46,460

I don't have a twin.

460

00:41:46,460 --> 00:41:50,460

And that's when she, they kind of broke it down about what happened.

461

00:41:50,460 --> 00:41:56,460

Amazingly, Lydia's children had inherited their DNA from the non-identical twin

462

00:41:56,460 --> 00:42:01,460

that Lydia's embryo fused with just after Lydia was conceived.

463

00:42:01,460 --> 00:42:07,460

There was a final court hearing and the judge, he granted me my children

464

00:42:07,460 --> 00:42:12,460

that I am the biological mom of my kids and I remember crying so bad that I finally won.

465

00:42:12,460 --> 00:42:18,460

After all that fighting I did, I believe it was two and a half years I fought for my kids to keep them in my life.

466

00:42:19,460 --> 00:42:21,460

Lydia's world had been changed forever.

467

00:42:21,460 --> 00:42:26,460

She is one of only about 40 people on the planet known to be a chimera.

468

00:42:27,460 --> 00:42:32,460

If I never did that DNA to determine if he was the father or not, I would never know today that I was chimera.

469

00:42:32,460 --> 00:42:34,460

I mean, I would never know.

470

00:42:34,460 --> 00:42:38,460

I mean, I would still be living, not ever knowing that I had two DNAs.

471

00:42:39,460 --> 00:42:44,460

So it's very interesting how she broke it down for me about what had happened.

472

00:42:45,460 --> 00:42:50,460

Doctors believe there are many more as yet unidentified chimeras out there.

473

00:42:50,460 --> 00:42:58,460

Could someone you know have an extra set of DNA they got from their own embryonic twin without them even knowing it?

474

00:42:59,460 --> 00:43:01,460

Weird or what?

475

00:43:15,460 --> 00:43:21,460

So there we have it. Three weird stories, each with several competing theories.

476

00:43:21,460 --> 00:43:26,460

A man undergoes a life-saving heart transplant procedure but gets more than he bargained for.

477

00:43:26,460 --> 00:43:30,460

A new organ and a new personality.

478

00:43:30,460 --> 00:43:35,460

Is this simply psychological or the side effects of medicinal drugs?

479

00:43:35,460 --> 00:43:43,460

Or can the heart or even individual human cells store a person's memories and characteristics?

480

00:43:44,460 --> 00:43:50,460

Around the world, perfect, beautiful spinning circles of ice forming in lakes and rivers.

481

00:43:51,460 --> 00:43:55,460

Are they the winter cousins of the infamous crop circle?

482

00:43:55,460 --> 00:43:58,460

Or do science have the answers?

483

00:43:58,460 --> 00:44:02,460

A mother is revealed to be genetically unrelated to her own children.

484

00:44:02,460 --> 00:44:04,460

Is she trying to commit fraud?

485

00:44:04,460 --> 00:44:08,460

Or is she the victim of a series of DNA mix-ups?

486

00:44:08,460 --> 00:44:15,460

Or are we dealing with a rare and extraordinary genetic oddity?

487

00:44:16,460 --> 00:44:21,460

Join me next time for more stories that will undoubtedly be...

488

00:44:24,460 --> 00:44:26,460

Weird or what?

489

00:44:38,460 --> 00:44:40,460

Weird or what?

490

00:44:40,460 --> 00:44:42,460

Weird or what?

491

00:44:42,460 --> 00:44:44,460

Weird or what?

492

00:44:44,460 --> 00:44:46,460

Weird or what?

493

00:44:46,460 --> 00:44:48,460

Weird or what?

494

00:44:48,460 --> 00:44:50,460

Weird or what?

495

00:44:50,460 --> 00:44:52,460

Weird or what?

496

00:44:52,460 --> 00:44:54,460

Weird or what?