

1

00:00:00,000 --> 00:00:16,085

This series presents information based in part on theory and conjecture.

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00:00:16,085 --> 00:00:20,609

The producer's purpose is to suggest some possible explanations, but not necessarily

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00:00:20,609 --> 00:00:26,093

the only ones to the mysteries we will examine.

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00:00:26,093 --> 00:00:31,818

In January 1974, the full moon moved unusually close to the Earth.

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00:00:31,818 --> 00:00:46,110

In search of has found that a strange wave of violent crimes seemed to affect many large cities.

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00:00:46,110 --> 00:00:50,914

Moon madness has long been a persistent myth, which scientists are now investigating with

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00:00:50,914 --> 00:00:53,957

computer technology.

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00:00:53,957 --> 00:01:08,969

And the full moon drive men mad.

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00:01:08,969 --> 00:01:17,657

We've always feared the night and strange creatures that prowl by the light of the moon.

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00:01:17,657 --> 00:01:20,339

Shakespeare said it best.

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00:01:20,339 --> 00:01:23,422

It is the very error of the moon.

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00:01:23,422 --> 00:01:29,146

She comes more near the Earth than is her won't and drives men mad.

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00:01:29,146 --> 00:01:35,552

The Latin word for moon is luna, which is the root for our word lunatic, meaning moonstruck.

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00:01:35,552 --> 00:01:43,198

And we've tried to contain our fear of the moon's powers in old legends.

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00:01:43,198 --> 00:01:49,003

Many of these myths tell of the moon changing men into animals.

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00:01:49,003 --> 00:01:55,328

One story in particular seems to haunt the collective unconscious of all humanity.

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00:01:55,328 --> 00:02:01,494

The story is so persistent, it must resonate with our basic biological drives.

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00:02:01,494 --> 00:02:07,258

Found all over Europe, Asia, and among many American Indian tribes, the tale is best told

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00:02:07,258 --> 00:02:09,941

in an old German nursery rhyme.

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00:02:09,941 --> 00:02:15,786

My child, take heed, be pure at heart, and say your prayers by night.

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00:02:15,786 --> 00:02:28,316

For you may become a cursed wolf when the moon is full and bright.

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00:02:28,316 --> 00:02:32,880

Of course there never was a recorded case of a human changing into a wolf.

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00:02:32,880 --> 00:02:41,607

But thousands of tormented souls have been locked away in asylums howling at the moon.

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00:02:41,607 --> 00:02:48,573

This transformation from man to monster has been a favorite theme of storytellers.

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00:02:48,573 --> 00:02:55,499

Robert Louis Stevenson wrote Dr. Jekyll and Mr. Hyde.

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00:02:55,499 --> 00:03:04,346

In the classic film, John Barrymore was praised for his spare use of makeup and strong acting.

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00:03:04,346 --> 00:03:10,752

In the novel, of course, the transformation was affected by a secret potion.

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00:03:10,752 --> 00:03:18,038

But Stevenson's story was based on a true report of moon madness.

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00:03:18,038 --> 00:03:23,763

In the 19th century, Edinburgh was plagued by a wave of senseless, brutal burglaries.

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00:03:23,763 --> 00:03:28,166

Clues led police to suspect a single man was behind the crimes.

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00:03:28,166 --> 00:03:34,292

But who could it be?

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00:03:34,292 --> 00:03:39,856

The last person to suspect was William Brody, a deacon of the cabinet makers guild, a church

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00:03:39,896 --> 00:03:43,339

elder and stalwart community leader.

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00:03:43,339 --> 00:03:51,906

Police hesitated to even bother this respected hardworking man.

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00:03:51,906 --> 00:03:57,311

They reminded him to be on the lookout at the next full moon.

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00:03:57,311 --> 00:04:02,996

The unknown Edinburgh criminals seemed to favor those knights.

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00:04:03,036 --> 00:04:10,122

William Brody was a classic case of multiple personality.

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00:04:10,122 --> 00:04:15,686

In one body, two souls seemed to compete for dominance.

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00:04:15,686 --> 00:04:23,693

The decent hardworking artisan could normally maintain control, except at nights of the full moon.

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00:04:33,021 --> 00:04:40,027

Brody later said, it was not me.

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00:04:40,027 --> 00:04:44,030

I insist it was not.

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00:04:44,030 --> 00:04:51,036

There was another person in the room with me.

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00:04:51,036 --> 00:04:52,838

The crime wave continued.

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00:04:52,838 --> 00:04:56,120

A reward for the unknown predator was doubled.

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00:04:56,120 --> 00:05:03,126

And only the foolish walked alone at night.

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00:05:03,126 --> 00:05:12,134

Finally, acting on an anonymous tip, police staked out Brody's shop.

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00:05:17,138 --> 00:05:25,145

At his trial, Deacon Brody was to base his defense on lunacy, blaming the full moon.

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00:05:25,145 --> 00:05:27,147

The jury was not sympathetic.

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00:05:27,147 --> 00:05:31,150

He was promptly hanged.

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00:05:31,150 --> 00:05:36,154

Miami psychiatrist Arnold Lieber is author of the book The Lunar Effect.

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00:05:36,154 --> 00:05:42,159

His investigations into moon madness have stirred an ongoing scientific controversy.

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00:05:42,159 --> 00:05:51,167

As a medical student, when I was doing my rotation on the psychiatric wards at the University of Miami Medical School,

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00:05:51,167 --> 00:05:54,169

I noticed a rather interesting situation.

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00:05:54,169 --> 00:05:58,173

I walked into the nursing station and said, hey, look what's going on out there.

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00:05:58,173 --> 00:06:00,174

The natives are really restless tonight.

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00:06:00,174 --> 00:06:01,175

What's happening?

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00:06:01,175 --> 00:06:06,179

The nurses in attendance laughed and jokingly told me, well, it's time of full moon.

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00:06:06,179 --> 00:06:09,182

They always go crazy when it's like this.

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00:06:09,182 --> 00:06:13,185

It was at that point that I decided, hey, we ought to take a look at this.

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00:06:13,185 --> 00:06:16,188

Maybe there's something to it and maybe there's not.

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00:06:16,188 --> 00:06:21,192

If there isn't anything to it, why don't we design a study that will prove that it's malarkey?

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00:06:21,192 --> 00:06:28,198

If there is something to it, then we may be able to make a valuable contribution to preventive psychiatry and criminology.

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00:06:28,198 --> 00:06:31,201

So I set out to design such a study.

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00:06:31,201 --> 00:06:37,206

The Dade County Medical Examiner's office was Dr. Lieber's prime source of data.

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00:06:37,206 --> 00:06:44,211

There, tens of thousands of murders had been meticulously catalogued and cross-referenced.

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00:06:44,211 --> 00:06:52,218

What we did was to examine the murders in Dade County, Florida over a 15-year period in relation to the moon phase cycle.

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00:06:52,218 --> 00:06:59,224

This study was the first time that adequate computer methodology using data samples over a long period of time

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00:06:59,224 --> 00:07:05,229

and from different geographical areas were used in order to obtain our results.

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00:07:05,229 --> 00:07:09,233

The strength of the peaks in our data were quite a surprise to us.

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00:07:09,233 --> 00:07:14,237

What we found was a highly statistically significant increased frequency of murders,

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00:07:14,237 --> 00:07:20,242

both at the full of the moon and the new of the moon in Dade County over a 15-year period.

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00:07:20,242 --> 00:07:25,246

Miami was the first of several cities Dr. Lieber investigated.

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00:07:25,246 --> 00:07:31,251

In each, he found evidence that violence waxed and waned with the moon.

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00:07:32,252 --> 00:07:39,258

These peaks of violence at the full moon and again at new moon correspond to the times of highest tide.

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00:07:39,258 --> 00:07:44,262

Could it be that some human beings go insane at high tide?

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00:07:44,262 --> 00:07:51,268

Although everyone's affected by cosmic forces or geophysical forces to some extent,

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00:07:51,268 --> 00:07:58,274

some people are in fact more susceptible to the triggering effects of these geophysical stresses than other people.

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00:07:58,274 --> 00:08:04,279

I'm talking about emotionally unstable people, people in precarious balance with reality anyhow.

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00:08:04,279 --> 00:08:10,284

These are people who are tiptoeing on the edge of reality, borderline personalities, manic depressives,

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00:08:10,284 --> 00:08:14,287

borderline schizophrenics, emotionally unstable individuals.

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00:08:14,287 --> 00:08:22,294

These people seem to be uniquely susceptible to the triggering effects of geophysical or cosmic stresses.

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00:08:22,294 --> 00:08:25,297

Anything may be enough to push them off.

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00:08:29,300 --> 00:08:41,310

These people ought to know about this because there are certain ways that they can protect themselves from the effects.

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00:08:41,310 --> 00:08:49,317

For example, if someone knows that they are uniquely triggered by the phases of the moon or by some sunspot activity,

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00:08:49,317 --> 00:08:54,321

they may want to stay out of crowded places, they may want to avoid the bars,

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00:08:54,321 --> 00:08:57,323

they may want to lock up their weapons at home.

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00:08:57,323 --> 00:09:06,331

With this knowledge, police, fire rescue and hospital emergency room people can prepare themselves for especially heavy loads during these times.

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00:09:06,331 --> 00:09:12,336

They can lay on more people, they can expect heavier patient loads,

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00:09:12,336 --> 00:09:17,340

and they can be prepared and therefore be in a position to protect life and limb.

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00:09:17,340 --> 00:09:27,349

Based on his theory of biological tides, Dr. Lieber suspected that January 1974 should be a period of extreme danger.

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00:09:27,349 --> 00:09:29,350

He issued a warning to authorities.

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00:09:29,350 --> 00:09:34,355

We're having an interesting coincidence of cosmic cycles coming up in about two weeks.

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00:09:34,355 --> 00:09:37,357

There's going to be a full moon, a lunar perigee and an eclipse.

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00:09:37,357 --> 00:09:45,364

And this would be one of the times that we would predict an increase in the murder frequency and also in the qualitative nature,

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00:09:45,364 --> 00:09:51,369

the bizarre type of sex-related murders that we've been having and the other two times that we've pegged this.

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00:09:54,371 --> 00:09:58,375

The first week in January, Austin went on the upswing.

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00:09:58,375 --> 00:10:02,378

Several cities reported a strange wave of fires and accidents.

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00:10:08,383 --> 00:10:14,388

Emergency rooms were jammed, far beyond the usual Saturday night syndrome.

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00:10:18,392 --> 00:10:23,396

By day, a mood of tension seemed to hang over the cities.

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00:10:23,396 --> 00:10:26,398

The weather was hot and still.

101

00:10:28,400 --> 00:10:31,403

Reports began to come in from around the country.

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00:10:31,403 --> 00:10:36,407

Orlando, two police patrolmen were slain on duty.

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00:10:37,408 --> 00:10:41,411

Police switchboards reported an unusual number of calls.

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00:10:41,411 --> 00:10:44,414

Then came the time of full moon.

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00:10:44,414 --> 00:10:49,418

For police on patrol, it was a night to remember.

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00:10:50,419 --> 00:10:57,425

A 45-year-old man stabbed his 25-year-old son to death after an argument over a car.

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00:10:59,426 --> 00:11:03,430

Wichita, Kansas, four members of a family were shot in their home.

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00:11:03,430 --> 00:11:09,435

Jackson Memorial Hospital, a medical resident was bound, beaten and strangled.

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00:11:10,435 --> 00:11:14,439

In Miami alone, the murder rate jumped to three times normal.

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00:11:16,441 --> 00:11:20,444

A 57-year-old drifter was beaten with a board and his throat was slashed.

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00:11:20,444 --> 00:11:22,446

No apparent motive.

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00:11:22,446 --> 00:11:24,447

The car was unloaded.

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00:11:29,451 --> 00:11:33,455

For three weeks, violent outbreaks continued across the nation.

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00:11:35,457 --> 00:11:38,459

This was more than enough proof for Dr. Lever.

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00:11:38,459 --> 00:11:40,461

He considered his theory valid.

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00:11:45,465 --> 00:11:49,468

Certain extreme tides occur once every 2,000 years.

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00:11:49,468 --> 00:11:52,471

The next is due in December 1990.

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00:11:52,471 --> 00:11:56,474

Is there any defense against the madness that may strike again?

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00:12:02,479 --> 00:12:06,483

Twice a day, the ocean rises and falls about four feet,

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00:12:06,483 --> 00:12:09,485

pulled by the gravitational force of the moon.

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00:12:11,487 --> 00:12:15,490

Many scientists think that life began down in the depths of the sea.

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00:12:16,491 --> 00:12:21,495

Ancestors of these creatures were lured to the shore and stranded there at low tide.

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00:12:21,495 --> 00:12:23,497

Most died.

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00:12:23,497 --> 00:12:30,503

A handful evolved into amphibians, into animals, ultimately into us.

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00:12:37,509 --> 00:12:41,512

Is it possible we can feel that time a billion years ago

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00:12:41,512 --> 00:12:44,515

when we moved from the water up to the land and the air?

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00:12:44,515 --> 00:12:49,519

Our bodies are still 75% water, the same salt water.

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00:12:49,519 --> 00:12:52,521

If the vast ocean could be pulled toward the beckoning moon,

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00:12:52,521 --> 00:12:55,524

could we also be at the mercy of her gravity?

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00:12:58,526 --> 00:13:03,531

This theory of biotides has been received with skepticism by many scientists.

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00:13:03,531 --> 00:13:08,535

Chief amongst them, George Abel, professor of astronomy at UCLA.

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00:13:08,535 --> 00:13:11,537

The moon is the Earth's nearest astronomical neighbor.

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00:13:11,537 --> 00:13:14,540

Its distance is only 30 times its own diameter.

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00:13:14,540 --> 00:13:16,542

And it's because the moon is so near

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00:13:16,542 --> 00:13:19,544

that it can have an important effect on producing tides.

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00:13:19,544 --> 00:13:22,547

The moon pulls on the side of the Earth nearest it,

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00:13:22,547 --> 00:13:25,549

more strongly than it pulls on the side away from the moon,

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00:13:25,549 --> 00:13:29,553

and that tries to stretch the Earth a bit into a football shape.

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00:13:29,553 --> 00:13:32,555

The Earth actually distorts about eight inches.

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00:13:32,555 --> 00:13:34,557

But I emphasize that tides are only important

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00:13:34,557 --> 00:13:38,560

because they're acting over the entire 8,000-mile diameter of the Earth.

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00:13:38,560 --> 00:13:41,563

It depends on the distance over which they act.

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00:13:41,563 --> 00:13:44,565

A six-foot man is nothing in comparison.

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00:13:44,565 --> 00:13:48,569

The moon can lower a man's weight by at most a hundredth of a gram,

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00:13:48,569 --> 00:13:50,570

like a mosquito on his shoulder.

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00:13:50,570 --> 00:13:53,573

And the effect of tides on the fluids of a person's body

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00:13:53,573 --> 00:13:58,577

are 30 trillion times less than the weight of those same fluids.

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00:13:58,577 --> 00:14:01,580

It's absolutely impossible that the biological tides

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00:14:01,580 --> 00:14:03,581

could have any effect on human beings.

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00:14:03,581 --> 00:14:08,585

Indeed, the tidal force exerted on me by this globe of the Earth

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00:14:08,585 --> 00:14:12,589

is thousands of times stronger than the tides exerted on me by the moon.

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00:14:15,591 --> 00:14:19,595

If tidal forces are too weak to influence human behavior,

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00:14:19,595 --> 00:14:23,598

why then have we always felt the moon could affect us so strongly?

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00:14:26,601 --> 00:14:30,604

For thousands of years, ancient peoples tried to solve that mystery.

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00:14:30,604 --> 00:14:33,606

Many temples have been found to be computers in stone,

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00:14:33,606 --> 00:14:37,610

designed to predict lunar phases and eclipses.

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00:14:40,612 --> 00:14:44,616

Is it possible we remember a time when the moon may have triggered

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00:14:44,616 --> 00:14:48,619

another step in evolution, the emergence of the first humans?

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00:14:48,619 --> 00:14:51,622

In small family groups, they roamed the belt,

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00:14:51,622 --> 00:14:54,624

eking out a bare existence.

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00:14:54,624 --> 00:14:56,626

It was a night of full moon,

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00:14:56,626 --> 00:14:59,628

and they felt an instinct to take to the hunt.

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00:15:00,629 --> 00:15:03,632

That moment is recreated here.

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00:15:06,634 --> 00:15:08,636

They had moved down from the trees,

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00:15:08,636 --> 00:15:11,638

they had given up grubbing for roots,

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00:15:11,638 --> 00:15:15,642

and were beginning to hunt other animals, rich in protein.

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00:15:16,643 --> 00:15:20,646

With a hungry family waiting, the hunter knew this was no game.

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00:15:20,646 --> 00:15:22,648

It was life or death.

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00:15:22,648 --> 00:15:27,652

When the moon was full, he could see to track the skittish prey.

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00:15:31,655 --> 00:15:37,660

In a way, at a crucial time in our past, we did turn into wolves.

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00:15:38,661 --> 00:15:42,665

The women who waited found that they too seemed linked to the moon.

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00:15:43,665 --> 00:15:48,670

While the men hunted, they closely watched the night sky to time their own fertility.

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00:15:49,670 --> 00:15:54,675

They seemed to become fertile every 29 days, with the full moon.

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00:15:54,675 --> 00:15:59,679

Legends grew that women were made pregnant, not by men, but by the moon.

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00:16:03,682 --> 00:16:07,686

In modern obstetrics wards, an old belief is shared by many women.

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00:16:07,686 --> 00:16:11,689

The belief that more babies are born at full moon.

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00:16:11,689 --> 00:16:13,691

Nurse Sherry Shaw.

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00:16:14,692 --> 00:16:19,696

It's an old wives tale, and we definitely go along and tell the patients

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00:16:19,696 --> 00:16:21,697

that it's not a good thing to do,

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00:16:21,697 --> 00:16:26,702

and we definitely go along and tell the patients that it's an old wives tale only.

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00:16:26,702 --> 00:16:33,708

But we really see a big influence when the moon is full, patients just seem to come in.

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00:16:33,708 --> 00:16:37,711

And it's not only here, it's seen in a lot of wards.

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00:16:37,711 --> 00:16:40,713

Every place that I've worked, it's been the way it is.

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00:16:41,714 --> 00:16:46,718

But it's been handed down through the years, because my great-grandmother was a midwife.

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00:16:46,718 --> 00:16:51,723

And the story has perpetuated through our family, clear back from her.

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00:16:51,723 --> 00:16:55,726

I have been hearing for years that all kinds of strange things happened at full moon.

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00:16:55,726 --> 00:17:00,730

And one of the things that's supposed to happen, according to legend, is that more babies are born at full moon.

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00:17:00,730 --> 00:17:08,737

This seemed a surprising thing to me, so a colleague of mine, a man at the medical center at UCLA hospital, Dr. Bennett Greenspan,

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00:17:08,737 --> 00:17:16,744

and I collaborated on the study of some 12,000 live births at the UCLA hospital over a 51 lunar month period.

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00:17:16,744 --> 00:17:22,749

Now it would have been very exciting if we'd found some positive effect, but we found absolutely nothing.

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00:17:22,749 --> 00:17:26,752

No effect whatsoever, absolutely random during the lunar cycle.

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00:17:26,752 --> 00:17:33,758

Well, I must say this was quite a surprise to the nurses, because the nurses were all certain we were going to find a very strong positive correlation.

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00:17:33,758 --> 00:17:40,764

I think what happens is that if there's a busy night and the nurses look outside and notice a bright moon,

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00:17:40,764 --> 00:17:46,769

and the moon is bright roughly a third of the time, then they say, aha, full moon, that's why we have all this activity.

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00:17:46,769 --> 00:17:49,772

But if there's not a bright moon, they forget it.

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00:17:49,772 --> 00:17:54,776

It may be a bit like dreams that come true. If a dream does come true, you remember it.

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00:17:54,776 --> 00:17:57,778

But the vast majority of times where it doesn't, you tend to forget.

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00:17:58,779 --> 00:18:07,787

What then of the flurries of violence and insanity reported at full moon correlated by statistical studies.

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00:18:07,787 --> 00:18:12,791

Among scientists, widely varying claims have been made.

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00:18:12,791 --> 00:18:16,794

In any data sample, there are always a random fluctuations.

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00:18:16,794 --> 00:18:22,799

For example, if you study homicides against the lunar cycle, you're going to get peaks at certain dates, always.

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00:18:22,799 --> 00:18:26,803

And sometimes they may just happen to occur near full or new moon.

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00:18:26,803 --> 00:18:32,808

But that doesn't mean anything. One has to replicate such a result by many repeated experiments.

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00:18:32,808 --> 00:18:38,813

In the case of Lieber's experiments, he found peaks in one case at full and new moon, or near new moon.

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00:18:38,813 --> 00:18:44,818

But he found slightly different peaks in a different sample and a larger peak at third quarter than at new moon.

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00:18:44,818 --> 00:18:48,821

Other people who have tried to replicate this observations find it impossible to do so.

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00:18:48,821 --> 00:18:55,827

Alex Bacourny at Baylor College, Texas, for example, has studied over 7,000 homicides and murders and suicides

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00:18:55,827 --> 00:19:00,831

and finds no correlation whatsoever with phase of the moon or with even the distance of the moon.

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00:19:00,831 --> 00:19:10,840

We examined aggravated assaults, suicides, failed traffic accidents, and psychiatric emergency room visits over long periods of time in Dade County.

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00:19:10,840 --> 00:19:17,846

Each of these data samples likewise showed a distinct and statistically significant lunar periodicity.

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00:19:17,846 --> 00:19:24,852

These results have been confirmed and extended by 16 other independent investigators

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00:19:24,852 --> 00:19:30,857

since the appearance of our original paper in the American Journal of Psychiatry in 1972.

213

00:19:30,857 --> 00:19:36,862

You know, I could predict that, say, two weeks from Tuesday, that all kinds of terrible things would happen.

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00:19:36,862 --> 00:19:41,866

And I dare say that we could search through newspapers from around the world and easily confirm it.

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00:19:41,866 --> 00:19:48,872

Obviously, this subject is highly controversial and, in effect, we're dealing with a scientific hot potato.

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00:19:48,872 --> 00:19:54,877

In this century, we began to dream of actually visiting the moon.

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00:19:54,877 --> 00:20:04,885

A humorous film from 1902 by Georges Mellier, based on the novel by Jules Verne, shows a spaceship shot from a giant cannon.

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00:20:05,886 --> 00:20:16,895

Mellier predicted that such a journey could have dire consequences, and he showed the moon as a demonic face.

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00:20:22,900 --> 00:20:29,906

Mellier's vision came true in 1968, when we visited our closest neighbor in space.

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00:20:30,907 --> 00:20:38,914

For one brief moment, we learned to fly through the heavens like angels.

221

00:20:38,914 --> 00:20:43,918

Leaving behind on Earth our violence, our irrational impulses,

222

00:20:43,918 --> 00:20:48,922

leaving behind stubborn territorial instincts we inherited from the apes.

223

00:20:48,922 --> 00:21:06,937

It's ironic. Those few times we walked on the surface of the moon, the legendary source of madness,

were the times we became most sane.

224

00:21:07,938 --> 00:21:13,943

The Greeks and Romans worshiped Diana as the goddess of the moon.

225

00:21:13,943 --> 00:21:18,948

Beautiful, silvery, chaste Diana was the huntress.

226

00:21:18,948 --> 00:21:28,956

In the legends, however, Diana could change into hekkity, the goddess of witches, of evil, insanity, and terror.

227

00:21:28,956 --> 00:21:40,966

We've always feared that dark side of the moon. Perhaps we feel that we are really looking into the dark side of ourselves.

228

00:21:58,981 --> 00:22:04,986

Macho May. All this month on the History Channel.