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00:00:00,000 --> 00:00:08,900

Tonight, they've been called the world's greatest archaeological enigma.

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00:00:08,900 --> 00:00:14,200

Everyone focuses on the Nazca lines because of just how mysterious they are.

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00:00:14,200 --> 00:00:20,320

2,000-year-old drawings so massive, they can only be seen from the air.

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00:00:20,320 --> 00:00:23,900

But what are they and why were they created?

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00:00:23,900 --> 00:00:28,380

We know they didn't just appear out of thin air, but there is virtually no historical

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00:00:28,380 --> 00:00:31,480

record of previous societies in Peru.

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00:00:31,480 --> 00:00:36,880

Now, we examine the top theories behind their mysterious origins.

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00:00:36,880 --> 00:00:41,720

Maybe the lines were ritual battlefields, but I don't think that's all they ever were.

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00:00:41,720 --> 00:00:46,780

They found a collection of severed heads, and this really suggests that the Nazca lines

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00:00:46,780 --> 00:00:50,020

could be connected to ritual human sacrifice.

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00:00:50,020 --> 00:00:54,260

This is why we think the Nazca lines may have been repurposed.

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00:00:54,260 --> 00:00:58,260

Can new research finally unravel their secrets?

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00:00:58,260 --> 00:01:01,940

Researchers make a shocking discovery, and if this theory is correct, they might have

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00:01:01,940 --> 00:01:05,700

solved one of archaeology's greatest riddles.

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00:01:05,700 --> 00:01:24,740

What is the true purpose of the Nazca lines?

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00:01:24,740 --> 00:01:28,980

September 1926, Nazca Peru.

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00:01:28,980 --> 00:01:35,580

Archaeologist Torribio Mejia Zespi leads an expedition in the Peruvian desert.

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00:01:35,580 --> 00:01:40,140

Zespi and his team have been drawn here by a discovery of a giant underground acropolis

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00:01:40,140 --> 00:01:42,620

full of hundreds of mummies.

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00:01:42,620 --> 00:01:46,980

When most people think of mummies, they tend to think of Egyptian mummies, but in fact

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00:01:46,980 --> 00:01:51,620

the oldest mummies in the world are from northern Chile and southern Peru.

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00:01:51,740 --> 00:01:57,180

Leading back over 7,000 years, they're known as the Chinchoro mummies.

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00:01:57,180 --> 00:02:01,900

Zespi examines some that are wrapped in thick layers of expertly woven cotton textiles,

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00:02:01,900 --> 00:02:05,860

covered in vibrant images of mystical figures and animals.

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00:02:05,860 --> 00:02:11,140

One day, while taking a break from his work, Zespi hikes up a nearby hill.

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00:02:11,140 --> 00:02:15,100

He gets to the summit, looks out over the desert plain, and he's met with a stunning

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00:02:15,100 --> 00:02:17,940

sight he can barely believe.

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00:02:17,940 --> 00:02:22,540

Zespi sees a series of thick lines carved into the rocky desert.

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00:02:22,540 --> 00:02:25,300

Some stretch as far as his eyes can see.

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00:02:25,300 --> 00:02:30,860

These lines are incredibly long, perhaps miles, and they're straight as a ruler.

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00:02:30,860 --> 00:02:35,380

At first, he thinks their trails are roads, but he notices that several of them plow right

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00:02:35,380 --> 00:02:38,060

over the mountains and other rugged terrain.

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00:02:38,060 --> 00:02:41,180

Not exactly what you would do if you were building a road.

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00:02:41,180 --> 00:02:45,380

Eventually he realizes a lot of these are forming geometric shapes, you know, kind of

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00:02:45,380 --> 00:02:49,900

standard rectangles, spirals, squares, triangles.

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00:02:49,900 --> 00:02:54,060

Some of them as big as a football field to put it in perspective.

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00:02:54,060 --> 00:02:59,860

Intrigued, Zespi puts his mummy research on hold to investigate.

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00:02:59,860 --> 00:03:03,420

One of the things Zespi realizes would be useful is to get a better look at these from

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00:03:03,420 --> 00:03:04,420

higher up.

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00:03:04,420 --> 00:03:08,420

So he calls in the Peruvian Air Force to get that overall aerial view.

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00:03:08,420 --> 00:03:11,140

They can fly over it, see what's really going on.

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00:03:11,140 --> 00:03:14,500

When they reach altitude, the pilots can't believe their eyes.

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00:03:14,500 --> 00:03:19,340

The lines and shapes cover an area that stretches for hundreds of square miles, far beyond what

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00:03:19,340 --> 00:03:21,100

Zespi originally saw.

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00:03:21,100 --> 00:03:28,300

There are spirals, zigzags, there are drawings of birds, spiders, monkeys, immense in scale.

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00:03:28,300 --> 00:03:31,820

These images are impossible to see in their entirety from the ground.

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00:03:31,820 --> 00:03:36,100

So the pilots realize they're probably the first people to ever truly witness the scale

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00:03:36,100 --> 00:03:38,460

of this unusual formation.

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00:03:38,460 --> 00:03:45,220

The strange markings become known as the Nazca Lines.

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00:03:45,220 --> 00:03:48,500

When you look at how many lines are actually there, it's an incredible number.

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00:03:48,500 --> 00:03:54,780

Over 800 lines total, hundreds of geometric shapes, and at least 100 animals are present

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00:03:54,780 --> 00:03:56,180

in this whole area.

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00:03:56,180 --> 00:04:00,540

Some of the lines are thousands of meters all the way up to 25 miles, and this is quite

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00:04:00,540 --> 00:04:01,740

incredible.

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00:04:01,740 --> 00:04:07,940

The precision of these lines is super impressive, even by modern survey standards, because many

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00:04:07,940 --> 00:04:10,940

of them are just dead straight.

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00:04:10,940 --> 00:04:16,060

And for 100 years now, ever since Zespi first spotted them, they've been a mystery.

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00:04:16,060 --> 00:04:17,060

Who made them?

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00:04:17,060 --> 00:04:18,060

When were they made?

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00:04:18,060 --> 00:04:19,060

Why?

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00:04:19,060 --> 00:04:20,560

What's the purpose of them?

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00:04:20,560 --> 00:04:24,620

Initially, it's believed the Inca are responsible.

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00:04:24,620 --> 00:04:31,100

Beginning in the 12th century, the Incan Empire eventually rules a large area of South America

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00:04:31,100 --> 00:04:35,180

until Spain conquers them in the 1530s.

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00:04:35,180 --> 00:04:40,980

But scientists eventually date the lines to between 300 BC and 800 AD, which means all

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00:04:40,980 --> 00:04:43,180

of them predate the Incas.

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00:04:43,180 --> 00:04:49,060

In fact, some of the lines are almost 2,500 years old.

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00:04:49,060 --> 00:04:53,220

We know they didn't just appear out of thin air, but there is virtually no historical

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00:04:53,220 --> 00:04:58,260

record of previous societies in Peru, because the Incas, and later the Spanish, made it

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00:04:58,260 --> 00:05:02,460

a policy to suppress and destroy every trace of the cultures they conquered.

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00:05:02,460 --> 00:05:05,900

And so who built them remains one of the biggest mysteries.

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00:05:05,900 --> 00:05:09,760

But how they were made is much easier to answer.

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00:05:09,760 --> 00:05:12,860

The ground is covered with a desert varnish.

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00:05:12,860 --> 00:05:18,060

It's these small pebbles and rocks that have this black patina on them.

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00:05:18,060 --> 00:05:22,180

When you scrape away this darker layer, you reveal a lighter layer underneath.

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00:05:22,180 --> 00:05:24,780

It's a stark contrast, like a negative image.

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00:05:24,780 --> 00:05:26,900

So that's the method they used.

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00:05:26,900 --> 00:05:30,820

The region is also one of the driest on Earth.

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00:05:30,820 --> 00:05:33,660

It receives only a millimeter of rain a year.

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00:05:33,660 --> 00:05:39,500

And because there's no rain in this area, these lines were able to survive for thousands

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00:05:39,500 --> 00:05:42,100

of years.

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00:05:42,100 --> 00:05:49,260

After 13 years researching the lines, Zespi presents his findings at a conference in 1939.

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00:05:49,260 --> 00:05:54,540

This conference is the first time that people from outside of Peru have heard of these lines.

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00:05:54,540 --> 00:05:57,380

Zespi's work has been mostly cataloging and measuring them.

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00:05:57,380 --> 00:06:01,780

He doesn't suggest an overarching purpose for the lines, but it gets a lot of people

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00:06:01,780 --> 00:06:03,340

excited.

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00:06:03,340 --> 00:06:07,620

Among those intrigued, a scholar named Paul Kosuck.

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00:06:07,620 --> 00:06:13,260

Kosuck is a history professor from Long Island University in Brooklyn, and he's in Peru,

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00:06:13,260 --> 00:06:17,580

studying pre-Columbian society and culture, particularly focused on their irrigation

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00:06:17,580 --> 00:06:19,180

systems.

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00:06:19,180 --> 00:06:25,140

Inspired by Zespi's work, Kosuck travels to Nazca to try and solve the puzzle.

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00:06:25,140 --> 00:06:30,300

In June of 1941, he's charting several of the shapes in the vast desert plain.

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00:06:30,300 --> 00:06:34,780

As he contemplates their purpose, he glances up at the setting sun and is struck with a

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00:06:34,780 --> 00:06:36,220

sudden epiphany.

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00:06:36,220 --> 00:06:41,620

Kosuck realizes that the line he's charting points directly at the sunset over the horizon.

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00:06:41,620 --> 00:06:45,780

Kosuck has a revelation about what these lines could be.

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00:06:45,780 --> 00:06:51,220

It's late June in Peru, just about the time of the winter solstice in the southern hemisphere.

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00:06:51,220 --> 00:06:58,580

It strikes him that these lines could be an astronomical calendar.

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00:06:58,580 --> 00:07:04,420

Kosuck returns to Lima with this incredible story of discovering what might be the largest

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00:07:04,420 --> 00:07:10,220

astronomy textbook in the world etched into the sands of the desert.

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00:07:10,220 --> 00:07:17,860

There, Kosuck consults with a German mathematician named Maria Reica to figure out more specifically

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00:07:17,860 --> 00:07:20,220

what the calendar is tracking.

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00:07:20,220 --> 00:07:25,660

So Reica works at the National Museum of Lima and is a restorer and she hears about this

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00:07:25,660 --> 00:07:30,940

and really gets interested in exploring in much more detail how these figures could work

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00:07:30,940 --> 00:07:33,540

from an astronomical perspective.

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00:07:33,540 --> 00:07:40,500

On her first trip to Nazca in 1941, Reica identifies 16 lines that point directly at

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00:07:40,500 --> 00:07:45,580

the rising or setting sun on the dates of the solstice.

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00:07:45,580 --> 00:07:49,460

Reica also thinks she knows why the line's creators might have made this calendar to

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00:07:49,460 --> 00:07:50,780

begin with.

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00:07:50,780 --> 00:07:56,460

One of the things Reica did really well was track a large number of correlations between

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00:07:56,460 --> 00:08:00,980

the different figures and different elements of astronomical importance.

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00:08:00,980 --> 00:08:07,100

Two examples are a line on the spider figure that points to Orion and a set of lines on

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00:08:07,100 --> 00:08:10,020

another figure that point to the Pleiades.

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00:08:10,020 --> 00:08:14,380

Many ancient civilizations are based around agriculture and farming and knowing when to

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00:08:14,380 --> 00:08:18,220

plant or when to harvest is vitally important.

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00:08:18,220 --> 00:08:23,060

Even these times would coincide with atmospheric patterns like rain, but what do you do in

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00:08:23,060 --> 00:08:26,260

a place where it never rains?

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00:08:26,260 --> 00:08:30,460

Most of this region's water comes from periodic runoff from the surrounding mountains.

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00:08:30,460 --> 00:08:35,900

So a farming culture with an environment with virtually no rainfall would rely heavily

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00:08:35,900 --> 00:08:39,620

on a celestial calendar to determine planting times for their survival.

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00:08:39,620 --> 00:08:42,300

When that water comes, you need to be ready.

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00:08:42,300 --> 00:08:46,060

So one constellation you can use in this fashion is the Pleiades.

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00:08:46,060 --> 00:08:50,580

When they show up in November, you know you're really close to the rainfall up in the mountains.

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00:08:50,580 --> 00:08:53,860

You're about to get your runoff so you start your planting season.

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00:08:53,860 --> 00:08:57,620

And when the Pleiades leave the sky later in the year, that's when you know it's time

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00:08:57,620 --> 00:08:59,580

to start your harvest.

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00:08:59,580 --> 00:09:06,740

Reica reports her findings to the press, providing the first published theory on the Nazca lines.

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00:09:06,740 --> 00:09:11,700

To this day, Reica's interpretation of the lines dominates the public's perception of

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00:09:11,700 --> 00:09:12,700

them.

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00:09:12,700 --> 00:09:15,220

She's dubbed the Lady of the Lines.

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00:09:15,220 --> 00:09:19,180

There's plenty of reason to believe this theory, because there are examples of many

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00:09:19,180 --> 00:09:23,620

other prehistoric cultures of earthworks being constructed to aid in astronomical sightings

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00:09:23,620 --> 00:09:25,500

and calendars.

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00:09:25,500 --> 00:09:30,220

The famed Stonehenge may be one such example.

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00:09:30,220 --> 00:09:35,740

In the 1960s, an astronomer named Gerald Hawkins calculated the positions of its standing stones

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00:09:35,740 --> 00:09:40,660

using an early IBM computer and announced that the monument was designed to predict astronomical

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00:09:40,660 --> 00:09:41,660

events.

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00:09:41,660 --> 00:09:45,140

Reica's work was a sensation around the world and inspired a new branch of science known

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00:09:45,140 --> 00:09:47,460

as Arceoastronomy.

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00:09:47,460 --> 00:09:55,260

In 1968, Hawkins visits Nazca to study the lines, using the same computer-matching technique.

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00:09:55,260 --> 00:10:01,380

In particular, what Hawkins looks at is 21 triangles and 70 or so lines and really ask,

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00:10:01,380 --> 00:10:05,420

okay, how well correlated are these with astronomical phenomena?

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00:10:05,420 --> 00:10:06,900

His conclusion?

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00:10:06,900 --> 00:10:10,220

The connections Reica found were only coincidental.

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00:10:10,220 --> 00:10:14,140

One of the issues is that there are just so many of the lines, and in such a large

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00:10:14,140 --> 00:10:19,340

variety and in so many directions that to suggest all of them or even most of them are

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00:10:19,340 --> 00:10:22,340

connected to astronomy is a clear stretch.

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00:10:22,340 --> 00:10:25,740

Reica and Kossak, when they see the findings, they don't disagree with them.

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00:10:25,740 --> 00:10:31,020

I mean, the computer findings are pretty solid, but they do point out that this isn't necessarily

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00:10:31,020 --> 00:10:32,020

conclusive.

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00:10:32,020 --> 00:10:36,140

It doesn't rule out that some of the lines aren't astronomical.

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00:10:36,140 --> 00:10:40,260

They believe there are some alignments which are done on purpose to be used as a celestial

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00:10:40,260 --> 00:10:45,460

calendar, but there must also be a much larger grand purpose to the design that they haven't

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00:10:45,460 --> 00:10:50,420

figured out yet.

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00:10:50,420 --> 00:10:57,420

When Peruvian archaeologist Toribio Zespi discovers the Nazca lines in 1926, the first

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00:10:57,420 --> 00:11:01,020

thing that strikes him is their incredible scale.

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00:11:01,020 --> 00:11:04,900

When you look at these shapes and features, they're so huge they can only be viewed from

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00:11:04,900 --> 00:11:06,940

above and very high in the sky.

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00:11:06,940 --> 00:11:11,540

So this does mean that the culture that built them would actually never be able to see them

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00:11:11,540 --> 00:11:13,060

directly.

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00:11:13,060 --> 00:11:17,220

We know there weren't planes or other flying vessels 2,500 years ago when the lines were

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00:11:17,220 --> 00:11:22,900

first created, but somehow these people decided to craft designs meant to be seen from what,

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00:11:22,900 --> 00:11:24,700

to them, would have been an impossible viewpoint.

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00:11:24,700 --> 00:11:26,660

It doesn't make sense.

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00:11:26,660 --> 00:11:31,300

Unless the lines were designed for another purpose.

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00:11:31,300 --> 00:11:35,780

In 1968, Swiss author Eric Mondaniken claims he knows the reason.

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00:11:35,780 --> 00:11:38,380

The lines aren't built for anyone on Earth.

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00:11:38,380 --> 00:11:43,300

Instead, they're built as a landing guide to an extraterrestrial species that once visited

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00:11:43,300 --> 00:11:48,060

the Nazca from the heavens.

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00:11:48,060 --> 00:11:54,420

One of the first Europeans to see the lines is a magistrate named Louis de Monson in 1586.

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00:11:54,420 --> 00:11:58,260

He initially suspects that they are traces of ancient roads, which of course we know

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00:11:58,260 --> 00:11:59,940

isn't true these days.

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00:11:59,940 --> 00:12:03,700

When he asks the locals about them, he's told of a legend.

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00:12:03,700 --> 00:12:09,260

In very old times, the Nazcans were visited by people they call the Viracochas.

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00:12:09,260 --> 00:12:12,900

They're referred to as saintly persons.

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00:12:12,900 --> 00:12:17,380

The locals tell de Monson that the paths were actually built for them.

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00:12:17,380 --> 00:12:21,940

Viracocha is also the name of a Nazcan god.

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00:12:21,940 --> 00:12:26,660

This deity dates back to around 3000 BC and the legend says that he came from the sky

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00:12:26,660 --> 00:12:30,540

in a golden boat from the other side of the Milky Way to be specific.

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00:12:30,540 --> 00:12:34,860

In the oldest depictions, he's pictured with a cone-shaped skull and only four digits on

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00:12:34,860 --> 00:12:37,100

his hands and feet.

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00:12:37,100 --> 00:12:42,980

Mondaniken believes these legends are a reference to extraterrestrials.

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00:12:42,980 --> 00:12:49,180

One of Mondaniken's key theses and beliefs is that the ancient people saw these extraterrestrials,

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00:12:49,180 --> 00:12:51,220

these aliens as gods.

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00:12:51,220 --> 00:12:56,620

Mondaniken believes that when the Viracochas, or aliens, first visit, they teach the Nazca

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00:12:56,620 --> 00:12:59,100

people how to make these lines.

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00:12:59,100 --> 00:13:04,300

The earliest lines are built as a landing pad or navigational marker, basically an airstrip

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00:13:04,300 --> 00:13:06,460

for these alien ships.

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00:13:06,460 --> 00:13:11,660

We don't know if these aliens ever made any return visits, but Mondaniken believes that

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00:13:11,660 --> 00:13:16,220

eventually they stop coming and the Nazca decide to get creative.

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00:13:16,220 --> 00:13:20,700

They want the Viracochas to return back as soon as possible, so they start building more

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00:13:20,700 --> 00:13:23,620

and more elaborate Nazca lines.

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00:13:23,620 --> 00:13:31,020

Mondaniken's 1968 book, *Chariots of the Gods*, turns the Nazca lines into an international

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00:13:31,020 --> 00:13:32,700

phenomenon.

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00:13:32,700 --> 00:13:36,940

When Mondaniken first came out with his book, this really generated a lot of interest, a

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00:13:36,940 --> 00:13:38,740

lot of excitement, a lot of buzz.

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00:13:38,740 --> 00:13:43,980

It was a very, very intriguing idea that maybe aliens had visited.

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00:13:43,980 --> 00:13:48,520

And in fact, some people look at one of the Nazca geoglyphs in particular and believe it

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00:13:48,520 --> 00:13:51,940

may prove Mondaniken's theory.

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00:13:51,940 --> 00:13:57,100

Soon as the astronaut, this figure covers nearly a hundred feet of a hillside overlooking

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00:13:57,100 --> 00:13:58,500

the desert.

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00:13:58,500 --> 00:14:02,140

Some call it the astronaut because it looks like it's wearing a space helmet, which of

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00:14:02,140 --> 00:14:04,480

course is a modern interpretation.

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00:14:04,480 --> 00:14:07,660

Most historians refer to him as the owl man.

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00:14:07,660 --> 00:14:11,100

It's a humanoid figure, but clearly not entirely human.

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00:14:11,100 --> 00:14:17,460

It features large round eyes and it seems to be waving hello to someone in the skies.

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00:14:17,460 --> 00:14:22,780

A thousand years after the creation of the Nazca astronaut, the Inca built the statue

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00:14:22,780 --> 00:14:29,540

of Viracocha in Cusco, raising his right hand much like the astronaut.

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00:14:29,540 --> 00:14:34,740

Scholars believe the Nazca astronaut could be an image of the same god.

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00:14:34,740 --> 00:14:39,140

We don't currently have any way to know if the Nazca astronaut is an alien.

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00:14:39,140 --> 00:14:44,140

There are no records from this society apart from the Nazca lines themselves.

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00:14:44,460 --> 00:14:48,580

One ancient practice might offer more insight.

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00:14:48,580 --> 00:14:51,900

Remember those ancient Peruvian mummies Zespay was examining?

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00:14:51,900 --> 00:14:55,820

Well, shockingly, many of them have elongated skulls.

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00:14:55,820 --> 00:15:00,420

Today it might be seen as a strange and disturbing look, but it's believed that the natives did

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00:15:00,420 --> 00:15:04,580

this on purpose by attaching wooden boards to their infant's heads.

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00:15:04,580 --> 00:15:07,780

Several mummies are even found with these boards still attached.

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00:15:07,780 --> 00:15:11,220

The question is, why?

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00:15:11,220 --> 00:15:16,860

We've seen Viracocha represented with an elongated head and many representations of aliens with

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00:15:16,860 --> 00:15:18,580

a similar head shape.

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00:15:18,580 --> 00:15:24,100

Well perhaps they're trying to emulate the appearance of their gods who had similar features.

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00:15:24,100 --> 00:15:28,980

A 2017 discovery takes this claim a step further.

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00:15:28,980 --> 00:15:34,420

Dr. Konstantin Korotkov, professor of biophysics at St. Petersburg Federal University, shows

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00:15:34,420 --> 00:15:38,700

the press these mummies that he believes aren't human at all.

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00:15:38,700 --> 00:15:42,060

They look like they're covered in plaster, but Korotkov explains this is just

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00:15:42,060 --> 00:15:44,660

a calculation in protective material.

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00:15:44,660 --> 00:15:50,380

They have elongated heads, large, round eyes, and just three digits on their hands and feet.

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00:15:50,380 --> 00:15:56,580

He calls it, quote, another creature, different from anything else in our fossil record.

229

00:15:56,580 --> 00:16:01,620

These mummies are made famous by a web series claiming to investigate their authenticity.

230

00:16:01,620 --> 00:16:05,860

Millions of people watch as stupefied scientists declare them to be the genuine article.

231

00:16:05,860 --> 00:16:11,420

The body they examine is indeed organic and it dates back 1700 years.

232

00:16:11,420 --> 00:16:18,140

But when another team of scientists inspects the mummies, they're proven to be fake.

233

00:16:18,140 --> 00:16:25,340

They discovered that these were mummies that were modified for this hoax and really turns

234

00:16:25,340 --> 00:16:27,500

out to be quite disturbing.

235

00:16:27,500 --> 00:16:31,380

These bodies are made from real indigenous mummies which have been mutilated to make

236

00:16:31,380 --> 00:16:33,100

them look like aliens.

237

00:16:33,100 --> 00:16:37,220

Their ears and noses are sliced away and the alterations are covered up with a white

238

00:16:37,220 --> 00:16:39,460

plastery powder.

239

00:16:39,460 --> 00:16:43,660

But the other mummies with the elongated heads remain genuine.

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00:16:43,660 --> 00:16:48,620

Those are humans who most definitely gave themselves an otherworldly appearance.

241

00:16:48,620 --> 00:16:49,620

Why?

242

00:16:49,620 --> 00:16:50,980

We don't know.

243

00:16:50,980 --> 00:16:53,900

I think everyone would like to know the answer to that question.

244

00:16:53,900 --> 00:16:58,500

Maybe they were trying to connect with another culture that once visited them from above.

245

00:16:58,500 --> 00:17:06,940

Or maybe they just heard stories of some visit from long ago and were inspired.

246

00:17:06,940 --> 00:17:14,780

Nazca Peru is home to two incredible ancient phenomena, the Nazca Lines and a necropolis

247

00:17:14,780 --> 00:17:19,820

of South American mummies several thousand years old.

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00:17:19,820 --> 00:17:24,340

Everyone focuses on the Nazca Lines because of just how massive and perplexing they are.

249

00:17:24,780 --> 00:17:30,700

But we can't lose sight of the mummies because the two may be intricately linked.

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00:17:30,700 --> 00:17:33,700

Mummification here dates back 7,000 years.

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00:17:33,700 --> 00:17:37,340

That's a full 2,000 years before the first Egyptian mummies.

252

00:17:37,340 --> 00:17:43,140

In Egypt they used different techniques to dry out the body before they would wrap it.

253

00:17:43,140 --> 00:17:46,460

In this region they didn't do anything artificial.

254

00:17:46,460 --> 00:17:52,020

The mummies were able to preserve because this desert environment is so dry.

255

00:17:52,020 --> 00:17:58,380

In fact some of these mummies are way better preserved than what we even see in ancient Egypt.

256

00:17:58,380 --> 00:18:03,420

Dry conditions are one part of the reason, but the other is the technique they used.

257

00:18:03,420 --> 00:18:08,140

While the Egyptians used fine linen, the Nazca mummies are wrapped in very long thick cotton

258

00:18:08,140 --> 00:18:12,340

and wool textiles which are embroidered with a scale and quality that's unmatched by any

259

00:18:12,340 --> 00:18:14,260

other civilization.

260

00:18:14,260 --> 00:18:20,940

In 1983, Swiss historian Henri Stirling thinks he knows their secret.

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00:18:20,940 --> 00:18:25,620

Stirling is an art historian and he realizes what it would take for these ancient people

262

00:18:25,620 --> 00:18:27,300

to craft these textiles.

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00:18:27,300 --> 00:18:32,540

They would need a lot of space and huge long looms, essentially an ancient version of a

264

00:18:32,540 --> 00:18:35,820

factory to turn out this incredible amount of cloth.

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00:18:35,820 --> 00:18:40,580

He looks around at what they have nearby and he determines the Nazca Lines might be the

266

00:18:40,580 --> 00:18:41,580

place.

267

00:18:42,580 --> 00:18:52,140

Stirling writes a book called Nazca, the key to the mystery which details his theory.

268

00:18:52,140 --> 00:18:56,260

One of the most stunning discoveries about these mummy wraps is that they are made from

269

00:18:56,260 --> 00:19:01,820

a single piece of cotton thread which can be dozens of miles long.

270

00:19:01,820 --> 00:19:07,740

This idea of a single thread is reflected in the way the Nazca Lines are created too.

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00:19:07,740 --> 00:19:13,140

They are made with a single line which starts and ends in the same spot.

272

00:19:13,140 --> 00:19:16,660

So first, they need to make very long threads.

273

00:19:16,660 --> 00:19:20,860

Stirling believes they use the wide clearings within the geometric shapes as sacred spaces

274

00:19:20,860 --> 00:19:23,740

for spinning the cotton fibers into these threads.

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00:19:23,740 --> 00:19:28,180

As the threads are made, Stirling thinks the weavers would lay them out along the Nazca

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00:19:28,180 --> 00:19:30,300

Lines' animal designs.

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00:19:30,300 --> 00:19:35,860

According to Peruvian beliefs, each animal carries a different significance.

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00:19:35,860 --> 00:19:39,660

So depending on who they're burying, they would lay the thread in a different Nazca

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00:19:39,660 --> 00:19:43,780

line to infuse it with the power of that family's chosen animal.

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00:19:43,780 --> 00:19:46,860

For instance, the whale provides success in fishing.

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00:19:46,860 --> 00:19:50,340

The hummingbird provides fertility.

282

00:19:50,340 --> 00:19:56,900

As far as the actual weaving, Stirling thinks this takes place within the Nazca Lines themselves.

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00:19:56,900 --> 00:20:02,900

So Stirling had this idea that the Nazca Lines acted as a giant loom because there are these

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00:20:02,900 --> 00:20:05,180

posts within the Nazca Lines.

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00:20:05,180 --> 00:20:10,380

The people would take the thread and wind back and forth over the lines to create the

286

00:20:10,380 --> 00:20:12,100

textiles.

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00:20:12,100 --> 00:20:15,160

There were posts found at the Nazca Lines.

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00:20:15,160 --> 00:20:18,580

That's actually how scientists are able to date them in the first place.

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00:20:18,580 --> 00:20:22,260

They test the remains of organic wooden posts discovered nearby.

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00:20:22,260 --> 00:20:27,860

Stirling believes these posts could have been the framework to support this giant loom system.

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00:20:27,860 --> 00:20:32,580

Stirling also finds a connection in the drawings themselves.

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00:20:32,580 --> 00:20:38,020

So the designs on the mummy textiles are very similar to what we see in the Nazca Lines,

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00:20:38,020 --> 00:20:41,700

a similar array of animals and plants.

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00:20:41,700 --> 00:20:46,020

These ceremonial shapes might have been a part of the entire process from the weaving

295

00:20:46,020 --> 00:20:48,460

through to the end of the mummification.

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00:20:48,460 --> 00:20:53,380

One single mummy shroud could have over a million stitches on the main panel and another

297

00:20:53,380 --> 00:20:56,380

800,000 or so on the borders.

298

00:20:56,380 --> 00:20:59,020

This is a huge collaborative effort.

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00:20:59,020 --> 00:21:02,740

Even the mummies must have been a very sacred and important process to these people.

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00:21:02,740 --> 00:21:06,940

So why not build a sacred and important site to do it?

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00:21:06,940 --> 00:21:12,540

The Egyptian mummies were preserved and wrapped by priests and elaborate rituals inside impressive

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00:21:12,540 --> 00:21:13,540

temples.

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00:21:13,540 --> 00:21:17,060

This could have been a prehistoric version of the same thing.

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00:21:17,060 --> 00:21:25,860

According to Stirling's theory, the operation may have expanded beyond mummies.

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00:21:25,860 --> 00:21:30,700

The Nazca Lines mummy factory may have eventually become a textile factory serving the entire

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00:21:30,700 --> 00:21:34,300

Andean coast and parts of the Highlands.

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00:21:34,300 --> 00:21:38,060

It's interesting because while you can't grow many things in this environment, you

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00:21:38,060 --> 00:21:39,220

can grow cotton.

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00:21:39,220 --> 00:21:42,500

It's one of the only useful crops they could have had.

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00:21:42,500 --> 00:21:44,980

You have to wonder, how did they survive?

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00:21:44,980 --> 00:21:50,900

Well, if this was a place that could abundantly manufacture cloth, they could have traded it.

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00:21:50,900 --> 00:21:54,460

But Stirling's theory is really based off of a lot of speculation.

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00:21:54,460 --> 00:21:59,380

There's no archaeological evidence that any weaving was done on these lines.

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00:21:59,380 --> 00:22:05,540

He probably saw the posts and just had this idea because textile production is so important

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00:22:05,540 --> 00:22:07,020

in the Andes.

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00:22:07,020 --> 00:22:10,940

And textiles, in fact, were more important than even some of the precious metals like

317

00:22:10,940 --> 00:22:13,860

gold.

318

00:22:13,860 --> 00:22:19,540

But a new discovery in 1987 challenges Stirling's theory.

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00:22:19,540 --> 00:22:25,020

About two miles away from the Nazca Lines up on a high plateau is a ceremonial center

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00:22:25,020 --> 00:22:26,900

called Kowachi.

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00:22:26,900 --> 00:22:33,060

An Italian archaeologist named Giuseppe Orofici has been in charge of excavations there since

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00:22:33,060 --> 00:22:34,900

1984.

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00:22:34,900 --> 00:22:40,020

He's working closely with an American archaeologist, Helene Silverman.

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00:22:40,020 --> 00:22:44,580

At Kowachi, Silverman and Orofici have found lots of chambers that we now believe to be

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00:22:44,580 --> 00:22:49,420

workshops for making textiles, with remains of weaving materials found there.

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00:22:49,420 --> 00:22:54,260

When Silverman first publishes her work in the Journal of Field Archaeology in 1988,

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00:22:54,260 --> 00:22:58,220

she finds that Kowachi is the center for the production of these elaborate costumes worn

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00:22:58,220 --> 00:23:01,420

by the Nazca priests and where the rituals are performed.

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00:23:01,420 --> 00:23:07,580

In other words, Kowachi is the mummy and textile factory, not the Nazca Lines themselves.

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00:23:07,580 --> 00:23:13,100

But some believe there's still a connection between the two locations.

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00:23:13,100 --> 00:23:17,580

The Nazca Lines might not have been a mummy factory or textile factory, but they could

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00:23:17,580 --> 00:23:21,220

have been a place to reflect while that process was happening nearby.

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00:23:21,220 --> 00:23:26,420

The entire area, both the lines in the valley and Kowachi perched above, was most likely

334

00:23:26,420 --> 00:23:29,620

a place of pilgrimage for natives throughout the region.

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00:23:29,620 --> 00:23:34,980

A kind of religious tourism site, which included a funeral parlor and textile trading.

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00:23:34,980 --> 00:23:38,900

Visitors to Kowachi would have had a fine view of some of the Nazca Lines below, and I don't

337

00:23:38,900 --> 00:23:45,020

think that's a coincidence.

338

00:23:45,020 --> 00:23:51,140

Many scholars have studied the Nazca Lines and speculated about their mysterious designs.

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00:23:51,140 --> 00:23:58,300

But it's not until 2019 that a Japanese research team takes a closer look at some of the animal

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00:23:58,300 --> 00:23:59,940

patterns.

341

00:23:59,940 --> 00:24:05,940

Their findings unlock a new possible theory surrounding these shapes.

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00:24:05,940 --> 00:24:10,260

The animals represented in the Nazca Lines are referred to as biomorphs.

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00:24:10,260 --> 00:24:11,940

There's over 70 of these.

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00:24:11,940 --> 00:24:18,220

They represent a wide range of animals, insects like spiders, monkeys, dogs, and a wide range

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00:24:18,220 --> 00:24:19,380

of birds.

346

00:24:19,380 --> 00:24:24,300

The animals range in size from about 50 feet long up to over 1200 feet, almost as tall

347

00:24:24,300 --> 00:24:26,180

as the Empire State Building.

348

00:24:26,180 --> 00:24:31,380

For about 100 years after these were first discovered, no one really thought carefully

349

00:24:31,380 --> 00:24:32,500

about the animals.

350

00:24:32,500 --> 00:24:36,460

They just classified them and noticed, oh, there's animal biomorphs.

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00:24:36,460 --> 00:24:41,900

The reality is that these animals are shocking because they don't exist in this area.

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00:24:41,900 --> 00:24:47,780

And so really asking the question, why these animals, why here, becomes critical.

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00:24:47,780 --> 00:24:53,020

Researchers from Hokkaido University in Japan attempt to answer these questions.

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00:24:53,020 --> 00:24:57,500

For the first time ever, these Japanese researchers take a scientific approach to classifying the

355

00:24:57,500 --> 00:25:00,080

species depicted in the lines.

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00:25:00,080 --> 00:25:04,880

They want to identify precisely what species each drawing depicts and where it comes from,

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00:25:04,880 --> 00:25:09,260

and then maybe they can find some sort of logic or pattern to figure out the reason.

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00:25:09,260 --> 00:25:14,540

So one of the exciting things is there's at least 18 species that they're able to identify.

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00:25:14,540 --> 00:25:18,860

There are a handful that they actually just can't associate or identify a particular species

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00:25:18,860 --> 00:25:19,940

for.

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00:25:19,940 --> 00:25:25,340

Along with a rather obvious monkey and llama, they identify a frigate bird, a pelican, a

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00:25:25,340 --> 00:25:27,900

guano bird, and even a killer whale.

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00:25:27,900 --> 00:25:32,500

The hummingbird, they identify as a hermit hummingbird, a species that lives only in

364

00:25:32,500 --> 00:25:36,520

the tropics and subtropics far to the north and east.

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00:25:36,520 --> 00:25:40,800

The animals that the Japanese classify are all from places with lots of water, like the

366

00:25:40,800 --> 00:25:42,560

coast or rainy jungle.

367

00:25:42,560 --> 00:25:47,560

So sure enough, they seem to be identifying a pattern, and the team believes that water

368

00:25:47,560 --> 00:25:51,880

is the key to understanding the purpose of the lines.

369

00:25:51,880 --> 00:25:58,080

Throughout history, early civilizations rely on an abundance of water to grow food.

370

00:25:58,080 --> 00:26:03,700

But the dry desert conditions of the Nazca region offer almost none.

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00:26:03,700 --> 00:26:08,460

The very reason these lines have survived so long is because the area is so dry.

372

00:26:08,460 --> 00:26:11,060

It only gets rained for maybe 20 minutes a year.

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00:26:11,060 --> 00:26:12,380

20 minutes.

374

00:26:12,380 --> 00:26:16,520

So what do you do in a place where you don't get any rain, yet you desperately need it?

375

00:26:16,520 --> 00:26:22,580

For many ancient societies, you pray.

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00:26:22,580 --> 00:26:26,940

The Nazca are a priestly society, a deeply religious society.

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

We know this from the huge religious complex at Kowachi, which is like the Vatican for the

378

00:26:30,960 --> 00:26:33,760

Nazca people and the whole coast of Peru.

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00:26:33,760 --> 00:26:38,560

The geoglyphs that surround it seem connected to the complex and the rituals performed there.

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00:26:38,560 --> 00:26:43,120

And the Japanese team believes all of it is centered around begging the gods for rain.

381

00:26:43,120 --> 00:26:46,080

The location of Kowachi is not an accident.

382

00:26:46,080 --> 00:26:52,200

There's actually a river that runs through the area, and across this stretch of desert,

383

00:26:52,200 --> 00:26:54,560

the river runs underground.

384

00:26:54,560 --> 00:27:02,340

It only emerges above ground again as it enters the lowlands, right on the spot where Kowachi's located.

385

00:27:02,340 --> 00:27:06,700

This is where the water is given back to the people, and so this is where they establish

386

00:27:06,700 --> 00:27:09,940

their most important pilgrimage shrine.

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00:27:09,940 --> 00:27:15,860

According to the Japanese team, many of the Nazca lines are arranged in a path that leads

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00:27:15,860 --> 00:27:18,300

directly to Kowachi.

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00:27:18,300 --> 00:27:21,900

They're guiding the people to their sacred place for water rituals.

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00:27:21,900 --> 00:27:25,240

Follow along that pilgrimage route, they would be saying their prayers in the hopes

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00:27:25,240 --> 00:27:28,440

that these mystical animals would bring along their region's rain.

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00:27:28,440 --> 00:27:32,240

Keep in mind, they're not actually praying for the rain to fall in the desert.

393

00:27:32,240 --> 00:27:33,600

That won't help them.

394

00:27:33,600 --> 00:27:37,280

They're praying for it to fall in the surrounding highland and coastal areas where they plant

395

00:27:37,280 --> 00:27:38,280

their fields.

396

00:27:38,280 --> 00:27:42,400

They're also praying for the rain to come peacefully.

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00:27:42,400 --> 00:27:48,040

The climate along the Peruvian coast can be unpredictable and sometimes catastrophic,

398

00:27:48,040 --> 00:27:54,980

with wild deluges that cause landslides and flooding, wreaking havoc on the farmers.

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00:27:54,980 --> 00:27:59,900

So the whole belief system with this pilgrimage along the Nazca lines is centered around creating

400

00:27:59,900 --> 00:28:03,900

a friendly, working relationship with the gods who control the weather.

401

00:28:03,900 --> 00:28:10,500

These gods are invoked and pleaded with within the sacred spaces of Kowachi and the biomorphs.

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00:28:10,500 --> 00:28:18,040

The team identifies the same species on rock art, ceramics, and textiles from the area.

403

00:28:18,040 --> 00:28:22,160

They even made musical instruments out of pottery.

404

00:28:22,160 --> 00:28:25,960

It must be quite an elaborate and celebratory process.

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00:28:25,960 --> 00:28:30,300

You can imagine hundreds of people in colorful costumes, performing ritual processions or

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00:28:30,300 --> 00:28:33,960

dances along the Nazca lines, accompanied by drums and pan pipes.

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00:28:33,960 --> 00:28:36,560

It's quite a spectacle.

408

00:28:36,560 --> 00:28:41,060

There seems to be one more connection between the lines and water.

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00:28:41,060 --> 00:28:45,220

The last thing they find is that there are several rock altars at the edges of some of

410

00:28:45,220 --> 00:28:47,740

the clearings, right by the Nazca lines.

411

00:28:47,740 --> 00:28:53,640

And inside the altars, there are crayfish claws, crab skeletons, mussel shells, the remains

412

00:28:53,640 --> 00:28:57,660

of sea creatures here in the desert at 4,000 feet above sea level.

413

00:28:57,660 --> 00:28:59,160

That's a bit surprising.

414

00:28:59,160 --> 00:29:03,880

They're bringing these materials from the largest body of water, the ocean, as a way

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00:29:03,880 --> 00:29:07,120

of asking the gods for water.

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00:29:07,120 --> 00:29:10,120

Once again, this supports the Japanese theory.

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00:29:10,120 --> 00:29:14,460

The Nazca lines were a place for pilgrims to journey from all around in the hopes of

418

00:29:14,460 --> 00:29:22,720

summoning their most sacred resource.

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00:29:22,720 --> 00:29:29,600

In 2019, Japanese scientists revealed their belief that the Nazca lines were created as

420

00:29:29,600 --> 00:29:31,580

a prayer for rain.

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00:29:31,580 --> 00:29:34,780

A plea that unfortunately failed.

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00:29:34,780 --> 00:29:39,780

In the early 5th century, this culture suffers their most extreme drought of all.

423

00:29:39,780 --> 00:29:42,540

It's so bad that Kawachi is abandoned.

424

00:29:42,540 --> 00:29:45,860

There's no more sacred city for their rain and water rituals.

425

00:29:45,860 --> 00:29:47,820

No place for a pilgrimage.

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00:29:47,820 --> 00:29:51,920

But after the drought, there are still artifacts and human remains that suggest people were

427

00:29:51,920 --> 00:29:54,080

still coming to the Nazca lines.

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00:29:54,080 --> 00:29:57,700

So I think when you start to make theories about the Nazca lines and their purpose, you

429

00:29:57,700 --> 00:30:00,700

have to split them into two distinct periods.

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00:30:00,700 --> 00:30:05,580

What were they used for before the drought and what were they used for after?

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00:30:05,580 --> 00:30:09,860

I think before the drought, the 2019 theory about the prayers for rain is probably one

432

00:30:09,860 --> 00:30:11,420

of the best options.

433

00:30:11,420 --> 00:30:13,820

That seems to check all the boxes.

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00:30:13,820 --> 00:30:20,820

As for their use after the drought, a scientist in the mid-1990s thinks he's figured it out.

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00:30:20,820 --> 00:30:26,580

So in 1996, David Johnson, who is an American scientist, traveled down to this region.

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00:30:26,580 --> 00:30:32,580

The heat is the first to really recognize these large, almost well-liked structures

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00:30:32,580 --> 00:30:35,420

in the desert that we call Pukios.

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00:30:35,420 --> 00:30:41,140

The Pukios are the spiral-shaped stone staircases around a hole that leads underground to stone-reinforced

439

00:30:41,140 --> 00:30:44,580

tunnels under the earth lined with waterproof clay.

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00:30:44,580 --> 00:30:48,740

The locals really talk about these as connected to an irrigation system, a way of getting water

441

00:30:48,740 --> 00:30:50,420

to flow throughout the area.

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00:30:50,420 --> 00:30:52,660

One of the interesting things is how old they are.

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00:30:52,660 --> 00:30:56,900

They date back at least to the 6th century and they're really connected with the ending

444

00:30:56,900 --> 00:31:00,620

of this massive drought that decimated the area.

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00:31:00,620 --> 00:31:04,820

Johnson realizes there's a connection between the Nazca lines and these Pukios and starts

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00:31:04,820 --> 00:31:07,020

working on a theory of his own.

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00:31:07,020 --> 00:31:11,700

He believes after the drought, the Nazca people repurpose their famous lines and created a

448

00:31:11,700 --> 00:31:19,700

map for one of the world's most sophisticated systems of water management.

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00:31:19,700 --> 00:31:25,380

Johnson finds two underground water sources in the Nazca desert to support his theory.

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00:31:25,380 --> 00:31:29,300

The first are rivers which flow down from the mountains before going underground through

451

00:31:29,300 --> 00:31:30,540

this region.

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00:31:30,540 --> 00:31:34,820

The second are geological fault lines that run north to south that bring up their own

453

00:31:34,820 --> 00:31:37,140

water from deeper beneath the water table.

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00:31:37,140 --> 00:31:40,540

When you look at this area, not only is it one of the driest, it's also one of the most

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00:31:40,540 --> 00:31:45,460

seismically active areas and so there's actually a lot of fault lines in this region.

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00:31:45,460 --> 00:31:49,940

Johnson notices lots of this area's ancient settlements are located right next to faults

457

00:31:49,940 --> 00:31:54,780

and that there's usually a Pukio system there in that spot to tap into its water source

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00:31:54,780 --> 00:31:59,900

and right on top of the faults, in almost every case, he finds there are Nazca lines

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00:31:59,900 --> 00:32:01,220

marking their paths.

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00:32:01,220 --> 00:32:06,500

The geometric shapes were designed to track and locate underground water sources.

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00:32:06,500 --> 00:32:11,860

So in this process, it's a way for the Nazca people to take control of the water instead

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00:32:11,860 --> 00:32:16,980

of just leaving it up to chance as to whether or not rain or runoff will show up.

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00:32:16,980 --> 00:32:21,420

These Pukios ensure a reliable supply of water year round, meaning they're able to turn

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00:32:21,420 --> 00:32:27,580

this arid desert into arable farmland, strictly through their own ingenuity.

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00:32:27,580 --> 00:32:31,460

This method is not just relegated to antiquity.

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00:32:31,460 --> 00:32:35,980

Johnson is impressed that the locals are still using the system the Nazca created some 1500

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00:32:35,980 --> 00:32:37,140

years later.

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00:32:37,140 --> 00:32:40,700

There are around 30 of these Pukios still in use in the Nazca Valley.

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00:32:40,700 --> 00:32:42,900

It really takes a lot of constant repair and work.

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00:32:42,900 --> 00:32:48,020

So many are falling apart and you know are out of use, but they are still usable where

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00:32:48,020 --> 00:32:49,860

they've been taken care of.

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00:32:49,860 --> 00:32:58,700

Johnson shares his insight with archaeologist Donald Prue and hydrologist Stephen Mayby.

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00:32:58,700 --> 00:33:04,020

From 1996 to 2000, they formed the Nazca Lines Project, plotting the course of several faults

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00:33:04,020 --> 00:33:06,460

to look for correlations with the lines.

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00:33:06,460 --> 00:33:09,660

And they're able to confirm Johnson's ideas.

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00:33:09,660 --> 00:33:14,420

In almost every case they study, they find Nazca Lines charting the path of the faults

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00:33:14,420 --> 00:33:17,940

and pointing to where the faults cross adjacent ridges.

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00:33:17,940 --> 00:33:22,460

As they finished it, they really came away feeling like they had solved one of archaeology's

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00:33:22,460 --> 00:33:24,340

greatest mysteries.

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00:33:24,340 --> 00:33:28,980

If this theory is correct, the Nazcans have created a map of the underground water sources

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00:33:28,980 --> 00:33:31,780

which they can now tap into to survive.

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00:33:31,780 --> 00:33:35,420

It's like your local water utility map on a one-to-one scale.

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00:33:35,420 --> 00:33:39,580

This is a complex but effective way of recording knowledge onto the earth for later generations

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00:33:40,500 --> 00:33:41,500

to use.

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00:33:41,500 --> 00:33:44,020

But what about the animal shapes?

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00:33:44,020 --> 00:33:47,780

This is why we think the Nazca Lines may have been repurposed.

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00:33:47,780 --> 00:33:53,540

The animal shapes began as symbolic prayers or offerings to bring rainfall.

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00:33:53,540 --> 00:33:59,340

According to Johnson, they eventually become part of the system as well.

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00:33:59,340 --> 00:34:03,780

While the most important mapping of the irrigation system is done with geometric shapes, Johnson

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00:34:03,780 --> 00:34:07,820

writes that the animal figures might have been used to name the different water sources

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00:34:07,860 --> 00:34:10,820

or indicate where they changed direction.

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00:34:10,820 --> 00:34:16,740

These Pukios are an incredible achievement and the Nazca Lines are a huge part of what

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00:34:16,740 --> 00:34:20,020

makes them function as a system.

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00:34:20,020 --> 00:34:25,300

People still thrive in a desert area because of the knowledge they receive from the Lines.

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00:34:25,300 --> 00:34:29,300

A map for survival written in the Thames.

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00:34:29,780 --> 00:34:36,300

Over the last century, the world has marveled at the many impressive achievements of the

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00:34:36,300 --> 00:34:38,100

Nazca people.

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00:34:38,100 --> 00:34:43,100

The Lines themselves are incredible, but we can't forget about all of the other interesting

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00:34:43,100 --> 00:34:46,700

artifacts and features that have been found in this region.

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00:34:46,700 --> 00:34:50,980

There are some of the world's finest textiles with incredibly elaborate designs.

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00:34:50,980 --> 00:34:52,980

There is beautifully made pottery.

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00:34:52,980 --> 00:34:55,980

There are hundreds of mummies that are made of clay.

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00:34:56,660 --> 00:35:00,660

And there's a centuries old underground water management system that works so well, it's

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00:35:00,660 --> 00:35:02,660

still in use today.

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00:35:02,660 --> 00:35:06,660

But there's also a much more disturbing discovery.

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00:35:10,660 --> 00:35:15,660

About 90 years ago, Alfred Lewis-Crowbird, an anthropologist, was studying in the area

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00:35:15,660 --> 00:35:19,660

and what he found was a collection of severed heads.

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00:35:19,660 --> 00:35:24,660

So these heads are the ones that are used to make the most of the land.

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00:35:24,660 --> 00:35:29,660

These heads are really well preserved, much like the mummies that we find in this region

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00:35:29,660 --> 00:35:31,660

because of the lack of rain.

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00:35:31,660 --> 00:35:36,660

But what's interesting about them is that they have holes in the center of their forehead.

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00:35:36,660 --> 00:35:43,660

And what we think these holes were for is to put a string so that the head could be carried.

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00:35:43,660 --> 00:35:48,660

Experts have long believed that these are trophy heads taken from rivals during war and

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00:35:48,660 --> 00:35:50,660

then carried around and put on display.

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00:35:50,660 --> 00:35:55,660

Some heads are even found next to full mummies and researchers believe that a person might be

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00:35:55,660 --> 00:35:58,660

buried along with the trophy heads they collected in life.

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00:35:59,660 --> 00:36:05,660

For nearly a century, these heads are thought to belong to enemies of the Nazca.

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00:36:05,660 --> 00:36:11,660

But years later, a team of scientists in 2009 undertook some studies on these trophy heads

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00:36:11,660 --> 00:36:17,660

by using strontium analysis, which can tell you where a person was originally born,

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00:36:17,660 --> 00:36:23,660

and how that water in the ground was incorporated into their bones and into their teeth.

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00:36:23,660 --> 00:36:26,660

They were able to tell where these heads originated.

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00:36:26,660 --> 00:36:31,660

Come to find out the severed trophy heads come from other Nazcans.

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00:36:32,660 --> 00:36:37,660

The finding leads some archaeologists to completely rethink the Nazca lines.

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00:36:37,660 --> 00:36:42,660

We have a feeling the lines are linked to rituals or spirituality somehow.

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00:36:42,660 --> 00:36:46,660

And we have a feeling they are linked to the precious resource of water.

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00:36:46,660 --> 00:36:52,660

This new theory takes all of that into account, plus the fact that we now have evidence of local

natives being beheaded.

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00:36:52,660 --> 00:36:54,660

What does this mean?

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00:36:54,660 --> 00:36:58,660

Well, according to archaeologists Donald Prue and Karina Kellner,

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00:36:58,660 --> 00:37:04,660

what you have is a situation where the Nazca lines could be connected to ritual human sacrifice.

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00:37:07,660 --> 00:37:12,660

If you examine the images on pottery and textiles from the Nazca, trophy heads are everywhere.

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00:37:12,660 --> 00:37:15,660

Sometimes they are shown with plants sprouting from them,

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00:37:15,660 --> 00:37:19,660

which indicate they were likely buried to increase agricultural fertility.

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00:37:19,660 --> 00:37:22,660

As we know now, these are local Nazcans.

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00:37:22,660 --> 00:37:27,660

They are not people from other areas, so they presumably were not taken in war or battle.

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00:37:27,660 --> 00:37:34,660

These are people who freely participated in the process and in the ritual to help their own community.

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00:37:34,660 --> 00:37:41,660

According to this theory, the venue for these rituals is the Nazca lines.

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00:37:41,660 --> 00:37:46,660

When we look at the geometric figures, we realize there are these giant open spaces,

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00:37:46,660 --> 00:37:51,660

and these are potentially the arenas for these ritual sacrifices,

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00:37:51,660 --> 00:37:55,660

whether they were battles that were played out or other ritual actions.

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00:37:55,660 --> 00:38:00,660

In the Andean culture, warfare is actually linked to fertility,

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00:38:00,660 --> 00:38:05,660

and the losers of battle are sacrificed to the gods to help with that fertility.

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00:38:05,660 --> 00:38:08,660

This is all part of the religious attempt to draw in water.

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00:38:08,660 --> 00:38:13,660

As the team dates the trophy heads, they feel more confident about this theory,

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00:38:13,660 --> 00:38:19,660

because right when the major drought hits the region, the number of trophy heads increases dramatically.

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00:38:19,660 --> 00:38:23,660

They start doing this ritual more and more in desperation.

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00:38:23,660 --> 00:38:30,660

In 2022, a Polish research team finds further proof to support this theory.

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00:38:30,660 --> 00:38:35,660

This team tests hair samples from the Nazca trophy heads and finds that, before their deaths,

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00:38:35,660 --> 00:38:39,660

the victims ingested San Pedro Cactus, which contains mescaline.

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00:38:39,660 --> 00:38:44,660

Right before the victims were killed or sacrificed, as part of the ritual,

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00:38:44,660 --> 00:38:47,660

they were given this loosening to prepare them.

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00:38:47,660 --> 00:38:52,660

You find images of the San Pedro Cactus everywhere in Nazca iconography.

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00:38:52,660 --> 00:38:54,660

This plant is clearly important to their religion,

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00:38:54,660 --> 00:38:58,660

and now we have proof that it's involved in their rituals of taking trophy heads.

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00:38:58,660 --> 00:39:04,660

The idea is that the Nazca would gather at the lines in these ritual spaces.

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00:39:04,660 --> 00:39:08,660

They would participate in the rituals in just the hallucinogenic drug.

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00:39:08,660 --> 00:39:13,660

This would put them in a trancelike state and prepare them to engage in the ritual battle.

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00:39:13,660 --> 00:39:17,660

At the end of the battle, the trophy heads would then be buried

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00:39:17,660 --> 00:39:21,660

with the hopes of inspiring the gods to bring water to the area.

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00:39:21,660 --> 00:39:26,660

But this is far from the final word on the Nazca lines.

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00:39:26,660 --> 00:39:31,660

Maybe the lines were ritual battlefields, but I don't think that's all they ever were.

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00:39:31,660 --> 00:39:34,660

There's a good chance they serve multiple functions.

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00:39:34,660 --> 00:39:35,660

It's like roads today.

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00:39:35,660 --> 00:39:40,660

Yes, they move people from one place to another, but we also stage parades down them.

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00:39:40,660 --> 00:39:42,660

We block them off for music festivals.

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00:39:42,660 --> 00:39:45,660

We bury our water pipes beneath them.

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00:39:45,660 --> 00:39:48,660

This seems like a more logical way to view the Nazca lines.

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00:39:48,660 --> 00:39:51,660

Are we ever really going to know what the lines were used for?

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00:39:51,660 --> 00:39:54,660

Probably not, and that's okay. That's what's exciting about them.

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00:39:54,660 --> 00:40:00,660

But one thing we definitely know is the amazing feat of engineering that these lines represent.

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00:40:00,660 --> 00:40:03,660

They were clearly very, very important to the people of the time.

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00:40:03,660 --> 00:40:07,660

They cared deeply about them, went to great lengths to build them,

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00:40:07,660 --> 00:40:15,660

and it was a real testament to human ingenuity, creativity, and our ability to build amazing things.

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00:40:17,660 --> 00:40:23,660

Despite their 2,000-year-old history, more Nazca lines are still being discovered.

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00:40:23,660 --> 00:40:28,660

A never-before-seen cat figure was found as recently as 2020.

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00:40:29,660 --> 00:40:33,660

Perhaps new evidence can finally reveal their true purpose.

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00:40:33,660 --> 00:40:35,660

I'm Lawrence Fishburne.

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00:40:35,660 --> 00:40:39,660

Thank you for watching History's Greatest Mysteries.

