

Cracking the Maya code and Caves of the Maya dead

Annexe au mémoire – script source

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Script of “Cracking the Maya code”

NARRATOR

Imagine explorers arriving to find our cities deserted; our books have perished in some unknown catastrophe; all that is left to speak for us are the written words we have carved in stone. The travelers cannot make sense of our mysterious script, but if they could, would they comprehend who we were?

In the jungles of southern Mexico and Central America, the ancient ruins of the Maya posed such a mystery. They revealed a civilization of stunning achievements, created in isolation from Europe and Asia. Their cities were full of strange inscriptions, fantastic, twisting forms called hieroglyphs. They were carved on monuments and objects, painted on pottery and written in bark-paper books.

For centuries, the hieroglyphs confounded explorers. What secrets did they hold? Were they merely pictures and symbols, or, in fact, true writing, expressing an ancient language?

MICHAEL D. COE (Author, *Breaking the Maya Code*)

People threw their hands up and said, "Nobody's ever going to crack this script. It just can't be done."

NARRATOR

The quest would obsess artists and adventurers, archeologists and linguists, and the youngest recipient ever of the MacArthur genius award.

DAVID STUART (Epigrapher, University of Texas at Austin)

It became very clear to me that the real task of code-breaking was getting through this morass of the tangled visuals of the script.

NARRATOR

After centuries of struggle, the stories of the Maya scribes are coming to life.

MICHAEL D. COE

We began to see blood everywhere in the hieroglyphs. It was a rather darker view of the Maya that shocked a lot of people.

NARRATOR

As the hieroglyphs reveal their meaning, a history of a lost world is emerging, transforming our view of the ancient Maya.

DAVID STUART

These were literate people. They had these fantastic stories to tell. And we really got this amazing understanding of how the Maya saw their world.

NARRATOR

Up next on NOVA, Cracking the Maya Code.

In the 16th century, the flames of the Spanish Inquisition scorched the New World, decimating the Maya civilization. One blaze was ignited by Diego de Landa, a zealous friar, bent on destroying one of the most original writing systems ever invented, Maya hieroglyphics.

GEORGE STUART (Historian, Center for Maya Research)

He looked at these writings of the Maya, and he saw them as tools of the devil and de Landa felt he had to take a firm, official political stance.

NARRATOR

De Landa's mission was to convert the Maya to Catholicism in the Yucatan peninsula. Upon learning they were still making offerings to ancient gods, he arrested and tortured thousands of Maya for "crimes of devil worship."

MICHAEL D. COE

He inflicted a primitive inquisition on them that was incredible in its ferocity at the same time. While destroying everything that he could find that was what he would call superstition, in other words, a good part of their culture.

GEORGE STUART

So they had a great ceremony of destruction in the plaza and burned hundreds, maybe thousands of books. We will never know. And of course, out of all of that, only four books or partial books survived.

NARRATOR

Maya scribes were forced to learn European script.

MICHAEL COE

The writing system totally died out in the centuries that followed the Spanish conquest. I mean, people were probably burned at the stake for writing in the old system. By the 18th century, I don't think anybody could write.

NARRATOR

Knowledge of the ancient Maya script soon vanished. It would take centuries of struggle before the hieroglyphs could be read again.

Today in the highlands of Guatemala, Maya villagers still make offerings to ancient gods. They seek guidance about favorable days for planting and harvesting, business and travel, courtship and marriage. Although they hold onto their heritage, the Maya have been a people cut off from the written words of their ancestors.

Now the decipherment of the hieroglyphs is bringing their past to life.

WILLIAM FASH (Archeologist, Harvard University)

The hieroglyphic records have so many stories to tell about just who the actors were on the stage of Maya history and what the major events were.

LINDA SCHELE (Epigrapher, University of Texas, Austin/Deceased 1998)

Those glyphs give the Maya 1,500 years of history, written in the words of their ancestors, not in the words of white people from Europe.

SIMON MARTIN (Epigrapher, University of Pennsylvania Museum)

This is our one and only opportunity to peer into the Americas before the arrival of Europeans and hear these people speaking to us.

NARRATOR

Since ancient times, the Maya have lived in a region that extends from southern Mexico through much of Central America. The heart of their civilization laid between the highlands of Guatemala and the plains of the Yucatan, much of it a vast region of dense jungle.

Here, around A.D. 200, they began building their great cities: Tikal, Copan and Palenque.

They were renowned for their monumental architecture. Pyramids and temples towered over plazas and ball courts, where kings ascended to the throne and warrior athletes competed for their lives.

WILLIAM FASH

There were dramatic kinds of ceremonies and public events for public consumption, the exercise of power in its most dramatic forms.

NARRATOR

Maya civilization thrived for over 2,000 years, distinguished by a sophisticated culture.

LINDA SCHELE

The art involves a level of graphic imagination and expertise that is unparalleled.

NARRATOR

As Europe entered the Dark Ages, these city-states reached the height of their glory, some supporting hundreds of thousands of people.

MICHAEL D. COE

They were the greatest of all new civilizations, and it's the only fully literate society in the New World.

NARRATOR

Yet mysteriously, in the ninth century, the Maya abandoned many of their cities. The temples and pyramids in the central lowlands were swallowed by the forest and forgotten.

Almost 1,000 years later, a Spanish explorer named Jose Calderon stumbled upon the jungle city of Palenque. Inside its abandoned temples, Calderon and his men found huge stone tablets carved with figures and hieroglyphic writing.

DAVID STUART

It's really clear that they're looking at something that's totally alien to them, and they're wrestling with this idea, whether it's picture writing or whether it's something more than that.

NARRATOR

As news of the strange texts spread, French artist Jean-Frederick Waldeck traveled to Palenque, in 1832, to sketch its hieroglyphs. Believing that Babylonians, Phoenicians or Hindus had built the Maya cities, Waldeck's drawings even included Indian elephants.

DAVID STUART

We now know that the Maya weren't even writing anything that visually looked like an elephant. He wasn't understanding the forms of the signs. This is the theme that you see time and time again with artists trying to record Maya inscriptions, up until the 20th century.

NARRATOR

As more sites were discovered, explorers did their best to draw the unfamiliar glyphs, but their work lacked the detail needed for decipherment.

Everything would change in the 1880s, when Alfred Maudslay arrived with a glass-plate camera.

GEORGE STUART

Maudslay was taking full advantage of the new developments in photography. He had gone into all the sites, fully equipped with large format glass-plate negatives—an immense effort, these caravans of equipment.

WILLIAM FASH

You see these lovely photographs with the entire great plaza cleared. Well, it wasn't that way when he got there. He had to set a lot of people to work, clearing these areas, so that he could get decent photographs.

NARRATOR

Maudslay's photos captured the hieroglyphs in exquisite detail.

MICHAEL D. COE

If you're going to deal with an ancient body of inscriptions and try to crack an unknown script, you have to have a really good record. And he was the first one to make it.

NARRATOR

But unknown to many scholars poring over Maudslay's photos, the work of decipherment had already begun, with the rediscovery of Maya books that had survived the Spanish conquest.

Three surfaced in Madrid, Paris and Mexico, but the most exquisite manuscript made its way to the Royal Library of Dresden, Germany. It is called the Dresden Codex.

It was forgotten until 1810, when a massive volume on the Americas was published in Paris and included five of its pages. Its strange hieroglyphs pushed an eccentric scholar, Constantine Rafinesque to attempt to try and crack the Maya code.

MICHAEL D. COE

He looked at these bar and dot numbers, and he said, "You never get more than four dots...a bar probably stands for five."

One would be one dot; two would be two dots; three would be three dots; four, four dots; then you'd have a bar. And then a dot would make it six; two dots and a bar, a seven.

And that was the first time anyone had ever deciphered a Maya hieroglyph. That is the beginning of the decipherment.

NARRATOR

The quest would move to Dresden Germany, when Ernst Forstemann, a librarian, stumbled upon the Dresden Codex. The priceless book had sat in the library, overlooked, for decades.

GEORGE STUART

Can you imagine being able to pull out one of the most important primary sources in the prehistory of the New World and to have it there in front of you and just look at it and work with it?

NARRATOR

Forstemann discovered the Maya had developed a calendar to mark time and even pursued astronomy. In the Dresden Codex, he found precise predictions for the dates of lunar and solar eclipses. And there were tables tracking the cycles of the planet Venus, which was linked with warfare.

But Forstemann's greatest feat came when he figured out that very large numbers in the Dresden Codex were counts back in time to a specific date, to a date the Maya believed the universe was created: 4 Ahau 8 Cumku.

By correlating this to the Western calendar date of August 13th, 3114 B.C., archaeologists could now date the carvings on stone monuments, called "stelae."

One expert in dating Maya glyphs was J. Eric Thompson, a brilliant British archeologist and epigrapher.

DAVID STUART

Thompson dominated Maya glyph studies from the 1930s up until the 1960s. He was the figure. No one else at that time had any idea what Maya writing really was.

NARRATOR

Thompson created a meticulous classification system, assigning what scholars called Thompson- or T-numbers to over 800 Maya signs.

After living among the Maya in Mexico and Belize, he came to deeply admire their culture.

GEORGE STUART

He created a kind of a picture of the Maya as a gentle folk, rather unlike anybody else that ever lived in the world, who were constantly gazing toward the skies and obsessed with astronomy and time.

NARRATOR

Thompson's view of the Maya was influenced by his experiences in World War I.

MICHAEL D. COE

Anybody who had actually been in the trenches in the First World War never really wanted to hear anything but peace after that. So he had a mindset that was looking for a peaceful people.

NARRATOR

Thompson concluded that the focus of the Maya civilization was time, and that their stelae were built to commemorate its passage. The figures in their art were priests and gods, and their glyphs were symbols recording the mysteries of the heavens.

MICHAEL D. COE

Thompson tries to convince us that there isn't any system here at all, other than the dates and other than the astronomy, that, basically, it's a kind of a mystic exercise on the part of the Maya for getting in touch with their gods.

NARRATOR

Most scholars accepted Thompson's theory and presumed that, beyond dates, the glyphs were simply inscrutable.

MICHAEL D. COE

People sort of threw their hands up and said, "Nobody's ever going to crack this script. It's basically too much of a hodgepodge, and it just can't be done."

NARRATOR

The woman who would challenge Thompson's vision entered the field of Maya studies by chance. Tatiana Proskouriakoff had studied to be an architect, but when she graduated in 1930, the country was in the grip of the Great Depression.

MICHAEL D. COE

She had no real job ahead of her. She wandered into the museum of the University of Pennsylvania and saw that there was an advertisement for an artist to go and do drawings, or reconstructions, and so forth of the ruins at Piedras Negras, a major, major classic Maya site.

Tatiana began her work there, in the field. And she started to do reconstructions of what it would have looked like in the past.

NARRATOR

She was a skilled surveyor and draftswoman. Her reconstruction drawings were so architecturally precise they brought the ancient Maya city to life.

WILLIAM FASH

It's almost as if she had some sort of x-ray vision built into her brain, so that she could look at a ruined temple and guess how many terraces there were supporting the superstructure at the top. And she turned out to be remarkably prescient.

NARRATOR

For nearly 20 years, Proskouriakoff toiled as a lone woman archaeologist in a field

dominated by men. She left fieldwork in 1958 to join Harvard's Peabody Museum, spending her time in the basement, where the Maya files were stored.

WILLIAM FASH

One of her projects was to piece back together all the fragments of jade that had been shattered into various bits and pieces. And it was at that point in time, when she was laboring away, almost anonymously, that she came up with her great breakthrough.

NARRATOR

Proskouriakoff had photographs of dozens of stelae at Piedras Negras. When she arranged them by the dedication dates, she began to notice a pattern. The Maya would set up a series of stelae in front of a temple, one every five years. The first stela in each series always showed a figure seated in a carved niche. At the bottom of the stela was a sacrificial victim. A ladder ascended to a seated figure above. Proskouriakoff resolved to make sense of the scene.

Each stela in a series stated the date of its dedication. Several stelae also had another mysterious date. It was followed by a glyph of bird head wrapped in a cloth.

Thompson nicknamed it the "toothache glyph." But what did it mean?

Proskouriakoff found a clue when she discovered another date that fell anywhere from 12 to 31 years before the "toothache" event. The glyph following this earliest date was always the up-ended head of an iguana.

MICHAEL D. COE

And what she hypothesized was that the first one was a birth glyph and then the next glyph might be this is the date on which he acceded to the throne.

NARRATOR

The dates fit her theory perfectly. The time from the birth of one king to the accession of the next was never more than 60 years, a reasonable human lifetime.

MICHAEL D. COE

Her hypothesis, then, was that each one of these series were the life story of a particular ruler. It was a dynasty she was dealing with. It was history, for the first time.

NARRATOR

Suddenly, Proskouriakoff's brilliant insight transformed the images on the stelae. The alcoves were thrones. The figures were not gods and priests, as Thompson believed, but kings and queens. This was a family history.

Ruler One ascends the throne in 603. Five years later, he is a warrior, with prisoners at his feet. Fifteen years later, Ruler Two takes the throne. He is 12 years old; his mother stands beside him. At age 26, he is dressed for battle. Ten years later he is still a warrior, but considerably heavier. He reigns for 47 years.

Proskouriakoff's story followed the reigns of seven kings.

MICHAEL D. COE

She laid it out, all the dates, with all the sequences for each series. And I looked at it, my knees went weak. I said, "Tanya, you've done it. It's the most important discovery of all time."

PETER MATHEWS (Epigrapher, La Trobe University)

She presented the paper to Eric Thompson, and Eric Thompson said, "Oh Tanya, you know that can't possibly be true. There's no history in the inscriptions." And she said that the next morning she came back to work to be greeted by Eric Thompson who said, "You are absolutely right."

MICHAEL D. COE

Which is amazing for somebody like that who had been a lifelong opponent of the idea that this was history. And that was it. That just changed everything. We now knew that we were dealing with history on these monuments.

NARRATOR

The next advance in breaking the code came in May of 1945, when the Russian Army marched into Berlin. In the ranks was a young officer named Yuri Valentinovich Knorosov.

MICHAEL D. COE

He told me once that, in the ruins of the national library, he found a book lying there that had survived the fires and all the rest of it, that he picked up, which was a very

good black and white reproduction of the three then known codices, the *Dresden*, the *Madrid Codex* and the one in Paris.

NARRATOR

Knorosov's fascination with the book grew when he read an article concluding that Maya glyphs were undecipherable. He took it as a challenge and obtained a degree in linguistics to become a lone Russian Mayanist in a field dominated by Eric Thompson.

STEPHEN HOUSTON (Archeologist, Brown University)

Because he was behind the Iron Curtain during the Stalinist period, he also was, intrinsically, very isolated. He didn't have a lot of ideas floating around that he had inherited from other people, ideas that, in Thompson's case, were quite simply wrong. It gave him a fresh perspective. He was kind of a clean slate, you might say.

NARRATOR

As a linguist, Knorosov knew the first step in analyzing an unknown writing system is to count the signs. If a script has 20 to 35 signs, it is probably alphabetic, representing simple sounds. If there are 80 to 100 signs, it is probably based on syllables. But if a script has several hundred signs, it is surely logographic, or based on signs for whole words.

A logographic system like Chinese has thousands of signs for thousands of words. The Maya script has about 800 signs, too many to represent an alphabet and far too few to have signs for each word of a language. So scholars assumed that it was a limited, logographic system, with signs for only a few hundred words.

But Knorosov knew that no writing system consists purely of one kind of sign. Our own alphabet uses numerals and logograms.

Knorosov realized the Maya script was also a mixed system, combining word signs and phonetic signs. With this insight, he turned to the Madrid Codex, where the glyphs for the four directions had been identified.

He focused on the glyph for west, searching for syllables. It was made up of two signs. On the bottom was the sun sign, depicted in all its variations by four spokes or petals. On the top was a hand, with thumb and forefinger touching.

Eric Thompson had argued that the hand sign meant "completion" and read the glyph as "completion of sun," or sunset, therefore, west. For Thompson, glyphs represented ideas not sounds.

DAVID STUART

Eric was kind of bullheaded about things like this. He had determined, to his own satisfaction, that the hieroglyphs were not phonetic and could not be phonetic, and he stuck with that.

NARRATOR

But Knorosov disagreed. He suspected that the glyphs might, in fact, be tied to the sounds of spoken Maya. He knew that in Maya the word for west is chik'in, and the word for sun is k'in. So he suggested that the hand sign should be read, not as the concept, completion, but as the syllable, chi.

When combined with the logogram for sun, it forms chik'in.

To rule out coincidence, Knorosov identified syllables in other glyphs, proving that at least some corresponded to the sounds of spoken Maya.

MICHAEL D. COE

And, of course, the Soviet propaganda apparatus jumped on this and said, "Look, inspired by the wonders of Marxism-Leninism, this young scholar has done what none of the imperialist scholars in Britain or the United States or Germany could ever do. He's shown how the Maya wrote." And Thompson, a lifelong anti-communist, decided that this was a total fraud and that the world should be straightened out about this.

NARRATOR

Some of Knorosov's specific readings were questionable. Seizing upon them, Thompson discredited his entire method.

Tragically, Knorosov's priceless insights went unrecognized in the West. But the era of lone scholars, scattered across the world, was coming to an end.

The change began in Palenque, driven by Merle Greene Robertson. She had spent years documenting the site's art for future generations. While she was working, an art professor named Linda Schele visited.

LINDA SCHELE

When I walked among Palenque's buildings, I saw a culture where the art was central, and I really was driven to understand who had done it and why and how.

NARRATOR

Schele began to help Robertson. As they worked, she gained an intimate knowledge of the site. It would be put to use in 1973, when Robertson hosted a conference at Palenque.

There, Schele met Peter Mathews who had spent the past winter analyzing books of Palenque's glyphs.

PETER MATHEWS

Basically, by the end of that process, I had three huge notebooks filled up with transcriptions, in Thompson's wretched T-numbers, of all the signs of every single inscription from Palenque.

NARRATOR

Mathews teamed up with Schele to reconstruct Palenque's dynastic history. They knew that some royal names at Palenque are accompanied by a title, a winged-sun sign.

LINDA SCHELE

And so what we did is we went through and found every example of this title and wrote down the nearest date.

NARRATOR

Poring over Palenque's inscriptions, they found over 40 names with the royal title. Each was accompanied by a date and glyph describing the event on that date, for example, a birth shown by the up-ended head of an iguana.

As Schele and Mathews arranged the births, deaths and ceremonies by date, the patterns emerged. One ruler stood out, whom they dubbed "Lord Shield." He was born on the 23rd of March 603. His name glyph featured a warrior's shield. It led them to Palenque's most dominant building, the Temple of the Inscriptions.

The meaning of its hieroglyphic tablets had been an enigma for centuries. Schele and Mathews now saw that the panels were filled with references to "Lord Shield" and key events in his life.

Suddenly, a discovery made in 1948 took on new meaning. A hidden staircase was found in the temple's inner chamber, leading to a crypt with a limestone sarcophagus. Inside was a human skeleton, masked in jade. Schele and Mathews realized that this must be the body of Lord Shield.

For the first time, hieroglyphs were connected to the remains of a Maya ruler. The glyphs, Schele and Mathews grasped, traced the life stories of Lord Shield and five of his successors.

GEORGE STUART

And they came out and literally announced that they had sort of cracked the dynasty of Palenque, and they had names of the rulers and the times when they ruled.

LINDA SCHELE

We had them with funny names like Sun Shield and Lord Toothache.

GILLETT GRIFFIN (Art Historian, Princeton University)

At that point, Moises Morales, a local guide, jumped up and said, "Why is it that when important discoveries like this are made, the name was given in English, "Lord Shield," or "Escudo," Spanish?" He said, "These people spoke Maya."

NARRATOR

So they called the king Pakal, a Mayan word, later confirmed, phonetically, to mean shield.

GEORGE STUART

It was just a giddy sort of feeling, and I'll never forget it. It was a real turning point in Maya studies.

NARRATOR

After years of work, the cracking of the Maya code was within reach. But one big hurdle remained: to read the hieroglyphs aloud in the language in which they were written, the phonetic decipherment, begun by Knorosov, had to be completed. Despite decades of effort, fewer than 30 syllabic signs could be read with confidence.

The final key to the sounds of the glyphs would be found by David Stuart, whose education as a Mayanist began at an early age. His father George often brought him along on his field trips to Mesoamerica. One of David's most memorable expeditions was to Coba, in the Yucatan.

DAVID STUART

It was just kind of an incredible place to wander around as a kid. What really got me, though, was, while we were at Coba, there were a couple of monuments that were actually discovered. My dad would drop everything and work on drawing the monument. And I would just sort of look over his shoulder while he was doing that. And I thought, "Gee, this is pretty amazing."

GEORGE STUART

He decided he would go out and draw some himself. So he would take his crayons and paper and everything, and go out, and started drawing hieroglyphs.

DAVID STUART

By the time we got back to the States, my inner soul had been so affected by that experience that I just wanted to keep going back.

NARRATOR

Two years later, George took David to meet Linda Schele.

DAVID STUART

I remember kind of sitting there quietly in the office while she was drawing a glyph, and I don't know why I blurted this out, but I said, "Oh, that's a fire glyph." And so Linda kind of paused, and I remember she sort of looked behind her shoulder and over at me and said, "Yeah, you're right, kid. That's a fire glyph."

LINDA SCHELE

George said that they would really appreciate it if there was ever a chance that David could study with me or something. And so on the spur of the moment, I said, "Why doesn't he come down to Palenque this summer?"

DAVID STUART

And the next summer was one of the most amazing times of my life. She allowed me to help her check her drawings. We were in the temples, with flashlights, with her

drawings on clipboards, making corrections. I remember Linda was saying, "Okay, kid, you know, if you want to learn Maya glyphs, you've got to do it on your own."

LINDA SCHELE

I gave him the Tablet of the Cross, told him to go out on the back porch and figure out as much as he could about it. He came back a couple of days later, and had the same amount of structural understanding of the text that had taken me three years to do. And so I figured then that he was really quite good.

NARRATOR

At age 12, David presented his first scholarly paper on Maya hieroglyphs.

KATHRYN JOSSERAND (Linguist, Florida State University)

And he gives a paper that was certainly beyond the abilities of about two-thirds or three-quarters of the audience to follow. It was a scholarly paper. And mostly people were just amazed.

NARRATOR

Then, after his high school graduation, Stuart received an unexpected call. He had won a MacArthur Fellowship, popularly known as the "genius award." At age 18, he was the youngest recipient ever of the prestigious prize.

Stuart delayed college to work on the glyphs full-time. It was then that he made his great discovery. It came when he focused on a pair of signs already believed to have been deciphered. Eric Thompson had pointed out that one of these signs signaled a count forward to a new date, the other, a count backward to a prior date.

The two glyphs shared a common sign, what Thompson called either a water sign or the head of a shark, or xo'oc in Maya. Xo'oc can also mean "to count."

But Stuart discovered that several other signs also substituted for the shark: a human head, a monkey, and, in one instance, a bracket-shaped sign. Did all these signs stand for the word "count?"

Stuart thought there was a simpler explanation. The bracket symbol was also the phonetic sign for the syllable "u." Suddenly he realized that all these signs simply stood for the syllable "u ". The proof? Each sign freely substituted for the u bracket in contexts that had nothing to do with counting.

PETER MATHEWS

What Dave Stuart did was show us that many of these substitutions are purely phonetic substitutions that are spelling exactly the same word in slightly different ways.

NARRATOR

The backward and forward counting glyphs were phonetically spelled phrases: i, u, ti and u, ti, ya.

In Maya, i ut means "and then it happened," and ut iy means "since it happened."

The words that Thompson had viewed as mere dates were in fact telling a story.

MAYA VOICE

I ut / hun kibin / canlahun uniu / nawah / ix katun ahau / ix naman ahau / yichnal Kinich Yo'onah Ac / buluc lahun / uinalihy hun habiy / hun katun / I ut / kan kimi / kanlahum ikat / siyah / ix huntan ac / ix k'in ahau.

TRANSLATION VOICE

...and then it happened, on the day 1 Kib 14 K'ank'in, that she was adorned in marriage, Lady K'atun Ahau, lady of Naman. And after 10 days, 11 months, one year and one score of years, then it happened, on the day 4 Kimi 14 Uo, that their daughter was born, the royal sun lady.

NARRATOR

The implications were revolutionary. Epigraphers had been searching for a single sign for each syllabic sound, but if u was represented by more than one sign, then other syllables might be, as well.

SIMON MARTIN

One of the things about Maya writing which makes it so complicated is their love of substitutions. One sound can have 13, 14, 15 different versions. They hated repeating themselves and loved showing new things. And the recognition of those substitution patterns was what began to break down the complexity of Maya writing into something which was a manageable, comprehensible system.

NARRATOR

Each time a Maya scribe wrote a given word or phrase, he could choose from a

variety of signs and combine them in new ways. A sign could be written abstractly, or as the head of a human, animal or god. One sign could be slipped inside another, or partly overlapped. Two signs could join, merging their attributes. Glyphs even included figures of monsters and gods.

LINDA SCHELE

The art of the system is the genius within which they combine these different possibilities. The graphic component of Maya writing is absolutely overwhelming.

DAVID STUART

There was an artistry and a playfulness that was as much a part of the system as the recording of language. So, visually, it was complicated, but once you organized that visual material into the system that existed, it made perfect sense, and you could predict things. You could really crack the code that way.

NARRATOR

An image of the ancient Maya was suddenly coming to life, gleaned from their own words.

Some glyphs simply described personal possessions: u tu pa, "u tup," his ear ornament; u ba ki, "u b'ak," his bone; "u lak," his plate; "yuk'ib," his drinking vessel.

STEVE HOUSTON

They're describing particularly important objects belonging to the royal court. They're probably gifts, they're received, they're given, they're part of a social process that helps to bond these societies together.

BARBARA MACLEOD (Linguist and Anthropologist)

It's like having a time machine to be able to read these texts. And to me, it's a rare privilege to be able to read them out loud in the language in which they were written. Maybe sometimes I'm the first person to actually say them out loud in a thousand years.

NARRATOR

Soon, more esoteric ideas emerged in the writing. There were glyphs describing frightening otherworldly beings.

DAVID STUART

These glyphs were appearing with scenes of these fantastic animals and creatures and spooky-looking, walking skeletons. And this was a different kind of thing from what we were used to reading about in Maya glyphs. They weren't talking about monuments. They weren't talking warfare. They were talking about, kind of, the inner souls of people.

NARRATOR

As the readings poured out, a more complex view of the Maya began to emerge.

WILLIAM FASH

Instead of these peaceful stargazing astronomer priests, the Maya were shown to be like any other civilization with a great deal of conflict. One of their great claims to fame was how many captives they had taken as offerings to their gods and ancestors. They would also periodically engage in the most precious offering of all, which was in offering their own blood.

NARRATOR

The importance of self-sacrifice can be seen in this ceremony. A royal lady conjures a vision of a serpent with an offering of her own blood. She has perforated her tongue with a stingray spine to draw a rope imbedded with thorns through the incision. In front of her, slips of paper soaked in her own blood burn in a ceramic bowl. Out of the rising smoke forms the vision of a serpent. From its mouth emerges the figure of an ancestor. The upper text describes the ceremony.

TRANSLATION VOICE

On March 28th, 755, a vision was conjured of the serpent Yax Chit Noj Chan, the animal spirit of the god K'awil. And then a vision was conjured of the ancestor, Yax Ts'Aw Heen.

NARRATOR

The glyph for "conjure" shows a hand grasping a fish.

DAVID STUART

It's this idea of grabbing something that's elusive, reaching into another realm, in a way, or even into the underworld, and wrenching something out of that and bringing it into your own world, that is, conjuring.

NARRATOR

From glyphs and art, the psyche of the ancient Maya was emerging.

MICHAEL COE

We now saw the Maya people as a whole. You could look at a piece of Maya art and the inscriptions on the tops of the vases and understand what the heck these people were doing.

NARRATOR

One myth, painted repeatedly on Maya vases, echoes a surviving 16th century manuscript, the Popol Vuh. It tells the saga of twin brothers summoned to the underworld.

MICHAEL D. COE

They play a ball game against the lords of the underworld in which they are finally defeated, and they are sacrificed. The head of the main brother, there, is cut off and hung up in a tree. And a young lady comes by who is the daughter of one of the lords of the underworld. And she talks to the head and it spits into her hand. Naturally, she becomes pregnant.

NARRATOR

Banished from the underworld, she eventually gives birth to a second set of twins. They become skilled warriors, and return to the underworld to fight its lords. After a series of clever tricks, they resurrect the body of their father, the maize god, and bring food back to their people. Then they rise up to become the sun and moon.

MICHAEL D. COE

This is the single most important myth that we have from the entire New World, probably the most important piece of literature ever produced in the Western Hemisphere.

NARRATOR

The decipherment was not only illuminating the inner world of the Maya, but also casting new light on the power struggles tearing apart their great city-states. It became clear that from the third to the ninth centuries, the Maya world was dominated by warring superpowers.

MICHAEL D. COE

We began to see blood everywhere in the iconography and in the hieroglyphs. They were not a peaceful people but involved with absolutely bloody sacrifice.

NARRATOR

In this sculpture, a captive has been scalped, disemboweled and crippled. Wood is tied to his back to set him on fire.

DAVID STUART

There were well-defined groups that were really at each other's throat, battling each other and causing havoc on the landscape.

NARRATOR

The glyphs reveal the mayhem: "chuk," to capture; "jub," to take down a city; "pul," to burn; "chak," to decapitate.

One scribe grimly wrote, "Mountains of skulls were piled up and blood flowed."

On the last dated monument of Copíjn, the great king Yax Pasaj hands his scepter to his successor, signaling the dawn of a new dynasty. But this new reign never began. The scribe telling its story fled, leaving the monument unfinished.

The kingdom could no longer sustain either rulers or artists. As political upheaval engulfed the region, the great cities of the southern lowlands finally collapsed.

Over 1,000 years later, in the 1980s, Maya villages were again under siege. As civil war ravaged Central America, the Maya made a desperate effort to save their culture.

LOLMAY GARCÍA MATZAR (Linguist, Oxlajuuj Keej Maya' Ajtz'iib' Language Center)

Many times we identify with the glorious past. We say, "I'm Maya." I see Tikal, Copíjn, and various monuments, and we identify ourselves as Maya. But many of us don't speak our language now. Every day it is slipping away.

NARRATOR

The Maya had guided explorers and rebuilt monuments. They had shared knowledge of their spoken languages and customs. Now they wanted to reap the benefits of the decipherment.

KATHRYN JOSSERAND

So at this Mayan workshop in Antigua, I gave a presentation about a hieroglyphic text, and I showed how you could read it.

NICHOLAS HOPKINS (Linguist, Florida State University)

And the guys came up to her after the paper and said, "You were showing Maya hieroglyphics there on the screen." She said, "Yeah." (They) said, "It looked like you could read those." And she said, "Yeah, we can pretty well read those now." So they said, "Whoa, this is our history." They said, "This is what they've always kept from us. This is what we want to know."

LOLMAY GARCÍA MATZAR

This is the history they never taught me in school. It is very important because it is the history I care about.

NARRATOR

For centuries, Maya culture has been brutally suppressed. Its people were pressured to speak and write in Spanish and take Christian names. Now the Maya are rediscovering the hieroglyphs and their history.

LINDA SCHELE

One of the most precious gifts that any group of humans on the Earth has is history. The process of actually deciphering it, that's only the first tiny step to understanding what this great civilization contributed to the heritage of humanity.

SIMON MARTIN

Glyphs represent our one and only window into the pre-Columbian past. It doesn't answer all the questions that we'd love to have answers to, but it does give us an indigenous insight into what they thought was important.

NARRATOR

With the cracking of the Maya code, the words of their ancient scribes have finally come to life, revealing a history and literature of a vanished world.

Script of “Caves of the Maya dead”

Remarques : J'ai laissé les fautes intentionnellement car c'est une transcription.

Guillermo de Anda

Hello it's really a pleasure and honour to be here, a dream come true so... Yes I'm an underwater archaeologist. I explore caves and to be an underwater archaeologist in Yucatan, you really have also to explore the dry caves.

There are a lot of them in Yucatan. You know it's a karstic plain and we cannot understand cenotes if we don't understand dry caves. They had a strong symbolism for the ancient Maya and they both represented the same: the entrance to the Underworld, to the secret world, to the world of supernatural.

Our research takes place in Yucatan. Of course it's in Mexico and we are here in this area. We are exploring Chichen Itza. I will talk about Chichen Itza a little bit. This is Mesoamerican term that researchers employed a long time ago and we know it as a cultural area. So Mesoamericans share a lot of cultural traits.

I do really have the coolest job in the world. It's a perfect combination of extreme sports, adventure, mystery, science and when you're hanging on a line like that, it's time to think about things that happened on the past and being hanging on that line was a very good point of advantage for one of our discoveries that I would mention at the end.

So, I want to talk about water as well because water was sacred for the Maya of course and this is why they sometimes deposit some people in the water, in the cenotes. Which is sometimes hard to understand but we believe most of these deposits were mainly bones. Of course, they must have been also deposits of bodies that decomposed there.

Human sacrifice was a fact for the Mesoamerican people. Especially heart extraction. We can see the big picture there, it's a beautiful iconography from the classic period. This guy has his chest opened. Sometimes, they tried to bring the heart out of the chest still beating because blood was important, it was an offer, it was not only the life this individual offer to the gods but also the blood.

Chichen Itza is a perfect example. It is one of the places that marked our research. We had to start somewhere and we started on the mother of all the cenotes: The Sacred Cenote. But for those who don't know what a Cenote is, a Cenote is a flooded cave and comes from Maya « dzonot » which means something like a hole in the ground. These holes in the ground are fantastic because they are really the entrance to hidden world and archaeologists know that. We know that going into these holes, we're gonna find cool stuff.

This M. Edward Thompson and he bought Chichen Itza for the equivalent now of 35 dollars included the cenote, the site, everything. And lots of Mexicans are like a little bit still in disagreement with that. But it was another time, it was a very different context. Something I know about him he was a very brave man. He was the first cenote diver ever. Of course, he used this hard equipment he must destroy a lot on the bottom but I think he sink on the bottom for a long way maybe to the knee. On the photo, this is a Greek diver that accompanied M. Thompson. And then the Sacred Cenote, the land of the virgins. Maybe some of you still think about the Sacred Cenote as a place where they toss beautiful virgins. I kinda have to disagree a little bit with that idea, I think.

This a very nice illustration from the National Geographic magazine 1961, October. You know it's very nice. I mean it is very beautiful, it's very romantic but I think the Maya were as human as we are and they were not stupid. And maybe if they toss women, they were look more likely like a mother-in-law some of them so... And this is true because when we analysed the bones in the Sacred Cenote, what we found is that most of them were children.

Which is a stricken situation. In all Mesoamerica, children were the favorite, for to be sacrificed for the gods. On the adult population, that I had the opportunity to analyse, most of the adults, were male, very few female, and they were old, like 25 or 35. Old for Maya's standards, of course.

Ok, so, we had that information and we also had a beautiful information that we came across in some documents from the 16th century. The bishop Diego de Landa, tried to instore the catholic religion. She wasn't successful, not as nowadays, there's still Maya's rituals, in this time. But anyway he really tried to do it and an he persecuted "idolators" as he called them. And he does this trials and, does maybe a little bit of

torture, and we found these documents written in a book from Scholes and Adams in 1938. It's a book that has been around for a long time, but not one single archaeologist had paid attention to it, and then we investigate a little bit, and we found that there was at least, 200 mentions of human sacrifices, and they described the area, the name of the villages, the names of the cenotes, the names of the priests, and most of the sacrifices were performed on children.

So that was the next step, go to the field, and try to see if there were really human remains, and yeah we found a lot.

But these documents didn't only take us to the water, the precious water. They also take us to dried caves, such as this one. This is a very important cave. This is the first time it's presented. And we think it's one of the best discoveries our team have had. It's a place at the South of the state of Yucatan. And we get... we found it 'cause of these chronicles, they described caves and cenotes.

And inside the cave, it is a very long cave, it's about 350 feet drop off, and then you have to walk for hours to get to the end of the cave, well it's not the end of the cave, but to the place I want to show you know, and you'll find a lot of modifications of the cave, it's like little rooms, they made tunnels, they make you go through, different, like different steps, different tests.

There is altars, beautiful altars. This is a different cave than the one I'm describing, but is an example of what an altar is. You know what is fantastic with these caves is that they have not been touched. Maybe we were the first ones in centuries, after one thousand years. And you can see the fingers prints of the person that made that altars, that's fantastic, that's [...] really.

There is another altar, not as elaborated as the other one, but just as important, this is an altar made of speleothemes, stalactites and stalagmites, it's like a little stone house and these are the offerings in the middle, and what stands out from these offerings, is the phallic form, and it's a stalactite, and stalactite are related to fertility, and you know, the ancient Maya, and even nowadays in Chiapas, the Maya will enter a cave and tell you that the stalactite when they dropping, this is the breast of the Earth that is feeding the Earth and the stalagmites are growing up, they are the phallus of the Earth, and when they get together and form a column, they are

copulating. It is a very old way to see the caves.

Then, after all that, all these tunnels and modifications, take us to this fantastic mural. This is a unique work of art in the Maye era. It's a jaguar, a deer and a bird and some signs that we have not identified. We had consulted some of archaeologists experts in iconography and they said it might be a very old representation of the mythical animals that can go in and out the other world very easily. This is a huge mural, this is a human scale, so you can see how big it is. It is about 10X10.

And it's in a place I'm standing there, but there is a drop off in front of me. They might have placed some scaffold or something to do it. They do a lot of efforts to do these things. But this what really really strikes us is, a unique form of art in cave, we have never seen something like this, they were better than James Cameron to get to the 3D. This a 3D representation of a tapir, maybe, another mythical animal. This animal, if you look well, it look like it's coming out from the wall. It's unbelievable.

We are using our carbide light with a little flame. So this flame made everything kind of flicker, and you have entered that room, you really feel like the animal is coming out, it's like guarding the place. It's fantastic, we get the effect that the ancient Maya wanted to have with this form of art, and he's guarding this: it is probably a representation of a sacred tree, it's a tree, because you can see the huge column, it looks like a tree, and there is like branches. This was first observed in Balankanche cave by doctor Wyllys Andrews, a long time ago in the 50's.

And now the archaeologist look for this forms, because they represent the tree that sustains the Universe, the *axis mundi* of the Maya's universe, and what this tree is guarding, what all this art, all this long way is taking to is a little, a very little body of water, a little body of sacred water, so maybe this was made in times of drought. We have archaeological proofs that there was a huge drought on the 10th century, this is recorded by the paleo-climatologists. Dr Brenner had worked a lot on that, and they said the was a brutal drought, several centuries, one of them was the 10th century, and this drought lasted for 5 or 6 years. So, we know that the water and the cenotes and the caves is controlled by the oceans. But if it stops raining, the level should go down, and this is what we are looking on the artefacts in bones. On that photograph you can see a skull, is it deposited at about 5 feet from the surface. It is flooded now.

But we believe it was intentionally deposited by the ancient Maya. We know that they didn't have diving equipment, they were probably good breath holders, but they don't have anything to see, they didn't have torches for under water, so we believe the level of water was lower, so they get there maybe in a canoe or some devices, and made the deposit, maybe because they had this huge drought, even though, we have to say it, the Maya of Chichen Itza, we have to say it, were very smart and handle very the strategic way to survive, you think the cenotes. And that's very important because we want to relate how our investigation to climate change, and to the changes that... through... during this era.

Looking for Maya remains, going deeper and further away all the time thanks to the new technologies and methodologies, the ways we have to get into the deep caves, we found bears, first bears ever reported in a cave. There is five, this is a family, and it looks like they all died at the same time. So maybe there was a catastrophic event that might have happened 10,000 of 12,000 of maybe 15,000 years ago and look at the state of preservation of these bones. That's another very important think on our cenotes

Just to end my presentation, I will ask for just more minute to show you a beautiful cenotes, but it is not only beautiful, this is not a postcard for tourists. I think the ancient Maya used cenotes because of their beauty, because of the clarity of water, because of the secreted water, because they had droughts or they were in trouble, they were there and they found their divinity there.

Just want to thank you for your attention

