



## **Mayan Archeoastronomy: Observers of the universe**

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<p><b>Mayan Archeoastronomy: Observers of the universe</b> <b>Script in English</b> <b>September 2016</b></p>
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Under the gaze of the starry night we found ourselves small and alone.

The darkness surrounding us makes way for light, and we saw the sky.

We discovered Uh' .... The Moon

Noh Ek .... Venus

And from the Earth, appearing on the prow, is Balam.

...a jaguar carrying the stars on its skin...

But the beginning and end of all things are dictated by Kin: the god of the Sun.



Following his footprints...

life on earth awakens, blooms and falls asleep...

Thanks to the god Kin, wings unfold ...

Colours burn...

Life shows itself with the face of an animal...

From the ground, plants and trees emerge...

And Ceiba grows.

This sacred tree that connects the underworld, the Earth and the sky ...

Wide and towering Ceiba, from whose shadow we raise our eyes skywards ...

And from the movements of Kin, and the stars and planets, we can discover, and quantify, time itself ...

We follow the footsteps of the Sun, building stairs out of days and years...

Temples are oriented towards the light and the path of the Sun.

This way, we know the exact moment when the god Kin breaks away from the horizon...

When it reaches the highest point in the sky...

And when it hides itself with the colours of sunset...

The need to look up towards the sky...

The constant impulse to know what happens within this vault that surrounds us...

Observing the apparent motion of planets, stars and other celestial bodies brings us closer to an understanding of the cycles of the cosmos, the cycles of our lives, and to the idea of infinity...

We, the Mayans, use two different calendars, just like all Mesoamerican cultures.



One calendar based on the movement of Kin, the god of the Sun, of 365 days.

18 periods of 20 days that add up to 360. So, 5 days are added to have 365 and keep up with the Sun.

At the same time, we have another calendar, the ritual almanac, of 260 days, organized in 20 periods of 13 days.

Both begin at the same time...

But after the first 260 days,

Each one seems to take its own course. . .

And then exactly 73 cycles of 260 days must go by.

Alongside 52 years of 365 days, until the calendars are the same again.

Everything is restored and the cycles start all over again.

The new fire is lit up and we celebrate that for the next 52 years the world will remain alive...

The butterflies, the Péepemòob,

carry small pieces of this life and of the Sun between their wings.

They seem to like to leave droplets of light at the feet of el Castillo.

Here, in the well of the Itzáes, Chichén Itzá, we built this temple in honor of the god Kin; of the Sun, of time...

El Castillo was built on a cenote.

It has nine platforms like the nine levels of the underworld...

Its upper sanctuary faces the four cardinal points.

And on the steps, situated on the north side, during the sunset of the equinox, when the night and day are the same length...

Kukulcán, the feathered serpent appears. Serpent of light and stone...



It comes down slowly showing its body made of both reptile and bird, in seven triangles of light ...

Until its stone head begins to appear over the top of the stairs...

It shows seven triangles because there are seven courses running through the universe...

North, south, east, west, the centre, the sky and the underworld...

Kukulcán comes down to us to give us the calendar; and our time...

From the pyramid, we can observe

the endless movement of the Sun...

We can see it emerging from the horizon from anywhere ... navigating through the sky... and disappearing into the night sea ...

Only twice a year, the Sun reaches the zenith: the highest point in the sky.

At this time, when the light falls vertically at noon, no shadows are cast on the sides.

It seems that even the shadows, are protecting themselves from the power of Kin, the Sun god.

El Castillo reveals to us the moment when the Sun reaches its zenith.

In the two days that it takes for this to happen. At dawn, the vertices of the nine platforms indicate the position on the horizon where the Sun will rise.

At noon, the Sun reaches its zenith.

The shadows find shelter.

They hide...

And at sunset, the west staircase aligns with the solar disk on the horizon.

The never-ending movement of the Sun is that of a perpetual return to the Earth, where life's days may be numbered ...



But us, we'll return to the Sun, a Sun that will have grown and that will be redder than blood itself.

We know that several million years from now, we will return to the origin of all things, visible and invisible...

Time has the same face in Uxmal...

It is always recorded, following the Mayan style.

We can predict the movement and cycles of some celestial bodies.

From our buildings, we indicate their location shining in the sky, at specific times determined by the Mesoamerican calendar system.

In the quadrangle of the birds, the great Adivino Pyramid is oriented to the west, towards the sunset.

On two different dates, separated by the 73 days of the summer solstice.

From here we can recognize the number 73 as a sacred figure on the calendar enveloping the god Kin and burning up on the horizon.

In the dark

we open our eyes.

We are shadows looking towards the stars.

And from these rocks, we recognize the brightest planet in the sky:

Noh Ek, Venus.

Venus emerges in its most extreme position to the southeast of the horizon, as seen from The Palace of the Governor.

This building is decorated with a great number mascarons of Cha ac, the god of rain, who shows the hieroglyph of Venus in both his eyes.

Venus is of great importance.

We follow all of its steps and we write them down on the stones...



We build stelae, like the one in Chichen Itza, to show how our astronomers were able to measure the movements of the Sun and Venus.

8 years of 365 days contain 5 periods when it is possible to see Venus.

This means that in 8 solar years we will meet Venus again in this part of the sky, on the same date...

In Edzná, the structures and glyphs are still talking about the importance of the calendar and the Moon.

We pay particular tribute to the god Kin.

This pyramid rises towards him and marks important recurring dates in our cities.

These dates indicate an ideal division of the solar year defined by 260 days and by multiples of 52

We build these temples to have a place to leave our offerings and talk to our gods about life and time...

And yes. They reply to us.

The forest spreads with all of its languages and pronounces new pathways...

The gods are with us behind their looks of stone and stucco...

Chaac gives us the rain...

With the water, we know that tomorrow we will have food...

And Balam will travel through the night as a thirstless jaguar...

A hummingbird flies over its site...

It seems to bring something urgent, a message that agitates it relentlessly ...

It reminds us both of battles won, and of those that continue...

It takes us to Bonampak...

At every footstep, on every step, we bow ...



Here the Mayan blue, green, ocher, red, black colors adorn the women who make themselves beautiful ...

The notes played by the trumpets, the drums and maracas ...

A party erupts within this procession of images where large solar mascarons and visors also appear ...

In the central area of the building

The colors and statue seem to emanate blood.

Everything evokes war.

However, on the vault, four squares were depicted with representations of animals and characters accompanied by hieroglyphs of stars.

From the date painted by the Mayans: 6 August, 792 AD, these depictions can be identified as the constellation of Orion, the Pleiades star cluster, the red star Aldebaran in the constellation of Taurus and the planet Mars.

In this place we have won the war ... And we are having a real feast.

The sovereigns are the most powerful men because they have ownership of all knowledge.

This is the reason that their power is recorded on the stones and our king Chan Muan holds in his arms the monster of the sky: the Milky Way.

From Palenque we observe a galaxy as vast as our forest...

We build universes of kings like that of the great king Pakal.

By the base of his throne, we can see Balam duplicated; we find that two jaguars look out at us.

Even the flowers represented on the facade of the house have eyes nestled amongst their petals .

Everything invites us to observe...



And from the act of looking, we know that the sunlight falls directly over the trail at sunset, on the two dates that divide the year into periods of 260 and 52 days.

Once again we are before a cult to the calendar and to the gods that invented it.

We paint Venus... Noh Ek, on the inside of the tower of the Palacio.

And feathered serpents bear witness to Pakal's reign.

Everything seems to head towards eternity.

All the looks are directed towards the sovereign and his descent to the underworld, surrounded by celestial bands.

We have observed this universe every day and night.

And after witnessing every change in the sky ... we can identify the white rabbit on the surface of the Moon.

It always comes, jumping up and down from different places.

This is why, in San Gervasio, on the island of Cozumel, we built a temple for Ixchel, Goddess of the Moon.

Oracle and sanctuary, it still preserves the two spaces where her image was placed.

From here we can see the Moon reach its furthest points in 18.6 years reaching its most extreme points in the horizon and the moonset to entrance within her temple.

Ixchel is young and old at the same time.

She is wise and magical. Patroness of loom operators and goddess of fertility.

She has lived an eternity and always appears, as if for the first time.

It's a woman and the Moon.

It's a rabbit jumping into the space with changing faces and it's called Ixchel; the one of the rainbow.

This Sun of water reminds us of





everything that exists beyond the horizon...

Our priests; Mayan astronomers observed it with incredible accuracy.

They were able to register the succession of 69 solar and lunar eclipses over 33 years, as Chibil K'in, or Chibil Uh: that is, as “a bite from the Sun or the Moon”.

In all of our buildings we venerate time as something sacred.

Today, the Universe begins from our gaze.

We are wings that transform the flight of the sky.

Our origin and our end can be found in the stars, especially in Kin, the Sun god, who moves incessantly in the darkness of the Cosmos.

And from a corner of the night, we are like Balam: jaguars carrying the stars on their skins.