

# Bridges between Cultures

## March 20th 2021



Equinox for Whom? Meanings of the equinox in Mexico  
Stanisław Iwaniszewski, Mexico



# Equinox for Whom? Meanings of the equinox in Mexico



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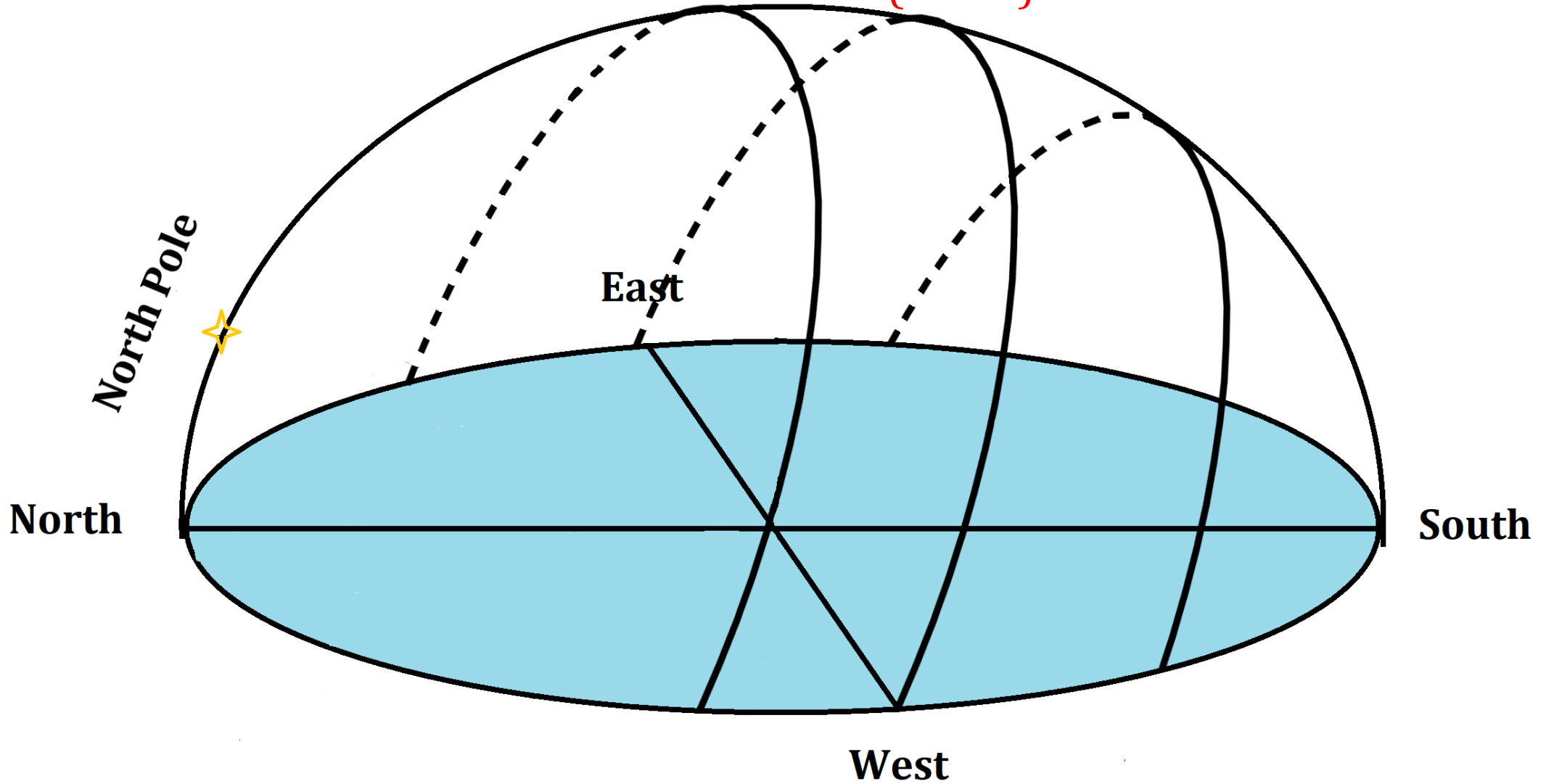
Mexico City

Bridge between Cultures NASE

March 20, 2021



Astronomical Equinox – is the position at which the Sun crosses the equator, or the moment when its declination is zero ( $\delta = 0^\circ$ )



Only on equinox days, the Sun rises due East and sets due West (approximately).

# However, the term Equinox may entail different meanings.

Like many other concepts in modern astronomy, the term equinox gradually evolved.

Cultural Astronomy teaches us that the equinox concept has not been as important and meaningful as it seems to be for our societies among many ancient and nonmodern peoples.

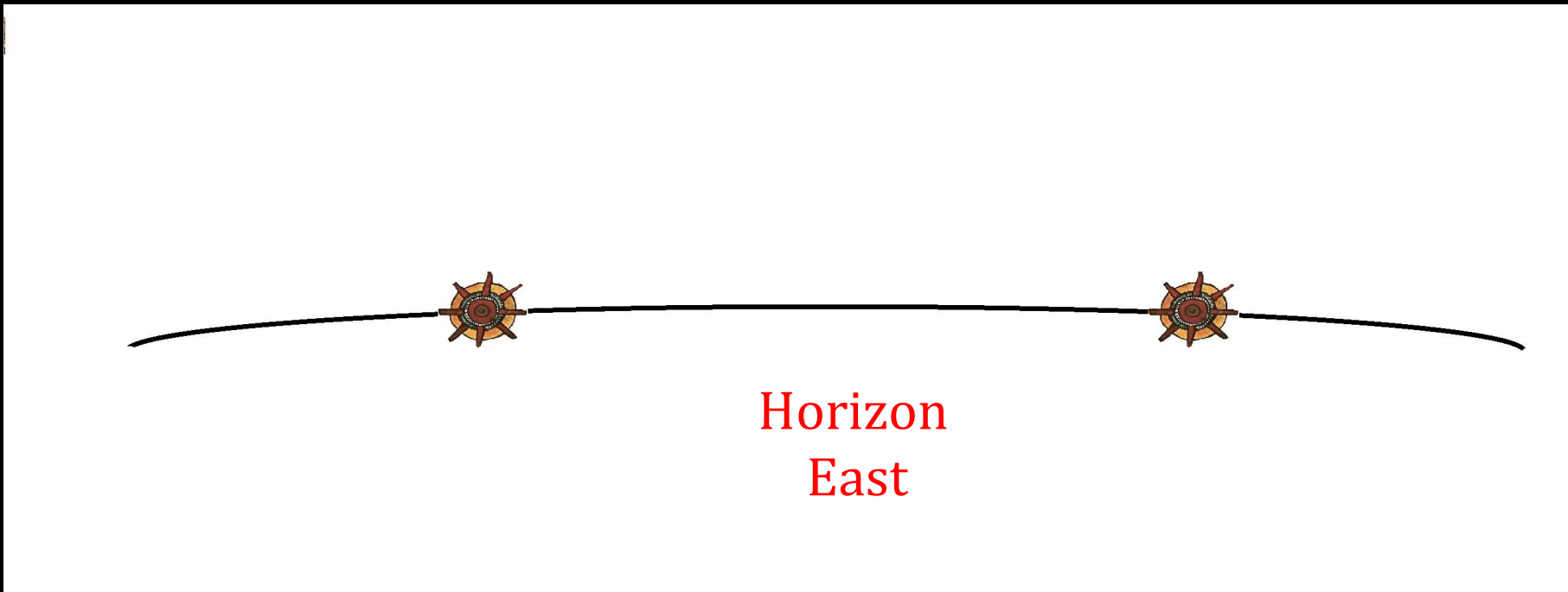
# Two different methods for the concept of equinox may be proposed

One. Finding the spatial mid-point between two solstice extremes  
(= positions of the Sun at both solstices)



June 21

December 21/22



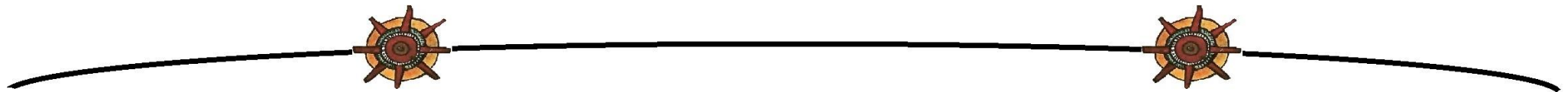
# Two different methods for the concept of equinox may be proposed

Two. Finding the half-way in time between both solstices and aligning upon this day sunrise or sunset

June 21 + 183/184 days = December 21/22

Or

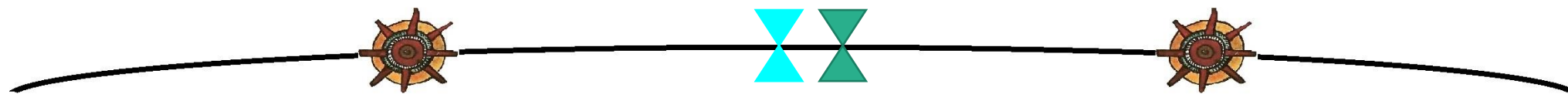
= 181/182 days +



Horizon  
East

# Two equinox meanings

temporal    spatial



# Mesoamerica (not Central America, nor Middle America)



Chichén Itzá

Cuicuilco





Cuicuilco, 800 BCE-150 CE

Once an essential circular pyramid that dominated the landscape of the southern Valley of Mexico, today it is almost completely lost in the cityscape of Mexico City



# Cuicuilco, pyramidal basement



About 23 meters high from the base.

Its diameter is around 135 meters at the base.

The top was accessed via two ramps, the eastern one was aligned with the temporal equinox rising Sun.

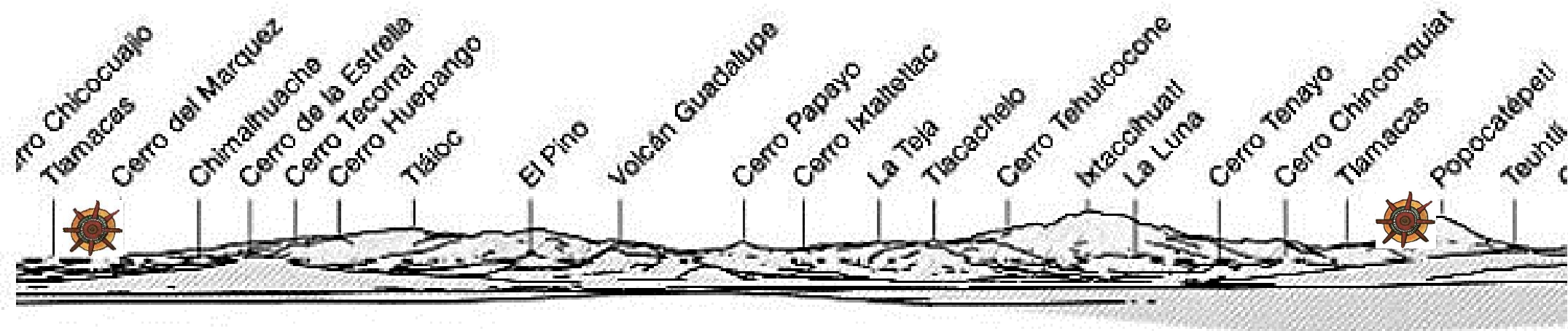
# Sunrise behind Mt. Papayo, March 23, 1997



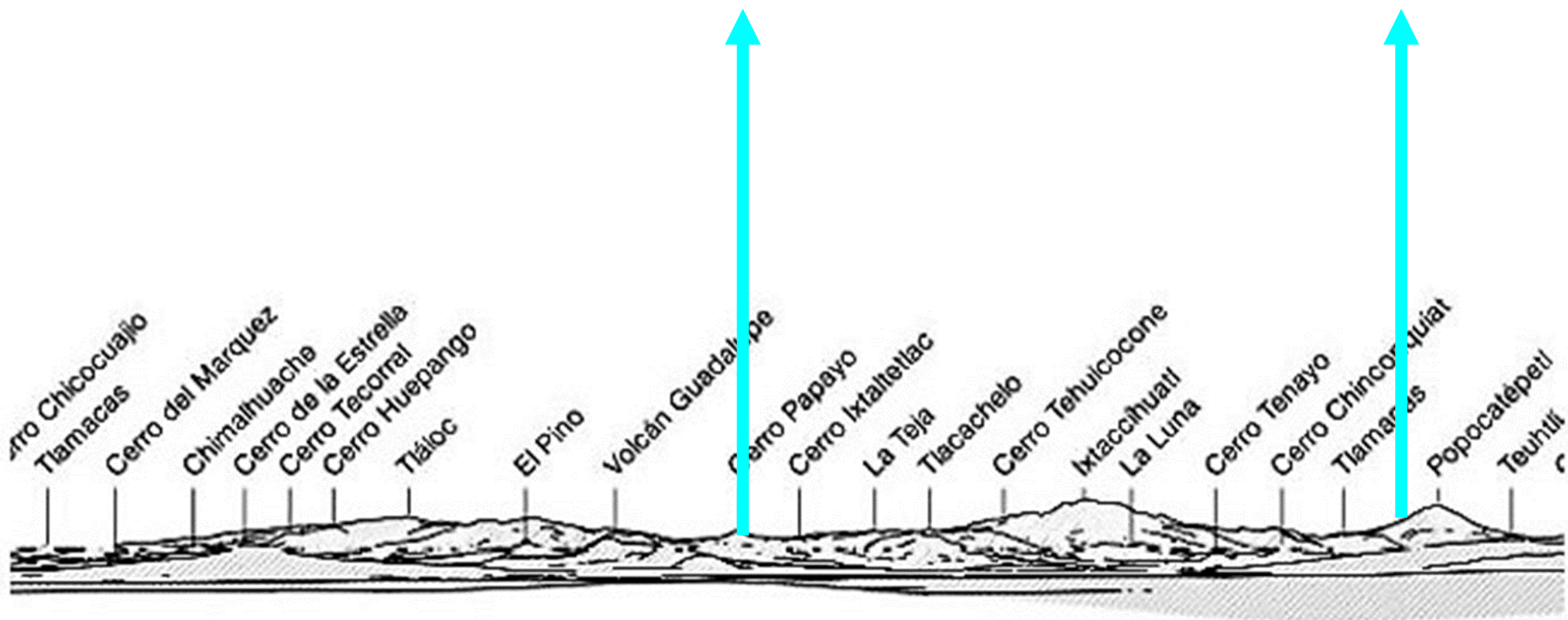
# Sunrise behind Mt. Papayo March 23, 1998



# The Equinox Sun as seen on the eastern horizon from the top of the Pyramid



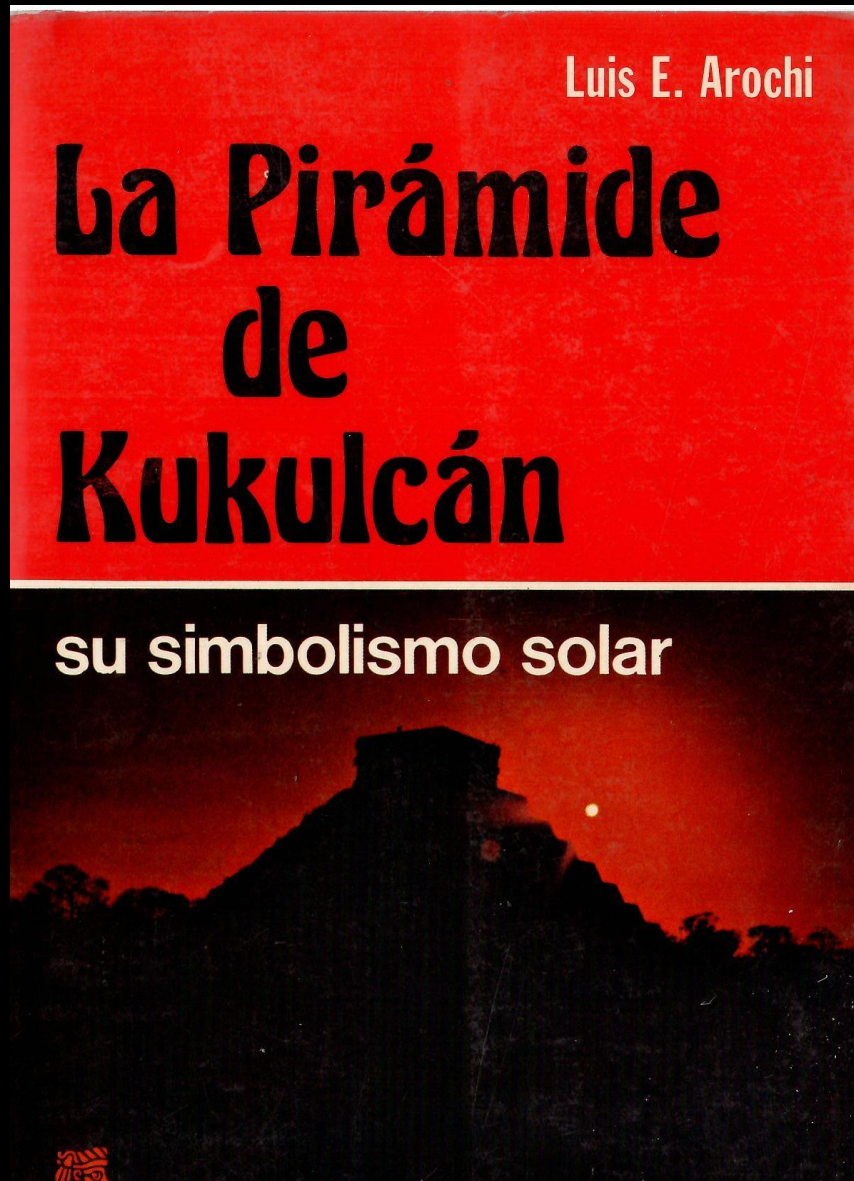
March 23 + 91 days (7 x 13) December 22



General scheme of a 364-day calendar:

Dec 22 + 91 days = Mar 23 + 91 days = Jun 22 + 91 days = Sep 21 + 91 days = Dec 21

# Modern interpretations and cultural movements



Started in early 1980s and focused on March 21

March 21, was a holiday day  
(Benito Juárez García (b. March 21, 1806))



Current equin

amid,





# Cultural Neo-shamanic and Neo-pagan appropriation of astronomical heritage sites

At sunrise we watch the the sunrise on March 23



# Cultural Neo-shamanic and Neo-pagan appropriation of astronomical heritage sites

But at noon we observe modern cultural practices like



Healing practices



Charging with (the Sun's) energy

Today, on March 20 or March 21 people visit archaeological sites

Teotihuacan  
The Sun Pyramid



People are queuing before the ascent to the Pyramid's top

21-03-2017

# On March 21, people come to observe the Equinox “Serpent Light and Shadow” phenomenon at Chichén Itzá, Yucatán



Caracol (the “Observatory”)

and

El Castillo (Temple of Kukulcán)

# El Castillo or the Temple of Kukulcán (Feathered Serpent)

“Serpent of Light and Shadow” event projected on the west balustrade of the north side of the building on the day of Spring Equinox



# El Castillo

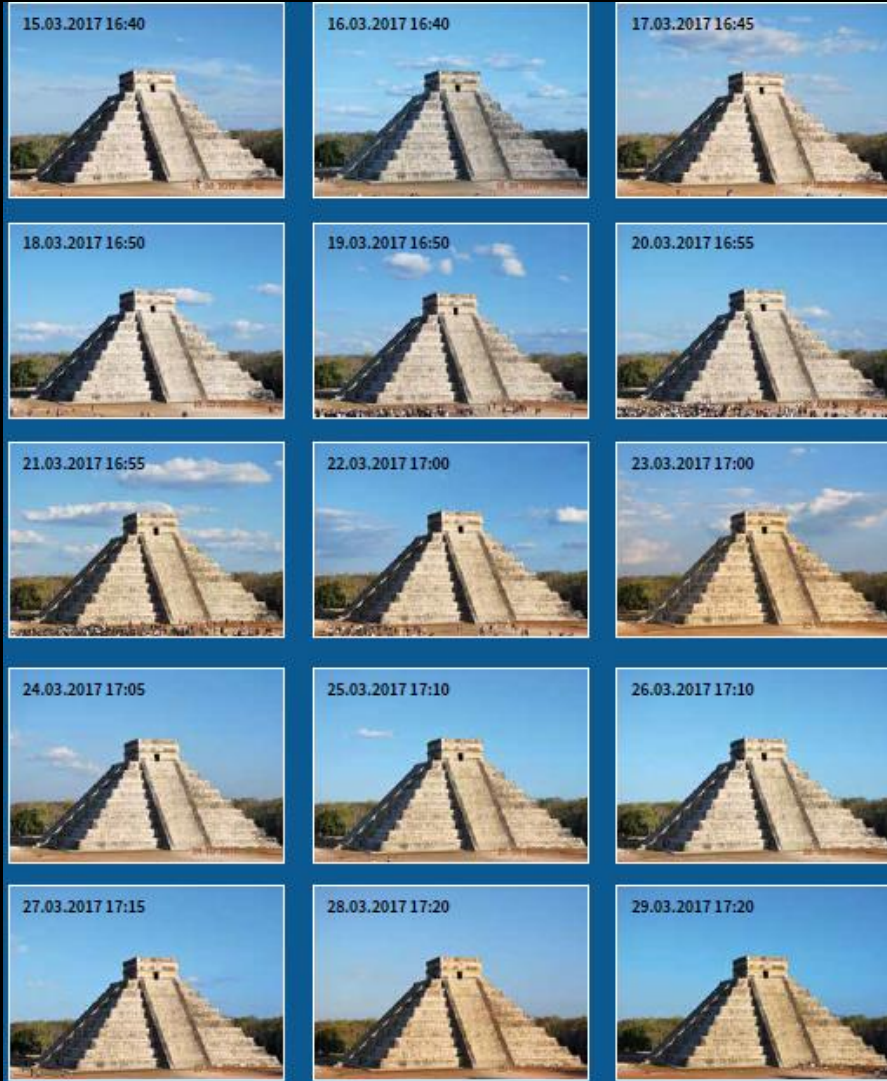


The pyramid is 24 meters  
High (with the temple at  
30 meters)

The pattern  
of triangles of  
light of the setting Sun  
+  
of the great head  
of “Feathered Serpent”

Produce a descending  
serpent effect

# Sequence of days around March 21 provided by Ivan Šprajc and Pedro Francisco Sánchez Nava (2018)



The phenomenon starts in mid-February and ends by the end of October (February 12 – October 30?)  
260-day Interval widely known in Mesoamerica

While we cannot assert the importance of this "light-and-shadow" effect for ancient Maya, it nevertheless constitutes a fascinating case study in modern popular culture. This example appears to project our own concepts of what ancient Maya might have wanted to observe.

Tu sum up

Alignment research suggests that the concept of a temporal equinox has been in use in prehispanic Mesoamérica

March 23 and September 21

Popular culture uncritically accepts concepts which first arose in the Western world producing activities on

March 20-21

21 03 2017





# Teotihuacan The Sun Pyramid



21 03 2017

## References

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2006 Which Equinox? *Archaeoastronomy. The Journal of Astronomy in Culture* 20: 97-107.

Ruggles, Clive L.N.

1997 Whose equinox? *Archaeoastronomy* 22 (Suppl. to the *Journal for the History of Astronomy* vol. 28): S45-S50.