

Mayan Astronomy

Natalia E. Mendoza Camarena

PSCI Classical Physics

Abstract

The Aztec civilization was the most curious and the most successful in astronomy. The Aztecs studied the pyramid of the sun, Teotihuacan.

Introduction

In this paper it will discuss the history, location, observatories, calendar and lastly their predictions based on astronomical events during the early civilization of the Aztecs. It all begins in Central, Mexico; during 1300-1521. Their astronomy was studied greatly due to their religious beliefs and their moral code.

The Aztec civilization was a mesoamerican culture that started from the 1300’s to 1521. The Aztecs spoke “Nahuatl” which is not related to the Spanish language that is spoken across Mexico. In fact, “Nahuatl” is the most common of Indigenous languages of Mexico. The Aztecs were also known as the Mexica. According to this chart from 1970 to 2010, “In 2010 23.1% spoke “Nahuatl.” The Maya language comes below the Aztecs and their language “Nahuatl”.

(The Nahuatl Language of Mexico: From Aztlan to the Present Day; John P. Schmal). The Aztecs were known as an Empire because of how successful they were with all the astronomy and the technological advancements they had for their time. Today

Year	Total Population of the Mexican Republic	Speakers of Indigenous Languages 5 Years of Age and Older (in Millions)	Percent of the Population 5 Years of Age and Older Who Speak Indigenous Languages
1900	13,607,259	2.1	15.2%
1910	15,160,369	2.0	12.9%
1921	14,334,780	1.8	12.7%
1930	14,028,575	2.3	16.0%
1950	21,821,032	2.4	11.2%
1970	40,057,728	3.1	7.8%
1990	70,562,202	5.3	7.5%
2000	84,794,454	6.3	7.1%
2005	90,266,425	6.0	6.6%
2010	101,808,216	6.7	6.4%
Percent Change 1900-2010	648.2%	322.0%	-8.8%

Sources: Instituto Nacional de Estadística y Geografía (INEGI), Censo General de Población, 1900-2010 (No. II through XIII).

Teotihuacan has over 3.5 million visitors per year. The Aztec empire was established in Mexico City today. As it may be wondered why did the Aztecs decide to stay? The Aztecs encountered

an eagle on a cactus hunting a snake which is now on the Mexican Flag and they believed their god sent them there for a reason since the majority of the land was occupied.



The Aztec civilizations' geography was interesting almost like the central valley is formed in between lakes, mountains and arable land to crop food. Due to the lakes being so close it provided fish, drinkable water obviously. The land was perfect for them because it provided natural defense. Since Tenochtitlan was in the middle of everything it was great at serving the capital of the Aztecs which it is the capital. It sat at a good elevation and was close to the lake. It was also a good spot or location because it was hard for enemies to invade them.

Aztec agriculture was very important due to where the Mexica were located and their empire sat. The productivity of their crops was almost or the same pace we grow food. They had systems of irrigation called "Chinampas" (*floating gardens*). To better explain, for example playing minecraft and wanting to grow wheat, or any crop; it would be like a row and column thing in one row you would plant the seed and in the next row, it would be filled with water. To keep the water in the outline or the edges of these floating gardens would be either dirt or the crop that is being grown. The bottom would be dirt due to it being a firm block so the water would leak out. The Aztecs planted maize (corn) which was very valuable because corn can last a while stored away. Corn can also be eaten in different ways.

Moving on to the Aztecs calendar, "their solar calendar has 365 days and was called "xiuhpohualli". The calendar was divided into 18 groups of 20 days and each of those with their

own festival or holiday. There was also an extra period, the nemontemi which meant days without names which were at the end of the year which lasted five days” (World History encyclopedia). The Aztec Sun Stone was very important in Aztec history, “it depicted the five consecutive worlds of the Sun. In the middle of the stone the Sun God “Tonatiuh”. The stone shows the destruction of the world when the 5th sun falls to earth. Around the other suns are placed around “Tonatiuh” Jaguar, wind, rain & water.

One Aztec observatory is called “El Caracol” which in English means “the shell”. Based on on this text, “Historians of Aztec astronomy nowadays speak of entire ritual landscapes in which not only cities were planned according to



astronomical alignments, but in which the very location of major cities had been determined by their significance for rituals that were guided by astronomical observations” (Astronomy of Aztec Civilization). The Aztecs were so smart in aligning their projects with astronomy. Since the Aztecs aligned their rituals, landscapes that were planned alignments in the sky, Michael J. Crowe goes a bit into depth. Let’s say the Aztecs were watching the stars, how would they align their landscape? “Nearly all of them appear to move in a counter-clockwise direction along circles varying in size” (Michael J Crowe). Since Polaris is a stationary star, that’s where the Aztecs aligned the first ritual landscapes.

In the end, discuss the history, location, observatories, calendar and lastly their predictions based on astronomical events during the early civilization of the Aztecs.

References

Works Cited

“Astronomy of Aztec Civilization.” *Buy Telescopes*,

www.buytelescopes.com/astronomy-of-aztec-civilization.

Crowe, Michael J. *Theories of the World from Antiquity to the Copernican Revolution*. Dover Publications, 2001.

“Establishment of the Aztec Empire.” *Encyclopædia Britannica*, Encyclopædia Britannica, Inc.,

www.britannica.com/topic/Aztec/Establishment-of-the-Aztec-empire.

Schmal, John P. “The Náhuatl Language of Mexico: From Aztlán to the Present Day.”

Indigenous Mexico, 25 July 2020,

indigenoustmexico.org/state-of-mexico/the-nahuatl-language-of-mexico-from-aztlan-to-the-present-day/.