



Chichen Itza

and the Mayan Civilization

Chichen Itza is a ruined and partially reconstructed city from the Mayan culture, located largely in the Yucatan Peninsula. It is a UNESCO World Heritage Site.

In 2007 one of its main structures, El Castillo, was voted one of the New Seven Wonders of the World in the competition led by Bernard Weber, a Canadian-Swiss. This popularity poll was open to the public and conducted by internet and telephone, but has never been officially recognized as a scientifically robust experiment, mostly because of multiple voting and the influence of governments promoting their own candidates. UNESCO provided initial guidance on around 200 potential sites, but have distanced themselves from the outcome. Anyway, Chichen Itza came fourth after the Great Wall of China, Petra, and the Colosseum.

The Maya people's world



The ancestors of the Maya would have crossed over the Bering Land Bridge from Asia between 20,000 and 15,000 years ago, when the Last Glacial Maximum lowered sea levels, then travelled

south to the place they made their own. The territory of the Mayan Empire is shown on these maps, covering the whole of the Yucatan Peninsula on the western side of the Gulf of Mexico, Guatemala in the S and Belize on the western coastal strip. The map on the right shows that most of the peninsula is low lying, with mountains more to the S and W. Chichen Itza is in the N, but notice that there were many other centres of population.

The significance of the squares and circles for the cities is that the squares are places, including Chichen Itza, which survived after the others had been abandoned to the forest (as will be explained).

Periods of Mayan history

- The cities were mostly built during the Empire, in the so-called Classical Period from 250 to 900 AD
- The earliest Maya settlements date to around 1800 BC, the start of the Pre-classic or Formative Period. They were (and remain) agriculturalists, growing crops such as corn (maize), beans, squash and cassava (manioc)
- The last 500 years or so of the Pre-classic Period saw the Maya develop skills such as pyramid building, city construction and stone inscriptions
- The Classic Period, from 250 to 900 AD, is regarded as the high point of Mayan civilization. There were more than 40 cities with populations of 10,000 to 50,000, and a national population of up to 2 million
- Many cities operated as city states, trading with one another but also competing militarily. They were ruled by kings, called 'holy lords'
- The Mayan Empire started to decline around 900 AD, and the centuries from 950 to the arrival of the Spanish in 1511 are known as the Post-classic Period

The cities were mostly built during the Empire, in the so-called Classic Period from 250 to 900 AD. The earliest Mayan settlements are dated to around 1800 BC... The 'slash and burn' method of agriculture was widely used, but irrigation and terracing were also developed.

During the Middle Pre-classic Period, which lasted until about 300 BC, Mayan farmers began to spread through the region. This coincided with the rise of the first major Mesoamerican civilization, the Olmecs, from whom the Maya picked up religious and cultural ideas, as well as their numbering system and calendar.

The last 500 years or so of the Pre-classic Period saw the Maya develop skills... They would have used obsidian or chert as masonry tools, and limestone as their main building material. Monumental buildings were constructed in all the new cities, including large temples with elaborate facades, pyramids, palaces, courts for playing ball and plazas. They made paper from the inner bark of wild fig trees and wrote their hieroglyphs on books called codices.

The Classic Period, from 250 to 900 AD, is regarded as the high point of Mayan civilization... The bulk of the population lived in rural lowlands and farmed, while the cities attracted artisans, traders, administrators and priests.

Many cities operated as city states, trading with one another... They were ruled by kings, called 'holy lords', who claimed to be related to gods and followed an hereditary succession. They were thought to serve as mediators between the gods and people, and performed the elaborate religious ceremonies and rituals so important to Mayan culture.

The Mayan Empire started to decline around 900 AD... There was probably more than one reason for the rapid decline and abandonment of many cities in the S and W. There

appears to have been a breakdown in the relationship between cities, and a diminution in the power of the 'holy lords'. Another theory is that the land was unable to support the population, especially with the disruptions caused by war and drought. If you remember the earlier map picking out cities in the N. These cities continued to flourish after the collapse elsewhere, and one of these cities was Chichen Itza.

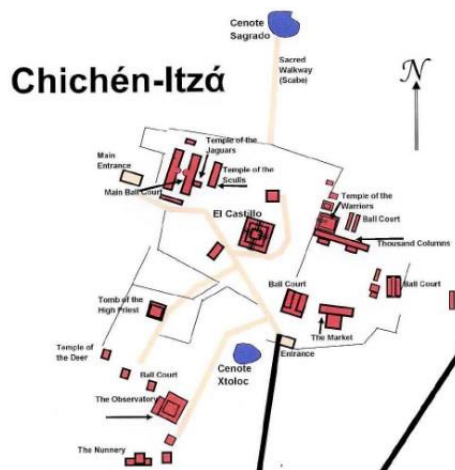


Caracol in Belize

I have to admit that I never made it to Chichen Itza. Around 10 years ago I was on a cruise round the W Caribbean, and a visit to Chichen Itza was one of the highlights. Unfortunately, a Force 10 storm kept us from docking in the Mexican port for over 24 hours and the visit was abandoned. Later we were in Belize, and took a trip to the Mayan ruins at Caracol. As you can see it was still raining, much of the time. My son tells me he saw some impressive ruins in Guatemala, where one city built in the Pre-classic Period, Mirador, is reckoned to have been one of the greatest cities in pre-Columbian Central America, much larger than the capital of the Mayan Empire which was at Tikal.

Chichen Itza itself

- The name means "at the mouth of the well of the Itza," the Itza being the local ethnic group where the city is located
- Chichen Itza was founded during the Classic Period in either the 4th or 5th century AD, depending on where you look. Either way it was added to over years until it reached its greatest importance around 600 AD
- Principal structures include
 - El Castillo
 - The Nunnery
 - Temple of the Warriors
 - The North Temple
 - Temple of the Jaguars
 - Platform of the Skulls
 - The Great Ball Court
 - Walkway (Sabe) to the Sacred Cenote
 - The Steam Bath
 - Group of a Thousand Columns
 - El Mercado
 - El Osario



The name means "at the mouth of the well of the Itza," the Itza being the local ethnic group where the city is located. These people may have been Mayan speaking invaders taking advantage of the decline of the Classic empire to the S. The well in the name refers to a number of underground rivers that run beneath the region and likely served as the source of water for the city in an otherwise arid region. This easy access to water

made the location perfect for a city the size of Chichen Itza. Two big wells called cenotes are located within the city, and they are part of the so-called Ring of Cenotes, associated with the Chicxulub impact crater (in other words the asteroid which said goodbye to the dinosaurs in the Cretaceous/Palaeogene Mass Extinction). Cenotes are sinkholes in the limestone which filled the crater, and are aligned with the rim of the crater so making it possible to follow lines of weakness.

Chichen Itza was founded during the Classic Period in either the 4th or 5th century AD... It was never either the capital nor the largest city in the Mayan Empire, but it was one of the most enduring. The inner city covered around 2 square miles, with the suburbs possibly double that, and the population was around 35,000.

Some of the principal structures are listed on this slide, and I propose shortly to look at some of them in detail and understand their purpose in Mayan life. But first a word about archaeological studies which began a little over a hundred years ago, and continue to the present day.

Archaeological work at Chichen Itza

- Throughout the 19th century travellers and antiquarians visited the site and returned with drawings, descriptions and even photographs of what they found. A man named John Burke visited in 1838, and Emanuel von Friedrichstal in 1840 took daguerreotypes which were later exhibited at the British Museum
- Others followed, and proper photographs were taken in the 1880s by Alice and Augustus Le Plongeon. This couple carried out the first archaeological excavations, and were soon joined by others, including Alfred Percival Maudslay in 1889
- In the 1930s Edward Herbert Thompson, the US Consul in Yucatan, dredged the Sacred Cenote, revealing numerous artefacts and bones, but irreparably damaged it for any further archaeological purposes
- The first professional archaeologist and expert on Mayan culture was Silvanus Griswold Morley of the Carnegie Institute of Washington (CIW). In 1913 he was awarded a contract to excavate and carry out restoration at Chichen Itza for a period of 10 years
- The number of studies which have been done in the last hundred years are too numerous to go into here, but some of their discoveries and restoration work may be mentioned in connection with particular structures

El Castillo or Temple of Kukulcan

- The best known structure in Chichen Itza is El Castillo (right), a pyramid that rises 79 feet (24 metres) above the Main Plaza. El Castillo has four sides, each with 91 stairs and facing a cardinal direction. There are 365 steps in total on the exterior of the building—the number of days in the solar year
- El Castillo is also known as the temple of Kukulcán, one of the major deities of ancient Mesoamerica known elsewhere as Quetzalcóatl, represented as a carving of a plumed serpent sitting on the top of the pyramid
- The architecture of the Temple of Kukulcan was greatly influenced by the Toltec Empire in Mexico, which was at its height between 500 and 1100 AD, coinciding with the time when Chichen Itza was built and flourished
- The 'Toltec' temple was built over an existing Mayan temple, which was itself built over a cenote. When the Mayan temple was excavated it was found to contain a throne in the form of a red jaguar (right)



The best known structure in Chichen Itza is El Castillo, a pyramid that rises 79 feet (24 metres) above the Main Plaza... This general design appears to be a common characteristic in Mayan temples. During the spring and autumnal equinoxes, shadows cast by the setting sun give the appearance of a snake undulating down the stairways.

El Castillo is also known as the temple of Kukulcán, one of the major deities of ancient Mesoamerica known elsewhere as Quetzalcóatl... Quetzalcoatl was a mythical figure who is reputed to have ruled the Toltec Empire, and was revered in parts of Mesoamerica as a deity.

The architecture of the Temple of Kukulcan was greatly influenced by the Toltec Empire... Toltec influence extended to the Yucatan Peninsula, and there were cultural, linguistic and possibly ethnic connections between the Toltecs and Mayans. The Itza people may have been Mayan speaking Toltecs.

The 'Toltec' temple was built over an existing Mayan temple...

Other temples, and religious practices

- Besides the Temple of Kukulcán there are several other temples in the city. Some are small, and part of larger complexes, but a few are significant enough to deserve special mention
- The largest is the Temple of the Warriors a stepped pyramid with a different layout from El Castillo with the main staircase up the front but with fewer levels and a flatter elevation
- A chac-mool is a common image in pre-Columbian Mesoamerica, depicting a reclining figure with its head facing out at a right-angle, resting on its elbows and supporting a bowl on its stomach. These figures possibly symbolised slain warriors carrying offerings to the gods the bowl was used to hold sacrificial offerings such as food feathers and incense
- Mayan religion was very complex, with a whole pantheon of gods. As mentioned earlier the kings, or 'holy lords', were a conduit for communicating with the gods Generally speaking, the gods required sacrifices of one kind or another



Besides the Temple of Kukulcán there are several other temples in the city... The largest is the Temple of the Warriors... It is fronted by an array of columns representing warriors. The temple on the top contains an image of a chac-mool (pictured here). A chac-mool is a common image in pre-Columbian Mesoamerica...

Whilst on the subject of temples, it is relevant to consider the religious beliefs and practices for which they were built.

Mayan religion was very complex, with a whole pantheon of gods... Mayan gods comprised a mixture of human and animal elements, often morphing between the two. They were associated with things like seasons, harvests and natural phenomena, and also with the five cardinal directions of N, S, E, W and straight up, strangely, as seen in the orientation of temples.

Rather than heaven and hell they believed in many levels of reality, with an upper world, a middle world, and an underworld. The worlds or realms themselves had different levels.

Other temples



(above) North Temple

(top right) Temple of the Jaguars

(bottom right) Platform of the Skulls



Also called the Temple of the Bearded Man, the North Temple is a small building adjacent to the Great Ball Court (which I will come to later) and features a series of carvings inside, with the central figure of a man with what appears to be facial hair. Beards would have been uncommon features for men in that part of the world.

The Temple of the Jaguars was built relatively late, in the 11th century AD, and has architectural features such as vertical walls in preference to stepped platforms, which suggest some cultural influence from the Toltec Empire in Mexico.

The Platform of the Skulls is not a temple as such, but has religious associations, since it represents, in carvings, the decapitated heads of sacrificial victims, and also of unlucky players from the nearby ball court.

Religious rituals

- Bloodletting, in other words the spilling of blood, was a practice exclusive to royalty, and performed to mark significant dates. Both men and women of royal lineage would spend days purifying themselves before participating in varying forms of bloodletting
- Human sacrifice. Wars were not usually fought for religious reasons but religion would become involved. Shamans or priests would help plan war strategy and give their blessing. Typically, prisoners would be taken for sacrifice. Remember the platform of skulls
- Human sacrifices were performed in many ways, but three methods were the most common. One method was decapitation. Another was removing the heart from the living person. But the most popular method was to throw a living person into a *cenote*, one of the natural wells previously mentioned
- The Maya also participated in offering to the gods precious items such as incense, jade, gold, masks, shells, carved human bone, and ceremonial or sacred tools. These offerings might have been placed in the bowl on the *chac-mool's* tummy



Generally speaking, the gods required sacrifices. This was done in three main ways.

Bloodletting, in other words the spilling of blood, was a practice exclusive to royalty... Blood was usually taken from different parts of the body with specialized tools, typically made of stingray spines and adorned with different glyphs to show their religious significance. The practice of bloodletting would often serve to commemorate and sanctify important events such as births, ascents to the throne, and anniversaries. On the other hand, human sacrifice was reserved for the greatest Mayan events.

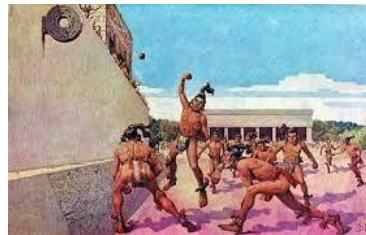
Human sacrifice... Sacrifices were important in keeping the gods satisfied and were also vital in ensuring a military victory, and to commemorate great events like the ascent of a king or queen. Noble prisoners and enemies of the state were preferred.

Human sacrifices were performed in many ways... A less gruesome practice was to lower children into the cenote in order for them to speak to the god living in it. After a few hours the children would be hauled up to deliver their messages from the deity.

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Great Ball Court

- Throughout Mesoamerica a ball game, known by various names such as *pokolpok* in Mayan, was played in specially constructed courts. The Great Ball Court in Chichen Itza is one of the largest ever found. The game is thought to be the forerunner of pelota. It probably started as simple recreation, but over time acquired political and religious significance
- Besides hosting ball game the court was a perfect location for cultural events, music performances, festivals, and other sporting activities like wrestling
- The game developed a more ritual side when it became a means of resolving disputes, and even of proxy warfare. By the Classic Period explicit depictions of human sacrifice by decapitation can be seen on ball court panels, including at Chichen Itza, as well as on the Platform of Skulls
- It has been noticed that ball courts in Mesoamerica are less prevalent where there is strong central authority, which suggests that the game could well have been a way of resolving disputes between rival city states without too much bloodshed



*Throughout Mesoamerica a ball game, known by various names such as pokolpok in Mayan, was played in specially constructed courts...*The Great Ball Court in Chichen Itza is getting on for 166m long and 68m across. The game was played by two teams, and the basic idea was to strike a solid rubber ball with hips or arms, and score points by either keeping the ball in play or by hitting it through hoops placed high up in the walls, as in the illustration here. Balls could be in varying sizes and weigh as much as 4 kg.

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Captives were often shown in Maya art, and it is assumed that these captives were sacrificed after losing a rigged ritual ballgame. Rather than battered captives, however, ball court depictions at Chichen Itza show the sacrifice of practiced ball players, maybe the team captain.

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Sacred Cenote



- The Sacred Cenote at Chichen Itza is one of two sinkholes in the city, approached by a ceremonial path called Sacbe Number One, 270m long and 9 m wide
- The cenote is 60m in diameter, which means that the picture here seriously belittles its actual size, and the limestone cliffs surrounding it could be anything up to 30m high, depending on the level of the water table
- There is apparently 5m of sludge and muck at the bottom, in which Edward Thompson found gold, copper, jade, pottery, textiles and human remains when he dredged it with a bucket



Nearby is a steam bath (lower right) which may have been used to purify sacrificial victims, as well as those children who were lowered into it for the purpose of communing with the gods

Plazas and markets

- The Group of a Thousand Columns (right) actually about 200- is a colonnade next to the Temple of the Warriors, and the columns are a continuation of those in front of the temple. The columns are likely to have supported a roof
- Stretching for nearly 70m, this raised platform (lower right) is filled with square and round columns that probably supported a thatched or grass roof. It was named El Mercado by the colonists because its design reminded them of a Spanish marketplace. It is now believed that the structure was used for civic and religious purposes. Three large *matates*, grinding stones used for preparing feasts, were discovered in this location



The Group of a Thousand Columns (actually about 200 - right) is a colonnade next to the Temple of the Warriors, and the columns are a continuation of those in front of the temple.

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Southern sector complex

- The elaborate structure with carvings and hieroglyphic inscriptions shown here is actually a small temple adjacent to Las Monjas, which despite the name given to it later was a palace or administrative centre
- The name Osario means ossuary, and the temple (bottom right) was first thought to be a tomb for priests
- The Observatory (below) is also known as El Caracol. It looks like an observatory, and does seem to actually be one
- The grand staircase that marks the front of El Caracol faces 27.5 degrees north of west—out of line with the other buildings at the site, but an almost perfect match for the northern extreme of Venus



Because Chichen Itza was built in hilly terrain the ground had to be levelled for large structures like El Castillo. This was the case too with a large collection of buildings in the S sector of the city, including Las Monjas or Nunnery, El Osario and the Observatory.

The elaborate structure with carvings and hieroglyphic inscriptions shown here is actually a small temple adjacent to Las Monjas, which despite the name given to it later was a palace or administrative centre.

The name Osario means ossuary, and the temple on the right was first thought to be a tomb for priests. This, however, is not thought to be the case, and the Osario is under present day excavation. As a temple it is similar to the Temple of Kukulcan, but smaller - a 4-sided step-pyramid with staircases on each side. On top is a temple that includes an opening to a natural cave 12 m below.

The Observatory (below) is also known as El Caracol. It looks like an observatory and does appear to actually be one. In the Yucatan, dense with trees and scrub, sky-watching of any kind is impossible without some way to rise above the canopy. The tower on the top of El Caracol sits high on a four-cornered but not quite square platform and gives excellent unobstructed views of the skies and surrounding landscape.

The grand staircase that marks the front of El Caracol faces 27.5 degrees north of west—out of line with the other buildings at the site, but an almost perfect match for the northern extreme of Venus, Venus's most northerly position in the sky. Also, a diagonal formed by the northeast and southwest corners of the building aligns with both the summer solstice sunrise and the winter solstice sunset.

In particular, El Caracol seems to be carefully aligned with the motions of Venus. Venus had tremendous significance for the Maya; this bright planet was considered the Sun's twin and a war god. Mayan leaders used the changing position of Venus to plan appropriate times for raids and battles.

This depiction of Kukulcan shows him in association with the planet Venus.

Mayan Astronomy and Calendar

- The ancient Maya were very keen observers of the sky, and tracked the Sun, Moon, stars and planets
- They recorded astronomical tables in bark-fibre paper codices, some of which have been preserved and kept in museums
- Astronomy was used to interpret the will of the gods, and influence the timing of great events like wars and successions
- The Mayan Calendar was inherited to a large extent from preceding Mesoamerican civilizations, but was greatly developed by them. It consists of three separate corresponding calendars: the *Long Count*, the *Tzolkin* (divine calendar), and the *Haab* (civil calendar). Each of them is cyclical, meaning that a certain number of days must occur before a new cycle can begin
- Both the *Tzolkin* and the *Haab* identify the days, but not the years. The *Tzolkin* cycle lasts 260 days, and the *Haab* 365 days, in other words the solar year. When the *Tzolkin* is combined with the *Haab* it forms a synchronized cycle lasting for 52 *Haab*, called the *Calendar Round*
- The *Long Count* calendar was widely used on monuments. Using a modified vigesimal (base 20) numbering system, the *Long Count* calendar identifies a day by counting the number of days passed since a mythical creation date (equivalent to 11 August 3114 BCE in the Proleptic Gregorian calendar); the first 'Great Cycle' lasted 5,125 years and ended on 21 December 2012
- The *Long Count* date comes first, then the *Tzolkin* date, and last the *Haab* date. A typical Mayan date would read: 13.0.0.0.0 4 *Ahau* 8 *Kumku*, where 13.0.0.0.0 is the *Long Count* date, 4 *Ahau* is the *Tzolkin* date, and 8 *Kumku* is the *Haab* date

