

maya

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Maya Tzolk'in

The chip in the breadcrumb bar marked **MAYA** is the odd one out in the strip. Most of the systems shown beside it are historical: reconstructed, revived, or invented in the twentieth century. The Tzolk'in is none of those. It is roughly two and a half thousand years old, it has run without a break for at least the last five hundred of those years, and it is in use this morning — *ajq'ijab'*, daykeepers, among the K'iche', Kaqchikel, Mam, Ixil and Q'anjob'al of the Guatemalan highlands order ceremony, name children and read questions by it. This page describes a living religion, not a ruin.

The count itself is very simple and its simplicity is the point. Thirteen numbers turn against twenty named days, like two gears of different tooth counts. Day one is 1 Imix. The next is 2 Ik', then 3 Ak'b'al, and so on; when the numbers run out at 13 the count returns to 1 while the names keep going, and when the names run out at Ajaw they return to Imix while the numbers keep going. Neither wheel ever waits for the other. Because 13 and 20 share no common factor, every pairing occurs exactly once before the whole thing repeats: $13 \times 20 = 260$ days.

There is no year in it. There is no month. There is no astronomical body it tracks. It is the only major calendar in the world that is not, at bottom, a way of counting a natural period — which is why the question of *why 260* has never been settled.

Why 260 — the competing theories

None of these is proven, and they are not mutually exclusive.

- **Human gestation.** Roughly 260–266 days from a missed period to a birth. Momostecan daykeepers interviewed by Barbara Tedlock gave this explanation themselves, without prompting from the ethnographer: the count is the length a woman is pregnant, and a midwife who is also a daykeeper counts both at once. This is the only theory with direct testimony from the people who use the calendar.
- **The zenith-passage interval.** Around latitude 14–15°N — Copán, Izapa, much of the Pacific piedmont — the two days a year on which the Sun stands exactly overhead at noon are separated by about 260 days one way and 105 the other. Vincent Malmström built an origin argument on this for Izapa in particular; the latitude arithmetic is real, the Izapa claim is not widely accepted.
- **Commensuration.** 260 meshes with almost everything else the Mesoamericans counted. It divides the Venus synodic period arithmetic exactly ($65 \text{ Venus cycles} = 37,960 \text{ days} = 146 \text{ Tzolk'ins} = 104 \text{ Haabs}$), it divides the Mars synodic period ($780 = 3 \times 260$), and it divides the Dresden eclipse table's 405 lunations ($11,960 = 46 \times 260$). Whether that is why 260 was chosen or a happy consequence of having chosen it is exactly the disputed part.
- **13×20 as a cultural given.** Twenty is the body's fingers and toes and the base of the whole Mesoamerican number system; thirteen is the count of layers of the upper world in several traditions. On this view 260 is not derived from anything — it is 13 and 20, both already sacred, multiplied.

The invention calendar

Date	Event
c. 600–500 BCE (<i>contested</i>)	Day-sign-and-number glyphs appear in Oaxaca — San José Mogote Monument 3 and the Building L slabs and Monument J at Monte Albán . These are the earliest surviving traces of the 260-day count, and they are Zapotec, not Maya. The dating of Monument 3 in particular has been argued down to a considerably later horizon.
c. 400–100 BCE	The count spreads across the Olmec-successor and epi-Olmec world of the Gulf coast and the Isthmus. Attribution of an "inventor" culture is not possible from the evidence; the calendar is shared before it is written down anywhere we can read.
36 BCE	Chiapa de Corzo Stela 2 , Long Count 7.16.3.2.13 — the earliest Long Count date on a monument, though the stone is broken and the reading partly reconstructed.
32 BCE	Tres Zapotes Stela C , 7.16.6.16.18, epi-Olmec. The upper fragment carrying the b'ak'tun coefficient was not found until 1969, which is what settled the reading.
292 CE	Tikal Stela 29 , 8.12.14.8.15 — the earliest securely dated Long Count monument in the Maya lowlands.
c. 250–900 CE	The Classic period. Day signs are carved on stelae, lintels, panels and painted pottery from Palenque to Copán, always inside a cartouche, always with a bar-and-dot coefficient of 1 to 13.
11th–12th century CE (<i>dating debated; some argue 13th–14th</i>)	The surviving copy of the Dresden Codex is painted — 260-day divinatory almanacs, the Venus Table, the eclipse table, the new-year pages. It is a copy of older material. It reached Dresden in 1739.
c. 1021–1154 CE	Radiocarbon range for the Maya Codex of Mexico (the former Grolier Codex), a Venus table whose authenticity was disputed for half a century and is now generally accepted. If accepted, it is the oldest surviving book in the Americas.
12 July 1562	Diego de Landa's auto-da-fé at Maní . The Franciscan burns the Maya books. Almost the entire written corpus of a literate civilisation is destroyed in an afternoon.
1566	Landa writes the <i>Relación de las cosas de Yucatán</i> , which preserves the twenty day names, the Haab months, and the "alphabet" that Yuri Knorozov used in 1952 to crack the script. The same man is the reason we have the names and the reason we have almost nothing else. The manuscript survives only as an abridged copy, rediscovered by Brasseur de Bourbourg in 1862 and published in 1864.

c. 1554–1558	The <i>Popol Vuh</i> is written down in K'iche' in Latin script; Francisco Ximénez copies and translates it at Chichicastenango c. 1701–1703. Day names appear in it as the names of gods and lords.
17th–19th centuries	The Books of Chilam Balam are copied and recopied in Yucatec towns — Chumayel, Tizimin, Maní, Kaua — carrying katun prophecies keyed to Ajaw days and lists of the twenty days with their auguries.
1905–1935	The correlation. Joseph Goodman (1905), Juan Martínez Hernández (1926) and J. Eric S. Thompson (1927, revised 1935) converge on the GMT correlation , correlation constant 584283 . It is the mainstream answer and not a unanimous one: Herbert Spinden proposed 489384, some 260 years earlier, and Bohumil Böhm and Vladimír Böhm proposed 622261, about 104 years later. The GMT is strongly supported by the fact that it lands on the count highland Guatemalan daykeepers are actually keeping, and by radiocarbon work on a dated Tikal lintel.
11 August 3114 BCE	The Long Count zero , 0.0.0.0.0, 4 Ajaw 8 Kumk'u — in proleptic Gregorian reckoning under GMT 584283, equal to 6 September 3114 BCE in the Julian calendar. Sources using the 584285 variant of the GMT give 13 August 3114 BCE instead; the two-day gap is the difference between the variants, nothing more.
21 December 2012	13.0.0.0.0, 4 Ajaw 3 K'ank'in. The thirteenth b'ak'tun closes. This is the date this site anchors its arithmetic to.
23 November 1987 / 1990	The unified Maya alphabet is adopted by government accord, and the Academia de Lenguas Mayas de Guatemala is given statutory standing by Congressional decree. The apostrophes in <i>Ak'b'al</i> and <i>Aq'ab'al</i> on these pages are that alphabet's glottal marks.
31 March 1995	The Agreement on Identity and Rights of Indigenous Peoples , signed at Mexico City, commits the Guatemalan state to recognise Maya spirituality, its ceremonial practitioners, and access to sacred places.
29 December 1996	The Agreement on a Firm and Lasting Peace is signed in Guatemala City, closing a 36-year armed conflict in which Maya communities bore the overwhelming share of the dead.

The Calendar Round and the Long Count

The Tzolk'in did not run alone. Beside it ran the **Haab'**, a 365-day vague year of eighteen *winal* of twenty days — Pop, Wo', Sip, Sotz', Sek, Xul, Yaxk'in, Mol, Ch'en, Yax, Sak, Keh, Mak, K'ank'in, Muwan, Pax, K'ayab, Kumk'u — plus a tail of five days called **Wayeb'**, widely reported as unlucky and best got through quietly. Eighteen twenties is 360; the Wayeb' makes up the difference and no leap day is ever inserted, so the Haab' slides against the seasons by about a day every four years.

Pair a Tzolk'in position with a Haab' position and you get a **Calendar Round** date such as 4 Ajaw 3

K'ank'in. The pairing repeats every 18,980 days — 73 Tzolk'ins, 52 Haabs, about **52 years**. For most purposes in most of Mesoamerica, that was the calendar: a date fixed inside a human lifetime, unambiguous unless you lived past fifty-two.

The Maya wanted more, and built the **Long Count** on top: a place-value tally of days elapsed since the zero date, written most-significant-first.

Unit	Days	Composition
k'in	1	a day
winal	20	20 k'in
tun	360	18 winal
k'atun	7,200	20 tun
b'ak'tun	144,000	20 k'atun

The one irregularity — 18 winal to the tun rather than 20 — is there to keep the tun near the solar year. Every unit from the tun upward is a multiple of 20, which is why **every tun, k'atun and b'ak'tun ending falls on a day named Ajaw**, the same sign as the zero date.

Living practice

The daykeepers are *ajq'ijab'* — literally "those of the days", singular *ajq'ij*. The role is not self-declared. It comes by a calling that is usually read in illness, dreams, or a birth day, is confirmed by an established daykeeper, and is entered through a long apprenticeship that ends in initiation. In Momostenango the initiations are completed on **Wajxaqib' B'atz'**, 8 B'atz' — the day 8 Chuwen in the Yucatec naming — which functions as the daykeepers' new year and comes round every 260 days.

Working practice, as documented in the ethnographic literature and by Maya organisations themselves, runs on fire, offering and question. Ceremonies are made at hearth altars, at lineage shrines, and at mountain and cave shrines on a schedule set by the day count; particular days call for particular petitions. Divination is done by counting — the *ajq'ij* lays out and counts seeds of the *tz'ite* coral tree and grains of maize in groups, reading the day names the count falls on, while attending to the *coyopa*, the "lightning in the blood," movements felt in the body that are taken as answers. Which shrine serves which purpose, and the words used there, are matters taught inside that apprenticeship. They are not published here, and this page is a description of a practice, not a set of instructions for performing it.

What is remarkable is the continuity. Through the conquest, the burning of the books, the *reducciones*, three centuries of colonial rule, the nineteenth-century liberal land seizures, and a civil war whose scorched-earth phase in 1981–1983 destroyed hundreds of highland villages, the count did not skip a day. The 260-day cycle running in Momostenango, Chichicastenango, Nebaj and Todos Santos today is arithmetically continuous with the one carved on Classic-period stelae. That is not a claim of romantic survival; it is the single strongest piece of evidence for the GMT correlation, and it is checkable.

What the Tzolk'in is not

It is not the Dreamspell. José Argüelles's *The Mayan Factor* (1987) and the Dreamspell / Thirteen Moon calendar he launched around 1990–1992 use Maya day-sign names and a 260-day structure, but they are a new system, not this one. The Dreamspell's year is 13 months of 28 days plus a "Day Out of Time", and it

deliberately skips 29 February — so it drifts one day away from the true count every four years and has never agreed with it. Maya daykeeper organisations in Guatemala have publicly and repeatedly rejected it as not their calendar. If a source gives you a "Galactic Signature" or a "Kin number" out of 260 with a colour and a tone, you are looking at the Dreamspell, not the Tzolkin.

It is not an apocalypse. The 2012 story was manufactured outside Maya communities and sold back to them. Only two ancient inscriptions are known to mention 13.0.0.0.0 at all: Tortuguero Monument 6, in a damaged passage about the descent of the god Bolon Yokte' K'uh, and a block from La Corona identified in 2012, where the date appears in the ordinary context of a royal visit. Neither predicts anything ending. A b'ak'tun ending is an odometer rolling over — the fourteenth b'ak'tun began the next morning, and daykeepers went to work.

The twenty day signs

Direction and colour rotate east–north–west–south / red–white–black–yellow through the list; because twenty divides evenly by four, each sign holds a fixed quarter. The Yucatec names are Landa's; the K'iche' names are the ones spoken by the daykeepers who use the count now.

#	Yucatec	K'iche'	Meaning	Direction	Colour
1	Imix	Imox	crocodile, the primordial earth	East	Red
2	Ik'	Iq'	wind and the breath of life	North	White
3	Ak'b'al	Aq'ab'al	night and the dream house	West	Black
4	K'an	K'at	ripe seed and abundance	South	Yellow
5	Chikchan	Kan	the celestial serpent	East	Red
6	Kimi	Kame	the death that clears the field	North	White
7	Manik'	Kej	the deer and the offering hand	West	Black
8	Lamat	Q'anil	star, rabbit, and ripening Venus	South	Yellow
9	Muluk	Toj	water and offering	East	Red
10	Ok	Tz'i'	the loyal dog who guides at night	North	White
11	Chuwen	B'atz'	the monkey artisan, thread of time	West	Black
12	Eb'	E	the road of destiny	South	Yellow
13	B'en	Aj	the green reed of the household	East	Red
14	Ix	I'x	the jaguar shaman of the wild	North	White
15	Men	Tz'ikin	the far-seeing eagle	West	Black
16	K'ib'	Ajmaq	candle wax and ancestral wisdom	South	Yellow
17	Kab'an	No'j	earth, thought, and quake	East	Red
18	Etz'nab'	Tijax	the flint mirror of truth	North	White
19	Kawak	Kawoq	the storm that feeds renewal	West	Black
20	Ajaw	Ajpu	the flowering lord, the sun	South	Yellow

Four of these serve as **year bearers** — the day names on which a Haab' year can begin, necessarily spaced five apart because 365 leaves a remainder of 5 on division by 20. Three of the four arithmetically possible sets are attested: Ak'b'al / Lamat / B'en / Etz'nab'; K'an / Muluk / Ix / Kawak, which is Landa's

Yucatec set and the one used in the Dresden new-year pages; and Ik' / Manik' / Eb' / Kab'an, which is the set the Guatemalan highlands use today, where the four bearers are called the **Mam**.

How this site computes today's day sign

`tzolkinInfo()` does one subtraction and two modulus. It takes the current local calendar date, converts it to a whole day number, subtracts the day number of **21 December 2012**, and reads the coefficient off modulo 13 and the day name off modulo 20 — with the anchor set so that 21 December 2012 returns **4 Ajaw**, which fixes the whole count on the GMT correlation, constant 584283. There is no ephemeris and no table of dates; the whole calendar is four lines of arithmetic, which is a fair reflection of what it actually is.

Two honest caveats. The chip turns over at local midnight, which is a convenience of the browser clock; where the day boundary falls in practice is a matter for the community keeping it. And the strip is a **cultural display** — seven ways people have divided time, shown side by side — not a divination, not a prediction, and not a substitute for asking an *ajq'ij*.

Related

- [World Zodiacs](#) — the other six systems in the strip.
- [Western Zodiac](#) — the tropical zodiac, and its own invention calendar.
- [Religion](#) — the wider religion section.
- [Calendar](#) — the live month grid.
- [Culture](#) — the parent section.