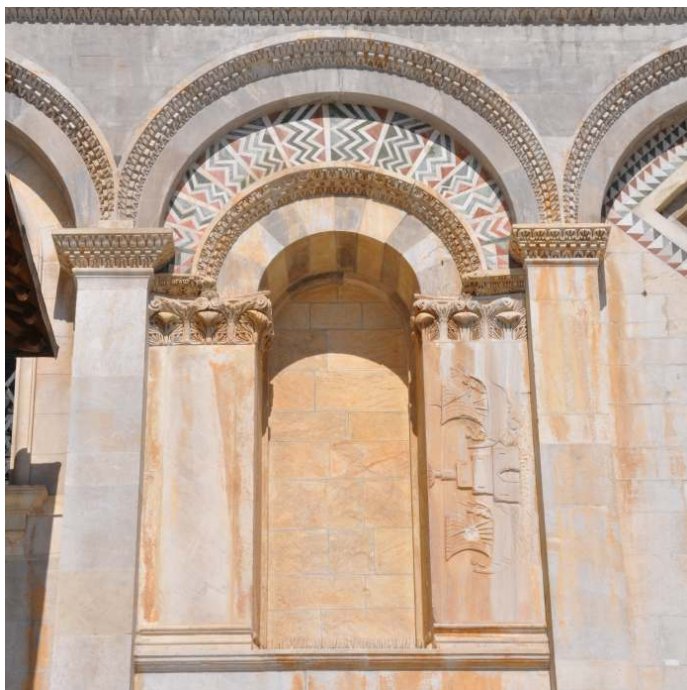




THE CALENDAR IN THE CATHEDRAL SQUARE



TO THE GREATER GLORY OF GOD, AND INVOKING THE INTERCESSION OF THE BLESSED VIRGIN MARY AND OF SAINT RANIERI, OUR PATRON, WE WELCOME THE YEAR 2026

Mayor of Pisa
Proclamation of the New Year in the Pisan Style on March 25, 2025

THE SYMBOLISM OF CATHEDRAL SQUARE

The entire Square, beyond what might appear at first glance, how many layers of symbolism that can be read on different levels.

First of all, it is important to remember that **in medieval Pisa, the Cathedral complex was built at the very edge of the city, far from the political and governmental center located in Piazza degli Anziani** (today's Piazza dei Cavalieri) and the Corte Vecchia, almost as if to remain separate from it. For the people of Pisa at that time, entering the sacred square was like stepping into another, monumental world — and even today, that feeling remains.

This "**separate world**" conceals, though not too subtly, a theological meaning centered on birth, life, and death: **the Baptistry marks the beginning of the Christian life; the Cathedral represents the continuation of life through the daily commitment of the Christian; the Camposanto signifies the end of mortal life and the hope of eternal life. The Bell Tower, finally, measured the Hours of the liturgy, and thus the passing of time itself.**



Inside the Cathedral, worshippers could read sacred history depicted on the walls (referring to a period before the fire of 1595) and were thus catechized. Furthermore, the west-to-east orientation guided them symbolically toward the East, toward earthly Jerusalem. All of this took place while they walked over tombs (symbolizing the Church Suffering) and lifted their eyes toward heaven (the Church Triumphant).

The decorations that fill the sacred buildings — animals, heads, floral motifs — were inspired by the finest artistic expressions from the many cultures the Pisans encountered throughout the Mediterranean. Today, much of this symbolism has been lost or is no longer understood, but it is still possible to study it and propose interpretations of its meaning.

THE BAS-RELIEF OF THE SHIPS IN THE HARBOR

One of the Cathedral's windows played a particularly important role in the functions related to the calendar. This was not unique: many religious buildings had meridian lines or solar windows.

The Cathedral's window was placed in a privileged position, on the south wall of the presbytery transept, near the main apse, right next to the Gate of Saint Ranieri. It was known as the **Finestra Aurea** (Golden Window).



On one of the pillars framing this window, there is a reused marble piece from ancient **Ostia**, depicting two ships in a harbor. Similar representations can still be found in Ostia today. The first and most obvious symbolism is that Pisa presented itself as the heir of Rome and its port — a close connection also expressed through the extensive reuse of Roman-era marbles, the red color of Pisa's banner, and many other symbols.

But beyond this, there is a deeper religious meaning: the ship is a reference to Mary entering the harbor of salvation.



*Mosaic at Ostia Antica
in the Square of the Guilds*

This important window served an astronomical purpose: a beam of sunlight would pass through it under very specific conditions to mark an important date.

In the case of Pisa's Cathedral, it indicated **the beginning of the year according to the Pisan Calendar on March 25, the day of the Annunciation, exactly at noon.**

Today, this window has been blocked up following the construction of the sacristies. Many years later — when the function of these solar clocks had already been forgotten — a new window was created higher up on the same south side. This new opening now marks a spot near Giovanni Pisano's pulpit, just above a bracket carved in the shape of an egg.

Of course, today the Pisan Calendar is no longer in official use, but celebrating its New Year remains a beautiful tradition that keeps the memory of the past alive.



However, there is another similar bas-relief, this time from the 12th century, located near the entrance to the Bell Tower.

Why was this scene replicated? Was it an intentional link to the Cathedral? Most likely yes — not only because of the natural connection between the church and its bell tower, but also to echo the symbolic meaning of the reused marble set into the Cathedral.

If the ships in the bas-relief on the Golden Window seem to be leaving the harbor, the ships on the Bell Tower bas-relief seem to be entering it.

From this, we can deduce that the Cathedral's ships symbolize **Departure** (of the Pisan year, of the Incarnation), while those of the Bell Tower represent **Return** (to the harbor of Salvation).

THE SYMBOLISM OF THE ANIMALS



On either side of the Bell Tower's entrance are two bas-reliefs attributed to **Biduino**: one shows a **Ram**

threatened by a **Dragon** followed by a **Bear**; the other depicts a **Bull** also facing a **Dragon**, but this time the Dragon is attacked by a **Bear**. Another bas-relief is hidden inside the Bell Tower, near the entrance level, and portrays a **Fish**.

Many interpretations have been proposed for these sculptures, including an allegory of **Grace** saving mankind from sin after the Incarnation, although most theories tend to overlook the presence of the **Fish**.



The reading that probably best fits the symbolism is as follows: the Fish — a symbol of **Christ (ΙΧΘΥΣ)** — is positioned between the Ram and the Bull, corresponding to the pe-

riod between March 25, the Annunciation (when the Sun enters the constellation of **Aries**), and April 21, when the Sun similarly enters **Taurus**.

This interval is generally when **Easter** falls. For example, in 1173, the year the Bell Tower's construction began, Easter was celebrated on April 8. Moreover, the Bell Tower itself is located precisely between the Golden Window (March 25) and the statue of the Bull placed at the corner of the south transept, which points directly toward the constellation of **Taurus** (April 21).





This **Bull** is therefore another temporal marker linking the monuments, but it is also a representation of the Evangelists, specifically **Saint Luke**. The other Evangelists are represented by a **Lion (Saint Mark)** placed above the main apse and facing east; and by **Saint John** and **Saint Matthew** — the **Eagle**

and the **Angel** — positioned at the two ends of the Cathedral's façade.

According to some scholars, the alignment of the Baptistery, Cathedral, and Bell Tower may correspond to the positions of the α , β , and γ stars of the Aries constellation, further emphasizing the central role of the Incarnation within Pisa's Cathedral.



It is worth remembering that the Cathedral is dedicated to Santa Maria Assunta (the Assumption of Mary), whose feast day falls on August 15 — precisely when the Sun is in the constellation of Leo.

This explains why the Lion is placed at the very center above the apse.

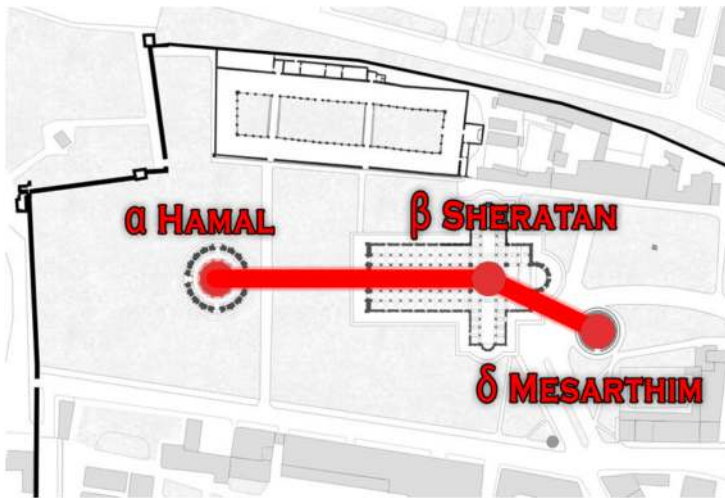


Plaque Installed on the Tower of Santa Maria in 2000 Regarding the Alignment Hypothesis with the Stars of the Aries Constellation

INSIGHT: THE ARIES CONSTELLATION

The constellation of Aries has been known since antiquity. It lies between Pisces to the west and Taurus to the east. The point where the celestial equator and the ecliptic intersect heading north is known as the **First Point of Aries**. This is the position where the Sun appears during the Spring Equinox. Due to the precession of the equinoxes, however, this point has gradually shifted and now lies within the constellation of Pisces.

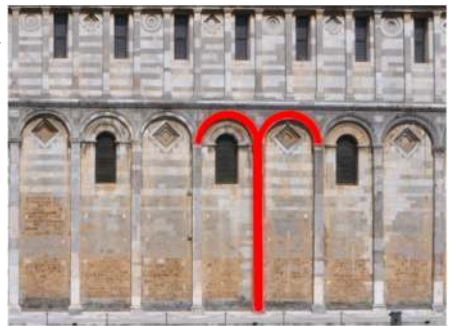
The Aries constellation is traditionally linked to the myth of Jason and the Golden Fleece. Although Aries is a small and relatively faint constellation, it holds great importance because of its association with the Spring Equinox and thus with the rebirth of life.



According to some scholars, the astronomical symbol of Aries (^) can be seen echoed in Pisan Romanesque architecture, specifically in the recurring series of arches and columns that characterize the style.

It is worth noting that the ram, in many religions — including Christianity — is a symbol of strength, vitality, and sacrifice, and it is one of the representations of Christ. See also the entry in the Treccani Encyclopedia:

[https://www.treccani.it/enciclopedia/agnello_\(Enciclopedia-dell'Arte-Medievale\)/](https://www.treccani.it/enciclopedia/agnello_(Enciclopedia-dell'Arte-Medievale)/)



THE ASTRONOMICAL CLOCK

The entire monumental complex can, in fact, be seen as a "cosmic clock" that marks the hours of both individual and collective life.

In the past, the measurement of time — and therefore the marking of hours — served mainly bureaucratic purposes. However, for a Christian, knowing the times of the liturgical hours (Prime, Terce, Sext, None, Vespers, Compline, and Matins) was very important.

The calculation was based on noon: the Cathedral's façade, aligned along the north-south axis, casts no shadow at the exact local noon (**which differs by about 12 minutes from the standardized time, based on the Termoli-Etna meridian**).



The area previously mentioned near the Golden Window was likely the main solar clock of the complex. Today, some bas-reliefs shaped like **rosettes** and "**wheels of time**", along with a small column that probably supported a gnomon, still survive. The small bracket casts a shadow over these carvings (of classical or early medieval reuse), precisely marking the hours between 10 a.m. and noon. Noon strikes when the edge of the pillar no longer casts any shadow over the reliefs.

Many other signs are now much harder to interpret due to later modifications, the partial loss of gnomons, and the forgetting of the specific periods or days they were meant to indicate. For example, just

below the often-mentioned Bull, there is a floral relief carved right on the corner, and beneath it, a probable solar disc.

In the Camposanto, on the south façade — specifically on the right-hand side, which is the oldest part and possibly includes reused elements from the earlier octagonal church (likely a pre-Romanesque baptistry) that once stood there — there are carvings and heads that might also serve as precise temporal markers.



The "little house" marks the hour of Vespers in winter.



The "old man" marks the hour of Vespers in March.



The cross marks the hour of Vespers in September (September 14 is the Feast of the Exaltation of the Cross).



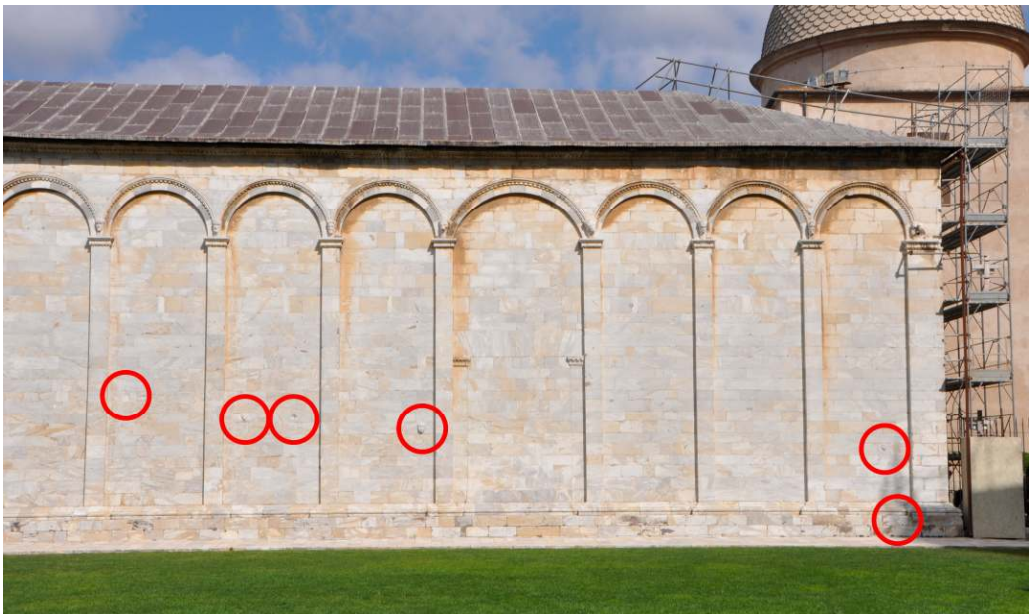
"adult man"



The "child" marks the hour of Vespers in August.



“lion”



INSIGHT:

THE HOURS OF THE LITURGY

The **Liturgy of the Hours** is the official prayer of the Catholic Church, governed by a set of formally established rules and principles.

This prayer is composed of psalms, canticles, hymns, and prayers derived from the Sacred Scriptures, and it is divided throughout the day into what are known as the **Canonical Hours**.

Dawn	Morning Prayer (Lauds)	Major Hour
6:00 a.m.	Prime	
At any time of the day	Office of Readings	Matins
9:00 a.m.	Terce	Minor Hour
12:00 a.m.	Sext	Minor Hour
3:00 p.m.	None	Minor Hour
Sunset	Evening Prayer (Vesper)	Major Hour
Before going to sleep	Night Prayer (Compline)	

The structure of these Hours, like the broader liturgy itself, has changed significantly over the centuries with various reforms and differs among rites (e.g., the Roman Rite, the Ambrosian Rite, etc.). In the Orthodox Church, this liturgy is known as the **Horologion** (*Ωρολόγιον*).

The **Book of Hours** was a collection of the liturgical Hours arranged for the different periods of the year. Already by the 12th century, breviaries had developed — the term meaning “summary” — which condensed the liturgy into a single book, especially useful for clergy who needed to travel frequently. These breviaries became widespread but varied greatly in their editions. At the Council of Trent (16th century), the Church established the official use of a single form: the **Roman Breviary**. Finally, with the reforms of the Second Vatican Council, the Roman Breviary evolved into the current **Liturgy of the Hours**.



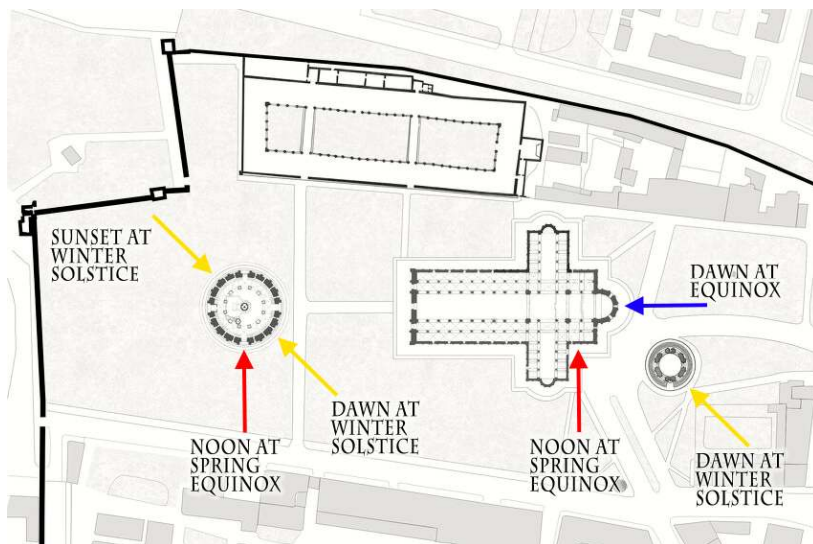
The Baptistery acts as a solar clock and has undergone relatively few modifications over time. It still remains to be fully studied and understood what indications it might conceal.

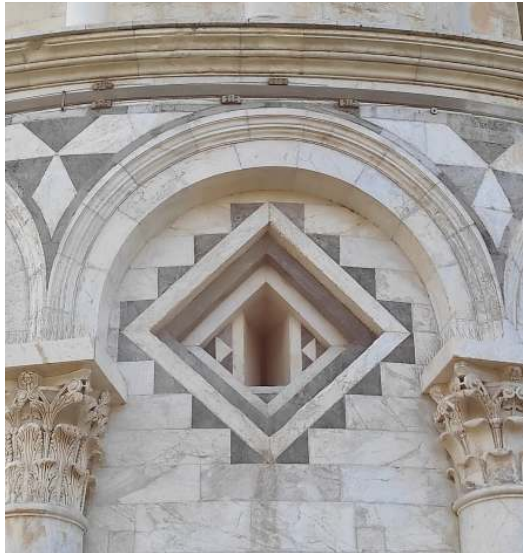
For example, at the Pisan New Year — that is, at noon on March 25 — the light from a window on the south side perfectly illuminates the crossing point between two tombs located inside, on the north side.

As already mentioned several times, the entire Square can be seen as a great solar clock. Beyond the Golden Window, there are other small windows which, although they might seem inexplicable at first glance, are precisely aligned with the solstices. In the Baptistery, two windows coincide respectively with the sunrise of the winter solstice (southeast) and the sunset of the summer solstice (northwest).

There is also a small window aligned with the winter solstice on the Bell Tower. Could it be that the Bell Tower itself was originally intended as a giant gnomon, projecting its shadow onto the Cathedral's dome at that precise moment? With the sinking of the ground and the leaning that began even during construction, the answer to that question may forever remain uncertain.

Another window on the apse of the Cathedral, perfectly aligned to the east, coincided with the sunrise at the equinoxes and directed the light toward the interior, onto the main altar.





*Solar window for the winter solstice sunrise
on the southeast side of the Bell Tower*

Suggested readings:

- S. Burgalassi, *La piazza del duomo di Pisa—Enciclopedia teologico-simbolica di pietra e “calendario cosmico”*, Pisa, Giardini Editori, 1983
- S. Costanzo, *Calendario Pisano*, Lodi, Linee Infinite, 2018

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