

The Church of San Miniato al Monte, Florence: Astronomical and Astrological Connections

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Abstract. The Church of San Miniato al Monte is examined in the context of interest in astrology and astronomy in early Renaissance Florence. Vitruvius emphasised the need for architects to “be acquainted with astronomy and the theory of the heavens” in his famous *Ten Books of Architecture* and, at San Miniato, astronomical and astrological features are combined in order to link humanity with the celestial or spiritual realm. The particular significance of Pisces and Taurus is explored in relation to Christian symbolism, raising questions about the role of astronomy and astrology in art and architecture.

1. Historical Context

The Church of San Miniato al Monte in Florence (Figure 1) stands high above Florence on the south bank of the Arno, above the piazza Michelangelo. The church was rebuilt in the early 11th century on an earlier third century foundation—the site of the resting place of Florence’s first early Christian martyr, a Greek by birth who was decapitated during the persecutions of the Emperor Decius.¹ Disregarding rumours that the remains of St. Minias had been transferred by relic hunters to Metz, Hildebrand (the 11th century bishop of Florence) chose the saint as patron of the church and rebuilding began in 1013-1018. It began as a Benedictine monastery, passed to the Cluniacs and then in 1373 to the Olivetans, who still run it.

In the thirteenth century, the building was financed by the Florentine Arte di Calimala or cloth merchants’ guild, who were responsible for the church’s upkeep from 1288. The eagle which crowns the façade was their symbol. The church is striking because of its geometrically patterned façade of green and white marble, begun in about 1090, although the upper parts date from the 12th century or later. Built in the Romanesque style, it was thought of as ancient (as was the famous Baptistery in Florence) partly due to the reuse of Roman Corinthian capitals. The use of marble, inlay and mosaic indicate Italo-Byzantine influence and a line of descent from late classical and Byzantine works. Indeed the Baptistery is similarly faced in white and green marble. In spite of some unusual features, San Miniato is key as part of a group of Tuscan proto-Renaissance buildings which formed the basis for Italian Renaissance ar-

¹The first abbot of San Miniato, Drogo, relates the legend whereby the headless St. Minias went from his place of execution to the hillside where he wished to be buried. Little of the Roman town of Florence remains but some Roman materials were used in the construction of later buildings.



Figure 1. TO BE DONE.

chitecture, particularly the works of Alberti. The basic plan, with nave and two side aisles is traditional but the paving appears oriental in flavour. The interior marble pavement dates from the early 13th century and, most significantly, a large zodiac panel (marble) was ceremoniously installed at sunrise on 28 May 1207 (Figure 2).

Significant developments took place later in the thirteenth century, such as the creation of the mosaic on the façade, with Christ between the Virgin and St. Minias (1260) and the apse mosaic of the same subject (1297). San Miniato was mentioned by Dante (alongside the Florence Baptistery and the Badia monastery). Expansion continued in the fifteenth century with the addition of major chapels (the Chapel of the Cardinal of Portugal and the Chapel of the Crucifixion) containing artworks by major artists of the time—Baldovinetti, della Robbia, and Michelozzo. The church was thus a key monument in Florence and indicative of the rise of Florence as a powerful city state in the early Renaissance. Sponsorship derived from finance and the cloth trade, resulted in a huge building programme, much of which was ecclesiastical in nature. Motivation was still religious, as the chapels and art works still aimed at opening doors into Heaven for their patrons. The church of San Miniato suffered at this time however, since the Campanile collapsed in 1499 and was rebuilt in 1523 to the original design. In 1529, when Michelangelo organised the defences of Florence under siege from foreign armies, he specially advised they should be extended to embrace the hill of San Miniato and the belfry/tower should be protected from artillery fire by mattresses. Some restoration work on the marble coverings of columns and walls took place in the nineteenth century, but the roof (albeit

restored) dates from 1322. Even in the twentieth century, San Miniato was the inspiration of a poem by Oscar Wilde.²

The Church has been identified as having both astronomical and astrological significance in terms of its orientation, but in particular because of the fine marble zodiac panel, known to have been installed at sunrise on 28 May 1207 (almost exactly 800 years ago). At the spring and autumn equinoxes, light is focussed on the sign of Taurus in the panel. It is also significant that a shaft of light falls on Christ's foot which in turn points down to the crypt containing the bones of St. Minias.

2. Astrology and Astronomy in Medieval and Early Renaissance Florence

The importance of astronomy and astrology in art and architecture was highlighted by Vitruvius in his *Ten Books of Architecture*:

The architect should be equipped with knowledge of many branches of study and varied kinds of learning... skilful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine know the opinion of the jurists and be acquainted with astronomy and the theory of the heavens (Book 1, Chapter 1).

The architect should be able "to find east, west, north and south" and "be acquainted with the theory of the heavens" (Book 9, Chapter 1). Born around 80-70 B.C., Vitruvius died c. 15 B.C., but his writings were the only surviving major book on architecture from classical antiquity. Rediscovered in the early fifteenth century, traditions established by Vitruvius never really died out.

Vitruvius' works came to underlie much of the architecture of the Italian Renaissance. Alberti's reformulation of the *Ten Books*, was written in 1452. Even in medieval Florence, the importance of symbolic meanings was evident.

²OSCAR WILDE, *San Miniato*.

See, I have climbed the mountain side
Up to this holy house of God,
Where once that Angel-Painter trod
Who saw the heavens opened wide,
And throned upon the crescent moon
The Virginal white Queen of Grace,
Mary! could I but see thy face
Death could not come at all too soon.
O crowned by God with thorns and pain!
Mother of Christ! O mystic wife!
My heart is weary of this life
And over-sad to sing again.
O crowned by God with love and flame!
O crowned by Christ the Holy One!
O listen ere the searching sun
Show to the world my sin and shame.

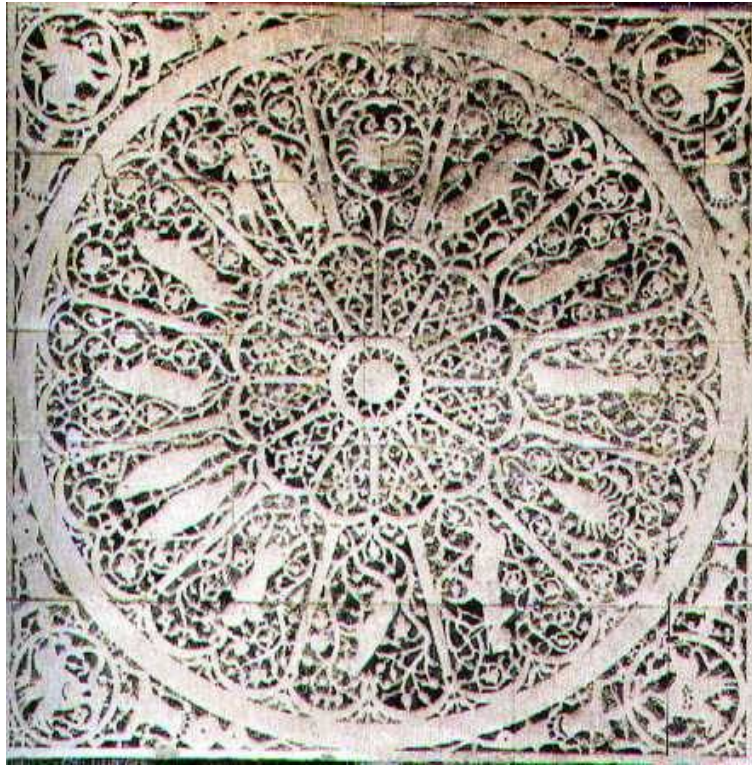


Figure 2. TO BE DONE.

Symbols were not mere decoration, but chosen for a very specific purposes in medieval Florence. Medieval masons made extensive use of astronomical orientations, sunlight, inscriptions and secret symbolism, uniting traditional lore, ancient wisdoms and theology. Orientation, for example, was considered as a practical device used to relate earthly buildings to the cosmos and symbols that originated in antiquity were adjusted to Christian world vision. This may well have been connected with the wish to encourage converts in the early days. For example, the analogy between Christ and the sun god or Apollo (emphasised from the 3rd century) appeared to present Christianity to the masses as an acceptable version or simply a different reading or development of previous traditions.

3. Astronomical Orientations and Astrological Zodiacs in Ecclesiastical Architecture

Apart from the astronomical orientation of Christian churches, astrological signs and symbols were also adapted to Christian art and architecture. The theme of zodiacal symbolism in particular was adopted by church/cathedral builders of the middle ages, used as symbol of the passing of time. The Zodiac (“circle of little animals” in Greek), is the narrow band of sky through which the Sun, Moon and planets travel. It is divided into twelve signs that reflect the changing cycles

of the year. The Zodiac was frequently Christianised through the association of the twelve signs of the zodiac with, for example, the twelve apostles³ and also with the labours of the month. Architectural designs were also closely related to the use of astrology as a basis for the seasons of the year, linking humanity with the celestial or spiritual realm. Excellent examples still surviving as sculptural decoration in many of the great twelfth century French Cathedrals, such as Chartres, Vezelay, Amiens and Notre Dame, but also further afield in Canterbury, as well as in Italy in Parma and the Sacra di San Michele in the Val di Susa which, significantly perhaps, is also of Benedictine origin. The zodiac is also found depicted in Church furniture and architecture, such as the lead font at Brooklands in Kent (an Augustinian foundation of the 1100s).

In Florence, the Baptistry is one of the oldest sites with astronomical overtones. Like San Miniato, it is built in green and white marble, with reused Roman capitals which led to it being similarly considered more ancient than it actually is. The inlaid marble zodiac (Figure 3) shows the interest in the apparent movement of the sun in relation to the octagonal building. Solar rays enter through a hole in the cupola and project shadows onto the signs of the zodiac, enabling the path of the sun to be followed during the year. Unfortunately, during some alterations and developments in the thirteenth century, the marble zodiac was moved to the eastern part of the building so it is difficult to determine its original position and function, for example whether it was intended to be symbolic and decorative or actually to function as a solar clock. The symbol of the sun at centre is however clear—which is not to be taken as precursory to Copernicus, but rather as emphasis on Christ as the sun, giver of light and life. In addition to the symbolism of the sun, as we shall see, the particular significance of Pisces and Taurus can be explored in relation to Christian symbolism, raising questions about the role of astronomy and astrology as linked with Christian tradition.

4. The Zodiac at San Miniato

Unlike its companion in the Baptistery, an inscription at San Miniato informs the viewer of the date and origin of the zodiac. The inscription reads: “HIC UALUIS ANTE. CELESTE NVMINE DANTE; M.CCVII. RE METRICUS ET IUDEX. HOC FECIT CONDERE IOSEPH; TINENT DE ERGO ROGO CRISTUM. QUOD SEMPER UIVAT IN IPSUM; TEPOREMTE” (translated as: “Here before the doors - the divine image of heaven manifesting - 1207 - one skilled in measure and a judge - Joseph caused this to be built/founded - therefore I pray/ask Christ - who always lives in Him”). Its inclusion is clearly very significant and presents a curious intellectual puzzle in terms of its relation to

³For the association of the apostles with the 12 signs of the zodiac, and the labours of the month, see Sez nec (1972, p. 73). Astrology was used as a classification system for the elements, seasons and humours (Sez nec 1972, 49ff), but a Christian interpretation was given as they were linked to Christian ideas and ideals. For example, associations were made between the Evangelists (Lion/Mark/Leo; Eagle/John/Scorpio; Human/Matthew/Aquarius; Bull/Luke/Taurus) relating to astrological symbols. The labours of the month also acted as a handbook for year round activities. The wide diffusion of astrological beliefs is also evident in Santa Maria Novella (Sez nec 1972, Fig. 22).



Figure 3. TO BE DONE.

the Christian iconography of the Church. From the inscription, we know there was a special ceremony and it was installed at a very particular time, possibly in some way to protect the church and its people. The inclusion of the zodiac in such a prominent position is clearly highly significant and the signs of the zodiac surrounding a sun-Christ emblem, indicates that Christ is lord of the universe and time, not that the church has been invaded by pagan astrology. It has been argued, by Fred Gettings in his major study on San Miniato, that this was directed against the pessimism of Joachimite prophesies of the time that predicted doom and gloom. The inclusion of the zodiac can be read as uniting heaven with earth, and linking Christ with the solar forces source of life and love). Gettings also examines possible hidden references to numerology, Luna, Venus, Mercury, Mars, and other planets.

The Byzantine and 'eastern' overtones in the design can also lead to speculation that the 1204 sack of Constantinople (during the fourth crusade) possibly led to an exodus of Byzantine artists at the time, who may well have been involved in the work. It has been suggested, in fact, that Byzantine influence and elements in the design could be evidence that the panel was brought from Byzantium itself. Analysis of the type of marble might be able to prove or disprove this. However, the similarity with the zodiac in the Baptistery generally leads to the conclusion that the two zodiacs were both made locally, in situ, even if influenced (as indeed were other iconographical designs), by the Italo Byzantine tradition. In both the zodiac itself, as well as in other elements in San Miniato, the Sun, Pisces and Taurus are particularly emphasised—the very elements that have parallels in Christian iconography and symbolism.

5. Orientation

The zodiac at San Miniato, is arranged so that sunlight falls on particular symbols at particular times of year. The Church is not, as normal, oriented with the altar in the east to face sunrise (often precisely orientated to sunrise on feast day of the patron saint). This also causes the rays of the setting sun to illuminate the west front of Christian churches.

At San Miniato, by contrast, each August, a stream of light falls onto Christ's foot which in turn points down to the crypt containing the bones of St. Minias. The interior and exterior of the church are united by the annual movement of the sun, which is key to the symbolism of the church. The image of Christ as light/sun is emphasised, even though of course it would be inappropriate at this time to maintain any heliocentric overtones for the depiction of Christ as sun, even in the central sun-symbol of the Baptistery mosaic (Figure 2). The director of works would have been a monk, with the task of ensuring that such astronomical or astrological features in art and architecture were in accordance with the theological concepts of the time. Art (artefacts) were viewed art in terms of symbols. Functional, didactic, narrative-historical and aesthetic values were somewhat secondary.

6. Pisces

In addition to the unusual orientation, leading to sun symbolism, the use of the fish symbol is highly significant at San Miniato. Figures eating fish are depicted on the façade, as well as internally on the screen (Figure 4) where fish are depicted vertically either side to entrance into the high altar, that separates the monastic from lay area.

These invite the spectator to look upwards towards the apsidal mosaic of Christ in glory between Mary and St. Minias. More important still, is the fish symbolism in the pavement zodiac itself. In the zodiac, the fish of Pisces are parallel not opposite as elsewhere. Only in Milan Cathedral do they also appear with heads at the same end (Figure 5).

The emphasis at San Miniato seems to suggest a particular significance and Pisces here seems to serve as a symbol of Christ.⁴ The use of fish symbolism for Christ is commonplace from the catacombs (where there are well known examples in the Catacomb of St. Callixtus and St. Sebastian). It derives of course from the acronym "ICHTHYS" (the Greek word for fish whose initial letters bear the meaning "Jesus Christ Son of God Saviour").⁵ The fish is also seen as a symbol of resurrection, in the story of Jonah and the fish/whale as symbolic of the resurrection of Christ that precedes resurrection of all men (which is fundamental to Christianity). It is hardly surprising therefore that Pisces plays such a significant role. In the zodiac, Pisces is related to the concept of the fish as symbol of Christ, as well as the movement of the sun on its daily

⁴Depictions of pisces invariably present the fish in opposite direction. The example in Milan Cathedral is also exceptional to this.

⁵In Greek, ΙΧΘΥΣ is taken to stand for *Ιησους Χριστος Θεου Υιος Σωτηρ*.



Figure 4. TO BE DONE.

and annual paths, thus linking the “pagan” zodiac with the early Christian tradition and solar symbolism in medieval art. The zodiac, the fish on the left wall and Christ’s foot are all illuminated by direct rays of sunlight at specific times. Shafts of sunlight illuminate the various symbols in early March and early October.⁶

7. Taurus

In addition to the emphasis on Pisces, and the analogy with Christ as *ICTHYS*, a further astronomical association is made with Taurus, since this is the first sign of the zodiac on the pavement to be illuminated by the sun at the spring and autumn equinoxes.

The sign of the bull is associated with the head, neck and throat, and became the symbol for St. Luke, writer of the Word. An association also exists with Christ for a variety of reasons Taurus represents the Word, the vocal chords, and what comes out of the mouth or throat. It is known that on 28 May 1207 (according to the inscription) there was a special grouping of planets in Taurus. Gettings points out that there were no fewer than five planets in the constellation of Taurus on that day—a very rare occurrence, about which medieval astronomers were likely to have known, even had they not had the necessary instruments to observe in detail. So the emphasis on Taurus seems more than coincidence and it could well relate to Taurus as an earth sign, and a reminder of Christ on earth. In addition, Taurus also has similar sacrificial

⁶Gettings (40) takes into account the precession and calendrical changes over 800 years.



Figure 5. TO BE DONE.

overtones as does Christ, who spills His blood to redeem mankind. And the feature of a bull/Taurus sign in the later tomb of the cardinal prince of Portugal seems to indicate that the symbolism was recognized by the later architect in the fifteenth century who again drew a link between the concept of sacrifice and the healing power of (Bull's) blood.

Finally, it is also worth mentioning that on the zodiac floor mosaic, the astrological symbol of Cancer also appears to have a special emphasis. The sign is given prominence, being encircled in its own "medallion" and appears smudged in comparison to the rest of the signs, possibly because it has been excessively walked on or touched. Placed inside a circle, at the top of the wheel it faces the sanctuary, possibly because of emphasis on the summer period when light is longest—begins at the Solstice.

8. Conclusions

The emphasis on astrology, combined with Christian symbolism seems clear in the 13th century designs at San Miniato al Monte. The features of Pisces and Taurus, both of which serve as analogous to Christ are significantly used and emphasised, thus demonstrating how astrological and hermetic traditions continued to permeate medieval art and symbolism. Astrological lore is seen as one of many ancient streams of influence on the medieval mind that focussed on symbolism in art and architectural decoration. In the *Secret Zodiac*, Gettings suggests that the San Miniato church in Florence was founded to coincide with a stellium of stars in Taurus on 28 May 1207. There are Zodiac symbols inside and a mysterious Latin inscription. At certain times of the year the Pisces

sign is illuminated by the Sun's rays. Without going into detailed astronomical calculations, it is possible to see that the use of such symbols were viewed as Christian, not heretical or pagan but rather the conversion of the ancient/pagan zodiac for Christian ends.

At San Miniato, the zodiac is used to link earthly and celestial realms, in a systematic effort to Christianize pagan astrology in the service of medieval theology. Light symbolism, so very important in the scriptures and in Christian art and architecture since Byzantine times, is key. Few changes were made to the images but meanings and symbolism appear to have been altered to embrace Christian symbolism. The builders of medieval cathedrals and churches inherited a wide heritage of meaning and understanding which they reinterpreted in terms of Christian symbolism and theology.

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