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SKY AND PSYCHE

The Relationship Between Cosmos and Consciousness

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3. Chartres Cathedral and the Role of the Sun in the Cathedral's Christian Platonist Theology

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Chartres Cathedral is a treasury of esoteric and spiritual western knowledge and, given the scale of its encyclopaedic structure, this paper can only focus on a small fraction of the religious and sacred significances contained within its stone, glass and orientation. This paper argues that the combination of Gothic architectural dimensions and the nature of twelfth-century stained glass created a sacred place in Chartres Cathedral, which was not only in keeping with the twelfth century themes of Christian Platonism but was — and still is — evocative of the actual experience of Platonistic mysticism. Furthermore, this paper argues that the unusual orientation of the cathedral and the annual movement of the sun may well have been incorporated in the design of the current cathedral to enhance this theology.

I said to my soul, be still, and let the dark come upon you
Which shall be the darkness of God ...

T. S. Eliot, 'East Coker'¹

A brief history of Chartres Cathedral

The cathedral stands at the top of a mound which overlooks the village of Chartres in northern France. This mound has been considered sacred from pre-Roman times, and Charpentier argues that it was the site of a dolmen sacred to the Druids.² Upon this sacred mound the earliest recorded church, a Gallo-Roman chapel, was built between the fourth and sixth centuries. This chapel was thought to be modelled on the Church of the Holy Sepulchre and built in the fourth century, supposedly over the tomb of Jesus Christ in Jerusalem.³ There have been five known

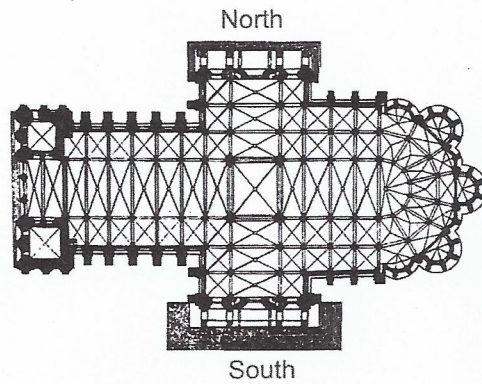


Figure 1: Ground plan of Chartres Cathedral. The labels of South and North are not true compass points but simply the traditional manner by which the two sides are named.

churches built on the site of Chartres Cathedral. All of these have been destroyed by fire except the last. In 858, when the church had been burnt and pillaged by Vikings, Charlemagne's grandson, Charles the Bald, presented the newly rebuilt church with a sacred relic known as the *Sancta Camisia*, which was said to be a garment worn by Mary when she gave birth to Christ.⁴

The current Chartres Cathedral was built between 1194 and 1220 and is the work of just one generation. It was constructed in the fever of French public works, which included cathedrals, churches, abbeys, bridges and town walls, and which consumed France for forty years from the 1190s to the 1230s.⁵ Its grandeur and scale was made possible by donations of money and labour from across France, an outpouring of gifts which was fuelled by the 'miracle' of the survival of the relic of the *Sancta Camisia* from the fire of 1194. The survival of the relic was also taken as a sign that the site was indeed the location of the Virgin Mary's earthly throne.⁶

The current cathedral was constructed keeping the earlier Romanesque church's Royal Portal (the western doors) and this, along with the location of the crypt in the east, established its orientation as well as length (see Figure 1). The alignment of Chartres Cathedral is, therefore, far older than its construction date of 1194. Indeed the ground plans of all five churches or cathedrals built on the site fit

inside, or on, each other like Russian dolls, with each on the same alignment as the previous.⁷

Christian Platonism and architecture

The eight hundred years of the cathedral's existence have brought changes in Christian religious philosophy. In twelfth-century France, as in most of Europe of that time, Platonic orientation towards God suggested that he was hidden and revealed Himself through the application of one's mind.

In a letter to Dorotheus, the Christian Platonist, Dionysius, wrote:

The Divine gloom is the unapproachable light in which God is said to dwell ... He is after all the object of sensible and intelligent perception, and saying in the words of the Prophet, [St Paul] 'Thy knowledge was regarded as wonderful by me; It was confirmed; I can by no means attain unto it.'⁸

In the second century, Clement of Alexandria is credited with firmly embedding neo-Platonism into Christian theology. His work was devoted to continuing this theme of finding or building a relationship with God through the use of one's mind, *ascensio mentis in Deu* — the ascent of the mind to God.⁹ St Augustine, in the fourth century CE, linked Christianity's specific belief in incarnation and one's consequent salvation to Platonism. Augustine took the philosophical reflections of Platonism and made them practical in terms of Christianity.¹⁰

When Chartres Cathedral was completed, Christian theology was still strongly neo-Platonic. Education and the illumination of the truth were established as the road to knowledge of God, and ignorance was believed to be a form of evil. God dwelled in the darkness and through seeking the unknowable one could find God.

By the eleventh century, Christian centres like Chartres were devoted to becoming places of education, focusing on the seven Liberal Arts which were: the *Quadrivium* (arithmetic, music, geometry and astrology) and the *Trivium* (grammar, rhetoric and logic). Indeed, Chartres, under the leadership of Bishop Fulbert, the bishop at the time of the construction of the Royal Portal in 1020, became one of the great centres of learning and was famous across Europe.¹¹

The Gothic style and its role in promoting Christian Platonism

The Gothic style was originally called the New Style and was promoted by Abbott Suger of the Abbey of St Denis, who believed the Gothic arch allowed for a greater mystical experience by the beholder. His words concerning the New Style hover between the poetic and the devotional:

... then it seems to me that I see myself dwelling, as it were, in some strange region of the universe which neither exists entirely in the slime of the earth nor entirely in the purity of heaven; and that, by the grace of God, I can be transported from this inferior to that higher world in an anagogical manner.¹²

The more rounded Romanesque arch was simply thought to move energy from the earth on one side of the arch, back into the earth on the other side of the arch. In the twelfth century this configuration represented death; earth to earth, dust to dust. The one-fifth Islamic arch adopted by Gothic architects, however, contained a point at its top and hence, according to Strachan, was thought to move the energy from the earth on both sides of the arch to the heavens through its peak, thus representing life.¹³

Geoffrey de Leves, the twelfth-century bishop of Chartres, became inspired by Abbott Suger's New Style architecture in the Abbey of St Denis and, after the fire of 1194, decided to rebuild Chartres in this new form.¹⁴ At that time it was considered that the Holy Ghost, mysterious and unreachable, was the Platonic world-soul and de Leves wanted this view to be captured in the very architecture of Chartres itself. The new cathedral was, therefore, to express in its very form the views of Christian Platonism, and to evoke in the visitor the experience of a hidden God who is dwelling in the sacred darkness, a God who can be discovered through the pursuit of knowledge.¹⁵

The New Style lent itself to mystery and awe; it was space created with a compass rather than a ruler. While the architecture of earlier Romanesque churches was based on arithmetic and on whole numbers, the New Style was based on geometric ratios, such as one to the square root of three — ratios that cannot be constructed or understood with a

ruler and a slide rule.¹⁶ The study of the proportions of this New Style consequently lead to an encounter with mystical number ratios, which beckoned towards deeper levels of learning and ended in such mythic places as the golden mean. Strachan sums this up elegantly:

In moving from measurable arithmetic to immeasurable geometry, they reflected a new desire to express the ultimate incomprehensibility of God ... It also constitutes the difference between an architectural style [Romanesque], which housed a spirituality in which the mystical was present but marginal and subservient to the liturgy of the mass, and one in which it was central to the *raison d'être* of enhancing the possibility of mystical experience in the building itself, with or without the liturgy of the mass.¹⁷

This is architecture reflecting a form of mystical theology, the immeasurability of God, the mystery of space where God is hidden from consciousness, where God needs to be revealed. Indeed, God Himself is considered to be the architect of Chartres Cathedral, the *elegans architectus* who built the cathedral to reflect His cosmos.¹⁸ This sacredness and divinity, inspired by the cathedral's form and shape, is captured by Strachan in his ponderings upon the interior of Chartres:

... that Chartres is still a sacred space which, without any religious service taking place, can deeply affect those who visit, so that it is possible to say that the building itself can produce a spiritual experience; and secondly, that the spiritual power of the place is somehow connected to the fact that it is dark.¹⁹

Indeed, von Simson states that the primary motivation of building in the New Style was neither architectural innovation nor aesthetic beauty, but rather a desire to house a type of mystical spirituality and while stone can beget form which inspires awe and wonder, the real drama of Christian Platonism is displayed on the lighting stage created by the cathedral's stained glass.²⁰ As von Simson pointed out, 'According to the Platonizing metaphysics of the Middle Ages, light is the most noble of natural phenomena, the least material, the closest approximation to pure form.'²¹

The nature of the twelfth-century stained glass in Chartres Cathedral

As the mystical number ratios of geometry replaced the logic of arithmetic in the shift from Romanesque to Gothic religious architecture, so stained glass replaced the wall frescoes of the earlier period as a dominant element.

Chartres Cathedral contains 166 windows which make up just under an acre of stained glass.²² This glass represents an encyclopaedia of twelfth and thirteenth-century Christian theology and is largely intact. The damage that has occurred to the glass happened in the eighteenth century in an effort to bring more light into the cathedral. In 1753, in an attempt to light the choir, the borders of several thirteenth-century windows were removed and replaced with clear glass. In 1773, eight of the choir windows and four in the transept were smashed, also in attempt to bring more light into the place where the bishops stood.²³ Other Gothic cathedrals have tragically lost large parts of their glass, sometimes all of it, with the result that more recent windows cast their Renaissance, or at times modern, lighting plans across the original Gothic stage. Such clashing of lighting plans effectively obliterates the older, more delicate, lighting designs of the twelfth-century creators of the Gothic cathedral.²⁴

Stained glass by its nature does not benefit from surface light — light shining directly upon its face — which makes the glass appear flat and dull.²⁵ Stained glass needs lighting from behind so that it can transmit the light, or be illuminated by it, allowing maximum visual impact of the glass. In Chartres Cathedral the internal illumination was, and still is, potentially quite low. Normal sunlight at midday has a candle power of 8,000 to 10,000 footcandles (the measurement of light level equivalent to the light intensity made by one candle at a distance of one foot); the average illumination levels inside Chartres Cathedral are one to two footcandles — the brightest readings being closer to five footcandles, while other readings in the north ambulatory are well below one footcandle.²⁶ Taking into account the fact that weathering over the last eight hundred years would have reduced the ability of the glass to allow light into the cathedral, this has been balanced by the removal of twelve windows and the installation of various clear panels to allow in more light, so one can probably assume that the levels of illumination in the cathedral today are similar to what was intended in the twelfth century.

Such low lighting levels alter the effectiveness of the human eye. Johnson has pointed out that when the eye adapts to low illumination, known as scotopic vision, it moves into a state of relative myopia where it relaxes and tends to have a fixed focus.²⁷ The ability of the human eye to focus on a given colour at low light levels is defined as the colour's acuity rating. The colours yellow, yellow-green and green have the highest acuity ratings which means that in low light conditions the human eye can still focus on these colours. At the lower end of the acuity scale are the colours of blue-greens, deep reds and blues, with the blues having the lowest acuity rating of all. This means that at low light levels the human eye finds it difficult to adjust its focal length to these colours, and these low end acuity rating colours are in fact the dominant colours of the twelfth and thirteenth-century glass in Chartres Cathedral.

As a result of the use of these colours in the cathedral's glass, combined with the intentionally dim lighting environment, our eyes enter into a mildly myopic state and are unable to focus clearly on the coloured glass. The eye continues to seek the correct focal length by shifting it back and forth in the dim surroundings. As a result the images appear to float off the plane of the glass, seemingly stepping off the window and hovering in front of the observer's eyes. This is a conscious twelfth-century trick of colour and lighting which has had a profound mystical impact on tens of thousands of visitors to the cathedral over the last eight hundred years.²⁸

Other authors, unaware of the designers' intent in terms of lighting and imagery, become overwhelmed with the mystical impact. Even James, whose work is focused on the stone and the structure of the cathedral, comments on the visual impact of the glass: 'From inside we can still glimpse this today in the fractured prismatic colours of the stained glass that transforms that solidity into a skimmer that floats rather than sits.'²⁹

Johnson suggests that this effect was intentional and that the glass-makers of Chartres purposely designed the glass to transmute rather than transmit rays of light.³⁰ Glass, which transmutes light, is achieved by varying the glass density as well as using foreign matter in the glass. This transmuting property allows the windows to glow, unlike transmitting glass that would allow shafts of light into the interior. Medieval glassmakers were capable of creating clear glass, but the intent of the glassmakers with the Cathedral's glass was to enhance the diffuseness. Indeed, Johnson likens the Chartres glassmakers to medieval jewellers who wanted the windows to act like a gem and to glow with light rather

than simply allow it to enter the cathedral.³¹ Thus, the unique lighting plan of Chartres Cathedral was made up of a combination of dim lighting, the use of blues and reds, and glass which transmuted rather than transmitted light. This combination produces visual disorientation to the human eye and thus a window contemplated by a visitor would, as their eyes endeavoured to find the correct focal length, give out a celestial glow and allow the images to appear to move off the glass in an almost holographic manner.

In contrast to this delicate twelfth-century lighting plan, stained glass with a predominance of yellow and green colours is far more comfortable to the human eye, which can readily hold its focus, giving greater visual certainty. These are the major colours in the stained glass of the Renaissance buildings and as Johnson states:

The Renaissance, for example, used lighter windows for more clearly illuminated interiors, enhancing three-dimensional form and revealing the classic order, the carefully adjusted proportions, and the clarity of the building's scale. If man was to be in the centre of the world, he wanted to be seen there, in the midst of his works.³²

However, following recent additions to the cathedral's lighting scheme, the interior is now illuminated with numerous spotlights focused on the sculptures and which shine into the eyes of those who seek to observe the glass. By illuminating the sculptures, the current guardians of the cathedral have removed the fragile relationship between the stained glass and the human eye and thereby eliminated the potential for its particular, and unique, experience. One would like to think that in the future the guardians of the cathedral will adopt a greater understanding of the relationship between the glass and light and introduce a more sympathetic lighting scheme, at least periodically.

Chartres Cathedral also displays one of the great colours of medieval art, that known as celestial blue. It only occurs in twelfth-century glass and then, according to Johnson, only rarely. In the interior of the cathedral, celestial blue is the colour with the greatest potential for causing visual confusion for the observer. Johnson describes the colour thus:

This celestial blue is one of the supreme moments in medieval art, for it is seemingly without body or substance, composed entirely of light. Weightless, ethereal, it is matter

transformed. ... seen from a distance it seems that this divine colour permeates the entire ensemble, emanating, as it were from the Supreme Light to the lesser lights, transforming all things.³³

Thus, when we consider the glass of Chartres Cathedral, we must recognize that we are stepping onto a stage where the proportions of stone, sculpture and lighting are specifically designed to propel us on a mystical journey of finding the divine in the sacred darkness. This mystical journey is one saturated with celestial light where divine figures float before one's eyes. It filled early and even modern pilgrims with a sense of a heavenly Jerusalem and potentially could continue to fill twenty-first century tourists with a sense of awe and wonder. With light playing such an important part in the mysticism of the cathedral, it is feasible that the role of the movement of the sun could also have been incorporated into the Cathedral's construction.

The design and orientation of the Cathedral

Chartres Cathedral's visual ratios and proportions emphasize the sense of sacredness and have given rise to a seemingly endless analysis by different writers, all of whom support a variety of different theories of lost or divine knowledge. This is a process that undoubtedly feeds back into the concept of the sacredness of the space which, in turn, produces yet more motivation to intellectually 'know' the mysteries of Chartres. This is, of course, the aim of Christian Platonism: God is hidden and is revealed through knowledge. This seeking of knowledge is stimulated by the New Style of architecture whose detailed examination of proportions leads to never ending unsolvable mysteries.

It can be argued that the mysteries of the numbers and ratios of Chartres are not designed to be solved. Just as, in keeping with Christian Platonism in which God is knowledge which must be explored but can never be *fully* revealed, so the cathedral is designed to draw, pull and attract researchers to probe ever deeper into the magic of space and numbers, to confront the cathedral's deeper design and to bring all research to the same place — a place of mystery, reverence and awe. The builders of the cathedral even appear to warn visitors of their intent with a labyrinth boldly placed in the centre of the western part of the floor. This labyrinth offers only one pathway with all journeys ending

in its centre; thus, the labyrinth can be seen as a physical metaphor of the concept that all seeking of knowledge leads to only one place, the one true God.

But there are some more simple and obvious features of the cathedral's design that can be easily grasped. On the northern side, which never receives direct sunlight, are the images and sculptures of the Old Testament, the things of the past, perhaps the things that no longer need to receive the full celestial glow of the sun. This side depicts the history of the church, its roots, its early writings. In contrast, the New Testament and new covenant is embodied on the southern side, which always receives the sun's light.³⁴ Although this is a simple design feature, it does reflect an obvious consideration of the sun's movement during the course of a year — but this may be just one feature of the sun's role in the design of the cathedral.

The sun and the Cathedral's orientation

The orientation of Chartres Cathedral is 47° north-east which is quite different from the normal east-west orientation of churches across Christendom.³⁵ The sun in the northern hemisphere (notwithstanding equatorial latitudes) will culminate due south on any given day of the year. The altitude of the sun's culmination is dependant upon the latitude of the location and the actual calendar date. For a given location on a particular calendar date, the sun will always (barring the tiny effects of mutation) culminate due south at the same altitude from one year to the next. Additionally, for a given latitude, the exact location where the sun will rise or set on the horizon will be a constant for a given calendar date. Furthermore, if we watch all the sunrises for a full year, they will always fall in the same band on the eastern horizon, and similarly for sunsets in the west. This band can be measured using a compass and such a measurement is known as the azimuth of the sun's (or any other celestial body's) rising or setting position on the horizon. For the latitude of Chartres, the sun will rise within a band of the horizon which measures from 52° north-east to 52° south-east and set in corresponding locations in the west, as shown in Figure 2. For any given calendar date the exact position of sunrise and sunset can be expressed in degrees of azimuth (traditionally measured in degrees from due north in an easterly direction) and, as already stated, it will be constant from one year to the next.

The solstice axes

Recognizing that the orientation of Chartres Cathedral predates the current structure and follows the same alignment as the earlier sacred buildings on this site, if we consider this orientation with regard to the rising and setting of the sun on key dates of the year, some interesting patterns do emerge.

The solstice axes (see Figure 2) are the lines between the azimuths of the summer solstice sunrise and the winter solstice sunset, or the azimuths of the summer solstice sunset and the winter solstice sunrise. We can see from Figure 2 that the cross of the cathedral is slightly off alignment with both these axes. It should be noted that such an alignment means that *no* sunset for any calendar date could ever align with the cathedral's west entrance. Indeed the cathedral's west door is about

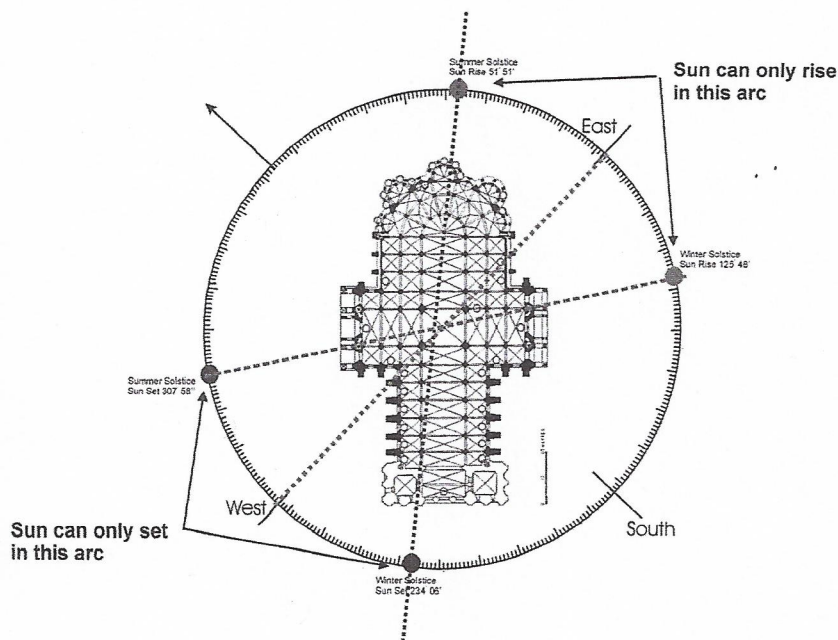


Figure 2: The apparent sunrise and sunset arcs around Chartres Cathedral. The long dotted line running length-ways through the building is the axis of the summer solstice sunrise (top) to winter solstice sunset (bottom). The shortest dotted line is the other solstice axis of winter solstice sunrise (right) to summer solstice sunset (left). The Equinox axis is marked by a dotted line running east to west and it can be seen that the transept crossing is aligned to this axis.

7° degrees further around to the south of the most southerly position of the winter solstice sunset for, according to the plan of the cathedral, the western door's azimuth is 227° and the azimuth of the winter solstice sunset is 234°.

The cathedral is set on a natural mound and in the twelfth century it overlooked the walled town. Additionally, for the latitude of Chartres, as the sun rises or sets on the date of the solstices, it cuts the line of the horizon at an angle of 42.5°, unlike more tropical latitudes where this angle is much closer to 90°.

Bearing this in mind, Figure 3 shows that in the evening, for a few days either side of the winter solstice, the orb of the sun will physically pass in front of the west door on its way to disappearing below the horizon. Furthermore, at the moment that the setting sun is aligned with the western doorway (azimuth of 227°), its elevation will only be 4°10'

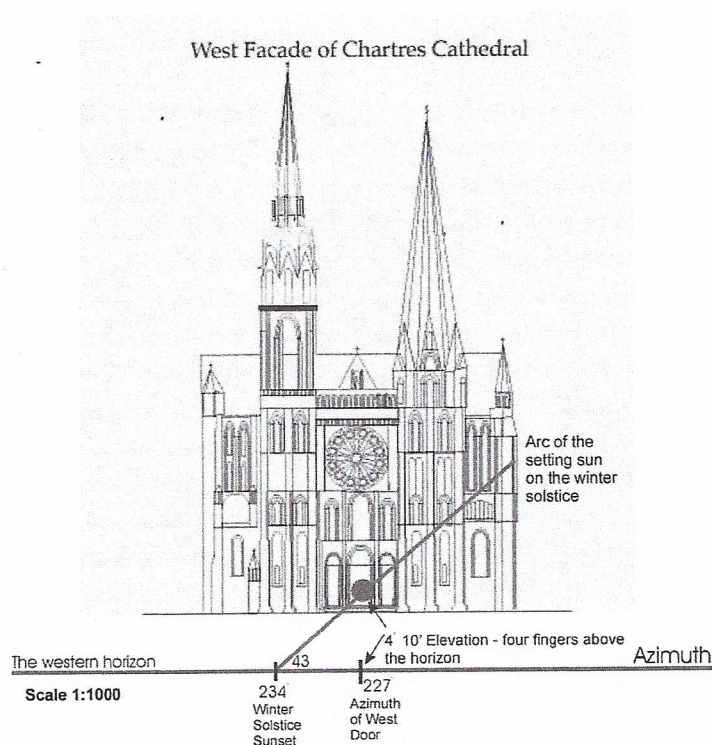


Figure 3: Chartres Cathedral and the winter solstice sunset (solid line) showing the arc of the setting sun and how it moves across the western door at sufficient elevation to be visible inside the cathedral. (Size and position of the sun in the door is approximate).

above the horizon. This elevation is about the width of three or four fingers held against the line of the horizon and such an elevation would be sufficient to allow the sun to be visible above the door's entrance steps and to be seen through the central doorway.

If the builders of Chartres had aligned the cathedral with the position of the setting sun on the horizon line, then the western steps would block the sun from view from the observer in the cathedral. However, the cathedral's alignment is orientated so that the western doorway faced seven degrees further south, and the observer would, therefore, be able to see the spectacle of the sun standing in the doorway on the day of the winter solstice.

Whether this is by design or by chance, the symbolism is significant. Recognizing that the building was designed with Christian Platonist theology in mind, then to allow the sun to enter the cathedral on the day of the winter solstice, the darkest day of the year, which is close to the day celebrated as the birth of Christ would seem too elegant to be a simple coincidence. Moreover, the sculpture in this centre doorway of the Royal Portal is that of the second coming of Christ. This theme of the Return of Christ is also supported in the West Rose located above the Royal Portal. Bearing in mind that the cathedral's orientation is older than the Royal Portal and possibly older than Christianity, this orientation with *any* building or structure on the mound of Chartres would more than likely allow the sun to 'enter' on 'the day of its birth,' or the day which is the beginning of the return of the light.

The transept solstice axis

The position of the winter solstice sunrise and that of the summer solstice sunset provides another solstice axis which mirrors the shorter transept axis of the cathedral (see Figure 2). According to the floor plan of the cathedral, the southern door has an azimuth of 138° , an orientation that allows the orb of the rising winter solstice sun to be visible in this doorway (see Figure 4). This doorway was the principal entrance to the cathedral in the medieval period and remained so until the advent of the railway when pilgrims started to approach the cathedral from the west.³⁶

Thus, the south door also appears to have a link to the sun on the day of the winter solstice. For, on Christmas morning and a few days either side of Christmas, the orb of the rising sun would be seen to stand in the southern doorway at about 8.30 am local time and thus be seen to 'enter'

the cathedral. Later that same day, at about 3.30 pm local time, the sun would be seen standing in the western doorway (Figure 2). It should be noted that this would be the only time of the year, weather permitting, when the orb of the sun could be seen to 'enter' the cathedral. This solar phenomenon suggests, therefore, a possible explanation for the unusual alignment of 47° north-east of the cathedral.

Since the orientation of the cathedral is far older than the present-day structure we will probably never know if this was understood or appreciated by the cathedral's twelfth-century architects; but, whether by design or accident, this orientation is strongly sympathetic to the neo-Platonist Christian theology of the light coming from the divine darkness.

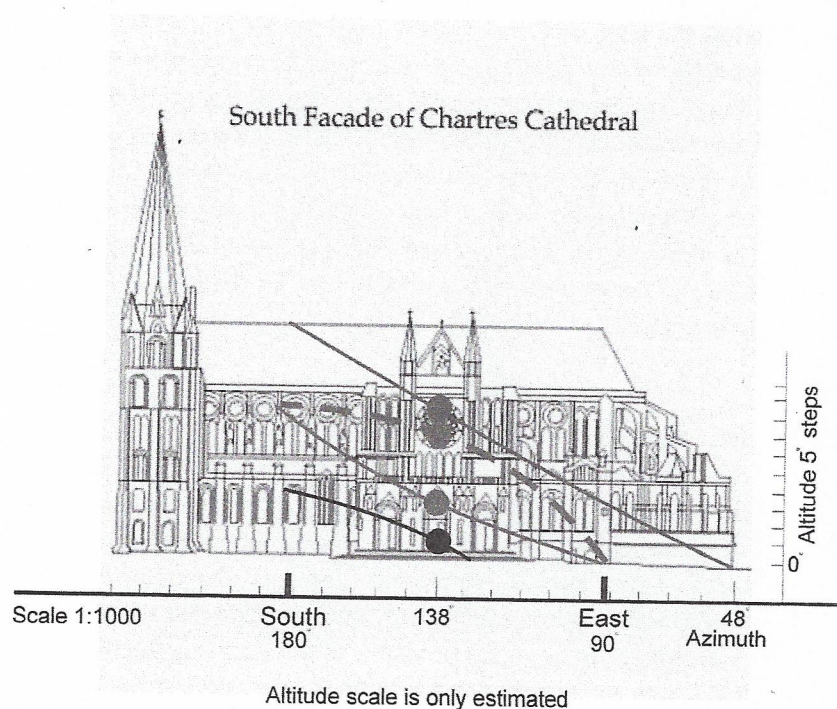


Figure 4: The south-eastern sunrise side of Chartres Cathedral. The elevations of the sun are only estimated with regard to their precise location against the cathedral (error of $\pm 2^\circ$). The lowest line is the winter solstice sunrise, the top line is the summer solstice sunrise, the solid middle line is the spring equinox sunrise and the dotted line is the autumn equinox sunrise.

Equinox axis

The equinox axis is formed by the two positions at which the sun will rise and set on the days of both the spring and the autumn equinox and, as can be seen from Figure 2, the cathedral's transept crossing is aligned with this axis. Indeed, the four points of the transept crossing are aligned to the four cardinal points. This alignment may have been established by the time of the fourth-century Gallo-Roman chapel, but it is quite feasible to believe that the builders of the current cathedral intentionally incorporated this important alignment. Furthermore, this alignment gives another hint for the unusual orientation of the cathedral of 47° north-east. For it is only at the latitude of Chartres that one can gain this combination of having both the transept crossing aligned to the four cardinal points, while also being able to receive orb of the winter solstice sun in both the southern and western doors.

Conclusion

Chartres has long been proclaimed one of the great cultural centres of western spiritual and esoteric thought and contained within this great structure is a symphony of numbers, geometry, stone, glass and light which, I believe, can never be fully understood. This paper has, therefore, focused on the Christian theology of the twelfth century, its links with the colours of the twelfth and thirteenth-century glass and its effect on the human eye. Through this functional exploration of the twelfth-century lighting 'trick' we are lead to an appreciation of the importance of light and dark to the spiritual message of the cathedral. This, in turn, suggests a potential explanation for the persistence, since at least the fourth-century Gallo-Roman chapel, of all buildings on this mound maintaining the unusual alignment of 47° north-east — an alignment that allows the orb of the sun to stand in the southern (main door) and western doorways on Christmas day, the most sacred — and also one of the darkest — days of the year. Von Simson considers Chartres Cathedral to be the foundation stone of Christian Platonic tradition and one of the sources of Christian metaphysics.³⁷ With the timeless rhythm of sunrise and sunset illuminating its divine darkness it is still, after eight hundred years, radiating its empyrean message. It is a sacred space which actively encourages exploration and at the end of one's journey of exploration

one muses that any answers, solutions or hypotheses that arise only serve to draw the researcher ever deeper into the labyrinthine mystery that is Christian Platonism.

There is in God (some say)
A deep, but dazzling darkness ...³⁸

Notes

- 1 Eliot, 'East Coker,' from *The Four Quartets*
- 2 Charpentier, *The Mysteries of Chartres Cathedral*, p. 25.
- 3 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 9.
- 4 Miller, *Chartres Cathedral*, p. 5.
- 5 James, *Chartres: The Masons Who Built a Legend*, pp. 3, 55.
- 6 Miller, *Chartres Cathedral*, p. 12; Parry, *Great Gothic Cathedrals of France*, p. 65; von Simson, *The Gothic Cathedral*, p. 164.
- 7 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 9.
- 8 Parker, 'Letter Vof Dionysius the Areopagite' (1897).
- 9 Lilley, *Prayer in Christian Theology*, p. 20.
- 10 Blackburn, *Oxford Dictionary of Philosophy*, p. 29.
- 11 Parry, *Great Gothic Cathedrals of France*, p. 64.
- 12 Abbott Suger, *Abbott Suger on the Abbey Church of St Denis and its Art Treasures*, p. 63.
- 13 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 25.
- 14 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 31.
- 15 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 40; von Simson, p. 29.
- 16 James, *Chartres: The Masons Who Built a Legend*, p. 39.
- 17 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 50.
- 18 von Simson, *The Gothic Cathedral*, p. 31.
- 19 Strachan, *Chartres: Sacred Geometry, Sacred Space*, pp. 96, 97.
- 20 von Simson, *The Gothic Cathedral*, pp. 32, 35.
- 21 von Simson, *The Gothic Cathedral*, p. 51.
- 22 James, *Chartres: The Masons Who Built a Legend*, p. 139.
- 23 Miller, *Chartres Cathedral*, p. 18.
- 24 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 7.
- 25 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 9.
- 26 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 10.
- 27 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 22.

- 28 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 24.
- 29 James, *Chartres: The Masons Who Built a Legend*, p. 178.
- 30 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 24.
- 31 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 63.
- 32 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 23.
- 33 Johnson, *The Radiance of Chartres: studies in the early stained glass of the cathedral*, p. 41.
- 34 James, *Chartres: The Masons Who Built a Legend* p. 90.
- 35 Strachan, *Chartres: Sacred Geometry, Sacred Space*, p. 12.
- 36 Parry, *Great Gothic Cathedrals of France*, p. 76.
- 37 von Simson, *The Gothic Cathedral*, p. 39.
- 38 Henry Vaughan, 'The Night.'

Bibliography

- Aquinas, Thomas, *St. Thomas Aquinas on Politics and Ethics* (New York: Norton and Co. Inc., 1988).
- Blackburn, Simon, *Oxford Dictionary of Philosophy* (New York: Oxford University Press, 1996).
- Eliot, T. S., 'East Coker,' in *The Four Quartets* (New York: Harcourt Inc., 1943), pp. 23–34.
- Charpentier, Louise, *The Mysteries of Chartres Cathedral* (New York: Avon Books, 1972).
- James, John, *Chartres: The Masons Who Built a Legend* (London: Routledge & Kegan Paul, 1982).
- Johnson, James Rosser, *The Radiance of Chartres: studies in the early stained glass of the cathedral* (New York: Random House, 1965).
- Lilley, A. L., *Prayer in Christian Theology* (London: Student Christian Movement, 1925).
- Miller, Malcolm, *Chartres Cathedral* (Hampshire: Pitkin Guides, 1985).
- Parker, Rev. John, 'Letter Vof Dionysius the Areopagite' (1897), at <http://www.voskrese.info/spl/index.html> (accessed 26 March, 2004).
- Parry, Stan, *Great Gothic Cathedrals of France* (New York: Penguin Putnam Inc., 2001). Ruth-Heffelbower, Duane, 'Toward a Christian Theology of Church and Society as it Relates to Restorative Justice' (paper presented at the 4th Annual Restorative Justice Conference, 25 October 1996, Fresno, California, USA) at <http://www.fresno.edu/pacs/docs/speech.html>.
- Strachan, Gordon, *Chartres: Sacred Geometry, Sacred Space* (Edinburgh: Floris Books, 2003).
- Suger, Abbott, *Abbott Suger on the Abbey Church of St Denis and its Art Treasures*, Translated by E. Panofsky (USA: Princeton, 1979).

Vaughan, Henry, 'The Night,' in *The Poems of Henry Vaughan*, volume 1, E. K. Chambers, ed. (London: Lawrence and Bullen Ltd., 1896) pp. 251-53.
von Simson, Otto, *The Gothic Cathedral* (New York: Pantheon Books Inc., 1956).