

THE SYMBOLIC ORIENTATION OF ST. HELENA'S CHURCH, LUNDY

By

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INTRODUCTION AND HISTORICAL BACKGROUND

William Hudson Heaven died in 1883 and was succeeded as owner of Lundy by his eldest son, the Rev. Hudson Grosett Heaven, who was educated at Oxford, took holy orders and became a teacher. He had become the headmaster of Taunton College School, combining teaching with preaching in local parishes, but gave up teaching in 1863 to return to Lundy where he continued the legacy of his father in exercising a caring guardianship over the island. This meant tending to the spiritual needs of the population which then numbered 200 to 300 souls, many working for the Granite Company. He also taught in day schools and Sunday Schools for the island children. He was an 'omnivorous reader' and was nicknamed 'the philosopher', as islanders often visited the house to borrow books from the vast library (M. Langham 1980, 14). The trees which add to the beauty and have completely transformed the valleys of Millcombe and St. John were planted by him (A. and M. Langham 1984, 43). A continental Baron had previously made him an offer with a view to turning the island into a Monte Carlo; he declined, stating that he had, "no intention of allowing Lundy to turn into a gambling hell" (ibid., 69); a man who plants trees places his treasure in another heaven.

Lundy at this time was regarded as extra parochial and the patronage was assumed by the owner. In 1864 the Rev. Heaven was licensed as curate in charge of the island and had the courtesy title of Vicar in 1886; from that time services were held on the island every Sunday (A. and M. Langham 1984, 109). There has been some criticism of the Rev. Heaven suggesting he was a man typical of his times whose ideas were somewhat out of keeping with the needs of Lundy. The church of St. Helena is often looked upon as an eccentricity, the building having an incongruous appearance. But if he is to be judged by deeds alone, there can be little doubt that he was a great benefactor and a man of deep religious principles to which he was fully committed. Although he did eventually realise his lifelong ambition in building the consecrated church of St. Helena, the short history of religious worship on the island during his time shows that his main concern had always been the spiritual needs of the community and preaching the Word of God.

The first services were held in a iron built hut which was erected by the Granite Company on a site in the High Street which is now used as a sheep-dip; this building fulfilled many of the functions of a parish hall but was dismantled when the Granite Company left in 1870. Services were then held in "The Big House", which was the south wing of the farmhouse, or in "The Villa" (M. Langham 1980, 40). At this time the Heaven's finances were insufficient to build a stone church, but a Mrs Langworthy (Sarah Heaven), a distant cousin, together with her sisters, came forward with donations which enabled the iron church of St. Helena's to be built. This was a pre-fabricated building made of corrugated iron with a spire, and was erected in eight days. It was built at the top of Millcombe Valley near the wall of what was the hotel garden. It was dedicated on 20th August 1885 by Bishop Bickersteth who described it as a "corrugated irony". The building was only dedicated and not consecrated so it was not possible for marriages to be celebrated there (A. and M. Langham 1984, 109). This church continued in use until the granite church was built in 1896.

THE CHURCH OF ST. HELENA

The granite church of St. Helena was built by the Ilfracombe firm of Britton and Pickett, the foundations being laid in 1895 and the building completed in 1896. Much of the granite used in construction was taken from the then ruinous Quarter Wall Cottages.

The building of the church represented the culmination of a lifetime's ambition; a plaque in the porch subscribed by members of the Heaven family commemorates this achievement. The words were chosen by Marion C.H. Heaven:

"In loving memory of Hudson Grosett Heaven, Priest, Lord of the Manor of Lundy, who died in 1916 having accomplished the dream of his life by erecting this church to the Glory of God."

This dream was made possible by a legacy left by Mrs Langworthy who was the widow of a Birmingham millionaire. Most of her fortune was left to the Heavens of Lundy, with the request that they build a proper church to replace the corrugated iron building (A. and M. Langham 1984, 110-11).

The church is an example of the Victorian Gothic Revival. The architect was Mr John Norton F.R.I.B.A., who had erected more churches in the west of England than any other professional practitioner of his day. He designed the church to have a fairly ornate appearance but at the same time sturdy enough to withstand the harsh island climate with its fierce gales (Fig.1). Today the church is in a sad state: the ravages of storms are causing increasing problems with encroaching damp, and hardly a winter passes without tiles being ripped off the roof; the bells were removed from the belfry because they had become too dangerous to ring, and the apex of the altar window was sucked out in a gale in the 1950s, the dressed stone forming the apex falling near the vestry (Thackray 1989, 156). This has diminished the aesthetic appeal the proportions of the church once had when looking down the aisle towards the altar.

The church has a nave, chancel, vestry and tower. The roofing comprises stone tiles from the stone quarries at Tetbury, Gloucestershire, the tiles therefore being encrusted by myriads of small, beautifully shaped and coloured fossilised seashells. The ridges are of red terracotta, and the angles of the tower and the turret are defined by projecting carved gargoyles. Inside the church the inner wall is of Bridgewater brick, relieved by courses of white Marland and black Staffordshire bricks. The windows and door dressings are of Douling stone, and encaustic tiles are laid in the nave passage and in the chancel. The nave has a length of c.16m and is fitted with oak benches with seating accommodation for 160 worshippers.

Prior to the gale of the 1950s, when the altar window was damaged, a visitor's attention was immediately focused on the altar by the pleasing symmetry of the arch which divides the nave from the chancel and the similar proportioned arch of the altar window which echoed the former. At the altar is the reredos which is the work of Harry Hems, a well-known sculptor of Exeter, and is undoubtedly the central artistic attraction together with the altar window. The altar is of polished veined alabaster and the main portions of the reredos are divided into three by columns of polished Purbeck marble. The sculptures are in exceptionally high relief and depict, from left to right: The Passover, The Last Supper and the Scapegoat in the Wilderness. Above the reredos is the stained glass window by Clayton and Bell; the north light represents the Angel Gabriel, the Annunciation of the Virgin and the Angelic vision of the shepherds, and the appearance of the Magi. The south light shows the Angel rolling away the stone from the Sepulchre, the visitation of St. Thomas and the Ascension of the Lord. The centre light depicts the agony in the Garden, the Crucifixion and the entombment, with the rest of the window filled with the Lord seated in Glory surrounded by the Heavenly host. All three panels together depict the complete sequence of Christ's life, the birth, death and resurrection (Anon 1972, 6-8).

The church tower is 21m high and 6m square. On the north-east face of the tower is a large statue of St. Helen also by Harry Hems. The face and headdress were carefully modelled from a medal of St. Helen now in the British Museum and said to be one of only two coeval medallions of her in existence.

The Empress Helen was the mother of the first Christian Emperor Constantine. St. Helen is chiefly associated with the discovery of the cross on which Christ was crucified and the cross is her emblem in art (the statue here shows her holding the cross in her arms). She is thought to be a native of Britain though there is no historical justification for this. The Emperor Constantius, her husband, repudiated Helen for political reasons,



Fig. 1 : The church and standing stone to its north-west.

namely her faith in Christianity. This in turn was to influence her son Constantine, who treated his mother with the greatest respect, and was to result in toleration being extended towards Christianity (Attwater 1973, 166).

Initially Constantine, like his immediate Imperial predecessors, worshipped the Unconquered Sun. In AD 312 when he met Maxentius at the Milvian Bridge to fight for the Empire, Constantine had a vision of the cross superimposed on the sun and heard the words, "triumph in this". He adopted this double motif for the shields of his soldiers and won the victory. This experience led to his conversion to Christianity, though his mother is generally acknowledged as being the formative influence in his conversion. Even after his conversion, however, he still retained his old allegiance to the sun cult, but this gradually merged with that of Christianity (Green 1991, 50). Constantine declared the day on which Christ rose from the dead a public holiday and called it "the Sun's Day"; northern Europeans followed this example with such names as Sunday and Sonntag.

The consecration of St. Helena's Church by the Bishop Bickersteth of Exeter, took place on June 7th 1897. The church was handed over to the Royal Church Commission on the same date, which was probably part of the agreement reached prior to it being consecrated by the Bishop. A full choir of men and boys from St. Sidwell's, Exeter, dressed in their surplices, were led by the cross bearer, Harry Hems from the Landing Beach up the precipitous road to the church. The ecclesiastical party consisted of clergy from parishes from the South-West and South Wales. The church was filled to overflowing and there was music composed especially for the occasion. The crossing from the mainland in the pleasure steamer Brighton, had been a rough one with many of the passengers suffering from sea-sickness. The Bishop humorously acknowledged his conversion to the belief in purgatory by his experience of what it was necessary to go through in order to reach "the Kingdom of Heaven" (Anon 1972, 6-8).

It has been suggested that the dedication of the church to St. Helen was the result of a mistaken notion that the dedication of the old chapel was a latinised form of St. Helen, when in fact it was the celtic saint, St. Elan. This may not be correct and the dedication to St. Helen might be more purposeful than was at first supposed.

THE ORIENTATION OF THE CHURCH

There is some mystery concerning the orientation of St. Helena's church, which does not conform to the usual practice for ecclesiastical buildings of east-west alignment. This has long been the subject of speculation with many different theories being expressed. The church is said to have been built in its prominent position at the top of the island so it would serve the mariner as a daymark. The tower is marked on navigation charts as conspicuous, but this consideration would not have affected its orientation. The land area surrounding the church wasn't restricted either, so this also was not a factor. Other suggestions include the unexpected discovery of sandclay when laying the foundations, causing the builders to alter the axis, and that the axis was determined so as to run parallel to the road in order that the entrance porch afforded shelter from the prevailing south-westerlies. Lastly that the church was so built that the front and the most desirable aspect was the first to be seen when approaching the building from Millcombe.

Although all these factors are probably true, and some were taken into consideration, I suggest that none were the primary cause for the orientation. The mystery deepens when searching the most likely archive sources. The Diocesan Record Office and the Diocesan Register at Exeter had no relevant information on the orientation and neither does the architect's plan of the church (Plate 1, at rear). The Devon Record Office could find no faculty papers for the building of the church and there was no reference to the church amongst the main series of volumes where such information is usually registered. Given the independent status of Lundy, which was fiercely defended by the Heavens, it is likely that a faculty wasn't needed for the building. But most surprisingly of all is that there is no mention in the Heaven diaries and papers concerning the building of the church, even though this was the dream of the Rev. Heaven's life. Langham suggests the reason for this was that the Heaven family disapproved of the Rev. Heaven spending all of Mrs Langworthy's bequest on the building on an unsuitably large church, when the money could have been used to alleviate their dire financial state (pers. comm.). There

seems to have been a conspiracy of silence; there could have been genuine anxieties over permission being given for the church to be consecrated.

On the north-east face of the tower below the clock is the legend, "TEMPUS SATOR AETERINITAT" ("Time is the sower of eternity"), and the cycle of time sowing the seeds of eternity was indeed built into the very foundation of the church. I first suspected the unique orientation of the church from a passage in Myrtle Langham's *A Lundy Album* (1980). On a page showing a photograph of "A picnic on the occasion of Queen Victoria's Jubilee, 1887", the passage beneath reads, "On June 20th a special commemoration service was held in the new church, which had been consecrated by the Bishop of Exeter three days before" (Queen Victoria had begun her reign on June 20th). The date of the consecration is a mistake as this was carried out on June 7th, but the date of the commemoration service on June 20th was familiar to me through my work on megalithic astronomy; it is the eve of the summer solstice.

To test the accuracy of the orientation I needed to ascertain the true declination of the sun on the horizon along the axis of the church. I took magnetic bearings by prismatic compass along the centre of the aisle in both directions, and as a precaution against magnetic anomalies inside the church, took the same readings outside the church using the apex of the roof as a sightline (Fig. 2). The altitude of the horizon was ascertained by theodolite and Gerald Hawkins calculated the declinations (see Table 1).

TABLE 1: ORIENTATION OF ST HELENA'S CHURCH, LUNDY

MAGNETIC BEARING	SKYLINE ELEVATION	DECLINATION ON SKYLINE	OBJECT
1.309°	3°	+22.1°	Midsummer sunset
130°	0.25°	-20.5°	
2.309.5°	3°	+22.3°	Midsummer sunset
129°	0.25°	-20.5°	

Group 1 are the readings taken from outside and group 2 those taken inside. The results show that the orientation for the midsummer sunset azimuths have a declination error of 1.4 degrees and 1.2 degrees, the sun's declination at midsummer being +23.5 degrees. However, the azimuths are close enough for the symbolic orientation to function, the sun in fact setting just to the north. Standing in front of the altar looking north-west, one would see the midsummer sun setting in the two arched windows and was the reason these were panelled in clear glass. I would also suggest that the orientation explains the reason for the incongruous height of the church, for the symbolic beauty of this event would have been aesthetically diminished in a smaller church. The rose window above depicts St. John the Baptist, whose feast day was June 24th, the date of his birth and old midsummer's day. The rose window is so-called because of its resemblance to a many petalled flower and is recognised as a solar symbol expressing eternity (Wood 1976, 22-3). The words which read clockwise around the rose window seem to have been carefully chosen to describe this experience of light; they are written in seven of the petals:

1. Of his fulness have
2. we all received,
3. and grace for grace.
4. For the law was
5. given by Moses, but
6. grace and truth came
7. by Jesus Christ. (St. John. i, 16-17)

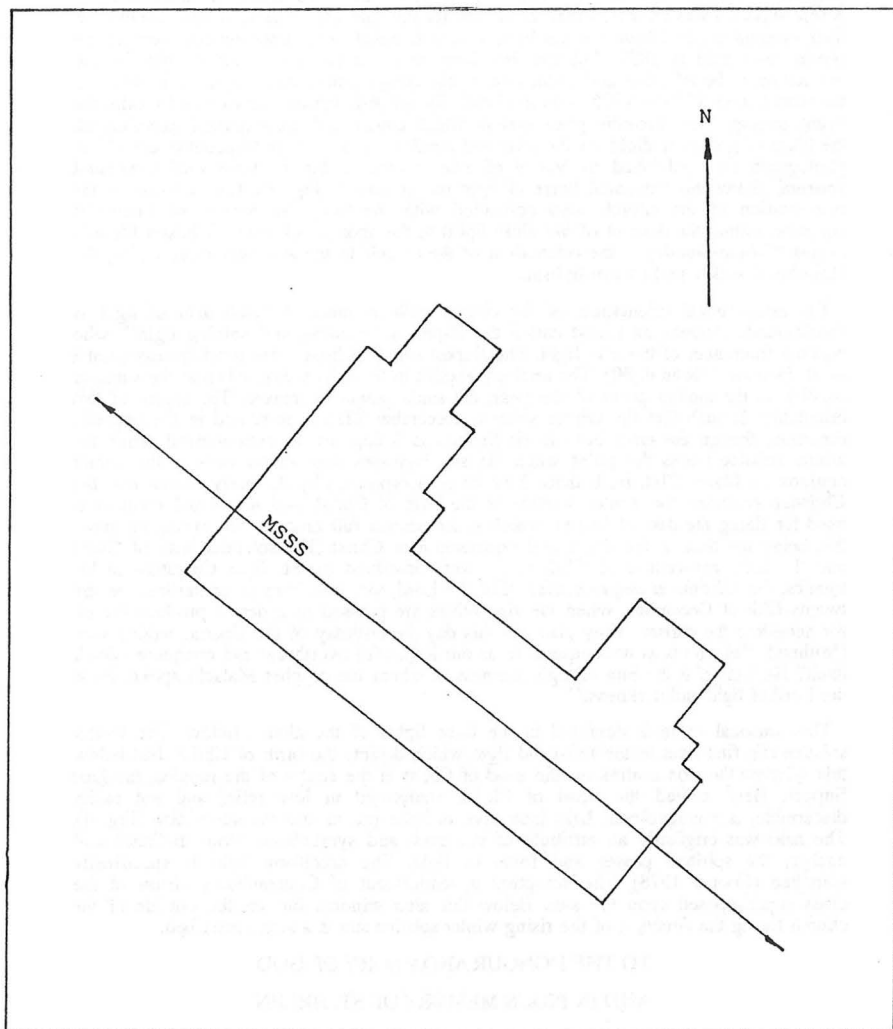


Fig. 2 : The Midsummer solstice orientation of St. Helen's church.

In the central window John the Baptist is holding a flag with the words, "ECCE-AGNUS", which means "behold the lamb". The lamb with the flag in the top petal of the rose is the ecclesiastical symbol of resurrection (Cooper 1978, 94).

The reality behind the symbolism of this orientation came dramatically to life during the 75th Anniversary service of the consecration of the church on June 7th 1972, although the date is two weeks before the solstice when the sun reaches its most northerly standstill. The service was held at 20.45 hrs, approximately thirty minutes before sunset. I was informed that the reason for this late time was so people could have their evening meals. I have not yet been able to establish what time the commemoration service was held in 1897, but this late hour would have been exactly right for the orientation to be effective and witnessed by the congregation. John Dyke, who lived on the island from 1970 to 1975, was in church for the Anniversary service and recalls the event, saying, "the dramatic phenomenon which clergy and congregation experienced, the blaze of golden sunlight on the altar and reredos was a quite unforgettable event". A photograph first published in Vo. 9 of *The Illustrated Lundy News and Landmark Journal*, shows this "unusual blaze of light on the altar" (Fig. 3). The occasion of the consecration of the church also coincided with Whitsun, the season of Pentecost commemorating the descent of the Holy Spirit to the apostles of Jesus. Whitsun literally means "White-Sun-day"; the orientation of the church to the sun here representing the Holy Spirit makes perfect symbolism.

The astronomical orientation of the church with its inherent symbolism of light is theologically rational, as Christ called the Baptist a "burning and shining light", who was the forerunner of the true light. The Baptist said of Christ, "He must increase, but I must decrease" (John.iii,30). The analogy applies to St. John's day, when at the summer solstice as the turning point of the year, the sun's power decreases. The nature of this orientation is such that the winter solstice, December 21st, is indicated in the opposite direction, though the error here in declination is 3 degrees. In astronomical terms the winter solstice marks the point when the sun increases and winter ends at the vernal equinox on March 21st. Both these have been incorporated by the early church into the Christian calendar: the winter solstice as the birth of Christ, and the vernal equinox is used for fixing the date of Easter, which is the nearest full moon to the spring equinox, this being the time of the death and resurrection of Christ. The solstitial birth of Christ and the solar association of Christology were described by St. John Chrysostom in his treatise, *De solstitiis et aequinoctiis*: "But the Lord, too, was born in wintertime, on the twenty-fifth of December, when the ripe olives are pressed in order to produce the oil for anointing the chrism. They also call this day the birthday of the Unconquerable One (Mithras). Yet who is as unconquerable as our lord, who overthrew and conquered death itself? He himself is the Sun of righteousness of whom the prophet Malachi spoke. He is the Lord of light and darkness."

This seasonal cycle is depicted in the three lights of the altar window. The winter solstice sun first rises in the left-hand light which depicts the birth of Christ. Just below this window the axis centres on the head of Christ in the centre of the reredos, the Last Supper. Here, behind the head of Christ, sculptured in low relief and not easily discernible, is a magnificent halo indicative of solar power and the sun's disk (Fig. 4). The halo was originally an attribute of sun gods and symbolises divine radiance and energy, the spiritual power and force of light. The cruciform halo is specifically Christian (Cooper 1978). The sculpture is reminiscent of Constantine's vision of the cross superimposed upon the sun. Below this altar window but on the outside of the church facing the direction of the rising winter solstice sun is a stone inscribed:

TO THE HONOUR AND GLORY OF GOD
AND IN PIOUS MEMORY OF ST. HELEN
THIS STONE WAS LAID
THE 5TH DAY OF JUNE 1896.

These themes are continued in the pulpit and dwarf screen which separates the nave from the chancel. The pulpit has a sculpture of the Sermon on the Mount and the text, "Thy word is a lantern unto my feet" (Psalm 119, Verse 105). This is only half the

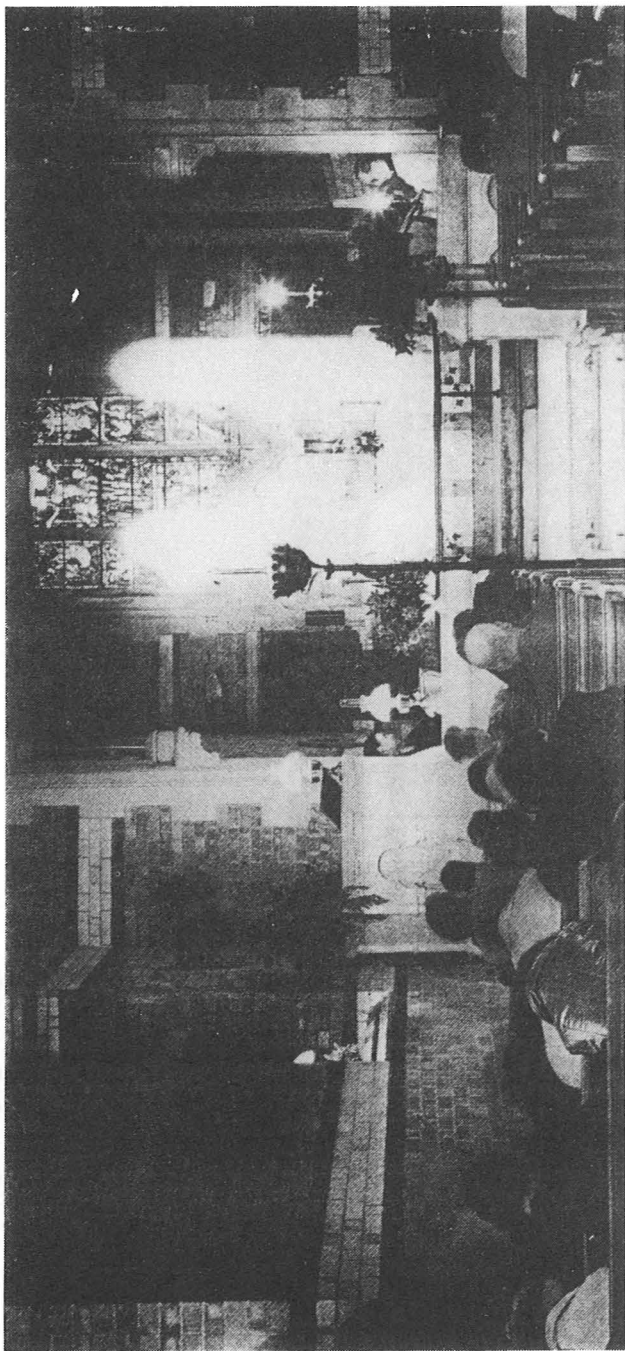


Fig. 3: The 'Blaze of Light' experience. This photograph originally appeared in *The Illustrated Lundy News and Landmark Journal*.

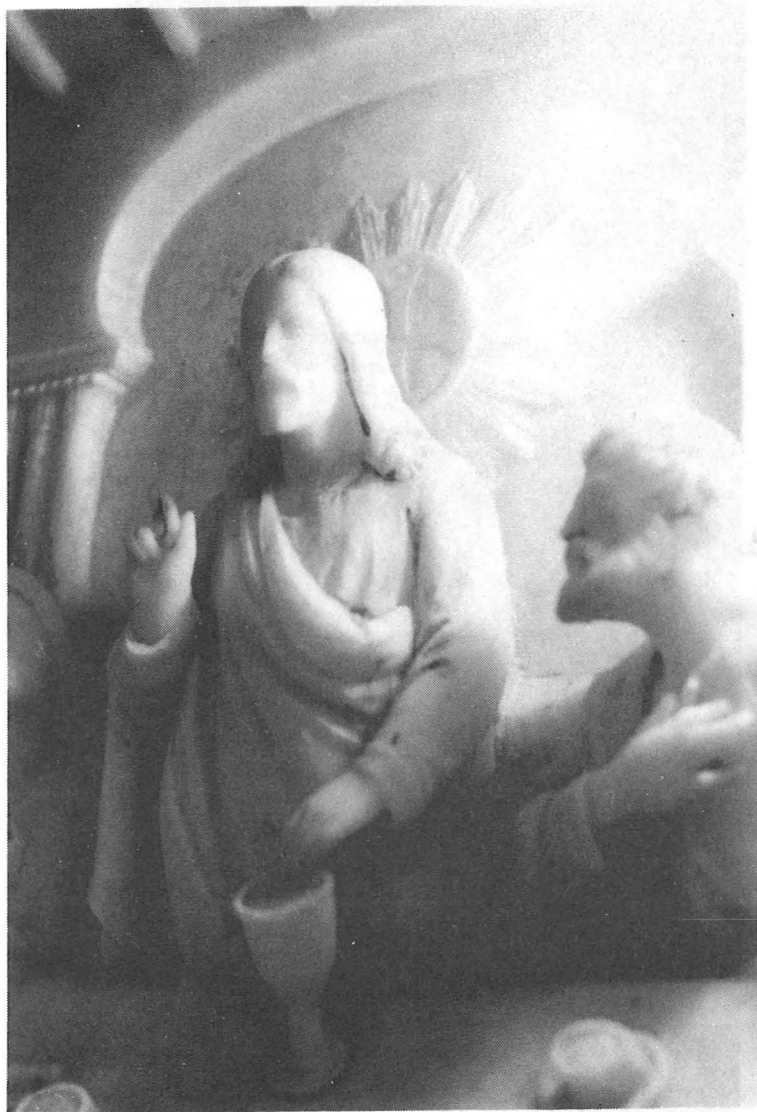


Fig. 4: The Head of Christ with halo behind; a sculpture in the centre panel of the reredos.

verse though; the rest reads: "and a light upon my path". From the pulpit can be seen the Old Light on Beacon Hill framed in the right hand northwest window. The dwarf screen has four medallion sculptures two on either side of the aisle; these are repeated on the other side of the screen. They consist of Christian emblems superimposed on solar symbols. The first on the left is the first three letters of the name Jesus in Greek. The second is the star of David (Jesus was of David's line) which also signifies the Old Testament and, by strange coincidence, was adopted by the Zionist organisation at the first Zionist Congress in 1897, the year the church was built. The third sculpture represents the chi-rho which was adapted from a symbol for an ancient Chaldean sky god by Christianity (Fig. 5). This was the emblem of Constantine and was placed on his standard and on the shields of his soldiers (Cooper 1978, 92). The "Giant's Stone", which is now situated outside the Tavern, is a cist cover to the "Giants' Graves" which were discovered when the foundation trenches were laid for the new farm buildings. It is said that this stone carries on its surface a chi-rho symbol, formed by a number of holes which when joined form a rough representation. Loyd relates that the Rev. Heaven expressed a wish that it might serve as his tombstone (Loyd 1925, 18). The chi-rho symbol is frequently depicted with the Alpha and Omega symbols, examples of which can be seen above the arch directly overhead. Alpha and Omega represent the totality, the beginning and end, day and night, light and darkness (Cooper 1978, 10). The fourth and final emblem is the simplest form of cross, the *crux quadrata* or the equal armed cross (Fig. 6). This cross can be seen on one of the early Christian memorial stones in the cemetery on Beacon Hill. It is the earliest form of cross which is seen to represent the four cardinal directions plus the centre, the four divisions of the cosmic cycle and the four seasons of the year (*ibid.*, 37). The spring sun as the "sol invictus", a solar disk with streams of water flowing from it, represents the combination of sun and water, heat and moisture necessary to all life (*ibid.*, 162).

In Genesis, in the beginning there was darkness and God said, "Let there be light". Just as the rising sun banishes the sleep and blindness of the night, so does light symbolic of the divine radiance and the spiritual illumination dispel the forces of darkness and evil. The Old and New Testaments use this imagery: for instance, St. Paul says, "Let us then cast off the works of darkness and put on the armour of light" (Romans. xiii, 12). The Johannine writings which brought spiritual romanticism to the church are replete with light imagery: Christ as the "light of the world" (John. viii, 12; ix, 5; xi, 9-10), Christ as "the true light that enlightens everyman" (John. i, 9), "I am come a light unto the world, that whosoever believeth in me should not abide in darkness" (John. xii, 46), and finally, "Walk while ye have a light, lest darkness come upon you: for he that walketh in darkness knoweth not whither he goeth. While you have a light, believe in the light, that ye may be the children of light" (John, xii, 35 and 36).

DISCUSSION

It would seem that the most likely reason for the orientation of St. Helena's church was the martyrdom of St. Alban. A contemporary report in the local Ilfracombe Chronicle stated, "Thursday last (June 7th 1897), the 594th anniversary of the death of St. Alban the proto-martyr of England, was made the occasion of the dedication of the new church on Lundy Island by the Lord Bishop of Exeter". This is inaccurate as St. Alban is thought to have been martyred in 209 AD on the 22nd June, a day after the summer solstice. Bede gives an amplified account of the story behind his martyrdom: During Diocletian's persecution he gave shelter to a fleeing Christian and St. Alban was brought in front of a judge to account for these actions. The judge at the time was officiating at the altars of evil spirits and offering sacrifices to them. This seems to have been on the day of the solstice itself, and offers us a glimpse of midsummer worship albeit through a Christian's eyes. Interrupting the ceremony, St. Alban showed his contempt and blasphemed the old gods. The traditional site of his martyrdom was Holmhurst Hill near St. Albans, where it was commemorated by a church and shrine in Bede's day (Attwater 1973; Bede 1968). The old gods were propitiated on Lundy by the pagan community using the megalithic solar calendar to fix the dates of their ceremonies. Beacon Hill is the highest place on Lundy, and seems central to the megalithic calendar, with all stones except one being intervisible from it. This is the likeliest place where the pagan community worshipped. Did the Heaven family know of

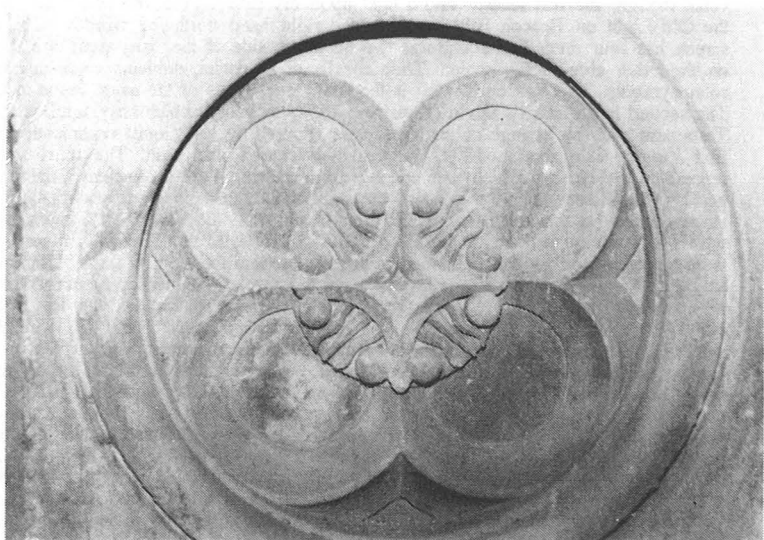


Fig. 5: The Chi-rho medallion sculpture on the dwarf screen.

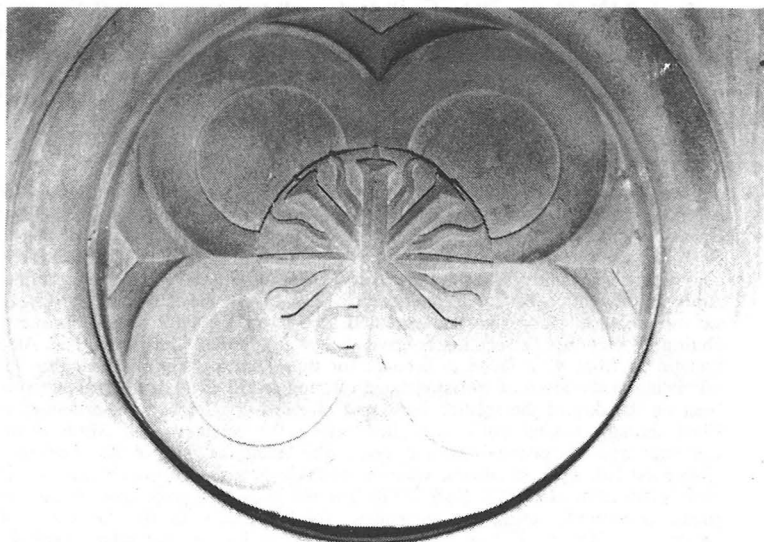


Fig. 6: The Crux quadrata medallion sculpture on the dwarf screen.

this stone calendar? The stone in the field adjacent to the church, 180m to the west, is easily seen from the church and is orientated to the midsummer solstice on Beacon Hill (Farrah 1992, 55). This is the same orientation as the church and seems a remarkable coincidence if it wasn't known of (Fig 1.).

Many of the place names on Lundy appear to have originated during the time of the Heaven ownership, evidence of the close affinity they enjoyed with the island; prior to this there are only a scatter of names. There are an abundance of biblical names which almost certainly originated with the Heavens. Formerly only a few appear with any regularity, mainly St. Anne's, St. Helen's chapel on Beacon Hill, and for balance, the Devil's Limekiln and Hell's Gates. Heaven-given names appear to be St. John's stone, St. Peter's stone, St. James's stone and St. Mark's stone, all features on the west coast facing the setting sun. The former three saints all witnessed the Transfiguration of Christ. At the southern end of the island in the vicinity of the church we have St. Helen's Field and most tellingly St. John's Well and St. John's Valley. St. John's Well is in fact a natural spring which feeds into St. John's Valley and I would suggest this refers to the Baptist and not St. John the Divine, to the Heaven's reminiscent of the Jordan Valley and its river where John baptised Christ. Other names of interest which appear at this time are the anthropomorphic Knight Templar rock and the Devil's Slide. Certainly the Devil seems to have the most dramatic geographical features. The first ever words spoken by John the Baptist in the gospels are significantly: "And saying, Repent ye: for the Kingdom of Heaven is at hand" (Matthew. iii, 2).

There is in Chartres Cathedral in the western aisle of the south transept, a rectangular flagstone set aslant to the others, whose whiteness is noticeable in the prevailing grey of the paving. It is conspicuous for a shining slightly gilded metal tenon. Every year on June 21st a ray of light comes through a space in the stained glass window named for St. Apollinare and strikes this stone at midday, significantly, a shaft of light also falls on the head of a statue of St. John the Baptist at the same time on the day of the solstice. Chartres is orientated not to the east but to the north-east, towards the solstice; the angle of the orientation given by the National Geographical Institute is 47 degrees (Charpentier 1972, 9, 10 and 33). Chartres is generally acknowledged as the flower of gothic art; one definition of gothic art is "art got" or "cot", the art of light (Fulcanelli 1971, 43).

The standard practice adopted by the cathedral designers in orientating their buildings to the east, which had been the practice from about the 6th century, had caused some embarrassment among the early church. This was because it linked Christ directly with solar imagery and therefore pagan sun worship. William Durandus writing in the 13th century tried to rationalise this eastern orientation by stating in a directive, "that the head of the church must point to the east, to that point of the heavens at which the sun rises at the equinoxes". The reason he gives is not the more obvious concept of a solar Christ, but by reference to the fact that this precise point symbolises the moderation of the church, since at the equinoxes the days and nights are equal and balanced. It is for this symbolic reason that he insists that the orientation should not be directed towards the sunrise at the solstices, though he admits that this was indeed done by the church masons (Gettings 1978, 27).

The other common eastern orientation which aligns the axis of a church to the point of sunrise is the feast day of a saint. This was the subject of study where an investigation into the orientation of early medieval churches in Wieselburg in Lower Austria, showed that the application of astronomical techniques to the foundations of a church can lead to new information concerning a patron saint to whom a church was dedicated. The church of Wieselburg dedicated to St. Ulrich, was shown to have its primary orientation to sunrise on St. Michael's day (September 29th) and so was not formerly in honour of St. Ulrich (July 4th), who had not even been canonised when the church was constructed in 976-979. This investigation was based on the hypothesis that the alignment of the principle axis of a church, or the northern and southern walls, were built in relation to special positions of the sun which in Christian tradition is a symbol for the resurrection of Christ. These positive results were startling confirmation of the astronomical methods sometimes applied to church orientation (Firneis and Ladenbauer 1978).

In the annals of some Scottish Freemason Lodges survives the exact procedure followed for the alignment of churches to the rising sun. The site of the altar having been decided upon, a pole was thrust into the ground and a day appointed for the building to commence. On the previous evening, the Patrons, Ecclesiastics and the Masons assembled and spent the night in devotional exercises. Someone was posted to watch for the rising sun, and gave notice when the first rays started to appear above the horizon. When fully in view, the Master Mason sent out a man with a rod which he ranged in line between the altar and the rising sun, fixing the line or orientation. This was the subject of a painting exhibited at the Royal Academy in 1884 by John Pettie, R.A., two years before the foundations of St. Helen's were laid. The painting was called, "Site of an early Christian altar", which showed monks fixing the orientation of a chapel by means of a couple of poles, which they were placing in line with the rising sun (Graves 1906).

Besides the secular scientific traditions of astronomy, with which the historians of science have mainly been interested, it would seem that another type of astronomy remained cryptic in the mysteries of ancient religions. This survived in christianity through rituals, iconography, hagiography and architecture (Lebeuf 1990). The gothic cathedrals have been called "books in stone" and repositories of an arcane wisdom. The need for a hidden esoteric philosophy was not only a wish to preserve a secret knowledge from heresy hunters, but also because certain forms of knowledge could not be imparted in the ordinary way, through books or oral communication. The perennial philosophy could only be learnt through meditation, intuition and a state of grace.

The Rev. Heaven I suggest followed this tradition of arcane wisdom when building St. Helena's church, the dream of his lifetime. Because of the uneasy association of Christ with the solar mythos, the reason for the orientation was kept a secret because of the anxiety over the church being consecrated. This would have been a disaster after the fortune spent in building it. Is it possible that the Rev. Heaven was the only one who knew the reason for the orientation? It certainly wasn't necessary for the architect to know, though this would have been unusual, and although the surveyors would have needed to know, they didn't need to know why. Another nicety of this orientation which I am sure was not lost to the Rev. Heaven, is that it is orientated towards Beacon Hill, thus emphasising the continuous christian tradition from the early celtic church of the 5th century onwards. Here is the ruined chapel of St. Helen-St. Anne's, inside which are the graves of the Rev. Heaven, his father and his sister. And he took the secret with him when he died, believing he had exorcised some of the darkness with light from Heaven.

Loyd corresponded with Dr. J. C. Heaven of Bristol, who was a cousin to the Rev. Heaven, and whose wife was a granddaughter of W.. H. Heaven (Loyd 1925). Loyd's testimony to the character of the Rev. Heaven parallels my own research into the mystery and secrecy surrounding the orientation of the church. Loyd writes, "From what is known of him it may be taken for granted that the late Rev. Hudson Grosett Heaven must have acquired a colossal amount of information about Lundy; but to the intellectual recluse, as Mr Heaven seems more or less to have been, the acquisition of knowledge, whether that knowledge be of art or history, of science or of legend, not infrequently develops into nothing more nor less than a species of 'Collectomania'. As the entomologist who becomes possessed of a butterfly of a great rarity must say to himself, 'This is mine. I treasure it. I will share it with no man', so may the searcher after knowledge whisper in his ear, 'It was I who captured this fact; no other person shall possess it during my lifetime'. What most unfortunately is so frequently overlooked by the latter is the fact that it is easy and so much a duty, if not more so, to leave intangible knowledge to one's successors as it is to leave tangible Lepidoptera. It is not intended to infer that Mr Heaven, of deliberate intent, took the record of his knowledge to the grave. Possibly he left written notes of his discoveries and, in that case, there lies in the hands of somebody a document of intense interest and considerable value to the historical student" (Loyd 1925, 3).

POSTSCRIPT: OBSERVATIONS OF THE SETTING SUN, JUNE 1992.

Observations of the setting sun through the north-west window during June 1992, revealed the accuracy of the orientations as well as confirming previous suspicions. On the date of the church's consecration, June 7th, the sun sets central to the aisle of the

church with the lower rim of the sun on the horizon. The sun though cannot be seen as it sets between the two windows and is hidden by the walled partition. Over the next two weeks, as the sun approaches the solstice it moves gradually to the right, setting on the day of the solstice in the bottom right hand corner of the right window (Fig. 7). On the day of the solstice, the sun enters the top left corner of the left window at just before 20.45 hrs, and takes about 40 minutes to traverse both windows to set at approximately 21.15 hrs. (Plate 2, at rear). The setting sun's path was observed standing in front of the altar although the alignment would be improved by observation from behind the altar which is raised on a marble plinth. From here the path of the setting solstice sun would utilize the whole of the window area in its traverse and accounts for the windows' measurements and explains the reason for the building's incongruous height.

There is no error in declination as was first supposed, for the calculated declination was based on the axis of the aisle. I suggest that both orientations were intended though the evidence for the purposeful orientation of the solstice is indicated by the measurement of the windows alone. This was incorporated so because of the uneasy pagan associations which would have been unacceptable to the Church. The alignment of the church is centred on the altar which was the backsight when the orientation was first laid out; any movement away from the altar and the sun moves out of alignment. The blaze of light on the altar was observed on all occasions ranging from bright amber to a soft rose to a deep vermilion depending on atmospheric conditions outside. Even on overcast days the ambient light coming through the north-west window is enough to make the altar cross glow in the dark.

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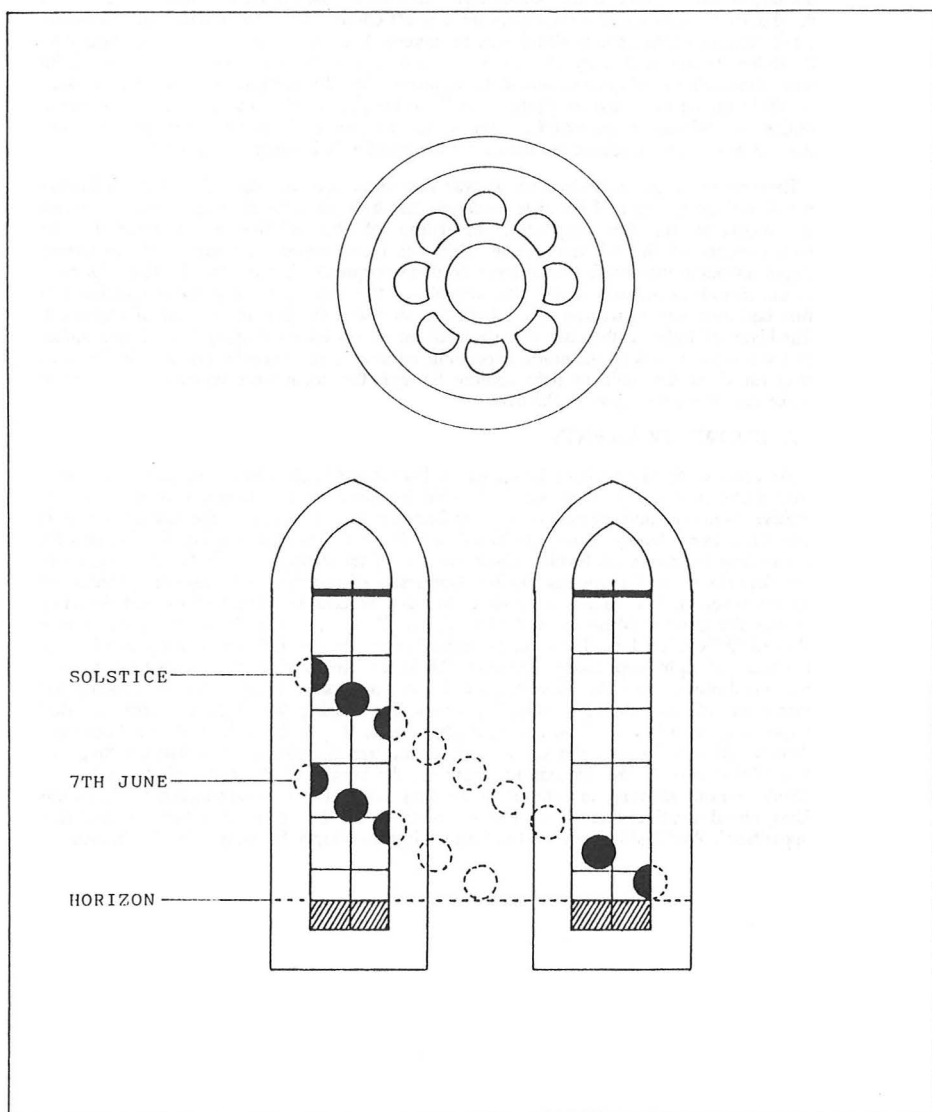


Fig. 7: The setting sun observed from the altar.

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