

Development of chapel design



Stage 0 – Strategic Definition

Traditionally religion has inspired people to create beautiful pieces of architecture, on a grand scale, from the cathedrals that stretch across Europe, Mosques across Arabia and Temples of the Far East, Bishop Edward King Chapel achieves this ethereal idea on a more muted human scale.

However this beautiful chapel is set in a declining religious western Europe and Christianity in particular the UK has been on the decline for 30 years according to research conducted by the British Social Attitudes survey, in 1983 31% classified themselves as not belong to a religion, whereas in 2015 50% now see themselves as not religious .

The largest decline has been seen by the Church of England, which has halved since 1983 from 40% to 20% it still equates to the largest religious group in the UK 20% belonging to the Church of England. Of those brought up in a religious setting or identifying as belong to a religion 56% never attend religious services and only 14% attend on a weekly basis.

There is also a generation gap with nearly 64% of 18–24 not being religious, in contrast to the 28% of those aged 65 and above.

This is set in a wider decline across Europe where the European social survey found that there we falling religious views amongst 16- to 29-year-olds with Czechs being the least religious, with 91% of that age group saying they have no religious affiliation. Estonia, Netherlands and Sweden had between 70% and 80% of young adults classifying themselves as non-religious.

Stage 1 – Preparation and Brief

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The Chapel in Cuddesdon Oxfordshire was born out of a RIBA Competition commissioned in 2009 by the Ripon Theological College and the Sisters of Begbroke a small community of nuns' that reside in the grounds of the college to replace an existing smaller chapel on the campus. A total of 126 architects from all over the world submitted concepts for the competition, with the winning entry being designed by the London based architects Niall McLaughlin. After an 18 months construction phase with a cost in the region of £2. 6m the Chapel opened for prays and services in February 2013, the entire process was funded through the sale of the Sisters of Begbroke's pervious convent. Bishop Edward King Chapel was nominated for the 2013 RIBA Sterling Prize and finishing as runner up to Astley Castle.

Stage 2 – Concept Design

The chapel is sited around two very contrasting concepts, firstly the idea of a being grounded and sheltered by a gentle hollow or depression in the earth with the impression of a sheltered gathering area for the community.

Secondly is a of focus towards the light and the skies above which reaches through the surrounding trees creating a warm uplifting ethereal atmosphere and offers the idea of rising towards the light. Trees play an important role in the siting of the Chapel they surround it, they frame and fill the views from every window and their dappled light an animated take on stained glass.

“ The idea that you are grounded and yet lifted up was extremely profound for us. It shows a very implicit understanding of what we wanted.”

The Idea of the church nave which is the long central hall or aisle of a traditional cruciform church, which runs traditionally from west to east with

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its loaded etymology and connotations, was the starting point for designs initial concept. The word nave, has developed from the Latin word ' Navis', which means ' ship, ' as the church is perceived as an ark or refuge for its followers but it offers further ideas to explore as the nave is also the centre of a turning wheel. Looking to the East the word nave also has roots in the Sanskrit word ' Nabhis' which describes a hollow a theme key to the siting of the Chapel.

The word navel also has its origins in nave and suggests ideas of the umbilical cords and a place of origin.

The concept of the Nave and the Ark have been explored in many Cathedrals, Churches, and Chapel we can see explicit examples such as Maya Lin ' s 2003 Riggio – Lynch Chapel in Clinton, Tennessee explicitly uses the idea of an ark through an elliptical layout and the ark-like form of the chapel is reinforced by its setting by a pond. The chapel's wooden structure, with its beamed roof, forces the idea as metaphorical ship at every turn of the head. The chapel has no windows along its arching walls and is lit in day only by skylights, which gives its curving, slatted, timber interior and warm, womb-like feel. Peter Zumthor ' s 1988 St Bernard's Chapel in Sumvitg, Switzerland openly uses the idea of an ark more subtly with an elliptical layout and the ark-like form of the. The chapel's wooden construction, with its beamed roof, echoes the notion of the ark with its windows high up it forces the worshipper up and out towards the sky, the simplicity in its timber interior offers a warm, meditative space. Bishop Edward King Chapel builds more upon the refined ideas of Zumthors Chapel with a more subtle message through its shape and use of materials, however its ' heavier'

choice of exterior materials and siting amongst the trees roots the Chapel into its context leaving it looking more of a permanent lasting place of worship.

All great Christian churches have been ships of the soul, with their naves – from “navis”, meaning ship – symbolising the voyage of a community of souls.

“ Much like when people come out of the cinema and it feels like they’ve been immersed in one world and are coming out into another, that’s what I wanted from the chapel,” says McLaughlin. “ I wanted people to come out underneath the protective canopy of the beech.”

Stage 3 – developed design

The new chapel is placed in a clearing on a traditional east west axis at the very heart of the college open to nature and the elements dancing around it. The Chapel siting within the campus puts the existing college with many of its buildings design in the late 19th century by George Edmund Street firmly behind it and looks out through the trees across the valley towards Garsington.

Approaching from the east and the campus the Chapel is instantly recognisable both jarring and complimenting the traditional buildings in its context. It’s curving elliptical form jars with the traditional geometric 19th century surroundings yet feels like it belongs as its materials echo and reflects its context.

Looking at its form it can be considered jarring as its context offers little in the way of curves or ellipses or contrast in height, however looking closer there are the layers of history of religious architecture with the ideas of the basilica and the subtle features of the baroque. In a basilica a common feature is that the central nave extends to one or two storeys more than the lateral aisles, and it has upper windows much like the Chapel with its elliptical nave being much taller than the ancillary buildings attached to it along with the top portion adorned with tall windows. The idea of the baroque style comes through the use of the oval or ellipse which is common in many baroque churches throughout Western Europe.

Moving around the exterior of the chapel it provides numerous contrasts and almost contradictions the pure elliptical nave is set next to and features very geometric shapes and features, towards the west is a geometric projection that thrusts out providing a very concentrated and framed view across the valley whilst the ancillary spaces are housed in a very simple geometric box to the south.

The materials provide a big but subtle contrast, looking at the chapel there appears to be three distinct strata firstly the lower strata comprised of smooth facing stone on top of this sits arguably the chapel's most distinguishing feature or at least externally the dogtooth laid stone providing a stark contrast with its very angular protruding pattern in even in this each stone provides a rough/smooth contrast side to side and above and below, whilst providing a contrast in light and dark with the shadowing it creates. Upon these two heavy and dense layers sits a ring of slender glazing like a

crown of thorns offering more contrast between the heavy dense stone below and the transparent glass which floods the chapel with light

The entrance was aligned with the trunk of a large copper beech tree; sadly however this has since been removed. This was an intentional decision by the design team as they wanted to provide a striking departure from the chapel not just a striking entrance. At the entrance of the Chapel is a doorway that contrasts with the feel of the chapel in that the wooden door is heavy and almost a foot thick invoking a defensive gate to a fort protecting the hollow and the congregation. Entering the chapel through the heavy door into a dark hallway and descending down three steps into the ‘hollow’ on to the smooth concrete floor, much like Tadao Ando’s Church of light there is an entrance on the right hand wall which draws people into the main prayer space.

The Chapel is organised around a pure ellipse with a collection of more intimate spaces for smaller group or individual pray attached to the main space. A narrow ring much like a cloister separates the internal structure and external leaf of the building; it is possible to walk unimpeded around the ellipse feeling compelled to walk it completely before breaking into the into the naturally light centre something which is present in the earliest churches building on this with the contrast of the shadows to the light is an allegory used for centuries to imply conversion as described by Richard Sennet in his description of the Palatine Church in Aachen.

The Chapel borrows many ideas from the Baroque when we look at churches designed in that style the use of the oval is very prevalent in its layout but

concealed in a traditional cruciform structure whereas our Chapel is explicit in its use. Baroque churches used contrast between light and dark to great effect to reinforced the idea of salvation and redemption in part designed through high naves and small isles allowing light to flood in from the top of the space, something which has been used in a simpler more refined manner by the The Chapel with its shadowy oval walkway around the bright central nave.

Many factors influence the design of a church or chapel for example abbey and collegiate churches tend to be more complex in design whereas a church under the patronage of a Bishop will have a more refined style as they could afford a competent architect compared to parochial churches. Bishop Edward King Chapel for a chapel has a simple layout and materiality however the complexity of the lattice work and the skill of the dogtooth brick work show this was refined and design like a chapel under an important Bishop or Cardinal.

Once in the space your eyes don't spend long in the chapel but are drawn through the intricate lattice work towards the high windows and the light soft muted by the surrounding trees. Cast aside the formal religious aspect of this building it still evokes and radiates a warm otherness through its materials and space

The large sweeping glulam arches spring up towards the light like saplings supporting the ceiling of the building. These arches are highly symbolic in that they are the trees of the site, a soft voice of the ship notion and the arches of the Gothic inspired churches of the past.

This notion of the Gothic ribbed arches such as those at the Church of St Peter and St Paul, Bath allows for an architecturally stunning roof but also a light structure with barely any walls, which allows for the Nave to be flooded with copious amounts of light inside. The Chapel looks to pay homage to these ideas with its intricate lattice work playing with the idea of the ribbed fans and light glulam structure allowing light to flood in. Building upon its historical roots the glulam columns which create the tall oval nave echo that of the regularly spaced columns you would find creating the tall nave space in a baroque basilica.

The roof makes reference to this idea of ship and its keel through its v shape which has historical reference with many 13th century Venetian carinated churches constructed by boat builders from the Arsenale. The ideas of having a lattice structure as an integral concept of the roof design is an idea that has been explored in several mid-19th century churches such as the Notre dame du chêne viroflay built in 1966 by Frères Sainsaulieu's and the 1957 St Remy church by-Nicholas Kasiz to varying affect. St Remy has a very flat and angular roof which gives the tall central space a heavy engineered feel, Notre dame du chêne viroflay on the other hand provides a very light woven feel, Our chapel executes the graces of a light air lattice work structure with a nod to the engineering complexities that a roof of this intricacy provide.

Unlike traditional churches with their rows of pews here there is an antiphonal seating arrangement; this bow arrangement provides a more communal discussion with the pulpit at the heart of the space rather than

the traditional row by row format which offers a preached too atmosphere. This idea of having a pulpit in the centre of the space stems from the reformation and the idea that the word of god and the sermon was the most important part of mass placing the speaker in a visible space where all could hear the spoken word, an idea that is clear evident in the chapel.

Following on from the idea of the pulpit and the reformation, the chapel has a stripped back and paired down design when it comes to ornamentation and decoration a concept that was prevalent in Protestantism focusing the worshipper on the word of god and not the intricate statues and carvings found in Catholicism. The chapel achieves this simpler style much like Zumthor's St Bernard's chapel using warm woods and tall glazing this is stark contrast to Zumthor's Bruder Klaus Chapel and Ando's Chapel of light which use harsh concrete and the stark contrast of the light and dark to focus the persons mind towards God.

Maya Lin speaks about the quality light has to offer in the Riggio-Lynch Chapel, which is elegantly used and moderated, giving it a quiet and calming presence where the light is gently animated on the walls like stain glass. Bishop Edward King Chapel much like Lin's has in it's with its simple form and raw structure cultivates a feeling of spirituality and peace.

Stage 4 – Technical Design

The Chapel as a place of worship was exempt from Part L of the building regulations yet an explicit request from the Sisters and the College, to make the chapel ' an example of forward looking liturgical design' was taken up by the architects.

From the outset the chapel was deliberately designed to make complete use of passive solar principles and sort to sourced responsibly managed local natural materials. The external stone materials were sourced responsibly and have a low embodied energy whilst the main Glulam structure was manufactured off site to cut down on construction time and wastage this also allowed for greater recycling of waste materials.

The although on a traditional east west orientation the shape of the chapel allowed for a long façade to face south together with the stone walls and screed floor gives the chapel a good thermal mass helping to store the natural heat available. Along with the Chapel being twice as well insulated and three times more airtight than required by a modern building this aids in storing and mitigating heat loss stored in its thermal mass.

The Chapel is designed to achieve natural ventilation with automated louvers and actuators instead of using a mechanical ventilation system this helps to keep the chapel at a comfortable level throughout the year.

From the design and layout of the Chapel to the choice of materials contribute to the chapel having low Nitrogen Oxide emissions and Carbon Dioxide emissions in the region of 20kg per m² which is below what is expected by modern well insulated buildings by half. The idea that the Chapel could be a vessel for spiritual good as well as environmentally friendly is not new Maya Lin's Riggio-Lynch Chapel was sited next to a pond not only to reinforce the notion of the ark but the pond also acts as a natural heat-exchanger to keep heating and cooling costs low, and environmentally sound.

Stage 5 – Construction

The materials used in the chapel all come from a similar earthy brown tonal palette and although offer little in colourful contrast provide a varied composition from soft woods to a rough stone and under the sun deliver a warm calming feel.

The chapel is constructed of three simple traditional main materials stone, wood and glass. The external leaf of the chapel is constructed from Ashlar and Clipsham stone which bonds it to the existing campus buildings, the lower third uses Ashlar stone in a traditional dressing form with a smooth surface, the middle third offers one of the most distinguishing features of the chapel in the where a dogtooth pattern is used, a conscious design decision was made to laid stone with alternating rough and smooth edges facing outwards continuing the chapel contrasts.

Looking at Zumthors use of material in the St Bernard's Church we can see a use of simple natural materials from a similar earthy brown palette much like Bishop Edward King all with the same intent of using traditional materials in a modern way to fit and be sympathetic to their respective contexts.

As with dogtooth pattern outside the large glulam arches and lattice work provide a striking modern interpretation of a traditional church feature the ribbed vaulted arches that are common throughout ecclesiastical architecture, because they are constructed of wood they ground the building in its context and the tie in with the trees on the site. The use of Larch and Ash woods in the furniture and beams, again offer delicate variations in tone and tie the chapel with its interior.

These arches form the intricate lattice work above the main service space which holds the V shaped roof like a floating ship. The connections of the lattice and arches are held together with invisible metal joints which leave the wood unspoiled by nuts and bolts.

The interior walls and ceiling are rendered using a traditional lime plaster, and show like the materials palette an intelligent variation in textures and shade. The roof floats on a ring of tall slender panes of glass which give this chapel its warmth and its contrast, it draws your attention up through the chapel and out past the trees to the sky like an animated stained glass window. On one side the chapel opposite the entrance sits a window protruding precisely between two trees, gifting the only undisturbed view across the valley.

Its floors are made from smooth and polished concrete, its furniture wooden and simple, like Ando's Church of Light there is no decoration, or distracting adornment simply a space of focused contemplation. This is a building that takes architecture back to its roots, as a form of shelter, and as a vessel that connects us to old gods, and to spirituality

The use of wood is significant in post reformation protestant Christianity ideology in that Christ died upon a wooden cross and having the altar made from wood and other furnishings made from wood it allows the follower to become closer to Christ and his struggle and therefore closer to God. The chapel's structure the very essence of this building holding the ark like roof is constructed from wood one could argue that any idea with a religious connotation has been crafted from wood. Is this a coincidence or a

conscious idea that has been subtly and quietly woven into the narrative of this Chapel?

Stage 6 – Hand over and close out

Stage 7 – In Use

Bishop Edward King Chapel may be a chapel in name but it isn't in its conventional use. A chapel or church has a its main use on traditional days and holidays usually Sundays where mass and prayers are conducted, the chapels settings are rooted in a monastic educational setting where those attending the college seeking to become ordained into the Church which makes this building take on a blended everyday use between reflection and pray to that of education and preparation

“ For the chapel to be foremost a place for the cultivation of personal prayer as well as of public worship. We knew that what was needed was not just a building but a work of art which would touch the spirit.” Cuddesdon Sisters,

Conclusion

Set against a background of declining religious affiliation and attendance the Bishop Edward King Chapel is a seminal piece of architecture it takes traditional themes and ideas and puts modern interpretation on them.

The concept of the nave as a ship sets the tone for this building and is followed through in all aspects of the design from its elliptical floor plan to the glulam beams and lattice work

- Modern contemporary

Unlike most churches which are focal points for villages, towns and cities this chapel pays sympathetic homage and blends into surroundings through its placement amongst the trees and the materials which tie it into existing campus.

- Harks back to traditional concepts
 - The idea of the nave as a ship or an Ark is an idea that has been explored
 - Ribbed Arches
 - Contrast of light and shadow

The Chapel uses the same materials which you could see on many churches across the land in stone, wood and glass but they are used in contemporary ways. The dogtooth brick work offers an interesting use of a traditional material, the glass although not stained glass the use has been thought of as animated stain glass windows. Finally glulam wood offers modern engineered shapes and helps to tie the concept with reality.

- Can see evolution of ideas from previous churches and chapel

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