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HOW MIGHT ARCHITECTURAL GLASS CONTINUE TO ENHANCE
CONTEMPORARY INSTITUTIONAL QUIET ROOMS?

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How Might Architectural Glass Continue To Enhance Contemporary Institutional Quiet Rooms?

Eleanor Lachab. University of Sunderland. January 2015

Abstract

When Christian chapels were first built within British secular institutions such as Great Ormond Street, they utilised the tradition of using stained glass to create images of Christian narrative. Due to the association of stained glass with British Christian churches, this research asks can stained glass continue to be used to create narrative in such places or are other forms of artworks in glass more appropriate?

Some of the formally Christian chapels are being adapted to become spaces used by people of different faiths and those of no faith. The terms used to describe these places are various. This study uses the term quiet room, as it is inclusive, rather than prayer room, which implies an act of faith, or multi-faith space that implies it is only for the practice of a religion. When referring to a space or study that uses a different term, that will be used as appropriate.

This thesis includes case studies of four potential methods of art glass fabrication used in sacred spaces, in order to understand how they might affect the use of the space. A second set of case studies analyses the use of glass and imagery in institutional multi-faith quiet rooms and discusses how glass is being used. Two practice-based case studies explore the way in which, as a stained glass artist, I design windows for sacred and secular spaces using knowledge acquired from the previous case studies.

The case studies examining quiet rooms show glass continues to be used to enhance the spaces for the multi-faith situation. From this and practice based case studies it is suggested that despite the link with Christian churches, glass artworks can be used effectively in quiet rooms if designed appropriately. This thesis considers the use of natural imagery in quiet rooms and concludes that light is of special interest both as a source of natural imagery as well as in its relationship with glass. This thesis aims to be of interest to those involved in the commissioning of and the artists creating new glass artworks in such spaces.

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A

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1. Introduction

1.1 Background to research

As a practicing stained glass artist, the majority of my commissions are for Christian worship spaces. The brief for these often require the figurative depiction of Christian narrative; telling biblical stories or portraying lives of saints. In my personal life I married a Muslim. I was fascinated by a simple act my husband performed that created a sacred space seemingly anywhere - the unfolding of a prayer mat. This was in contrast to the Christian churches that I was familiar with, where the space is divided and decorated in accordance with the worship ritual.

As our relationship grew, we considered how our home could accommodate both faiths. While the two religions share Abrahamic roots¹, their individual cultural traditions in the use of religious imagery as decoration can be quite different². From first-hand experience of creating a space for two faiths I became intrigued by decorating using imagery that crossed cultural and religious borders, specifically through the use of glass.

I used the opportunity of studying for a Masters in Architectural Glass to explore spaces that were primarily Christian chapels in secular institutions – for example airports, hospitals and prisons. These chapels are beginning to be adapted in order that they may be shared by different faiths. As such these new quiet rooms should have appropriate imagery, so that they are available to everyone.

Chapels in secular English institutions such as hospitals and prisons were created and operated by the Church of England (Weller, 2007, p. 55). The stained glass designed for them was a display of Christian religious narrative. In

¹ Judaism, Christianity and Islam are sometimes referred to as Abrahamic faiths as they all stem from Abraham, a prophet shared by all three religions.

² There are many different cultures within Islam and Christianity, and at points in history, such as the Muslim rule of southern Spain in the Middle ages, and in the Byzantine empire, the two faiths shared craftsmen when creating places for worship. Until 1962 Coptic Christians in Egypt embroidered the Kiswa cloth that covers the Kabba in Mecca. (*Hajj, Journey to the Heart of Islam*, British Museum, 2012).

recent years there has been an effort by some chaplaincies to be more welcoming to people of different beliefs. Institutional chapels have been transformed and renamed in response (Gilliat-Ray S. , 2005, p. 291). For example, The Bristol Children's hospital has a 'prayer room' for use by people of differing and no faith. A key feature of these spaces is that they are now used more for individual acts of prayer, rather than corporate worship.

In her PhD Johnston (1997, p.2) asks an important question about stained glass: Can it be used in contemporary glass walled buildings? Stained glass was historically used in conjunction with stone buildings and is traditionally associated with Christian churches. The stained glass in these stone edifices was the only portal for the admittance of light (Raguin, 2003, p. 32). Johnston's practice based PhD suggested that glass artists should look to new methods of working with glass – such as the use of Dichroic glass in creating new glass-works for contemporary architecture. The use of dichroic glass allows the artist to explore the reflective properties of glass.

In her 2013 PhD Cate Watkinson provides an extensive description of what Architectural glass is. She describes it as the use of decorative glass to amalgamate art and architecture, creating artworks that are integrated into the fabric of the built environment (p. 26).

The roots of architectural glass are found in the traditional use of stained glass. Writings from as early as the fifth century mention coloured glass used in the windows of Roman buildings. The introduction of lead strips increased the variety of shapes the glass craftsman was able to use to create imagery.

Architecture has continued to evolve, and along with it innovations in glass technology which allows for new ways of using glass in the fabric of buildings (Watkinson, 2013, p. 26). In 1979 Brian Clarke wrote 'Architectural Stained Glass', which examined contemporary uses of glass in the built environment. It was at this point that the term architectural glass began to be used to refer to glass artworks created for specific architectural sites (Watkinson, 2013, p. 27).

Large sheets of float glass can now be toughened for safety, and contemporary methods of building allow for glass to be integrated into buildings to form screens, canopies and walls. Architectural Glass is no longer confined to the traditional Christian church setting. Methods such as printing allow for imagery to be applied to large areas of glass. It is now common to find glass in secular settings such as hospitals, leisure centres, retail outlets, corporate buildings, rail stations and airports (Petrie, 2007, p. 152).

In her book on *The History of Stained Glass*, Raguin quotes Brian Clarke as suggesting that ideally the glass artist should work alongside the architect to develop glass works for the space, to ensure that the artist is not merely a decorator, but rather a 'joint manipulator of the architectural space (2003, p. 267). An example of this is the design of the Bristol Children's hospital quiet room by Catrin Jones. This was designed by the glass artist, which allows the artwork to be integrated into the space.

Petrie suggests that glass can still be used to add layers of meaning to a space, be it secular or sacred (2007, p. 152). For example the work of Dan Savage, which often seeks to locate the artwork within the context of a place by using imagery that he curates from drawings and photos of the space, which are then assembled through printing onto glass (Petrie, 2007, p. 156).

In contemporary steel frame buildings with large sheet glass walls, stained glass is no longer needed keep the elements out, and larger windows allow in plenty of light. This study follows on from Johnston's PhD and questions if using traditional stained glass in contemporary institutional sacred spaces can continue or are there better methods for fabricating glass? If stained glass is generally associated with Christian spaces, are other ways of working with glass more appropriate for use in quiet rooms. These questions have been addressed using a variety of research methods which will be discussed in the section 1.4.

1.2 Research Questions

1. How can the use of architectural glass in institutional sacred spaces continue to enhance contemporary quiet rooms?
2. How do contemporary sacred spaces located within secular institutions use imagery and glass artworks?
3. How do I design and use glass in sacred and non-sacred spaces?
4. Is stained glass too closely linked to Christian worship spaces to be acceptable for use in a space for different belief groups?

1.3 Aims of Research

- To ensure that glass is designed and installed appropriately for contemporary quiet rooms.
- To understand the needs of the current users of contemporary institutional quiet rooms.
- To understand how glass is currently used in contemporary institutional quiet rooms.
- To establish whether fabrication methods other than stained glass are more appropriate for use in contemporary institutional quiet rooms.
- To find out if stained glass is too closely associated with Christian architecture to be appropriate for use in contemporary institutional quiet rooms.

1.4 Research Methodology

In his essay discussing methodology used in art PhD's, Jones (2005, p. 24) suggests that the development of methodology for scientific research has taken centuries to develop. In contrast the art-practice based PhD is in its infancy. Gray and Malins (2004, p. 102) suggested that there were, as of 2004, no significant sources regarding methods for this form of research. They suggest referring to formal research sources, such as completed PhDs. To assist in the development of possible methodologies for this study, existing architectural glass based PhD's were examined to consider the methods that they have found useful.

Some 10 years later, in 2014 thirteen PhDs were listed in the British Library catalogue that refer to the art of stained glass, most are historical, for example: *Antique models, architectural drafting and pictorial space: canopies in northern French stained glass 1200-1350* (Bugslag, 1991). One discusses the use of technique within a historical time frame: *Glass painting in Scotland, 1830-70* (Bambrough, 2001).

Of these, four discussed new methods of working with architectural glass in an artistic context;(Johnston1997) explored ways of using coated glass to create glass artworks. Whitbread (2008) experimented with new ways of designing stained glass using collaborative Internet based networks. Antonio (2010) developed a new way of creating imagery on the tin-layer of float glass Watkinson reviewed the development of her professional practice as an architectural glass artist in the public realm (*The Changing Nature of Architectural Glass*, 2013).

The Innovative application of the Coated Glass Surface in Architecture by Laura Johnston (1997) was an early architectural glass PhD that looked to disciplines outside of the newly emerging practice-led art research field for useful methods. To examine the contemporary practice of architectural glass artists Johnston used case studies, a method often used in social sciences. This form of research allows for an in-depth, qualitative understanding of an artists practice (Gray & Malins, 2004, p. 117). Using the case study method allowed Johnston to observe

the way in which artists were developing glass artworks for architectural settings, without formal structures such as interviews or questionnaires.

Johnston created tests for the new glass coatings she was working with, using methods drawn from material sciences to examine the material properties of the coatings and examine in what ways they react to different levels of light and in different spaces. From the material testing she was able to use practice led investigations, using live projects in which to develop glass artwork. These live projects allowed Johnston to experiment with the glass coatings in real situations and enabled her to evaluate how new glass coatings could be used to create glass artworks.

Whitbread (2008) examined possibilities for the collaborative design of stained glass. Whitbread (2008, p. 21) described her methodology as action based research; 'using emergent methodology arising from practice'. Similar to Johnston she used a multi-method approach. The historical method derived from Arts and Humanities was used to explore the history of geometry in traditional sacred art forms, in order to be able to create a template from which to be able to create a new artwork, based on the 12th century rose window.

Whitbread created a website to explore ways in which web-based networks could be created and tested through the collaborative development of a design for stained glass window. The participants were asked to design a part of the 'window' through web-based discussions about their ideas. She was able to evaluate the success of this development technique through participant feedback. The final design was publically projected, and the audience asked to give feedback regarding their response to the final rose window. Whitbread was able to use this information to reflect on and evaluate audience response to the final design.

In her practice led PhD: *The creative use of the tin-containing layer on float glass* (2010), Antonio developed a new technique for creating imagery using float glass, a material more normally used in architecture. In her section on methodology she referred to the work of Polyani (2010, p. 49), who in discussing

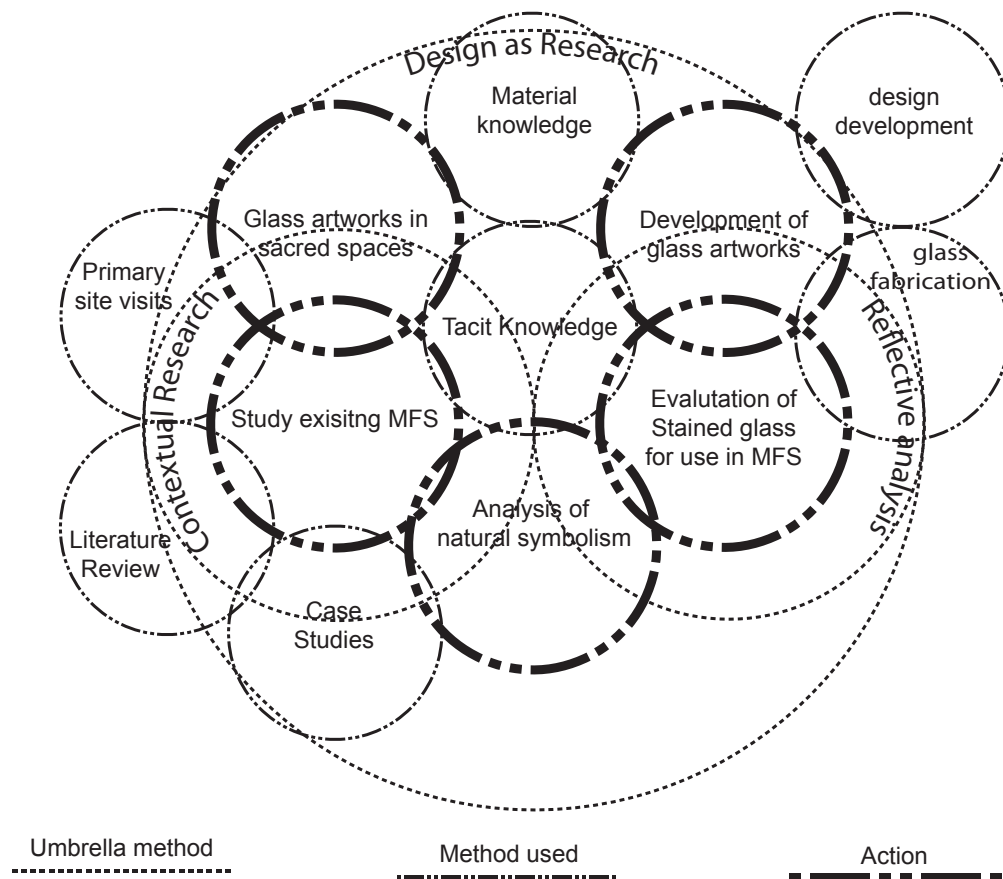
tacit knowledge describes it as the subconscious use of tools. For Antonio as a practicing artist this unconscious integration of unconnected elements was a key methodology in the development of her work (2010, p. 51).

Antonio combined new knowledge gathered from collaborating with a scientist to study the material properties of the tin side of float glass, and the way in which float glass could be stretched using a kiln forming process, with the development of form in her imagery. As she soaked up the information from the two strands, it enabled her to develop a technique that creates imagery through engraving on the tin side of glass, and then stretching the glass in the kiln, to utilize the aesthetic qualities of the tin side of float glass. She was able to explore and evaluate the use of this technique through the creation of artworks.

Watkinson's PhD by existing creative works established the unique contribution to knowledge made by the integration of glass in public spaces. The PhD demonstrated how research and advances in the field of glass technology influenced the work and how the cited works have contributed to the increasing potential of the use of glass in the built environment. Evolving from '2D' pieces in stained glass in the 1990's, the commentary charts the development of the work towards '3D' pieces placed in the public realm.

Watkinson described her PhD as having a 'bricolage' approach to research. This term was described by Kincheloe (Watkinson, 2013, p. 19) to be the use of multiple methods, which can expand and uncover new insights. Watkinson uses several methodologies in her research, including design as research, contextual research, collaborative practice, scientific, and reflective analysis which is carried out regarding all aspects of the design process in order to develop more insight into the methods involved.

In order to illustrate the way in which a bricolage approach has been used in this thesis, below is a diagram that I created to help myself and the reader understand the interconnectedness of the adopted methodologies.



1.4.1 Design as Research

As with the PhDs that have been cited, what is termed 'design as research' was a key method in this study. Watkinson describes this as research for the purposes of practice. In the diagram above design as research is shown encompassing the whole research process as all of the research is collated is then either consciously or un-consciously applied to the design of the glass artworks.

At the centre of this is tacit knowledge, with which the tools and knowledge acquired throughout the research process are integrated and filtered into the resulting artwork. The glass artworks responded to and explored the application of knowledge gathered throughout the course of the study, for example the use of natural imagery. The development of the glasswork formed an important part of reflecting upon the appropriateness of stained glass for multi-faith spaces.

1.4.2 Contextual Research

Whitbread (2008) used the historical method to outline the context for her research; by exploring related secondary sources. This method was used in this thesis to gather information regarding the historical and contemporary context for the study. Including: a historical overview of the religious makeup of England, the contemporary religious makeup of England, the development of multi-faith spaces in response, the development of architectural glass and the historical use of natural imagery as sacred signifiers.

These areas of interest are well written about in their individual fields. The bricolage method allowed me to draw them together to understand how they relate to each other in multi-faith spaces. Using appropriate search terms, catalogues such as The University of Sunderland Library catalogue, British Library catalogue, Jstor, and Index to Thesis allowed searches for relevant books, research journals and articles. Once a relevant source was found, key sections were copied and referenced within files; both digital and manual, to collate the research for reference when writing up the study. Each annual monitoring report gave the opportunity to practice writing sections of the thesis.

Primary site visits were used to examine contemporary quiet rooms and to describe how glass artworks are created for specific places. This study followed the methodology of the religious studies researcher Gilliat-Ray (Gilliat-Ray S. , 2005) who studied the multi-faith space in the Millennium Dome. Similar methods were used by a team of researchers from the architecture department at the University of Manchester who undertook a study into the architecture of multi-faith spaces (Dr. Ralf Brand, 2010-2013).

The spaces visited were drawn and photographed, to record the use of artworks, seating arrangements and light within the space. Through first-hand observation a realistic understanding of the ways in which glass can be used in multi-faith spaces. For example by spending time within the space the practicalities of the space could be observed, such as how the space is used, if there is natural lighting or is it artificial, if there is a window does it allow for privacy?

Through secondary research – using an archive of photos of quiet rooms collated by Brand et al (2010-2013), information regarding the use of imagery in quiet rooms was gathered. From further primary site visits to a number of quiet rooms, several were chosen as examples to explore their use of imagery to assess what specific imagery might infer to people of different faiths. To study the meanings given to imagery, historical references were found within books and documents that refer to the use of imagery and their religious connotations.

To get a better understanding of how glass is currently used in spaces demarcated as sacred, both primary site visits and a literature review cited four examples. These were used to show the fabrication methods and how the designs work within their contexts.

1.4.3 Reflective Analysis

The design development of glass artworks allowed me to compare the design process, and resulting glass-artworks for a Christian chapel – Hosanna House, and a non-religious gallery space - The Bossanyi Studio. The case studies recorded the way in which artworks were developed for each site, through photos and drawings. Both observed and reflected upon the approach taken for each site and the ways in which the use and application of imagery is approached.

As part of the evaluation process for the stained glass artworks, the use of a visitor book was explored. In Gilliat-Ray's study of the Millennium Dome Prayer Space she examined users responses in this way (2005, p. 360). It was decided to use a visitor's book to record viewer's thoughts of the glasswork in The Bossanyi Studio. This was used to analyse their comments afterwards. This sought to ensure that the thoughts came from the viewer, rather than using interviews, which may influence the viewer by using key words such as 'sacred'.

The following chapter will show how the contextual review used the bricolage method, in drawing together several methods in order to discuss the context for quiet rooms and the artworks found within them.

2. Contextual review

2.1 Historical review: development of religious populations in the UK

One of the research questions asks why chapels in secular institution are becoming quiet rooms? To answer this and to fulfil the aim of understanding the needs of the current users of contemporary institutional quiet rooms, this section will look, in brief, at how different religions have arrived in England since the time of the Romans. This area of research utilised the methodology of Whitbread (2008), by using the historical method derived from Arts and Humanities to explore the development of religions within England.

The first British Christian saint - St Alban, martyred for hiding a priest, was thought to have lived between 2nd century and 3rd century AD. This suggests that Christianity was practiced in Britain up to two centuries before it's official adoption as a state religion by the Roman Empire in 4th century AD (Henig, 1994, p. 21). Thereafter Christianity became the primary religion in what would become England.

A Jewish community was recorded in England after the Norman conquest of 1066. By the eleventh century there was a Jewish presence in most major towns. Between the 11th and 12th century, crusade rhetoric was used to encourage the persecution of Jewish people across Europe. An escalation of this in 1290 - caused Edward I to exile Jews from England (Campbell, 1994, pp. 427-8).

It wasn't until the protectorate of Cromwell from 1649 till 1658, that a Jewish community was able to redevelop in London. In 1655 the government formally allowed Jews to reside in England (Campbell, 1994, pp. 431-2). The oldest English synagogue still in use was built in Plymouth in 1762. After 1948 some English Jews migrated to Israel. Others assimilated into English life, and as a result Campbell (1994, p. 448) suggests that they became less interested in their Jewish roots. This, he suggests, may be responsible for the decrease in the birthrate of Jewish children, from 450,000 in 1955 to 330,000 by 1990.

During the 20th century people of commonwealth descent migrated to England. Many intended to stay a short while, send money home and eventually return. Some migrants settled, started families and communities developed. Once settled, the community would begin to create a permanent place of worship (Weller, Religions in the UK, 2003, p. 29). The first purpose built mosque was established in 1889 – the Shah Jahan Mosque in Woking. The first Hindu temple was built in 1981 in Slough. The first Buddhist temple was built in 1982 in Wimbledon.

2.2 Contemporary review: religious populations in the UK

In order to understand the users of quiet rooms, it is useful to look at what religions are currently being practiced by the wider population. One method for examining this is to study statistics that have been gathered on this subject. Statistics to better understand the range of religious belief in England began to be collated in the 2001 Census. This was the first to ask a question about the religion of the participants. The 2001 Census for England and Wales showed the participants to be predominantly Christian - 71% of participants, while 15% had no religion. Other religions practiced in England and Wales made up to 6%. The greatest numbers of these were Muslims - 2%, followed by Hindus, Sikhs, Jews and Buddhists (National Statistics Online, 2001).

In the 2011 census the amount of people identifying themselves as Christian fell to 59.3%. The percentage of people identifying themselves as belonging to no religion rose to 25%, a growth of 10%. A further 8% of the participants identified with other mainstream religions: Muslims continue to be the second biggest faith group, with 4.8%. With Hindus making up 1.5%, Sikhs 0.8%, Jews 0.5% and Buddhist 0.4% (Office for National Statistics, 2012).

The results of the 2011 census is reflected the findings of two surveys that were conducted in 2006 and 2008. Tearfund a UK based Christian charity commissioned a church going survey in 2006. 7,000 adults were asked questions

about their faith and church attendance. 53% were found to be Christian, 'others' 6%, and 39% had no religion (TearFund, 2007, p. 4) The Labour Force Survey (2008) of 53,000 households echoed the 2001 census. 72% were Christians, the numbers of Muslims was 4%, followed by Hindus, Sikhs, Jews and Buddhists, 19% had no religion (Kerbaj, 2009).

The difference between the percentages of people identifying as Christians between the 2001 Census, the Labour Force Survey and the Tearfund survey, maybe the way in which asked participants were asked to respond. The 2001 census and the Labour Force Survey asked simply what religion participants belonged to. Whilst the Tear Fund survey asked if the participants went to church – rather than if they were Christian. They were only identified as Christian in the survey if they were actively involved in regular church attendance.

This suggests some people who said they were Christian in the 2001 Census and the Labour Force survey have a 'residual faith', they may identify themselves as Christian and happily watch a nativity play at their child's school, but don't attend worship on a regular basis (Badham, 1994, p. 500). Weller (2007, p. 22) suggests that some English people may have a 'spiritual' or 'holistic' approach to faith. The 2011 Census showed that 0.4% of the population identify with faith groups that are not part of the mainstream religions, such as Pagans or Spiritualists.

A further group of people identified themselves as being of mixed religion. This would fit in with what Molloy would describe as an attitude drawing from elements of different belief systems. Molloy (2008, p. 563) suggests that at the centre of spirituality is belief in the "interrelatedness of all elements in the universe".

This brief history of the variety of religions practiced in England shows that there have been changes in the percentages of people that identify themselves as belonging to a particular religion. While more than half the population still identify themselves as being Christian, the drop of 12% in 10 years could suggest that this is in decline. The amount of people identifying themselves as non-religious

has risen by 10% and the amount of people practicing other religions has increased.



2.1 Great Ormond Street Hospital chapel

2.3 How quiet rooms have evolved from Christian chapels in UK Institutions

The previous section showed us that there has been a decline in the percentage of people identifying as Christian, an increase in those identifying as having no religion and an increase of those practicing other religions. In Section 2.3 the evolution of faith spaces within secular institutions will be described using a literature review. It will identify the ways in which spaces that were primarily Christian chapels are being adapted to reflect the beliefs of the contemporary users of these spaces.

The Victorian era saw the height of the industrial revolution and expansion of the British Empire. The population of England and Wales grew from nine million in 1800 to thirty-seven million by 1900. With the increasing wealth of the Empire, many institutions were built to provide rehabilitation and healthcare for an equally expanding population. Anglican philanthropy provided at least two secular institutions with Christian chapels: Pentonville Prison built in 1842, and Great

Ormond Street Hospital built in 1875 (*Fig. 2.1*). The chapels made provision for the spiritual needs of the occupants (Gilliat-Ray S. , 2005, p. 289).

As we can see in the example of the Great Ormond Street Hospital chapel, the style followed the style of the day, with stained glass used to display Christian narrative.

The day of a Victorian prisoner started in chapel. This strictly governed event required prisoners to sit in 'upright coffins' so that they could see and be seen only by the chaplain, governor and chief warder (Priestley, 1985, pp. 91,92). Such strict isolation was hoped to ensure repentance in prisoners (Priestley, 1985, p. 98).

Today chapel attendance is no longer compulsory in prisons. Gilliat-Ray (2005, p. 290) suggests in her research that the once huge prison chapel may have been converted into different rooms for a variety of activities. Inmates now access the chaplaincy for counseling, as an escape from daily life, or for 'privacy for tears'. The inmates are less likely to be in the chapel to participate in corporate worship.

Victorian patients generally stayed in hospital for long periods and attended weekly church services as a regular part of hospital life. Today improved treatment for patients, has led to shorter stays in hospital. As a result chapels are more likely to be used by hospital staff and visitors than patients (Gilliat-Ray S. , 2005, p. 291). Gilliat-Ray suggests that hospital chapels have been "re-named', 'neutralized' or 'amputated'" so that they could be more accessible to 'people of all faiths and none'.

The Church of England is still largely responsible for the running of chapels within state institutions (Weller, Religions in the UK directory 2007-2010, 2007, p. 55) In response to the changing use of chapels, the Church of England Inter-Faith Consultative Group drafted guidance for the use and decoration of quiet rooms (Lamb, 1998). This covers the following:

- **How do we use religious symbols?** Appropriate use of imagery and treatment of religious scriptures.

- **Principles of use** Guidance on the way in which a space is laid out.
- **Guidelines of Design** Information on signage, lighting and division of space. (Lamb, 1998, pp. 5,6,7)

The Government Health and Social Security department began a Multi-Faith Joint National consultation in 1997 that became the Multi-Faith Group for Healthcare Chaplaincy (MFGHC) in 2002. The MFGHC aims were: “facilitating a common understanding and support for healthcare chaplaincy amongst Faith Groups, chaplaincy bodies and users.”

The MFGHC website made articles available written by healthcare chaplains on issues relating to quiet rooms. For example “Shared Sacred Space: The prayer room at the Queen Elizabeth Hospital, Woolwich” (Ghumra, 2005) is a conversation between the Christian chaplain and a Muslim user of a shared faith space, which discusses the needs required of the space from a Christian and Muslim perspective. This article outlines how the space might be used and their wishes for an improvement in the physical space, for example, improved washing facilities for Muslim ablution, and the hope for building a meditation garden in a conservatory attached to the prayer room. This document could be helpful to other chaplains seeking greater understanding of the needs of a quiet room used by people of different faiths.

In 2014, the MFGHC became the Healthcare Chaplaincy Faith and Belief Group, HCFBG, to reflect NHS England’s emphasis on equality. This resulted in them opening up the group to non-religious groups such as humanists, in order to continue to provide care for people of all faiths and none. As of the end of 2014 they have not given guidance on the design of the spaces provided within hospitals for the purpose of multi-faith activities.

Between 2009 and 2013 researchers led a project entitled *Multi-faith Space: Symptoms and Agents of Religious and Social Change*. The team from the University of Manchester was funded by AHRC. They were able to study 300 Multi-Faith Spaces (MFS), both in the UK and abroad. The aim of their research

was to gain a greater insight into the creation and uses of quiet rooms, and to examine if there was an architectural style that could be consistently found in such spaces. Their website shows the locations of the quiet rooms visited on a map. The map suggests that such spaces can be found throughout most of Britain, though largely confined to urban locations. Their research findings have been presented at conferences, on a website, and in an exhibition.

Brand et al (2010-2013) suggest that there is no precise definition of a quiet room rather it exists in the eye of the beholder. Whilst the study referred to the spaces as Multi Faith Spaces, this doesn't necessarily mean that there were always multiple faith activities occurring in the same space at the same time. Sometimes there were separate spaces within the space for separate faiths. Sometimes despite being a nominally a Multi Faith Space it can look more like a single faith space, for example a Christian chapel. This can happen by accident, for example, a table being placed at one end of the room with chairs facing towards it, recreating the nave of a church.

A conclusion of the study was that it is important to see a quiet room as a space for housing sacred acts, rather than a holy space in it's own right. An important question is raised when they wonder how it is possible to create a quiet rooms avoiding the style of any one religion? How is it possible to signify the space as a place where sacred acts may take place without using any one recognized style of a sacred space?

In the findings of the project, they found opposing decorative issues sometimes occur within quiet rooms. Firstly clutter; by displaying religious imagery from many different faiths; an 'untidy kitsch' is created. Conversely they found that the rooms could feel empty or bland when there was no artwork or use of imagery to signify the purpose of the space. They suggest trying to find a happy medium, comprising of good accessible storage of religious imagery, with the flexibility for a range of religious events.

2.4 How art, especially glass artworks, are used in sacred spaces and how it is now used in quiet rooms in UK Institutions

Traditional sacred spaces may be a reflection of 'celestial paradise', or a gathering place for community to worship and pray. "The term *templum* means 'space marked out', a 'sanctuary'" (Shashibala, 2007, p. 73). Both Gilliat-Ray (2005, p. 297) and Jonas (2008, p. 26) suggest symbols and motifs are used to mark out sacred space by depicting or re-enacting religious narrative. New quiet rooms may not have previously been demarcated as sacred. Quiet rooms have been described as places that house sacred acts rather than being sacred places. Jonas suggested that they parody being sacred by using symbols and motifs acceptable to multiple beliefs (2008, p. 26).

Mosaic was used in the temples and churches of Byzantium to depict the symbols and motifs that mark out the space as being sacred. In this region year round sunshine guaranteed reflective light, which greatly enhanced the gold mosaic being used in the 3rd century AD. Romans developed the use of gold mosaic, made by sandwiching gold leaf between two sheets of glass. This began to be used in the decoration of sacred spaces where it was often used for its light reflecting properties. For example the halos around the heads of saints would use reflective gold tesserae to identify the figure as sacred. (Gage, 1993, p. 40).

Gage quotes Photius, Patriarch of Constantinople, speaking at the end of the 9th century AD about the use of mosaic in the Church of the Virgin of Pharos: "It was as if one had entered heaven itself with no one barring the way from any side, and was illuminated by the beauty in all forms shining all around like so many stars, so is one utterly amazed" (1993, p. 44). The direct comparison between the light created by the mosaic and a vision of heaven suggests that the link between light and the spiritual was being made.

Early Islamic mosques were sometimes decorated with mosaics, influenced by and often built by Byzantine craftsmen (Petersen, 1996, p. 195). Islamic scholars emphasised the light giving properties of the building materials and their capacity to stun the viewer (Gage, 1993, p. 64). This suggests the early builders of mosques were concerned with the effect that they would have on the viewer. However, as depicting sacred persons is forbidden in Islam (and Judaism) the mosaic would instead be used to depict stylized flowers relating to Islamic ideas of paradise (which will be discussed further in Chapter 3.1), or passages from the holy book the Quran.

The earliest European examples of stained glass are found in lead and glass cut to specific shapes, dated to the 7th century through excavations in Jarrow and Sunderland, Northern England. Stained glass developed as a major art form in the middle ages. As the main patron of stained glass, the Christian church was able to commission ever-larger walls of glass, as architectural forms evolved to create larger openings in the walls not just of the great cathedrals, but also the humble parish church (Raguin, 2003, p. 32).

Stained glass was an integral part of the design of the medieval cathedrals and churches in which it was primarily situated; this will be further discussed in Chapter 4. It was suggested that its ability to radiate light meant that was used a metaphor for the Light of God – as a symbol of goodness, wisdom and purity (Raguin, 2003, p. 10). The imagery it depicted would be taken from biblical stories and Christian narrative. Simplistic abstracted figures were used to efficiently convey stories. In *Stained Glass Work*, written initially in 1905, stained glass artist Christopher Whall describes stained glass as being the medium to encapsulate the glory of the heavens and the fullness of the earth, in a way that it is not possible to do through the use of words (Whall, 1999).

As part of their research Brand et al (2010-2013) collated an archive of photos of the institutional sacred spaces they visited, these were displayed on their project website. They included sites such as: Christian chapels, Muslim prayer rooms, synagogues, a Gurdwara, as well as quiet rooms. By filtering the photos for

specifically quiet rooms, I was able to create a table showing how many used artworks, what kind of medium they used; glass, tapestry, prints, light or metal/wood sculpture (see table below). What imagery had been depicted was also collated. I then further filtered the glass results to see in what ways is it being used in quiet rooms. I then examined the types of imagery used in the artworks.

	Glass	Tapestry	Light	Print	None	Sculpture	Multi	Total
Landscape	5	0	0	6	0	0	1	12
Flowers	2	0	0	0	0	0	0	2
Trees	1	1	0	2	0	0	0	4
Water	5	0	0	0	0	0	0	5
Sky	1	0	0	1	0	0	0	2
Light	1	1	2	0	0	0	0	4
Abstract	10	3	0	5	0	0	0	18
Multi	1	1	0	0	0	0	6	8
None	0	0	0	0	39	0	0	39
1 religion	0	0	0	1	0	5	1	7
Total	26	6	2	15	39	5	8	101

Notes: Light is used both as a symbol and a medium. 1 Religion refers to symbols that can only refer to one religion, in this case mostly sculptures of crosses. Multi refers to both multiple images and multiple media. None means that there was no imagery or artwork used.

The table shows that just over half of the quiet rooms use artworks. Glass is the most used medium, followed by prints. Of the glass artworks, 16 were created using stained glass, with the others fabricating using fused, printed or dal-de-verre techniques. As commissioning and creating glasswork is a considerable and costly task it suggests that glass, and especially stained glass, is still seen as being an important medium in new quiet rooms. Later in the study stained glass and other methods of making glass will be discussed.

The table also showed that glass artworks were mainly used to depict pictorial visuals, and that they natural imagery such as rural landscapes, flowers, trees,

water, and light was the subjects of choice. Abstract imagery was also used in some of the glass works, however this study will focus on the use of natural imagery to explore some of the meanings that can be inferred, and how it can be used to connect with users of quiet rooms from different faiths.

3. The use of natural imagery in existing quiet rooms.

The contextual review showed us that the development of quiet rooms has occurred due to the need for places within institutions that can be used by people of different beliefs. It was shown that many of the quiet rooms use some kind of natural imagery. In this chapter a range of primary site visits focus on how artworks and imagery are used within quiet rooms.

A variety of quiet rooms were visited in sites including, hospitals, airports, universities, and shopping centers. These sites were analysed using the methods found in the studies of Gilliat-Ray (2005). The quiet rooms discussed here were chosen in order to examine some of the natural imagery that was found in the analysis of the collection of photos that formed a part of the study of Multi Faith Spaces (Dr. Ralf Brand, 2010-2013). Specifically flowers and landscape, mountains and trees, water and light. Using the historical method as used by Whitbread (2008), meanings that can be inferred from the imagery by a range of beliefs are examined.

The parallel meanings of art in quiet rooms are similar to the way people use the space. Though utopian in attempting to bring together different faiths, the users are not expected to pray together, but rather pray separately in the same space (Noll, 2008, p. 69). Taylor suggests that the use of recognizable symbols creates a shared sense of recognition and understanding of a space (2003, p. 2). In his book that archives airport quiet rooms from around the world, Spiegl suggests that in the creation of artworks for quiet rooms the artist must imply different and acceptable meanings for different religions (2008, p. 32).

Multi faith spaces; Symptoms and Agents of Religious and Social Change (Dr. Ralf Brand, 2010-2013) reported that it was common to find naturalism as a theme within quiet rooms. This may be because the importance of the natural world is an area of common ground for many religions. In his book on reading churches, Taylor (2003, p. 4) says 'God is in the fields and in the woods, in the earth and in the wind, as is not contained within four walls.' He suggests that

many people feel closer to the divine on a walk through the park rather than within a church building.

Perhaps by using natural imagery, especially in urban locations as many of the quiet rooms are, the artists are trying to provide this experience for the users. This is also commented on in *Multi faith spaces; Symptoms and Agents of Religious and Social Change* (Dr. Ralf Brand, 2010-2013), that natural themes can be used to convey ideas of spirituality and transcendence - suggesting a desire to temporarily step outside of modern society for a few moments.

Artworks are often the only visual reference within quiet rooms. In a space that houses sacred acts, the artwork is given and gives meaning to the place. As such it is important for the person who commissions, creates or places the artwork to understand what symbolism can be read into the imagery used.



3.1 Catrin Jones, Bristol Children's Hospital Prayer Room, 2001

3.1 Bristol Childrens Hospital Prayer Room

Flower and Landscape symbolism

This space was specifically designed to be a prayer room in the Bristol Children's hospital, a modern building constructed in 2001. The room and windows were designed by Welsh glass artist Catrin Jones (*Fig. 3.1*). Jones used a combination of traditional stained glass and contemporary architectural glass methods in fabricating the set of windows: Large sheets of flash glass were acid-etched to create the imagery. These sheets were then laminated into sealed double glazed units. This complements the contemporary architecture of the hospital.

The windows used the motif of a lily flower, which here represented the purity of children. The Lily is often used in Christian art in association with the Virgin Mary, or in images of her husband Joseph to show their 'purity' (Taylor, 2003). However, people of different faiths can read the use of floral or garden imagery to infer meanings associated with their beliefs. Some of these associations are discussed in this section of the thesis.

The word *paradise* is derived from a Persian word - *paridæza*, which referred to a walled enclosure, pleasure park or garden. Early references to the concept of the paradise garden as a heaven or sacred were found on a cuneiform tablet from the proto-literate period of Sumer (about 2000BC) which describe a place that is; 'pure, clean and bright, a land of the living who do not know sickness, violence or ageing' (Eliade, 1987, p. 184).

In her book *Paradise as a garden In Persian and Mughal India* (1979, p. 2), Moynihan describes a garden built in 546 BC by Cyrus the Great in Pasargadae (Iran). This particular garden was designed with trees and plants symmetrically placed, around a carved stone watercourse. It is suggested that this was to complement the surrounding buildings and reflect the order and peace of the contemporaneous society.

This style later influenced Islamic garden design, when the growing Muslim empire conquered Persia in 700 AD. Muslims saw a direct link between the formal layout of the Persian garden and paradise as described in their holy book the Quran.

The remains of the medieval Muslim gardens at Granada (*Fig. 3.2*) and the grounds of the Taj Mahal, built in the 1800's are evidence of the continuing influence of the ordered Persian garden more than 2000 years after they were first designed.



3.2 Generalife, Alhambra

For the three Abrahamic faiths – Judaism, Christianity and Islam, the Garden of Eden, as created by their God, was the home of the first pure and sinless humans, until they were cast out. For Jews and Muslims, the Garden of Eden is also thought to be the eternal home for those blessed by God.

The Arabic word for garden - *Janna* can also refer to the Garden of Eden and Paradise, (Eliade, 1987, p. 187). Islamic mihrabs - the niche in the wall of a mosque that indicates the direction of Mecca, and prayer mats often use paradise garden themes in their design (Brown, 2004, p. 364).

In the Mahayana tradition of Buddhism a place called Sukhavati is described as a paradise, a pure land, that is 'fertile, comfortable and delightful. It is filled with a great variety of flowers and fruits. Many deep, broad rivers flow through it. Birds sing pleasantly, Calm and peace pervade this garden paradise.' The Buddha Amitabha was thought to have created Sukhavati through his Karma and attainment of Buddha-hood. Buddhists believe that through being and doing good, entry to a paradise, such as the one described in the Sukhavatiryaha, will be achieved (Eliade, 1987, p. 187).

In India some Hindu priests maintained groves of trees from which blossom is collected for use in religious rituals. Certain varieties of trees and plants were thought to symbolize Hindu deities, for example the lotus is associated with the gods Vishnu and Brahma, as well as Lakshmi. Gardens or pleasure parks were considered to be where gods like to dwell; as such temples may have a garden for their Gods to enjoy (Moynihan, 1979, p. 89).

The Weymouth Quakers had a disused burial ground that they wished to develop into a peace garden. They approached the local community; including a church, Islamic centre, and people of Jewish and Buddhist backgrounds. A garden design was commissioned, and they proceeded to work together to build the garden (Evison, 2010, p. 37). This suggests that the garden continues to be a unifying image of a peaceful place.

3.2 Bristol Oncology and Haematology Hospital Quiet Room and The University of Derby Multi- Faith Centre Quiet Room – Sky/Earth Symbolism



3.3 Bristol Oncology and Hematology Quiet Room

This rectangular room has been set-aside within the hospital as a quiet room. It was designed to fit in with the existing architecture. In the design of the room, opaque stained glass is used as a screen to create privacy from the outside. These screens use a floral motif in a vaguely Charles Rennie Mackintosh style.

Glass has also been used as part of a sculpture, which is the focus of the quiet room; a circular plinth with stones arranged at the centre has blown glass spheres of varying colours suspended above the plinth (*Fig. 3.3*).

Another quiet room (*Fig. 3.4*) situated in The Multi-Faith Centre at Derby University is part of a complex of spaces designed by Mark Swindells of Spear Architects. Built in 2004, the centre has won awards from the RIBA and The Civic Trust. Each space was designed with a different purpose: One is a space for large groups to worship together in. There are several smaller 'congregational' rooms as well as a quiet room placed at one end of the building.



3.4 Derby University Multi-Faith Centre Quiet Room.

The design of this quiet room, responded to its shape, which was at the wedged shaped end of the building. The room had stepped carpeted seating that led upwards into a point. The steps were scattered with cushions and the room was softly lit, giving the space a feel of comfort and peace. The quiet room had no artwork or imagery. The stepped seating that led upwards could be interpreted as a reference to the mountain symbolism. This link between the sky and the earth is sometimes used to infer the sacred. In this part of the thesis we will collate some of these beliefs and consider how inferring this link is appropriate in a quiet room.

There are several ways in which sky/earth symbolism infers the sacred. Sometimes the sky is the male partner of a female earth. Or, the sky is thought to be the abode of the sacred, earth the realm of humans (Shepherd, 2002, p. 17). Mountains can suggest strength and permanence. Their vast size and the way the shrouded peaks touch the sky creates an aura of mystery and wonder. In some early belief systems, mountains sometimes created a focus point for people hoping to communicate with the divine. For example, Uluru is a large

sandstone outcrop associated with the belief system of the Aboriginal people of Australia. Mount Fuji was sacred to Japanese Shintoism and Buddhism. Mountain ranges were seen as the abode of the sacred - Mount Olympus was for Greek Gods, The Himalayas for Hindu gods.

The spires and minarets of early worship places were inspired by mountains (Brown, 2004, p. 247). The ziggurat, built by the Mesopotamians, had seven storeys circling skywards to enable the descent of the divine. The design of the structure was representative of a mountain (Shashibala, 2007, p. 18). The design of The University of Derby quiet room uses stepped seating which could suggest the ascent of the student towards greater enlightenment.

In the Christian New Testament gospels, an episode called the transfiguration described Jesus meeting with the prophets Moses and Elijah on a mountain. This is reflective of the meeting of the sacred sky and the human earth, with Jesus acting as a bridge between heaven and earth (Lee, 2005).



3.5 Kaaba, Mecca.

The Kaaba (*Fig. 3.5.*) serves as the physical centre of the Islamic religion. Muslim ritual prayer is directed towards the 'ancient granite cube' (Bellows, 2008, p. 253). In Islam it has a divine link to God, beginning from when they believe it was built by Adam (the first man) as a place for worshipping God. By the time of the Prophet

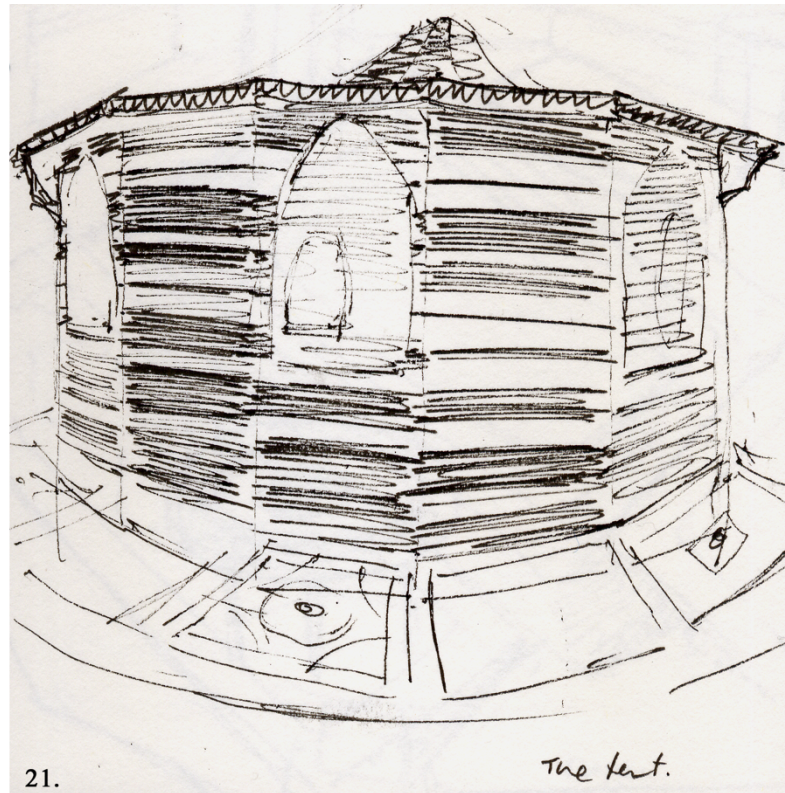
Muhammad, it was being used for pagan worship - the prophet emptied it of idols, and eventually redirected Muslim prayer from Jerusalem towards the Kaaba.

3.3 St Ethelburghas Tent – Tree Symbolism

St Ethelburghas is a small church at the heart of the city of London. It dates back to 1180, though the present building was probably built in the 1400's. At that time it would have been the biggest building in Bishopsgate. It is now the smallest, dwarfed on both sides by tall office buildings. Having survived the great fire of London and the Blitz, an IRA bomb in 1993 left the church in ruins. The parishioners decided it was important to rebuild the church, but wanted it to be a positive reaction to the tragedy it had suffered. It opened up a competition to redesign the interior of the church, and developed the idea of 'a tent' in the courtyard at the rear of the church. The Tent is a place where people of different faiths can come together to discuss similarities or differences in a neutral environment.

It is a strange experience leaving the busy London streets, and entering the calm courtyard of the church. The stark contrast between the Tent and its surroundings seems to highlight its purpose as an alternative space. The construction of the building makes no reference to any particular faith. The Tent (*Fig. 3.6*), was designed by Prof. Keith Critchlow, an expert in sacred geometry. His brief was to create a 'sacred space' without using religious symbols. The 16-sided structure was constructed using traditional Bedouin techniques. This reflects the idea that the place is like an oasis, within the hustle of the big city. It is carpeted with rugs that have been woven in places of conflict around the world, and shoes must be removed at the entrance to the tent.

Seven stained glass windows have been made to allow light into the tent. Each window represents a different faith (*Fig. 3.7*); they were designed to not use any religious imagery. Each has the image of the sun in the top section, the moon cradling the earth in a middle section and in the lower section a tree that represents the faith, with its seed and fruit on either side. Below this, the word for peace is written using the traditional language for each faith, eg, Shalom for Judaism.



Above: **Fig 3.6** Eleanor Lachab *Sketch of The Tent*, 2009, Pen

Below; **Fig 3.7** one of the stained glass windows, featuring tree symbolism for the Jewish Faith.

The windows treat all the faiths equally, by using the symbol of the tree, the statement seems to be 'same, but different'. No one religion is given more or less importance. This means that people entering the tent are put in the frame of mind

to see their faith along-side other faiths. The tree is used to create a feeling of common ground between different people.

The tree has long been used as a symbol signifying the sacred, often in the same way as mountains, by creating a link between earth and the heavens (Moynihan, 1979, p. 5). For example, Yggdrasil is a mythical Scandinavian Ash tree that passes through three 'cosmic planes': At the roots – or underground is, Hel, the underworld of the dead. The trunk passes through Midgard or middle earth, land of the mortals and branches go into Asgard or heaven, where the Gods dwell (Cook, 1974, p. 12).

In ancient Indian texts, the Asvattha is a fig tree that is the opposite of Yggdrasil. This tree has its roots in heaven and grows down towards the earth (Moynihan, 1979, p. 6). It shows the Hindu perspective of creation as upside down, descending from Brahman. The stems of the tree come from Brahma, God of creation, Vishnu, the preserver and Shiva, the destroyer. From those three further branches represents liaisons with consorts, and the Gods appearances throughout time (Cook, 1974, p. 18).

Perhaps the tree symbol that provides the best example of common ground between faiths is the tree of knowledge. Each of the Abrahamic traditions tells a similar tree of knowledge story. For example, in the Christian Old Testament it is described in this way: "Out of the ground the Lord God made to grow every tree that is pleasant to life also in the midst of the garden was the tree of the knowledge of good and evil" Genesis 2, vs. 9. The eating the fruit of this tree was forbidden by God and caused the expulsion of Adam and Eve from Eden.

For Christians the tree is associated with the crucifixion of Jesus on a wooden cross, the cross is sometimes seen as a midpoint between heaven and earth. The tree of life is found again in the Christian New Testament book of Revelations 22, 2. At the centre of heavenly Jerusalem, this tree produced monthly fruit and leaves to help heal the nations. Trees seem to be an apt symbol to be used in a space designed to create cohesion between different faiths.

3.4 University of the West of England – Water symbolism.



3.8 University of the West of England Quiet Room

The quiet room in the University of the West of England (UWE) is situated in a specially designed centre, The Octagon, run by the chaplaincy for the staff and students of the university. As with the Derby Multi Faith Centre, the UWE chaplaincy was specially designed and built in 1979 as a part the general building works for the Frenchay campus. The Octagon has several different rooms, which each offer different purposes.

In the quiet room a stained glass window designed by Judith Aptor greets the user from the opposite corner of the room to the entrance (*Fig. 3.8*). The room is square shaped, with chairs along each of the four sides and bookshelves for religious texts. A table at the centre is covered with a cloth, on which are displayed some pebbles and a vase.

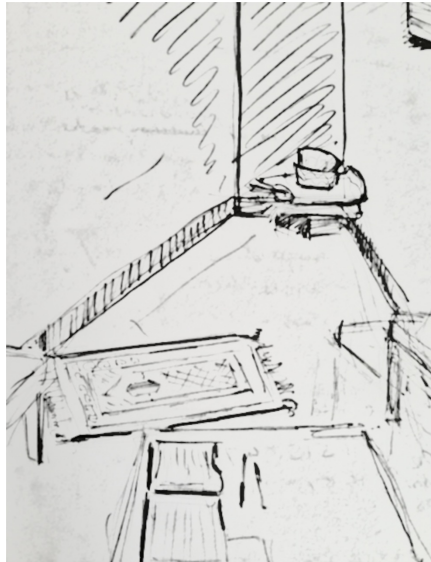
The design of the stained glass can be thought to suggest a flowing river of water. Previously in this thesis we read that the Romans found Celtic tribes revering the hot springs at Bath. It was thought that the Celts associated water with Minevera, the Goddess of fertility and renewal, because of the ebb and flow of river waters (Shepherd, 2002, p. 32).

Associations between water and the sustaining nature of water have continued to be used by religions practiced today. The most important river for Hindus is the Ganges, which flows from the Himalayas. The Himalayas are thought of as a home of the Gods, and as the Ganges is formed of many tributaries that spring from the mountain range, the river is thought of as a celestial stream (Moynihan, 1979, p. 89). Hindus use the water from the Ganges and other rivers in rituals of purification. These rituals are prescribed for daily events as well as the atonement of sins and for the deceased (Klostermair, 1998).

Whilst Islam rejects the cult of water worship, the importance of water is reflected in their depictions of paradise through the use of gardens; which feature rivers running through them, reflecting the life giving and purifying nature of water (Moynihan, 1979, p. 39). However, it is important for Muslims to make ablution before they pray which requires water. For this reason most Islamic places of worship will have access to water.

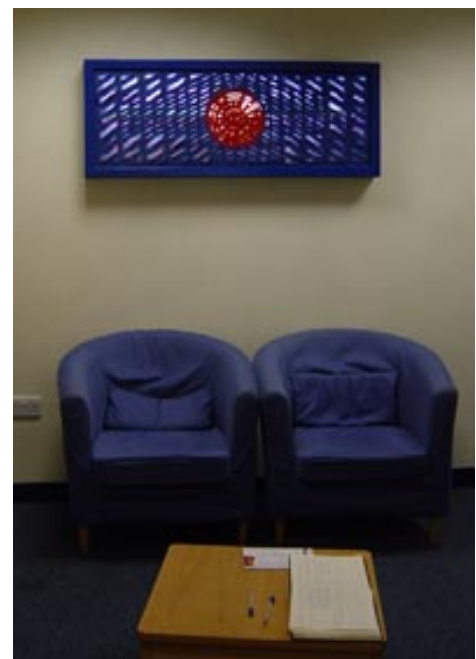
Christians also associate water with purifying qualities. For this purpose, many of the Christian denominations that practice baptism use water to symbolize the spiritual cleansing. This is in reference to the baptism of Jesus, which is described in the New Testament gospels. 'Specially blessed holy water' is used to ritually cleanse the person being baptized (Shepherd, 2002, p. 32).

3.5 Newcastle International Airport – Light symbolism



3.9 Eleanor Lachab *Sketch of Newcastle International Airport Quiet Room*, 2009. Pen.

The quiet room for Newcastle International Airport (*Fig. 3.9*) is situated just before passengers go through security to the departure lounge. The long side of the small triangular spaced room measures no more than 6m. There are comfy blue chairs along two of the sides, and at the apex are prayer mats. A bookshelf provides space for a variety of sacred texts, while a pin board gives travellers the opportunity to leave prayer requests. There is no natural lighting as the space is created within internal walls that have no portals. Imagery suggesting a setting sun was used as a focal point for the quiet room. A tapestry by Jacqui Frost depicting a red circle against a blue background has been displayed mounted on a light box (*Fig. 3.10*). From a conversation with the chaplain Revd. Charlotte Osborn (Osborn, 2008), it was intended that the glowing tapestry would be a gentle light source for the room.



3.10 Jacqui Frost *Sun tapestry* 2005

In this way the tapestry is used in the same way that traditional stained glass would be used: As a portal for light, to be filtered through coloured glass, the tapestry was commissioned to replace existing artworks created by local school children which depicted animals. The imagery of living creatures is forbidden in Islamic worship places, the former images were unsuitable for a room used by Muslims for their ritual prayers.

The use of sun imagery is a natural symbol that has been used as a reference to the sacred for thousands of years. Singh suggests our ancestors knew 'that all things are connected with the sun' (Singh, 1993, p. 15). In this section we will discuss examples of sun worship and how imagery associated with sun and light continues to be used to infer the sacred.

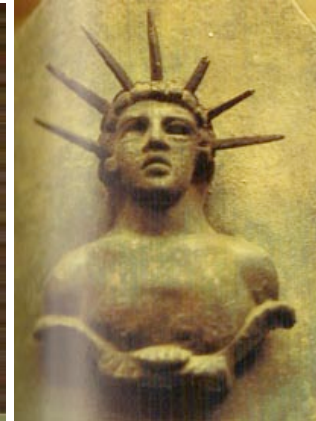
Several ancient cultures venerated sun gods. The ancient Maya worshiped two; the daytime sun - Kinich Ahau and the nighttime sun – the Jaguar God of the Underworld; they believed the day sun sank into the earth at nighttime and took the form of a jaguar (Miller M. , 1993, p. 357).

In Denmark, a bronze age 'sun chariot' was found in an archaeological dig. The statue is of a horse and cart carrying a bronze sun disc, which is gilt on one side (*Fig. 3.11*). Green (1993, p. 303) suggests the gilt surface represents the daytime sun and the plain side is a nighttime sun, hidden as it journeyed under the earth.

Both these myths described the sun travelling and had an image that morphed from the day sun to the night sun. They both associated animals conferred with importance with the sun, the jaguar in the Mayan myth, and the horse for the ancient Danes. This shows the importance they gave to the sun.



3.11 Danish Sun Chariot, showing gilt side.



3.12 Statue of Mithra

In the Romano-Celtic period, sun gods began to be shown in human form with sun emblems, such as spoked wheels. Throughout Europe altars dedicated to the Roman sky god Jupiter bore motifs of the Celtic spoked sun wheel (Green, 1993, p. 306).

Roman oaths were taken in the name of Mithra (*Fig 3.12*), they associated the god with the sun as an “all seeing” being (Singh, 1993, p. 49). Mithra, was also known as *Sol Invictus*; Invincible Sun. He was depicted as a young male with a sun disc radiating from his head; this was possibly a precursor to the depiction of Jesus – the Christian Son of God with a halo. Christianity became the dominant religion of the Roman Empire. The celebration of Christmas, which remembers the birth of Jesus, replaced the Roman *Dies Invicti Solis*; Day of the Invincible Sun, a festival that marked around the time of winter solstice (Singh, 1993, p. 97).

Diwali is a Hindu festival of light that celebrates a variety of legends. One of these is the return of Lord Rama after a 14-year banishment. To welcome him back to his home village rows of lamps were lit. Today lights called *Divas* are lit in celebration of that legend. The Hindu Goddess of light and wealth, Lakshmi, is associated with Diwali (Bellows, 2008, p. 270). Sikhs also celebrate Diwali and its association with the return of Guru Hargobind Ji, from imprisonment in 1619 (Mansukhani, 1990, p. 18).

Hanuka is a Jewish festival of light that celebrates the rededication of the second Temple in Jerusalem, Jewish families light menorahs - a candleholder designed for use in the Temple. Lighting candles in sacred places is a practice that occurs in churches, temples and other holy sites across the world. The symbolism of light differs, in some places it maybe an offering or a prayer, in others it is a symbol of the presence of the divine; for example the Kaaba in Mecca has continually burning lamps to signify the presence of Allah (Brown, 2004, p. 364).

Scriptural references are found in the three Abrahamic faiths to 'divine light'; they are used to symbolically express the relationship of God to his people:

Judaism/ Torah Psalm 27, 1 'The Lord is my light and salvation.'

Christian / New Testament John 8, 12. 'Jesus said of himself " I am the light of the world," and his followers would possess "the light of life.'

Islam/ Quran Chapter 24 An-Nour - The Light 35. 'Allah is the light of the heavens and the earth. The parable of His light is as a niche and within it a lamp: the lamp is in a glass, the glass as it were a brilliant star, lit from a blessed tree, an Olive. Neither of the east nor of the west, whose oil would almost glow forth even if untouched by fire. Light upon Light! Allah guides to His Light whom He wills.'

This shows that light, as well as the other natural symbols that we have discussed in this chapter; plants, landscapes, mountains, trees, and water and trees can all be used to signify the sacred to a range of beliefs. Suggesting that they can be used in quiet rooms in order to help the users identify it as a place set aside to house sacred acts. In the next chapter the use of glass in sacred spaces is discussed to see how it can be applied in contemporary quiet rooms.

4. Case studies showing methods of fabricating glass for sacred spaces

In the contextual review it was shown that glass, and especially stained glass is a medium often selected for use in the creation of artworks for quiet rooms. The Christian chapel at Great Ormond Street Hospital was designed with stained glass. Today there are several ways in which glass could be used in sacred spaces, a variety of these – stained glass, etched glass, printed glass and float glass constructions will be outlined in the following case studies³. This is in order to address one of the aims of the research; to establish whether fabrication methods other than stained glass are more appropriate for use in contemporary institutional quiet rooms.

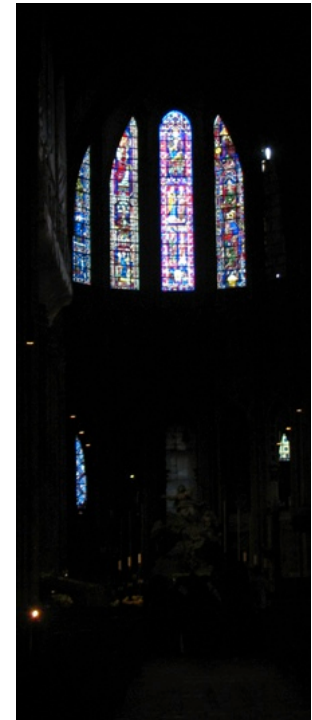
The case studies were examined using two methods – firstly site visits, as derived from Gilliat-Ray (2005), and Brand (2013), to record the use of glass through observing the site and the way the glass interacts with the fabric of the building. This method was used at Chartres, Gloucester Cathedral and St Martins in the Field. Secondly two of the sites, Neue Messe and The Sweeny Chapel were studied using the historical method, influenced by the PhD of Whitbread (2008) to discuss the use of glass within the space. In all of the case studies the historical method assisted in outlining the context for the glasswork and the method of fabrication. How the window might affect the viewers' experience of the space is touched upon.

³ Fused glass has not been included as a case study, as none of the sites that were visited as quiet rooms or sacred spaces used fused glass. As a method of producing art glass it would be worthy of future research.

4.1 Stained Glass

Stained glass is the traditional method of installing glass into stone buildings. Notre Dame du Chartres in France is considered to be one of the best European examples of medieval glass (Miller M. , Guided tour of Notre Dame de Chartres, 2008). The cathedral was built quickly, 1194 – 1250, with a single architectural vision.

The windows of Chartres were essential to both the structure and meaning of the cathedral, which was built to represent 'Heavenly Jerusalem'. The stained glass windows became the precious stones described in Revelations 21:19 – 20, as decorating the walls of the holy city (Miller M. , 1995, p. 3). In his book, *The Radiance of Chartres*, Rosser Johnson, also



4.1 East windows at Chartres

likens the stained glass windows to jewels: 'As a cabochon jewel does not transmit direct rays of light – seeming rather to glow from within – so do ancient windows diffuse and transform the light of day into the 'new light of the Celestial Jerusalem.'" (1964, p. 63)

Using a site visit as primary research, the stained glass was found to enhance the visitor's spiritual experience: On entering Notre Dame du Chartres the visitor was drawn through the dark towards the windows behind the east altar (*Fig. 4.1*), which seemed like small points of light radiating in the dark.

They passed stained glass designed to emphasis God's role in the world. At the altar the pilgrim received mass and as they turned away from the altar the light of the west windows flooded their vision. In conversation with Rev. Wardale, retired, it was suggested that this gives the pilgrim a symbolic experience of being born into new life, which is in line with the physical experience of receiving mass (Wardale, 2009).

The second example of stained glass in a sacred setting is a window by Thomas Denny in Gloucester Cathedral, in 1993. Denny's windows are situated in the south ambulatory chapel: A small sanctuary adjacent to the main body of the cathedral, a place where people are able to sit and contemplate. Denny's stained glass aims to enhance that experience (*Fig 4.2*).

The window was based on John 20, verses 24 – 29, when Thomas, disciple of Jesus, doubts that he had risen from the dead, and is invited to test his doubt. The window was modern in initial appearance, but had some similarities with medieval glass. For example, the use of a blue background is similar to the medieval use of a monochrome background found in medieval windows, framing the images of figures going about their biblical business. Around the figures in this window the background moves from light to dark, inspired by Psalm 148, a song of praise.

Denny used many techniques available to the stained glass artist. He etched, painted, stained and plated his glass. By the time the window had been glazed, it was difficult for light to penetrate the glass. This caused the window to glow rather than shine.

He used great control of the way in which light is refracted through the glass. The central figures were heavily painted with eye-catching contrast to the clear glass around them. From first-hand experience this was found to draw in the viewer, and enabled their eyes to follow the light around the window, picking out familiar shapes.

Imagery was found both in the dark and the light areas of the stained glass. When studied, the window could help the viewer to contemplate the psalms on which the design is based. At Chartres the pilgrim peers through the dark to see the stained glass images. In Gloucester the viewer peers into Denny's stained glass to find the stories captured within. This suggests that the traditional link between stained glass and a 'spiritual' pilgrimage is continued within Denny's window.



4.2 Thomas Denny, *St Thomas*, Gloucester Cathedral, 1993 Stained Glass



4.3 Shirazeh Houshiary, St. Martin in the Field, 2007 Internal View

4.2 Engraving on Glass

St Martin in the Fields, situated next door to the National Art Gallery in London, is an active church with a diverse number of activities that range from working with the homeless to hosting art exhibitions. In 2007 the church commissioned Iranian born sculptor, Shirazeh Houshiary and her architect husband Pip Horne to design a window for the east end of the church. The window is a focal point and the main natural light source.

Born in Shiraz, Iran, the artist has lived in the UK since 1976 when she studied at Chelsea School of Art. Her voice was distinctive from her contemporaries for both its Persian and Sufi influences. She said 'I set out to capture my breath, to find the essence of my own existence, transcending name, nationality, cultures.'
(Wallspace)

This window reflects that statement as well as reflecting the religious, spiritual and architectural elements of the church (*Fig 4.3*). The 'warp and weft' design created using a stainless steel frame creates movement evoking the agony of the crucifixion of Jesus on the cross. The ellipse echoes architectural and decorative

elements within the church such as the burst of gold in the sanctuary
(<http://www.shirazehhoushiary.com/>)

The ellipse and surrounding glass is engraved; a method of creating the design by cutting into the surface of the glass. The engraving reflects the artist's feathery mark marking. The pattern is graduated so that it is lighter at the periphery, building up towards the centre where it becomes almost opalescent (*Fig 4.4*). LED's lights the ellipse in the evening, which means that the ellipse can be seen glowing both inside and outside of the church.

The opacity of the ellipse creates the central focus of the window, which expresses the idea of an opening, as if the cross is pulling apart to reveal the light of God. Houshiary managed to design a contemporary contemplative window that utilizes light for both practical and spiritual purpose.



4.4 Shirazeh Houshiary, St. Martin in the Field, 2007 External View

4.3 Printing on Glass

Alexander Beleschenko, an artist based in Swansea, designed the windows for prayer rooms in Neue Messe – a trade exhibition centre in Munich, Germany. The windows designed by Beleschenko divide the room from the corridor, on the other side of which are external windows providing natural lighting (*Fig 4.5*). The windows were designed to diffuse the light. In doing so they create privacy, as people can no longer see in or out. The diffused light also gives a feeling of calm.

The screen-printed enamel creates a painterly effect. The abstract painting could be interpreted in a number of ways, again essential in a space used by different faiths. The printing provides an extra layer of diffusion to the glass. In writing on how colours can be used to create a feeling of the sacred, the architect and writer Christopher Alexander (2004, p. 164) suggests that muted colours suggest inner light more effectively than bright colours. This window, as with Denny's stained glass, seems to be an example of this, as the layer of engraved glass diffuses the colour.

Blue is the only colour used in these windows. In his book on colour Itten describes blue in the following manner (it) "beckons our spirit with the vibrations of faith into the infinite distances of spirit." (Itten, 1961, p. 136). This suggests that blue is a colour linked with the spiritual and so suitable for use in a prayer room that is used by people practising different beliefs.

The prayer room provides a little haven of peace, created by Beleschenko through the use of colour and diffusion in the glasswork. This illustrates how glass can be used to create private spaces.



4.5 Prayer Room, Alexander Beleshencko, Neue Messe, 1998

4.4 Float Glass

This example shows the use of float glass as a method of creating imagery in glass. It was designed and installed by James Carpenter for the Sweeny Chapel, located in a Christian Theological School seminary in Indianapolis. The Christian Church, a denomination involved in both ecumenical work and the practice of Christianity as an action based faith, runs the seminary. The Sweeny chapel is an austere building and this window had to be in keeping with the minimalist styling.

James Carpenter answered the brief using his signature style of coated float glass to create an ethereal light-scape. His work plays with the form of the building by making it reflective or transparent. He uses float glass to consciously manipulate light, refracting and reflecting it to stop the viewer and make them think about the space. (<http://www.jcdainc.com/>) He shows respect and understanding of light, making it the main focus of his work.

Carpenter's window (*Fig 4.6*), installed in 1987, is adjacent to the altar. He manipulated the natural light by using the glass to project light into the chapel onto the wall behind the altar. The reflections from both sides of the glass created a cross hatch effect. The light demonstrated the cycle of time, changing according to hour and season. This relationship between light and time is integral to the design.

An effect of the projected light is that the congregation can see movement reflected into the chapel; for example, if a bird flies past the window. The congregation contemplates the light, rather than the physical. This resulting play of light combined with fleeting glimpses of creation is somehow spiritual.

Importantly Carpenter's window challenges the perception of the chapel as a sanctuary from the outside world. Encouraging in light and imagery it reminds the congregation of the needs of the world it serves, in keeping with the ethos of the seminary. This shows how glass and light can be used to create a space that is both contemplative for the viewer and reflects the essence of its spirituality.



4.6 Sweeny Chapel, Christian Theological Seminary, James Carpenter, 1985-7

The case studies seen in this chapter show that there are a variety of ways in which glass artworks can be created for sacred spaces. In the next chapter the way in which I use specifically stained glass for a sacred and secular site is discussed.

5. Professional Practice showing a comparison of stained glass artworks for sacred and non-sacred spaces

The aim of this chapter is to compare, using two case studies, the way in which I designed and developed stained glass for a Christian setting and a secular setting. This is in order to fulfill research questions 3: To analyse the design and use of glass in sacred and non-sacred space, and research question 4: To ask if stained glass as a method of glass fabrication is too closely associated with Christian architecture to be used in contemporary institutional quiet rooms.

In her PhD on the *Innovative application of the coated glass surface in architecture* Johnston (1997) uses case studies to examine the work of glass artists. In this chapter this method will be used to analyse the way I design and make stained glass windows for two different spaces. Each case study will discuss the context and initial site visit for the new glass artworks. Watkinson (2013, p. 16) describes creating commissioned works that complement rather than challenge the architectural setting within which the work is placed. To do this she researches the area, not just the fabric of the building, but from the perspective of the users. As such these case studies will include the history of the space, its current use and who the users are. Because glass has a unique relationship with light it is important to understand how light interacts with the space, for example how much direct sunlight enters? When? Is the light reflected?

The section on design development will outline the brief. It will go on to discuss how the design was developed with reference to the brief and the methods used. If samples were made to further explore the design, then these will be discussed to show how the design was interpreted using glass. This will begin to reflect on what methods of glass fabrication are suitable for a specific place, for example, if stained glass is appropriate? This question is further considered as the method of fabrication is outlined in each case study. Finally the case studies will be summarized to discuss whether each design could be considered as appropriate for a multi-faith space and reflect on how this study has influenced my practice as a glass artist creating artworks for sacred spaces.

5.1 Case study – sacred space – Hosanna House Chapel



5.1 Hosanna House over looking the Pyrenean Mountains.

Hosanna House is a Catholic retreat house, based just outside of Lourdes in the south of France. It was designed specifically for hosting groups of adults with disabilities whilst on pilgrimage to Lourdes. Established in the 1975 the former hotel was extended to be able to host two groups in two separate wings (*Fig. 5.1*). In between the two wings a chapel was built for daily services and quiet individual contemplation (*Fig. 5.2*).

The Pyrenean mountain range can be seen from the lower windows of the southwest facing chapel. The charity that runs Hosanna House is The Handicapped Children's Pilgrimage Trust, more commonly known as HCPT, The Pilgrimage Trust. The charity wished to commission stained glass to replace the coloured glass of the upper windows. This process was organized by a sub group of HCPT trustees who will be referred to as the window trustees. The chapel has a central window that measures 3.5 m x 1.8m. On either side are 3 windows, which decrease in size, following the line of the pitched-roof (*Fig. 5.3*).

Easter is an important time in the history of the trust: HCPT began by bringing children to Lourdes at Easter, this continues with about 5,000 HCPT visitors and volunteers making the pilgrimage each year. They use Hosanna House as a venue for recreation and relaxation rather than a place to stay. The chapel is used for up to 5 services a day during the Easter pilgrimage.

In line with the wishes of one of the HCPT founders: Fr. Michael Byrne, who had left money in trust to provide for the windows, the brief was for a figurative window that depicted the Easter story. Each of the four biblical gospels has a different perspective on the Easter story. Through discussions with the window trustees, the story of Mary Magdalene meeting Jesus in the garden was decided on as it reflected the aims of HCPT, who use pilgrimages as the starting point for creating friendship, healing, and celebrating new life.



5.2. Hosanna House Chapel external view



5.3. Hosanna House Chapel internal view

5.1.1 Context and Site visit

The site visit was made in October 2011 with a deadline of 8th April 2012, Easter, set for completion of the central windows. Present at the site visit were; myself, window trustees, architect and the Hosanna House manager. This enabled the initial discussions to be thorough with both practical and creative matters.

It had been hoped to get an understanding of the way light works within the space of the chapel by observing sun shining through the windows. However, rainy weather on the day of the site visit meant that the sun was obscured. The chapel faced southwest, meaning that the sun would travel from the left to the right side of the chapel. Behind the central window there was a tree, which it was agreed to remove so as to not block the light.

The design of the chapel was created to draw the eye up, as the pitched roof slanted upwards from the entrance at the rear of the chapel towards the central windows at the far end of the chapel. As such the centre window became the focus of the viewer's attention as they entered the chapel.

The window trustees discussed the users of the chapel: a wide range of people – from the children who visit during the Easter week, to older volunteers who like to spend time in the chapel in the early morning or at the end of the day. Worship in the chapel was described as a vibrant affair – aimed at people who may not have experienced church and people with wide range of abilities. From this it was decided that the new windows should be brightly coloured and lively to reflect the worship in the chapel, whilst also containing details that individuals could reflect on during quieter times.

The brief for the window suggested that the design be a figurative representation of the bible story concerning the resurrection of Jesus in the 'Easter Garden'. The story from The Gospel of John, Chapter 20, is rich with visual imagery – a garden, a tomb, a weeping woman and angels. Mary Magdalene has gone to anoint the body of Jesus but finds the tomb empty. Two angels in white asked her why she was weeping? She then mistook Jesus for a gardener, but once he addressed Mary by name she realized who it was and fell at his feet reaching for him. Jesus told her not to hold on to him, but go to his disciples to share the good news that he is not dead, but very much alive.



5.4 Easter window

St Mary in the Lace Market Church,
Nottingham



5.5 Greek Icon

5.1.2 Design Development

Visual research focused on previous images of the Easter story such as a Victorian stained glass window in St Mary in the Lace Market Church, Nottingham (*Fig. 5.4*). This Victorian window showed Mary Magdalene kneeling at the feet of Christ, with angels in front of an empty tomb. The horizontal composition, with figures reading from left to right, was not appropriate for the situation of the Hosanna House windows, which needed to lift the eye upwards. I found that the styling of the seated angels a useful reference for the design.

A Greek icon (*Fig. 5.5*) depicting the risen Christ was a starting reference for developing the composition of the window. The Icon showed Christ at the centre surrounded by a blue aura, suggesting sacred energy. The placement of the figures helped in considering the composition of the figures in the design of the window, centralizing Christ and Mary, with the angels at the top of the window. In the background of the icon are golden mountains. This seemed appropriate imagery to use in the design of the Hosanna House windows as the chapel overlooks the Pyrenean mountains.

Through the use of pencil and pastel sketches the design was developed, bringing together all the elements considered in the visual and contextual research (*Fig. 5.6*). This meant that the composition and colour could be quickly rendered. This allowed for several ideas to be worked through and discussed with the client.

This composition was intended to work with the overall theme of the architecture of the chapel – which was created to draw the eye upwards. The bright colours used were intended to reflect the joyfulness of both the story and the lively worship that takes place in the chapel. The colours create a gradient of light; from the darker earthly colours at the bottom, to the lighter colours at the top where Jesus is surrounded by the angels and his shroud.

The resulting design for the central window (*Fig.5.7*) depicts Mary Magdalene kneeling in front of the empty tomb, with ointment jars at her feet. Realizing he is risen, her arms are stretched towards Jesus wanting to hold him. Jesus stands in

a position of sympathy, but also one that invites her to action, showing his wounds but asking her to let go. On either side of Jesus an angel holds on to the burial shroud.



Fig. 5.6 Eleanor Lachab *Composition sketch*, 2011, Pencil, pastel and Photoshop , 2011.



Fig 5.7 , Eleanor Lachab *Easter window final design*, 2011, Pencil and Photoshop.

Gold is used in religious spaces not merely as decoration, but because of its relationship to light. Its reflective properties were used, as Itten succinctly describes as 'symbols of the beyond, the marvelous, the kingdom of sun and light' (1961, p. 132). This and the influence of the design of the Greek icon encouraged the decision to use gold as the background colour for the window – to suggest to the viewer heavenly light.

Blue was used to surround the central figures to suggest a sacred energy – reflecting the Icon used as a reference which had the field of blue around the figure of Jesus - Itten suggests that this gives the impressions of a vibrating faith. He describes blue in the following manner (it) "beckons our spirit with the vibrations of faith into the infinite distances of spirit." (1961, p. 136). The blue contrasts with the gold background to define the significance of the central figures.

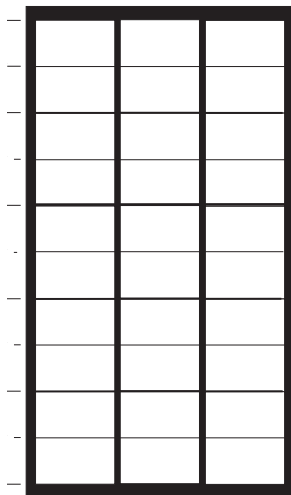
Surrounding Mary are Lilly of the Valley, whose drooping tear shape flowers represent her sadness. Behind the flowers are pomegranate trees, which are often depicted along-side the image of Christ. Traditionally a split pomegranate is a symbol of the suffering and resurrection of Christ, one of these can be found just below Mary's foot. These details were intended to give the contemplative viewer something to reflect upon.

The design was presented to a panel of HCPT trustees using a Power Point presentation. This form of presentation allows for a large image to be projected and seen by a group of people. The presentation included the final design for the central windows, a discussion of the concept and artist impressions of the windows in situ.

5.1.3 Method of Fabrication

The size of the window, 3.5m x 1.8m, meant that the stained glass needed to be divided into smaller panels for structural stability. It was divided into 15 panels, 69 x 40cm each, arranged in three columns of five (*Fig. 5.8*). In scaling up the design to full scale it was decided to draw up the five central panels and only one side of the design. The symmetry of the design allowed this.

Using charcoal (easier to rub out than pencil), meant the composition could be adapted as it was drawn up to full scale (*Fig. 5.9*). The final design presented to the trustees was somewhat sketchy; as the scaling up progressed it was refined. Drawing from the human form, and using faces taken from Greek icons, helped to develop detailed figures (*Fig. 5.10*).



5.8 Division of windows



5.9 Charcoal outlines



5.10 Icon referenced for faces

At each stage photographs were taken, to record the process, and allow each section to be pasted together in Photoshop. This ensured that all the sections worked together, as due to the scale, the sections could not be seen together in their entirety (*Fig. 5.11*). Once the design was fully drawn up and all the elements in their correct place, black ink was used to firm up the charcoal lines, and to indicate where the lead lines would be placed (*Fig. 5.12*). From the full-scale design cut-lines (patterns indicating where the glass should be cut) were made for each section.



5.11 Eleanor Lachab *Easter window cartoon in progress*, 2011, charcoal and Photoshop



5.12 Eleanor Lachab *Easter window cartoon in progress*, 2011, charcoal and ink

When selecting the glass the location of the chapel, in the south of France was taken into consideration. The glass used needed to be densely coloured to retain the brightness required by the design. As such the glass was selected ensuring that the colour would still look bright in front of a strong light.

Once the glass was cut (*Fig. 5.13*), trace-lines were painted onto the glass to establish the outlines of the features and figures (*Fig. 5.14*). Where two sections join, the glass was lined up to make sure that the trace-lines joined up (*Fig. 5.16*). Once the trace-lines were complete the shading paint was applied thickly, again to ensure that the sun wouldn't bleach the painting (*Fig. 5.15*). In some places, for example faces and tree leaves, two layers of paint were used to create depth. Finally each panel was glazed and packaged ready to be delivered to the chapel, where they were installed.



5.13 Glass over cutlines.



5.14 Trace lines outlining the figure



5.15 Dark Matting on the face



5.16 Lining up two sections to ensure continuity.



5.17 Eleanor Lachab *Easter Window*, 2012, Hosanna House stained glass ,

5.1.4 Assessment of design from a multi-faith perspective

The stained glass window designed created for Hosanna House, was for a specifically Christian setting. The subject of the window was a story from the Christian Bible and it was interpreted in a traditional manner: Depicting the figure of Jesus with Mary Magdalene and two angels. In this section we will discuss in what ways the window could be suitable or unsuitable for a multi-faith setting.

In the discussion regarding the sun themed artwork in the quiet room at Newcastle Airport, light as a signifier of the sacred was shown to be used by several different faith groups. It was used as an act of prayer – for example the lighting of a candle. In memorial or as a celebration, for example: Hanukah (Jewish) or Diwali (Hindu & Sikh). A single light can be a signifier of the sacred, such as the sanctuary lamps used in Christian churches.

The design for the *Easter Window* utilizes light as a signifier of the sacred in two ways. The overall design was created with the light graduated from dark at the bottom, to light at the top, where the heavenly beings are represented. This use of light to symbolize the sacred could be identifiable to people of other faiths and would be appropriate for use in a quiet room. However the use of halos around the heads to identify the figures as holy would be controversial in a space used by people of other religions. For example in Islam the representation of living beings is forbidden, and the representation of Jesus as sacred who is viewed as a prophet, but not the son of God, would be unacceptable in a quiet room.

Imagery of plants or gardens are sometimes used in quiet rooms, the windows in Bristol Childrens' Hospital prayer room are an example of this – designed by Catrin Jones they depict plants associated with purity and innocence. Brown suggests that because religious people perceive the natural world to be divinely created, in can be imbued with sacred symbolism (2004, p. 245). The windows at Bristol Children's Hospital influenced the design of the *Easter window* for Hosanna House; initially with the idea that healing plants could be referenced in the design. As many of the pilgrims visiting Lourdes do so for healing. However, as the research continued, it was felt that plants more closely related to the

biblical story - the Lilly of the valley (sadness) and the Pomegranate (joy) would better reflect the range of emotions being expressed by the figures in the window. These details give viewers something to reflect on during their individual prayer time.

The plants used in this window - especially the Pomegranate, a fruit representative of Granada in southern Spain, a city that has links with both Jewish and Muslim heritage. This further demonstrates the multiple readings that can be applied to plant imagery. As suggested in the section on contemporary quiet rooms that artworks use imagery that may infer the sacred with a multiplicity of readings.

Colour played an important role in the design of the windows. As we have seen in earlier case studies blue is a colour associated with the sacred beyond just one faith group. Gold, a colour, which will be discussed in the next case study, and blue, can be found in the architecture and artworks in the sacred spaces of a variety of faiths. This suggests that the use of colour in this stained glass window would be appropriate for use in a quiet room.

5.2 Case Study – Non-sacred space – The Bossyani Studio

‘The Bossyani Studio’ (*Fig. 5.19*) was the workshop of stained glass artist Ervin Bossanyi (1892-1975). Sited in the garden of his former home, the current owners have used the building as a performance space and were keen to utilize the space as a gallery. They wanted their first exhibition to be a glass exhibition to link with its historical use. I was approached with the chance to exhibit a body of glasswork in the studio.

White walls and large windows within the studio created a blank canvas for a body of artwork to be displayed. The amount of window space meant that there was plenty of choice for situating glasswork. While the wall space gave the opportunity for designing glasswork that could be reflective rather than refractive (*Fig. 5.20*).

5.2.1 Context and Site Visit

On the first site visit the owners and myself were present so that we could discuss the options for exhibiting glasswork in the space. As the building had formerly been a stained glass studio, there were rebates in some of the window openings, to allow for the viewing of stained glass panels.

Windows were situated on the northwest and southwest sides of the studio (*Fig. 5.21*). This meant that the windows on the northwest side would get no direct light throughout the day; whilst on the southwest the windows would get natural light towards the evening. Whilst the windows on the northwest side were unobscured by trees, on the southwest side there was a line of tall trees 20m from the building - these would obscure any direct light.

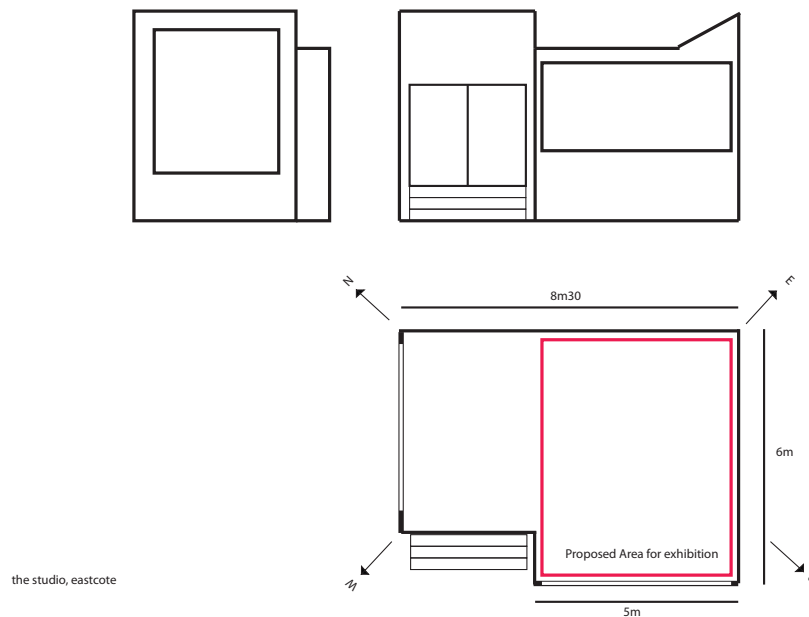
The owners of ‘The Bossyani Studio’ had a list of ‘friends’ of the studio who were regularly invited to attend events that were held there. These were largely people from the local community with an interest in the arts.



5.19 The Bossyani Studio



5.20 Inside The Bossyani Studio



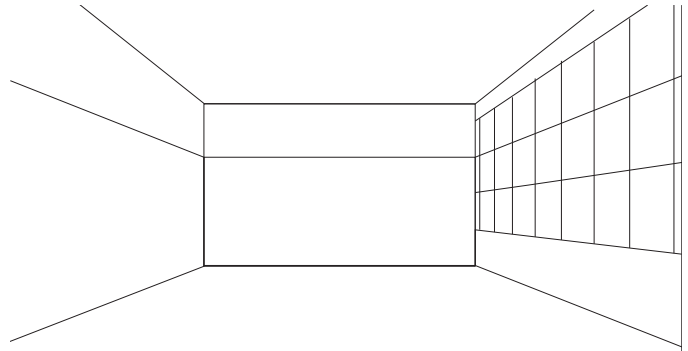
5.21 Eleanor Lachab *Plan of The Bossyani Studio*, 2011, Illustrator

5.2.2 Design Development

The development of glasswork was led by me. The owners of the studio gave me the opportunity to develop work according to my own brief. As such there was also no need to present the idea for the work to the owners of the studio.

Designs were developed that related to the idea of the sun moving through time, and how we relate to the changing of the hour. The research relating to the use of sun and light imagery was fresh in my mind. I wanted to use this opportunity to explore how this symbol could be interpreted in glass. These factors inspired a body of glass artworks which each relate to a different time of day and night.

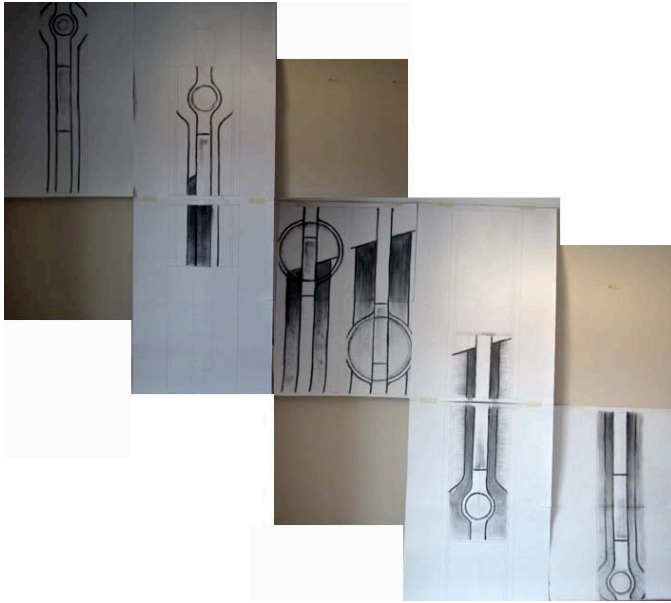
Beginning with photos and drawings of the space, two computer programmes were used to develop 'sketches'. Adobe Photoshop and Illustrator enable the artist to quickly create and manipulate



ideas, by creating layers of images. For example the base layer remains the same, while layers over the top can be adapted and changed accordingly. **5.22** Eleanor Lachab *Inside the Studio*, 2011 Illustrator

Photoshop allows the user to use photos as a basis to add or manipulate imagery in creating ideas. These images can then be developed for further use as artists impressions of what artwork may look like in-situ. A photo of the existing window was overlaid with a design that could then be manipulated to appear backlit.

Illustrator allows the artist to create imagery, using tools that imitate the tools used to create work on paper. The shape tools create shapes with fairly accurate measurements – this is useful when creating designs to scale. Once the measurements for the studio had been established, a scale design of the window area was created in Illustrator, which could then be used as a background, over which ideas were developed (*Fig. 5.22*). To keep all of the ideas and designs together a digital sketchbook was created.



5.23 Eleanor Lachab *Composition Sketches*, 2011 Charcoal



5.24 Eleanor Lachab *Glass samples*, 2011, Sandblasted Tatra Glass



5.25 Eleanor Lachab, *Time and Light sketches*. 2011, Pastel.



5.26 Eleanor Lachab, *Time and Light sketches*. 2011, Ink on Watercolour paper, with gold leaf

Once a design was fully developed digitally, full-scale designs were hand drawn onto paper using charcoal (*Fig. 5.23*). This meant that the design could be analysed in greater detail and developed as necessary. In conjunction with the full-scale drawings, smaller pastel on black card and black ink on white watercolour paper drawings were created (*Fig 5.25 & 5.26*). This was to aid the development of ideas and how to apply the imagery onto glass.

Colour samples tests were created to check that the planned use of colour for the stained glass panels would be suitable. As this work was being created for a

secular space I aimed to create stained glass that wasn't too 'Christian' I had started to use purple to suggest shadow or darkness, however the combination of gold and purple were felt to be too associated with Christianity (*Fig 5.27*). (Itten, 1961, p. 134). The purple was changed to a grey, which is close to black on the colour scale and suggestive shadow This experience shows how easy it is to create a design for visual reasons, and realizing later that it could be read to suggest something other than what was intended.



5.27 Eleanor Lachab, *Time and Light sketches*, 2011, Glass.

“Colours are forces, radiant energies that affect us positively or negatively, whether we are aware of it or not. The artists in stained glass used colour to create a supramundane, mystical atmosphere which would transport the meditations of the worshiper to a spiritual plane. The effects of colours should be experienced and understood, not only visually but also psychologically and symbolically.” (Itten, 1961, p. 16)

Itten suggests it is important to have a good understanding of the symbolism associated with colour and how it works with glass and light. For the visual research for the designs for the studio space I focused on the association between gold, light and sacred spaces.

In the Newcastle airport quiet room case study sunlight was discussed in terms of its association with the sacred. The five main religions in the UK were brought here from sunny climates; the Abrahamic faiths from the Middle East, the Hindu

and Sikh faiths from India. In warm climates the use of colour is different to the use of colour in the cold climates.

Porter suggests this is because in drier climates the amount of reflected light is increased, resulting in colours appearing to be more vibrant (1982, p. 68). The Mirhrab area of a mosque – that shows the direction of Mecca is often richly decorated with gold leaf mosaic (Petersen, 1996, p. 195) One of the most iconic Islamic buildings is the Dome of the Rock in Jerusalem, the dome of this is gold. This suggests that in the Islamic tradition gold is associated with the sacred.

The most important place of worship for Sikhs is the Hari Mandir Sahib at Amritsar, which is also known as the Golden Temple. This descriptive term refers to the fact that the inverted lotus shape is externally gilded (*Fig5.28*).

(Mansukhani, 1990, p. 11). From further afield, the Japanese writer Tanizaki describes the internal areas of temples as being very dark, so that should any light enter the space the gold object would become a source of illumination. This suggests that gold was used in temples to create an ethereal glow (Tanizaki, 1967, p. 22).

This demonstrates that gold is used in religious spaces not merely as decoration, but because of its relationship to light. Its reflective properties were used as Itten succinctly puts it as ‘symbols of the beyond, the marvelous, the kingdom of sun and light’ (Itten, 1961, p. 132).



5.28 The Golden Temple/Hari Mandir Sahib at Amritsar, India.

5.2.3 Fabrication and response to installation

The body of glasswork was developed through the development of visual ideas and the testing of materials. The panels were fabricated in both the traditional stained glass manner for the daytime panels (*Fig 5.29*), while the wall panels, symbolising the night, were created by sandblasting Bullseye iridescent black/gold glass, to reflect the light (*Fig 5.30*).

Below are two tables that outline the various visual tests to examine how coated glass works with light. This is following on from Johnston's suggestion in her PhD that glass artists should consider using coated glass to create artworks.

Etching the glass through the use of sandblasting was combined with glass painting to examine how my traditional skills could be used with new types of glass. Through this testing it was found that the coated glasses work best with a reflected light, and therefore would be best used against a wall rather than against natural light. The painted amber iridescent glass was visually interesting when combined with glass paint. It would be interesting if this could be used to create work that looked good during the day and at night.



Glass coatings

Bullseye Clear Irid

Sandblasted central strip on surface

Sandblasted central strip on reverse

front lit



back lit

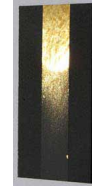


The coating appears more strongly when lit from the front. Light coming through renders the coating unnoticeable.

Bullseye Black glass with Gold Irid

Sandblasted central strip on surface

Sandblasted with central strip sandblasted in a gradient



The black glass is too dense for light to penetrate, for this reason back lit images have not been included

The gold reflects light very strongly. But sandblasting the coating off pattern can be created. By varying the amount of sandblasted applied to the glass a gradient can be created.

Glass coatings

Gold leaf on glass

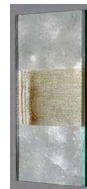
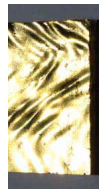
Gold leaf onto sandblasted surface

Gold leaf on textured glass

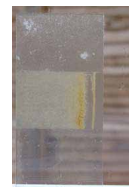
Gold Chalk on float glass

Gold Mica Powder on float glass

front lit



back lit



Front lit: Gold reflects lights. Works especially well in recess without direct light.

Back lit: Gold is visible unless light is directly behind the gold, in which case it blocks out the light and becomes dark.

Note: the gold leaf used in all these tests was from the same sheet. The type and direction of the lighting makes the gold appear to have a different tone.

Gold chalk works only on a sandblasted surface. For this test a gradient was tested to see the effect.

Gold chalk is fairly weak in comparison to the leaf and irid coatings.

Gold mica powder was fused between and onto the surface of float glass.

Mica powder is effective when front lit. Back lit the effect is similar to sandblasting.

Applied glass coatings

The table above shows a series of tests examining the application of gold, and the various methods of application were carried out to explore the best way of applying gold to glass.

This was because I wanted to create a series of sacred 'moments' within the artworks. The use of reflective gold would highlight this on the stained glass panels. Sandblasting was also used on the stained glass panels in reference to work of Houshiary, who used etching on her windows for St Martin-in-the-field, to hold the light. In my panels, the 'sun' was etched, in order to hold the light and draw the eye towards it, giving it significance within the artwork. The use of gold and gold coloured glass, in both the stained glass and the wall panels sought to give further importance to the 'sun' imagery in a direct reference to its sacred association.

While the glasswork was in-situ at the studio, there was time to document the glass in different lighting conditions. This was done using photography and film. The images collected sought to explore how the stained glass panels interacted with the space. For documenting viewers' responses a visitor book was used. This was a method used by Gilliat-Ray, in her study of the Prayer Space in the Millennium Dome. Artist Ghislaine Howard, (2010) spoke about the difference between exhibiting artwork in churches and in galleries. She commented that in churches the comments in visitor books are much more personal than in galleries. For example, one comment left in her visitor-book in a church was "Daddy says sorry". Whereas comments left in a gallery usually relate more to the artworks. This suggests that site may also affect viewer response.

One comment written in my visitor book was: "A wonderful evocation of the effect of light on the spirit." This would suggest that the glass-work was successful in expressing a sense of the sacred to at least one viewer. However, in this situation the use of a visitors book was unsuccessful in gathering peoples responses, this was the only one out of the seven comments in the visitor book that referred to the glasswork. The other comments came from visitors who were known to me and therefore wrote kind comments in the visitor book, rather than commenting on what they thought of the glass artwork. The comments and lack of in the visitor book suggests that future user testing should consider other ways of collating user responses and the participants should consist of people not known to the artist.



Fig 5.29 Eleanor Lachab *Day in situ* in the studio, 2011. Stained glass.



Fig 5.30 Eleanor Lachab *Night* in situ in the studio. 2011 Sandblasted bullseye glass.

5.2.4 Assessment of design from a multi-faith perspective

Creating glass for the studio exhibition allowed me to explore ways for creating glass for two different environments, one where the glass was lit from behind and the other where the glass was lit from the front. This difference meant that I was able to consider ways of designing for spaces without direct natural lighting. I chose in this instance to use the reflective quality of glass to produce imagery that matched the imagery of the more traditional stained glass artworks.

Some of the multi-faith spaces that I had visited were spaces such as the quiet room in Newcastle airport that had no natural lighting. The artwork on display had its own light source from within. Another quiet room located in St Michael's Hospital, Bristol, similarly had no natural lighting, but displayed large stained glass screens, the effect of which was somewhat lost, due to not being lit from behind. By creating reflective glass artworks for the exhibition, I hoped to address the issue of a lack of natural, or back lighting for glass artworks.

The process used to design and create the glass artworks were on a practical basis similar to that of creating for a religious space, for example, taking consideration of the users and the built environment. Then developing the design through the use of sketching and computing.

To create artwork that was in some ways sacred, but not related to any one-faith group, sun imagery was used. This symbol has been described as a universal motif representing the sacred earlier in thesis. The relationship of glass and gold with light has often made them materials of choice for use in sacred places. Here they were used to reflect the value we place on the moments of time that are sacred to us.

6. Conclusions and areas for further research

6.1 Conclusions

In this thesis it was found that quiet rooms require signifiers to identify them as places that house sacred acts. Glass has been shown to be a material with a unique relationship to light, which itself is often used as a signifier of the sacred. .

The use of a bricolage methodology allowed me to study this relatively new area of multi-faith spaces and their use of artworks. I was able to merge several research methods to draw conclusions. For example combining a literature review and primary site visits in order to analyse the use of natural signifiers and the use of glass in sacred settings. This showed that the imagery of light was found to be a signifier for a range of belief groups, either in the form of candles for individual prayer, to the festivals of light celebrated by Jews, Hindus and Sikhs.

In studying a range of ways of fabricating glass for sacred sites, it was found that the unique ability of glass to emphasis and manipulate the light is what is important when considering the use of glass. This makes glass the perfect material to enhance contemporary quiet rooms. The key for glass artists is to use fabrication methods and imagery sensitively in quiet rooms. It should respond to both the environment and be aware that the spaces are used by a variety of people who each hold different beliefs. It is therefore important to test and evaluate the artworks in progress to ensure that they have not unwittingly become too representative of any one religion.

Through primary site visits and an analysis of an existing photographic archive, glass artworks were found to still be an essential way of signifying that the space is 'set apart' as a quiet room. Where glass artworks are used they follow the current norms of quiet rooms and present naturalistic imagery in order to address common ground between people of different beliefs. A literature review found that the natural imagery used can be read as signifiers of the sacred by users from different religions. For example plants and landscapes can be read as associated

with ideas of paradise by the three Abrahamic faiths, whilst Hindus may see pleasure gardens as where their gods like to dwell.

An issue with the study was that it focused on religious artworks, as these are what are created for sacred spaces. It was limited by the focus on the needs of the people who adhere to the 5 main religions in the UK. No attention was given to those who describe themselves as being of no religion, which after Christians is currently the largest group of people. I believe that it is important that further research should explore the aesthetics of 'secular sacred' spaces and how these could be applied to contemporary quiet rooms through the use of glass artworks.

The bricolage method allowed me to utilise opportunities that arose from my practice to help explore whether stained glass was too associated with Christian worship spaces to be used in a contemporary quiet room. In the literature review it was observed that stained glass was developed with gothic church architecture. These buildings had the structural capability to create large openings for windows. The stained glass was designed to be seen from inside the dark stone buildings. As such it works best with natural light shining from the outside. This allows it to cast coloured light into the space within, creating the jewel effect. Contemporary buildings are often much brighter due to new technologies in contemporary architecture. To successfully use stained glass as a fabrication method it is suggested that the siting of it is as important as the imagery used.

My practice created stained glass for both a Christian and non-sacred setting. In both cases I was able to make the most of external lighting. For the Christian chapel appropriate narrative imagery was used to tell the Easter story in order to fulfill the client's brief. I feel that the design was enhanced by the use of blue to emphasize the holy figures at the centre of the window. This was as a result of having studied colour symbolism for this study.

It had been intended to evaluate the Bossyani Studio works with the use of a visitor book. I was wary of using questionnaires having studied the use of surveys to collect information about the religion of participants. These showed that very subtle wordings could radically change the outcome of the answers. It was a

concern that intentionally or unintentionally leading questions may influence the answers of the participants, and the results would be skewed. By using a visitor book the participants would be able to comment freely without any leading questions. However this method was not successful in this situation because of the small number of participants in comparison to the thousands of visitors who visited the Millennium Dome studied by Gilliat-Ray.

However, in the Bossyani studio I was able to further draw on the research for this study to inform the design. The use of gold and sun imagery as a natural signifier was used to express the idea of the sacred in the everyday. The design worked in its setting and coloured light was effectively cast into the space. The evaluation method was unsuccessful as already commented on, therefore, it is difficult to say with any great conviction that the use of stained glass is appropriate for non-religious spaces. However, I think it can be seen that if used carefully, and with reference to the situation stained glass is as enhancing in a non-sacred site as it is in a Christian chapel.

6.2 Areas of Further Research

Further research could explore the fabrication of glass works especially for spaces that lack external light. Many contemporary quiet rooms are in internal spaces that have been allocated from previous non-sacred functions, such as an office space that may have artificial lighting. Traditional stained glass works best with natural lighting; perhaps other methods such as etching, enameling or fusing could work better with internal lighting?

In the contextual study, it was noted that symbolism in quiet rooms could be a contentious issue. As such it is important to consult carefully in the development of artwork for quiet rooms. This is different for artists used to creating work for a gallery space, where the brief maybe set by the artist. The user response is also often quite different to works created for a sacred space to that created for a secular space such as in a gallery, this was noted in the studio case study. This suggests an interesting point of research could be to examine the difference in viewer response between the gallery space and the sacred space.

While this study has primarily focused on the way in which glass is used in quiet rooms, it also explored the imagery used and saw that nature was often depicted. Further research could investigate more thoroughly the use of natural imagery as an alternative to specific religious imagery. Of special interest to glass artists could be the depiction of light by using glass, as it is a medium that has a unique relationship with light and the ways in which it can be manipulated.

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