

BUILDING WITH GOD:  
ANGLO-NORMAN DURHAM, BURY ST. EDMUNDS AND NORWICH

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A Dissertation submitted to the Faculty of Environmental Studies and the  
Faculty of Graduate Studies in partial fulfillment of the requirements  
for the degree of

Doctor of Philosophy in Environmental Studies

York University  
North York, Ontario, Canada

November, 1999



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by  
**Hugh McCague**

a dissertation submitted to the Faculty of Graduate Studies of  
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## Abstract

### Building with God:

#### Anglo-Norman Durham, Bury St. Edmunds and Norwich

I shall argue that in the medieval period, the construction of churches and, to a considerable extent, urban planning, were deemed God-centred processes rather than human-centred activities. The capacity to work and be skilled in the crafts and building trades were considered a divine gift, patterned after the ultimate in exemplary handiwork, God's forming of Creation. The impetus for the craft or building project, its design, technology and implementation were ideally indicated and guided by God. Further, the design was to mirror a divine archetype that was to be re-created outwardly in the completed craft work or church and restored inwardly in the working artisans and builders. This approach to the crafts was reinforced in the opening and closing rituals and liturgies for the building of churches. The crafts were integrated into a medieval Christian way of living that applied the precedents regarding craft work and architecture in the Bible.

The Anglo-Norman towns of Durham, Bury St. Edmunds and Norwich provide three comprehensive and contrasting case studies representing outstanding urban features of topography, cathedrals, monasteries and castles. I shall argue that these three towns, as great medieval building projects, were represented as ordained and guided by God, sometimes through the medium of titular saints and the divinity of monarchs. Like other great Anglo-Norman centres, such as the capital at Winchester, they attempted to manifest on earth the divine hierarchy (the authorities of *regnum et sacerdotium*)



through powerful expressions in coordinated architecture and town planning. At these three towns, this God-centred manifestation partook, in varying degrees, of the elements of the holy fortified citadel, the 'monastic town' and 'shrine,' the great Christian centres of Rome and Jerusalem, and the Heavenly Jerusalem.

## Acknowledgments

I would like to extend my thanks and gratitude to the professors who have kindly and very helpfully served on my PhD Advisory Committee and later my Dissertation Supervisory Committee: Hardy Grant, Bob Greenberg, Elinor Melville, David Morley, Alex Murray and Malcolm Thurlby. In England, I was grateful for the assistance given by various church, library, museum, trust and municipal staff members. Research for this dissertation was assisted through funding from a Social Science and Humanities Research Council (SSHRC) Doctoral Fellowship and The St. George's Society of Toronto Scholarship. Alan Yoshioka, Ross McCague, Dominique Debrée and Bishakha Chowdhury provided helpful suggestions for the written expression of some drafts. My family's and parents' assistance and patience is much appreciated.

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## Chapter 1: Introduction

### 1.1 Central Thesis

This dissertation will pursue as its central thesis, that during the Middle Ages, the construction of churches and, to a considerable extent, urban planning were deemed God-centred processes not human-centred activities. In this regard, a purpose of Christianity was that the adherent and community be directed by and toward God. To what degree was this purpose represented in building works? Christianity was intended as an integrated way of life informing all human activities, not just the regular attendance of church services. I will examine to what extent Christianity and God's assistance were represented, in the medieval period, as guiding building projects. Further, if such direction and assistance are apparent, what were their various forms of expression?

There is not, of course, a strict dichotomy between the designations "God-centred" and "human-centred." Given the general tenets of medieval Christianity, a person would have participated in both modalities based on their degree of sanctity and development in the Christian life. The movement of a person's focus from the human to God was a spiritual progression. Additionally, actions considered to effect this progression would, in practice, have varied in their effects. For example, the anointing of a ruler, bishop and abbot as representatives of Christ in their respective realms would have been tested by the degree to which these supplicants lived up to this high calling. Further, the siting of a church by divine revelation to a bishop or monk could be questioned as a legend or as an actual occurrence. The central thesis question has thus

been posed with the inclusion of the word "deemed" in order to emphasize that people during the medieval period thought was important to express and strive towards as much as what may have occurred in a literal historic sense.

I am particularly interested in the religious significance and profound meaning of medieval churches and towns. I place an emphasis on the use of mathematics in design, but this was also, as we shall see, an area of emphasis during the Middle Ages. I see value in balancing a detailed examination of particular buildings and towns with broader issues of religion and culture that bear on building projects.

## 1.2 Sources and the Scholarly Literature

In seeking answers to the thesis questions, I will investigate a wide range of medieval and ancient sources, including historic buildings, towns, chronicles, biographies, poems, theological and pastoral-care tracts, the Bible and biblical commentaries, craft books, illuminated manuscripts, property records, charters and coins. The breadth of the material considered is necessitated by the scarcity of documentation, but this breadth also sets the subject in a broader context. In general, the amount of extant documentation increases dramatically from the 12th century onwards. Individual stages in the building process from conception to completion will be argued to be represented as divinely guided. Records of medieval dreams, visions, theology, and rituals associated with the building process will all be drawn upon to support the argument. Similarly, craft books, tools and methods, and the religious nature of the craft guilds will be argued to reveal facets of the thesis. Through these sources and documents, and through a critical

synthesis of scholarly work, I will attempt to show that during the medieval period God or a transcendental supersensual reality was portrayed as, and required to be, guiding building projects.

In the arguments in this dissertation, I have worked to keep close to specific buildings, craft work and towns, or more general references to architecture and the crafts in historical records. Evidence has been largely gathered from where buildings or the crafts were somehow alluded to in a liturgical or theological context. Thus we are given the connection, rather than having to *leap* from philosophy to building. Otto von Simson's *The Gothic Cathedral: Origins of Gothic Architecture and the Medieval Concept of Order* (1956/1989) makes such an extrapolation (cf. Crosby, 1960; cf. Crossley, 1988, pp.120 and related matter on 118). However, there is still much of value in von Simson's text (Crosby, 1960, pp.159-160) for which I will attempt to provide some bridging between philosophy and building.

These arguments mainly address what ecclesiastics thought about craft work and their buildings. What the masons thought would have been, in part, influenced by ecclesiastical practice and thought through collaborative building consultations and through church sermons and services. Evidence is generally less definite here, and it requires more involved argument to say much about it. Part of it would come down to the unique experiences and inclinations of particular persons. If one could interview the master mason, the master glazier, the bishop, and the canon, it would not be surprising to find varying points of emphasis, even some conflicting opinions on the purpose of the project. One might expect this as each person had a different vantage point or role in the project, as well as a unique personality. Additionally, within the social and religious

hierarchy of medieval societies [cf. Fig.47], the viewpoints of craftspersons were much less significant than those of ecclesiastical authorities. Indeed, the former were to be guided and informed on what to think by the latter, who were the formal teachers and recognized authorities on knowledge in these societies, and were also building patrons.

There has not been a study on this specific thesis topic. Various studies have touched on, or partially overlapped with, areas important to my study. Groupings of these studies include those that have concentrated on the importance of dreams in medieval art, foundation legends of monasteries, the iconography of architecture and urban form, the theology of the crafts, the role of the crafts and mechanical arts in conjunction with the liberal arts and medieval learning, architectural design and the liturgy, and geometry and measure in medieval architecture and town planning.

Carolyn Marie Carty (1988, 1991) has discussed the role of dreams in conveying divine guidance for medieval art and architecture. She examined medieval written descriptions of dreams and their visual depiction in manuscripts, sculpture and other media. Her focused study (1988) of the great Abbey Church of Cluny III in Burgundy and her doctoral dissertation (1991) dealing with wide-ranging medieval art and architecture demonstrated the currency and importance of dreams as a subject matter in art, and as a medium for divine guidance or direction from God. She showed that dreams gave an accepted divine authority to, and acted as a *topos*<sup>1</sup> for, the impetus, design and construction of churches. Her work is important to this dissertation because

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<sup>1</sup>A *topos* is a rhetorical commonplace or traditional motif in literary composition and iconography.

it shows that revelatory dreams were one of the facets of the medieval building process that was centred on, and directed by, God.

Richard Krautheimer's "Introduction to an 'Iconography of Medieval Architecture'" (1942/1969) remains an important work in medieval architectural history. Iconography is, of course, important to this study because it includes the examination of the sacred significance and symbolism of art, architecture and urban form. Krautheimer's approach to the iconography of medieval architecture was helpful, particularly where it involved number symbolism and the concept of an architectural "copy." His methods involved the examination of medieval documents that describe particular buildings, geometry and numbers. He then compared these descriptions with the architectural history and form of those buildings. Further, Richard Gem has applied Krautheimer's methods to the iconography of Anglo-Saxon architecture ("Towards an Iconography," 1983) which, as will be discussed later in this "Introduction," brings the subject into this dissertation's concentration on medieval England. The application of sacred numbers, *numeri sacratiss*, for example 4 in the cruciform and oriented church or 8 in the octagonal baptistry, place the design and interpretation of medieval churches into the God-centred conception argued here. The other iconographic element, the concept of an architectural "copy," allows the transfer of a degree of divine authority from an exemplary building, such as Old St. Peter's Basilica in Rome or Emperor Charlemagne's Aachen Palace Chapel, to another building. The term "copy" even suggests an expansion of meaning to include towns built and identified as copies of great Christian foci, namely Rome, Jerusalem and even the Heavenly Jerusalem.

John H. Van Engen (1980) has carefully and insightfully examined the theology of Theophilus Presbyter's *De Diversis Artibus* and its emphasis on an artisan's labour as both a religious exercise and a religious duty. *De Diversis Artibus* is an important text on the theology and methods of the crafts, probably dating from c.1110-1140 (Hawthorne et al. in Theophilus, 1963, p.xvi). Van Engen places the theological content of Theophilus's "Prologues" as a new departure following the Benedictine theologian Rupert of Deutz (c.1075-1129). Rupert and Theophilus emphasize that not only ecclesiastics but also artisans can be divinely inspired and guided in their work. However, it appears that Van Engen concentrated on the "Prologues" of *De Diversis Artibus* and on biblical commentaries. By examining a wide range of writing genres, I will argue in the next Chapter that traditionally, even earlier than Rupert and Theophilus, craftspersons were recognized as necessarily having and requiring divine direction, though not to the same extent as ecclesiastics.

Arnold William Klukas (1978 etc.) has done important work on the accommodating of the liturgy, the worship of God, in the design of Romanesque churches. His articles have mostly concentrated on Anglo-Saxon and Anglo-Norman churches, but his doctoral dissertation (1978) also covers a large number of churches on the European continent. Klukas's methods were the examination of historic liturgical documents and the architectural history and general elements of specific buildings. His proposals for liturgical arrangements (e.g. the original location of altars, screens and baptismal fonts) at specific churches need careful examination, as some significant adjustments may be required. For example, through the additional methods of the examination of sculptural fragments and small holes left in the stone fabric by the fittings



of liturgical furniture, Thomas E. Russo has made adjustments to Klukas's proposed liturgical plan for Durham Cathedral (1994). Their work on Durham and other Anglo-Norman churches is particularly relevant to this dissertation because, as will be discussed later in this "Introduction," the Anglo-Norman period will be my main focus.

Peter Kidson (1956 etc.) and Eric Fernie (1979 etc.) have carried out pioneering work on the application of geometry and measure in Roman, Early Christian and medieval architecture. Peter Kidson (1990, p.97) has indicated that he revised the views in his important doctoral thesis (1956) on this subject. However, the revisions have not been published in total yet, and so his thesis as a whole has not been superseded. Nevertheless, comparing the content of his thesis to his work published over the last 20 years, his views do not appear to have changed in what I would consider major ways. A significant part of Kidson's work is on the interplay of measure, geometric operations, and their application in measurement standards and architectural design. Eric Fernie has concentrated on major Anglo-Norman churches and the thorough application of the geometric motif of the square's side and its diagonal. Both investigators have brought an extensive knowledge of history and architectural history, and the detailed examination of buildings' stone fabric to bear on the problem. They have also indicated some important methodological guidelines, including the need to gather actual detailed measurements rather than inaccurately working with plans. The work of Peter Kidson and Eric Fernie is important to this dissertation, not only because they examine Anglo-Norman architecture but also because they deal with a crucial part of the building process: the fundamental mathematical methods of design.

But they have not been particularly inclined, with some exceptions in Kidson's work, towards developing theories on the sacred significance of geometry and measure in architecture. For example, Kidson and others have considered the impact of the religious world-view of the ecclesiastical patron as merely a superficial factor in church architectural design:

As nearly all medieval documents pertaining to the arts emanated from the patronage side of the proceedings, it follows that we are liable to get from them a totally distorted impression of what actually happened. This must have been especially true in matters of architecture, for by its very nature medieval architecture involved mysterious operations that were excluded from the conspectus of liberal arts and therefore beyond the understanding of even the most highly educated ecclesiastical patron. So while it may be granted that any symbolism present in Gothic architecture was the contribution of the clergy rather than the craftsmen, at best it can have been no more than a partial and superficial factor in the design procedure. (Kidson, 1987, p.2)

Gothic architecture is specifically referred to, but the statement could be applied as well to earlier medieval architecture. I will try to show that this contention is too strong, especially where the impact is implicit or tacit, and when one considers (i) the rituals involved in the construction of these buildings, (ii) the biblical edifices and stories identified with in the construction and (ritualistic) use of these buildings, and (iii) the pastoral care that churches supported.

Lon R. Shelby (1964 etc.) has helped to show the nature of the training, tools and geometry applied by medieval masons. He has examined historical documents, surviving artifact tools and craft books (including architectural plans and masonic geometric methods). The craft books are mainly late medieval. His strength is in examining historical documentation, and thereby is a helpful complement to the careful study and measurement of medieval buildings themselves. His work is of value to this dissertation

because he has discussed some facets of the medieval building process: the education and consultative exchanges of ecclesiastical patrons and master masons, the nature of craft training and organization, and the geometric knowledge and tools for design.

The masons' mathematical knowledge applied in building design, discussed by Kidson, Fernie and Shelby, can have a religious significance. In this regard, an important theme in the study of the sacred significance of medieval architecture is the perception of God's Creation as the exemplary handiwork. Part of this theme is Creation as a mathematical act, following biblical passages such as Wisdom 11:21: "Thou madest all things in measure, number and weight." This act was, as we will see later, commonly portrayed as God wielding a compass or dividers and an equal-armed weighing balance [Figs.1-3]. These instruments were used in the crafts and building trades. On a smaller human scale of creation, the re-discovery of the metrological and geometric principles underlying the design of a particular medieval building provides knowledge on how the building was made and even the masons' thoughts (Kidson, 1956, I, p.21). The mathematical elements of design also had theological import: the masons and builders were co-creators with God (Theophilus, Prologue, "The First Book: The Art of the Painter," 1963, p.11 & Prologue to the "Third Book: The Art of the Metalworker," 1963, pp.78-79), applying mathematics in the creation of the building to parallel Creation itself.

Adrian Snodgrass (*Stupa*, 1988, 1990) and Michael Tawa (1991, 1992) have written comprehensive comparative studies on sacred architecture<sup>2</sup>. They are strongly interested in the metaphysical meaning and symbolism of architecture, including temples.

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<sup>2</sup>Additionally, John M. Lundquist (1993) has written a short and succinct comparative study of temples and their common profound themes that is quite helpful.

The work of Mircea Eliade is an important forerunner of their studies. A strength of the work of Snodgrass and Tawa is their knowledge of relevant religious texts and traditional architectural manuals, the wide-ranging interpretation of built forms, and the setting of their subject matter in a context both broad and profound. However, they do not generally examine specific architectural sites in historical, liturgical and archaeological detail. This additional type of detailed historical examination, more familiar to Kidson and Fernie, would (I think) sometimes adjust and sometimes reinforce the views of Snodgrass and Tawa. Cross-cultural comparative studies seem to be disapproved by some scholars when such work becomes non-historical; that is comparisons based not on historical links but on shared ideas or practices. The commonalties noted may be held to be based on an ultimate common heritage or the perception of the same natural and spiritual laws and transcendent reality. The inclination towards metaphysics and their often cross-cultural approach tends to contrast the work of Snodgrass and Tawa with the more historically-based work of Kidson and Fernie. However, strengths can be drawn from all these investigators' work, though I appear to be one of the few scholars interested in bridging these approaches. The dissertation will be largely be focused historically and geographically, but will apply and note some comparative material.

Further, in examining the creations of craft work, and the purpose and sacredness of the crafts, Tawa has noted that it is helpful to consider the Greek concept of art (*techne*), particularly that enunciated by Plato in the *Laws*, *The Republic*, and the *Cratylus*. The imitation (*mimesis*) of immaterial ideas is *techne*. The process conforms to an archetypal pattern. The means of this translation through number, measure, material, and methods is technology (*techne + logos*). (Technology consists of its

technical means, *praxis*, and its content and meaning, *poesis*.) The key principle is number, in both its quantitative and symbolic aspects. Further, this translation process requires the artist to evoke and assume the form or immaterial pattern, which through technology can then be acted upon. To undertake this process, the artist must be purified and selfless, so the act is sacrificial (i.e. *sacri + fice*, made sacred). Here, technology is serving physical, mental and overall spiritual ends, and the practice of art (*techne*) is craft (Tawa, 1991, pp.228-242 & 1992). This description from Greek Classical culture is, we shall see, in accord with the conceptions of the Middle Ages.

Paul Wheatley (1971) and Jeffrey F. Meyer (1991) have studied the "holy" and "cosmic" nature of traditional Eastern cities, but also to some degree the Western city, particularly ancient Rome in a comparative context. They have also set this in the context of their detailed studies of the social and political aspects of specific Asian cities, most particularly Chinese imperial capitals. Their work on the sacred meaning of cities parallels that of Snodgrass, who has concentrated more at the smaller scale of temples. All of these studies are helpful in the evidence and arguments they provide for synthesis with new material, all guided by the different emphasis of my thesis on the God-centred nature of the building process. Again, I will focus on a particular era and region, but some influences from, and parallels with, other cultures will be noted.

### 1.3 The Historical Focus: Anglo-Saxon and Anglo-Norman Cultures

The historical, cultural and geographical focus in this dissertation will be on the Anglo-Norman period, particularly the cases of Durham, Bury St. Edmunds and

Norwich. These three towns each have certain outstanding features that can be compared and contrasted. Sites with major churches were particularly chosen because of this study's emphasis on the sacred<sup>3</sup>. Sites with and without castles were important to a consideration of the relationship between Church and state. Durham had cathedral, monastery, castle and palace all under the control of the bishop. Norwich had a cathedral, monastery, and castle, but the latter was not under the control of the bishop. Bury St. Edmunds had an abbey church and monastery, but no castle. The monastery had control over the town. Thus different modalities of Church and state are represented in the three chosen sites.

Other Anglo-Norman towns and a plenitude of sites in Europe could have been used. Some are indeed mentioned in this dissertation. There were such sites in England that I studied, visited and took measurements at during the preliminary stages of this study. Examples of such towns with major churches and, in some cases, castles and palaces include Castle Acre, Peterborough, Rochester and Winchester. One could also suitably name Canterbury, Ely, London, Westminster and York. This range of possibilities arguably underscores the generality of the arguments being made in the dissertation.

I have chosen to concentrate most on the Anglo-Saxon and, as mentioned above, Anglo-Norman cultures. However, earlier sources from the Egyptians, Greeks, Etruscans, Jews, Romans, and Byzantines form a partial lineage for the heritage of the

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<sup>3</sup>Sacred can mean essentially two things: (i) "imbued with the divine, specially blessed by God" and (ii) "set aside for the divine, offered and dedicated to God" (Marshall, 1994, p.64; note also "*Sacer*," 1982; "*Sacro*," 1982; "*Sacred*," 1989).

Anglo-Saxons and Anglo-Normans. Important sources for the English were the Old and New Testaments, the writings of the early Church 'Fathers,' and the practices of the Roman Church. Another influence derived from the Scandinavian, Germanic, and Celtic peoples that lived in England (Lester, 1976, pp.11-18). However, the Anglo-Saxons and Anglo-Normans were not solely, of course, determined by their past heritage, but had their own unique cultures, genius, and challenges for the unification of England.

The Anglo-Saxon period extends from c.A.D. 400-1066 in England. This spans the withdrawal of Roman control, the conquest and settlement by the Angles, Saxons, Jutes, Vikings, and other peoples from southern Scandinavia and Northern Germany, to the Norman Conquest. The mid-eastern region of England is often more aptly called Anglo-Scandinavian. Indeed, King Cnut ruled over most of England as part of a Danish Empire from 1016-1035. The Anglo-Saxon rule was restored under King Edward the Confessor from 1042-1066.

Some practice of Christianity would have survived from an early introduction through the Romans in Britain. However, the Venerable Bede's *Ecclesiastical History of the English Peoples* describes Christian missions from Rome and the Irish Church converting successive Anglo-Saxon regional kingdoms from 597 to the 680s. Pagan practices can be inferred from archaeological remains, on-going condemnations recorded by clergy, adopted elements and appropriations into Christianity, and continuances in folklore and festivals.

The Anglo-Saxons created a remarkable heritage of vernacular poetry, prose, and art, which will be drawn upon in this dissertation. The work of great scholars who were ecclesiastics, such as the Venerable Bede (d.735), Ælfric (d.1020) and Wulfstan

(Archbishop of York, d.1023), was widely disseminated and well-known (Lester, 1976, pp.117-118). Additionally, clergy were active in the administration of the royal households and government, and the attempt to conform Church and state to a divine hierarchy. Christianity largely permeated later Anglo-Saxon culture, including the crafts, as I will argue.

The Normans also aligned themselves closely with Christianity. The Normans were descendants of Rollo and his Viking warriors, who had raided and settled along the lower Seine c.911. Rollo was recognized as a duke by the weak king of the Franks. The Normans under Rollo and his successors expanded their holdings, and learned French, Latin, and Carolingian concepts of law. They were active in rebuilding and expanding earlier abbeys, and gaining the assistance of the clergy in administering and unifying their duchy (Brown, 1984, chapt.2-3). Beginning with Rollo's baptism c.911, the Normans had abandoned their Norse gods and developed a strong devotion to Christianity (Le Patourel, 1976, pp.3ff; Brown, 1984, chapt.2-3).

I have particularly concentrated on England in the wake of the Norman Conquest and the merging of Anglo-Saxon and Norman cultures. This period shows the intense assertion of the authority of state and Church in England. Duke William the Great<sup>4</sup> believed he was the rightful heir to the throne of his cousin Edward the Confessor, as King of England. Upon Edward's death on January 5, 1066, Earl Harold Godwinson of

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<sup>4</sup>William was the 'illegitimate' son of Duke Robert the 'Devil' or the Magnificent of Normandy. Upon the death of his father, he became, at about the age of eight, Duke William the 'Bastard'. As a child ruler, his life was constantly threatened, and he experienced much lawlessness in his dukedom. Out of this environment, William developed as a capable administrator with a zeal for law and order. Additionally, he was a vicious opponent, and enemies were subdued ruthlessly. He had become Duke William the Great (Brown, 1984, chapt.3).



Wessex, brother-in-law of Edward and of half-Viking ancestry, took the throne<sup>5</sup>.

William won his claim to the throne at the Battle of Hastings on October 14, 1066 (Brown, 1984, chapt.4). William had received Pope Alexander II's blessing for the conquest and the assertion of his kingship of England. On Christmas Day, 1066, at the Church of St. Peter, Westminster Abbey, Aldred, the Archbishop of York, led the coronation ceremony of William, *Christus imperator* and ruler by divine right. In the Norman tradition of devotion to Christianity and strong support for the Church, William wished to build his Norman empire starting in 1066 as a Christian kingdom, a hierarchy with God at its head (Brown, 1984, p.48 & chapt.4) [cf. Fig.47].

Almost immediately after his coronation, William initiated a period of brutality and devastation such as the world had rarely witnessed before. At the time of King Edward the Confessor's death in 1066, England was a society that consisted of six great earldoms. The earls traditionally had considerable independence from the king. These magnates had thought William would continue this pattern, but he had far greater ambition in mind. William had already experienced problems in Normandy with feudal lords exerting themselves beyond his authority (Brown, 1984, chapt.3-4). A Christian kingdom ruled by a *Christus imperator* was interpreted in a strict and highly hierarchial manner by the Normans, and dramatically demonstrated itself, as we will see, in coordinated urban architecture.

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<sup>5</sup>A central theme of Anglo-Saxon history was the movement toward a unified and permanent kingdom of England (Freeston, c.1996). During the 10th century, the kings of the house of Wessex made important steps in the formation of an English state by unifying the regional kingdoms, and creating lasting institutions which made England governable under a single monarch. From 1042 to 1066, Edward the Confessor and then King Harold were rulers over almost all England (Freeston, c.1996).

Part of this remarkable architectural expression was, not surprisingly, in fortification. Notably, the Normans were a small minority in England, probably about 10,000 in the initial years of the Conquest. They devised a strategy, well suited to this very limited number of soldiers, that has become one of the most enduring symbols of military occupation. The configuration of the wooden fort or stone castle atop a mound, or motte, surrounded by a deep and wide ditch was a dramatic architectural change in the English landscape. William started immediately to have these forts built as his forces moved through England, as, for example, the Bayeux Tapestry illustrates. The earth dug up for the moat was used to build the central mound. The wooden fort with a palisade around the top of the mound was quick to build, but was still vulnerable to fire and *en masse* Anglo-Saxon attack. Later, the Normans would replace these wooden forts with castles with stronger walls of stone for their keeps and baileys (Brown, 1984, chapt.4). However, some fortified sites appear to have had the preferable stone castles right from the start<sup>6</sup>. The motte-and-bailey castles were the single most dramatic display of the state in the hierarchy of the Christian kingdom.

French-speaking nobles replaced the Anglo-Saxon ones. Lanfranc (d.1089), born in Pavia, northern Italy and an active ecclesiastic in Normandy, became the new Archbishop of Canterbury in 1070. Norman and Lotharingian bishops were phased in more gradually, and by 1080 only one Anglo-Saxon bishop remained. William kept control over the English church. He had promised Pope Alexander II he would reform it

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<sup>6</sup>An example is Chepstow Castle, Monmouthshire, on the Welsh border. It is generally accepted as having been built from the start in stone under the direction of William Fitz Osbern (d.1071). The site is a rocky bank overlooking the River Wye. The Castle was a strategic element in 'controlling' the Welsh (Gies and Gies, 1975, pp.ii, 1-6, 16, 18, 19).

closer to papal standards. Lanfranc introduced liturgical reform, the *Decreta Lanfranca*. It was adopted at some cathedrals and abbeys (Klukas, 1983 & "The Continuity of Anglo-Saxon Liturgical Tradition," 1984)<sup>7</sup>. He also promulgated Benedictine monasticism, brought the archbishopric of York under Canterbury, and established ecclesiastical courts (Brown, 1984, chapt.4). The Norman Church's reforms were an important part of the Conqueror's Christian kingdom<sup>8</sup>.

The Normans guided many changes in England, but over the century after the Conquest they were also being assimilated into Anglo-Saxon culture. England had been a land that was northern-looking as part of a Scandinavian empire, but with the Conquest it was drawn away from the north to close bonds with northern France. A unified English state was established in the process (Freeston, c.1996; Brown, 1984, pp.73-77).

Norman rule is sometimes designated to have been from 1066 to 1154, with William I (reign 1066-1087) followed by William Rufus (1087-1100), Henry I (1100-1135), and Matilda (in England 1141) and Stephen (1135-1154). However, by the end of the 11th century the Normans were becoming so assimilated into England that in each

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<sup>7</sup>For example, the *Decreta Lanfranca* was followed at Westminster Abbey, Durham Cathedral and St. Albans Cathedral (Klukas, 1983, pp.141, 142 fig.1, 142-143). The Cathedrals at Winchester and Ely followed the tenth-century Anglo-Saxon customary, the *Regularis Concordia* (Klukas, "The Continuity of Anglo-Saxon Liturgical Tradition," 1984).

<sup>8</sup>With his enemies largely defeated, William I worked hard to consolidate his English domain (Brown, 1984, chapt.4). To eliminate further the vestiges of Anglo-Saxon rule, the six great earldoms were replaced c.1071 by forty-two counties, many of which survive today (Freeston, c.1996). These boundary changes were also accompanied by changes in the system of local government. Local officials loyal to William were assigned the task of overseeing the interests of the King. These shire reeves, later known as sheriffs, were to control the competing needs and demands of the local Normans and Anglo-Saxons (Freeston, c.1996). At the same time as the native Anglo-Saxon aristocracy had been replaced by a small alien aristocracy from France, William saw himself, and wanted to be seen as, the proper successor to Edward the Confessor. He largely renewed English laws early in his reign, as Edward and the earlier Wessex kings had done each in their turn (Freeston, c.1996; Brown, 1984, chapt.4). England under William I experienced both significant change and continuity.

successive decade in the 12th century it becomes increasingly less useful to single them out.

The Normans did not totally transform the culture of England, nor did they necessarily decrease the emphasis on the God-centred approach to building projects in England. However, they did help bring about a new synthesis, to which both groups substantially contributed. This would best be recognized as an Anglo-Norman, rather than Norman, achievement. The Archbishops of Canterbury from the Continent, Lanfranc and then his student, Anselm, encouraged advanced Latin learning at the cathedrals and monasteries. Lanfranc was particularly remarkable as a teacher, leader, and reformer, and Anselm as a scholar. Great resources and support were given to the Church (cf. Brown, 1984, pp.73-77). The extensive church-building programmes were all the more remarkable in the climate of continuing revolts. Many parish churches were built; many paired with motte-and-bailey castles in planned villages<sup>9</sup>. The landscape of towns took on new form with the coordination of some or all of the following: huge cathedrals, monastic churches and complexes, palaces, motte-and-bailey castles, new street patterns, and stone town-walls. The outstanding features underlying this transformation were the Norman zeal for law and order and for monastic and ecclesiastical reform. They wanted to be seen as holding, and as demonstrating, their 'rightful' place in England, the Norman empire and Christian kingdom, and the divine

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<sup>9</sup>Kilpeck in Herefordshire is an excellent example of Anglo-Norman village planning. The lord's motte-and-bailey stone castle, parish church, and the surrounding farm fields form a well-coordinated plan (Shoesmith, 1992, p.162).

hierarchy. The God-centred approach that is argued in this dissertation was crucial to their demonstration.

#### 1.4 The Organization of the Dissertation

The main body of the dissertation, between the Introduction and Conclusion, is a general thematic study followed by three specific case studies. More specifically, in the next chapter, Chapter 2, I will consider some major themes of the theology and spirituality of the crafts and how building projects were claimed to be divinely directed. In Chapters 3, 4 and 5, these themes and others are examined in the context of the three specific cases of Anglo-Norman Durham, Bury St. Edmunds and Norwich, respectively.

Further, in Chapter 2, the religious context and purpose of the buildings crafts are explored through medieval views of the liberal and mechanical arts. The apprehension and expression of divine archetypal patterns is pursued as the key theme of the theology and spirituality of the crafts. Dreams and visions are examined as the special media by which divine direction and the intimation of an archetype were said to be given to the builders.

In Chapters 3-5, Durham, Bury St. Edmunds and Norwich provide dramatic and varied examples of important English centres and expressions of the cultural syntheses of the Anglo-Saxons and Normans. These three towns are thereby valuable sites to check for a detailed and comprehensive manifestation of the thesis. Some of the new themes discussed in these case studies are the significance of ritual, liturgy, geometry, orientation, measure and music.

Following the Conclusion, a series of Appendices expands on some special topics individually referred to in footnotes in Chapters 2-6. These mini-studies expand on the iconography and rituals of towns and cities, and the nature and religious significance of the medieval crafts and architectural design. Each of the Appendix topics is a facet of the main thesis of the God-centred nature of medieval-building projects.

## Chapter 2: Some Aspects of the Theology and Spirituality of Church Building and the Crafts

Ideally, God's guidance and presence were to permeate Christians' lives in general, and the specific enterprise of the crafts and medieval-building projects is but an example of this intent. The theology and spirituality of the crafts were largely an expression of Christianity which, as to be expected, applied the main precedents and allusions to craft work and architecture in the Bible. The creative process in the crafts was not extensively documented in any specific case, so one cannot go into a *highly* detailed account of how the craftspersons' and patrons' insights, inspirations, dreams, theology and so forth impacted on the building of a specific church or town. However, from the following description of the practice of Christianity and what ecclesiastics deemed important to convey regarding building and the crafts, a general picture can be given which provides *essential* insights<sup>10</sup>. We will see that God's involvement was described in many ingenious forms pervading the artistic and building process.

A valuable source for views on art and architecture contemporary with many of the great Anglo-Norman building campaigns is the *Disputatio Iudei et Christiani*. Gilbert Crispin, the Benedictine abbot of Westminster (1085-1117)<sup>11</sup>, wrote this dialogue (1093-1096) and dedicated it to his close friend, Anselm, Archbishop of

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<sup>10</sup>Additionally, the role of the patron and master mason has been examined and inferred for Anglo-Norman Winchester Cathedral (Gem, "Winchester," 1983), the Bishop's Chapel at Hereford (Gem, 1986), and Durham Cathedral (Thurlby, 1994). More general insights into the relationship of the patron and master mason in design work (Shelby, 1964, 1970) and the meaning of the design (Krautheimer, 1942/1969; Gem, "Iconography," 1983) have also been given.

<sup>11</sup>Gilbert was said to have been an adept in philosophy, theology, and the liberal arts (Stephen et al., "Crispin, Gilbert," 1885-1901/1959-1960, p.101; cf. Southern, 1990, pp.371-372).

Canterbury (1093-1109)<sup>12</sup>. Gilbert's close tutelage and involvement with the hierarchy and reform of the Church in Anglo-Norman England<sup>13</sup> tend to indicate the currency of his views. Indeed, his tract was much read and imitated<sup>14</sup>.

Gilbert vigorously argued for the validity and value of ecclesiastical art and architecture, created under God's guidance, following divine archetypes or similitudes, and in God's honour<sup>15</sup>. He cites various Old Testament passages in his argument, particularly from Exodus on Moses and the building of the Tabernacle, and from I Kings on Solomon and the building of the Temple. The Bible as God's revealed Word was, of

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<sup>12</sup>Gilbert and Anselm were friends and learned intellectually from each other, particularly at Westminster Abbey between September, 1092 and March, 1093. The challenges of the Jewish person dramatized in Gilbert's *Disputatio Iudei et Christiani* were further responded to in Anselm's subsequent *Cur Deus Homo* (Southern, 1954, pp.91-93).

<sup>13</sup>Gilbert had been a friend, and like Anselm, a disciple of Lanfranc at Bec, Normandy (Klutas, 1983, p.141, 141 fn.23), before the latter became Archbishop of Canterbury (1070-1089). Lanfranc and Gilbert assisted Bishop William of St. Calais in introducing the liturgical reform of the *Decreta Lanfranci* at Durham Cathedral (Klutas, 1983, pp.144, 144 fn.35; Symeon, *Opera* in Arnold, ed., I, 119-122).

<sup>14</sup>*Disputatio Iudei et Christiani* in Davis-Weyer, 1971, pp.164-167; Davis-Weyer, 1971, p.165; Southern, 1990, pp.371-372.

<sup>15</sup>*Disputatio Iudei et Christiani* in Davis-Weyer, 1971, pp.164-167. The dialogue is between a Jew and a Christian, apparently based on actual encounters between Gilbert and a Jew regularly visiting Westminster Abbey (Stephen et al., "Crispin, Gilbert," 1885-1901/1959-1960, p.101; Southern, 1990, pp.198-199, 371). In countering the charge of idolatry, the Christian character mentions, of course, in regard to the images that "we do not adore them or worship them as if they were divine" (*Disputatio Iudei et Christiani* in Davis-Weyer, 1971, pp.164-167). Gilbert's Christian also quotes from the equivalent passage in Exodus 20:5.

Earlier, the Venerable Bede made the same point. He interprets Exodus 20:3-5 as saying that it is acceptable to paint and carve images, as long as they are not employed for idolatry or for the worship of 'strange' gods before God (*De Templo*, 19.10-11). Additionally, the Venerable Bede argues for the value of painted or carved images based on stories and miracles of Christ, saints and martyrs:

since the sight of these things often tends to elicit great compunction in the beholders and also to make available to those who are illiterate a living narrative of the story of the Lord.

For in Greek too a painting is called ζωγραφία, i.e. 'living writing'. (*De Templo*, 19.10; trans. Connolly in Bede, 1995).

Bede makes similar comments in regard to religious images in the Church of St. Peter at Monkwearmouth. He notes that all viewers were drawn to the underlying purpose or suprasensible reality referenced in the picture (*Lives of the Abbots*, 6).



course, held as an authoritative reference source for deciphering and discerning God's intent for art and architecture.

In making these arguments, Gilbert Crispin was concurring with views held earlier by the Anglo-Saxons. These arguments would find great currency among, and amplification by, other Benedictines. These tracts address the essential question of the ascribed purpose of art and architecture.

In the Anglo-Saxon period, the inspired architecture and art of the Old Testament were also exemplars for the building and ornamenting of new churches. Eddius Stephanus described St. Andrew's Church at Hexham (672-678) as large and wondrous, and built under Bishop Wilfrid's guidance: "for our holy bishop, being taught by the Spirit of God, thought out how to construct these buildings"<sup>16</sup>. He gives a similar description for the building and adorning of the church at Ripon, where Wilfrid is likened to Moses (671-678) (Stephanus, 1927, XVII, pp.35, 37). These descriptions apply to Wilfrid the topos of Moses as the divinely inspired leader guiding the construction and artwork of the Ark and Tabernacle.

Another building described in the Old Testament, the Temple of Solomon, was also an architectural and artistic exemplar. For example, Goscelin's<sup>17</sup> *La Légende de Ste. Édith* provides an account of the late-10th-century Wilton oratory. This oratory identified in a variety of ways with not only the Tabernacle of Moses, but also the

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<sup>16</sup>Stephanus, 1927, XXII, p.46; trans. also in Davis-Weyer, 1971, p.76.

<sup>17</sup>Goscelin was a monk from Flanders. From c.1058 to his death in the early 12th century, he travelled in England writing biographies of English saints (Dodwell, 1982, p.340).

Temple of Solomon<sup>18</sup>. The Old Testament justified Anglo-Saxon tastes for splendour in art and architecture, provided it was dedicated to a religious purpose (Dodwell, 1982, p.33). Indeed, all church art was vindicated by the Old Testament according to the most influential of the Anglo-Saxon theologians, the Venerable Bede<sup>19</sup>. There was an identification of the Tabernacle and Temple and their decorative/liturgical craft work executed under the inspired guidance of Moses, King David and King Solomon with the ornamented churches made under the leadership of Anglo-Saxon clergy<sup>20</sup>. The clergy were presented as continuators under God's guidance and their direction of ecclesiastical art and architecture was likewise so inspired.

Medieval craft manuals also alluded to the divine guidance required for craft work, but in terms of the inspiration of the artisans themselves. The three main pre-1200 medieval craft manuals were the *Libri Eraclii de artibus romanorum*, *Mappae Clavicula* and *De diversis artibus*<sup>21</sup>. Portions of these texts were commonly copied by scribes

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<sup>18</sup>The craft work involved in building and decorating the Wilton oratory was explicitly mentioned. A nun who embroidered the priest's vestments was identified with Miriam, Aaron's sister (Goscelin, 1938, pp.50, 69, 89-90; Dodwell, 1982, p.33).

A skilled worker could also occasionally be identified with a Roman god or goddess. In a contemporary monastic view of Queen Edith, consort of Edward the Confessor, we note she "was celebrated and distinguished for verse and prose; and, in the workmanship and depictions in her embroidery, was another Minerva" (Trans. in Dodwell, 1982, pp.48, 258 n.39; Barlow, ed., *Vita Edwardi*, 1962, p.14). Minerva was the Roman goddess of Wisdom, and also the goddess of arts and handicrafts.

<sup>19</sup>Dodwell, 1982, p.31; Bede, *De Templo Salomonis*, 1850/1980, Col.790-791; Bede, *Bede: On the Temple*, 1995, 19.10, pp.90-92.

<sup>20</sup>Dodwell, 1982, pp.32-33, 69. This also occurs earlier in Eusebius's panegyric at the dedication of the Cathedral at Tyre. He likens Bishop Paulinus to Bezalel (*Church History*, X.IV.3, 25), Solomon, and Zerubbabel (*Church History*, X.IV.3), who added glory to the Temple (Haggai I:14, II:9).

<sup>21</sup>Sources for the medieval craft manuals appear to be wide indeed:

George Loumyer has made an excellent study of the problems raised by medieval technical treatises, indicating their Latin, Byzantine, and Arabic sources. It is sufficient here to repeat with him that the nucleus of the customary practices and ideas common to the technicians of the Middle Ages was composed of traditional principles found in classical techniques. (Bruyne, 1969, p.43)

from the 12th century onwards. They were usually arranged together in manuscripts (Hawthorne & Smith, 1974, pp.4, 14). Remarks on the sacred nature of the artisans' work were placed in the prefaces of craft manuals and, occasionally, in these treatises' technical and recipe-like instructions.

Similar to Gilbert Crispin, earlier introductory remarks in the *Mappae Clavicula* speak of the solemnity and the assistance of God required for art and craft work. The Plan of St. Gall, and later, the Master Peter of St. Audemar's craft manual *De Coloribus Faviendis* (*On Making Colours*), do likewise. Further, about two decades after Gilbert's dialogue, another Benedictine theologian, Rupert of Deutz (c.1075-1129), described skill in the crafts as divine<sup>22</sup>. Care must be taken for their wise and moral use<sup>23</sup>.

The ascetic reaction of St. Bernard of Clairvaux (1090-1153) and others<sup>24</sup> to artistic expression in churches, particularly for monks and nuns in monasteries, argued restraint in the amount of images, subject and style of images, the size of buildings, and the cost of materials. Otherwise, they charged, the work becomes carnal and idolatrous, and unjustifiably costly in face of the poor (Bernard in Davis-Weyer, 1971, pp.168-170). This assessment was not a condemnation of the nature of the crafts, but a cry for the need for restraint in their use in order for them to be harmonious with spirituality and morality.

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The *Mappae Clavicula* has been described as an accumulation of wide-ranging sources, Egyptian, Assyrian, Hindu, Greek, Roman, Alexandrian, Graeco-Byzantine, Arabic (through the Greeks), Spanish, Italian and north European sources (Hawthorne et al., 1974, p.17; cf. Johnson, 1939, pp.88-89).

<sup>22</sup>In *Exodum*, 1862, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168.

<sup>23</sup>William of Malmesbury, in his *Vita Wulfstani*, shows an awareness that crafts could be misapplied to try to seek preferment (1928, p.5; Dodwell, 1982, pp.46, 257 n.24).

<sup>24</sup>This reaction was part of the larger trend of the 12th century toward stricter and more ascetic Orders, such as the Cistercians, Carthusians, and Premonstratensians (canons).

The main justification for elaborate and grand churches in Early Christianity and the Middle Ages was the likening of these buildings to the Tabernacle of Moses and the Temple of Solomon. They are the two outstanding temples of the Old Testament. Considerable description is given of their elaborate construction and ritualistic use. In contrast, the New Testament recounts no great building projects. The astounding Heavenly Jerusalem, described near the end of the Bible (Revelation 21), is a more strictly spiritualized and immaterial structure than the Tabernacle and Temple. Certainly, the former is the key identification and inspiration for churches and their decoration. However, the Heavenly City cannot be as readily applied to justify ornate or magnificent churches.

Notable here is an early and influential forerunner to this ascetic reaction of the 12th century appearing in some compiled letters of St. Jerome (trans. and notes in Davis-Weyer, 1971, pp.37-40, 168). He was not moved by allusions to great buildings in the Old Testament<sup>25</sup> for justifying elaborate churches and their adornments. These things had a godly value to people in the Old Dispensation, but not, according to this Doctor of the Church, in the New Dispensation of the Christ and the New Testament. In keeping with the symbolic conception of the New Testament, architectural building formed a key to unlock inner spiritual 'building' or growth. This metaphor and analogy is found in both the Old and New Testaments, though it becomes more explicit in the New<sup>26</sup>.

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<sup>25</sup>St. Jerome specifically mentioned the Temple of Solomon.

<sup>26</sup>This analogy is apparent in the New Testament quotes given later in Chapter 5's discussion of edification.

The question of how Christian or godly were the building and use of huge or highly adorned churches can be tempered by their impact on people. For some Christian adherents, particularly in the early stages of spiritual growth, the grand outer display of large or elaborate churches would have been helpful to suggest the vastness and grandeur of God and the inner life described by Christian mystics. Ascetics were expected to be more advanced in their spirituality and not to need such outer stimuli that could degenerate into worldly distraction. This response to the question seems consistent with the spirit of the reaction of the mystic, saint and monk, Bernard.

A counter argument to the ascetic reaction, and a restatement of Rupert of Deutz, was given by Theophilus Presbyter<sup>27</sup>, who may have been a Benedictine monk, priest, and craftsman. He provided a comprehensive and cogent theology of the crafts and the purpose of life, in the Prologues to the individual craft books in his *De Diversis Artibus* (*On Divers Arts*). This text was probably written between 1110 and 1140<sup>28</sup>. We note that Theophilus made his theological statements in his Prologues, and the craft techniques that follow appear as largely technical instructions. However, the theology stated in the Prologues was, to Theophilus, the all-important underlying purpose, motivation, and explanation of the origin of the crafts and their methods.

A fundamental theological point of Theophilus Presbyter's *De Diversis Artibus* is that the craftsman is a co-creator with God. This included the notion that artisans

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<sup>27</sup>It has been argued that the Prologues in Theophilus Presbyter's *De Diversis Artibus* are a reaction against St. Bernard of Clairvaux's criticism of monks having elaborate decoration in their churches (White, 1978).

<sup>28</sup>Hawthorne et al. in Theophilus, 1963, p.xvi. A plausible argument has been made to narrow the date of Theophilus's treatise to 1122-1123 (White, 1978).

could be divinely guided and inspired in executing their work. Further, in carrying out their craft work they would follow and mirror God's way of forming the handiwork of Creation<sup>29</sup>.

Theophilus emphasizes an artisan's labour as both a religious exercise and a religious duty (Engen, 1980, p.151)<sup>30</sup>. Further, artisans acting on their divine gift for capacity in the crafts are animated by the seven gifts of the Holy Spirit necessary for the sanctification (Engen, 1980, p.155) and divine restoration of humanity.

In medieval poetry, there are examples where the crafts are said to be gifts of God<sup>31</sup>, and skill in the crafts is said to be divine. In a great compilation of Anglo-Saxon poetry, the *Exeter Book*<sup>32</sup>, for example, capacity in the crafts, and other abilities of humans, are described as gifts from God. "The Endowments of Men" poem in this compilation describes these gifts:

One may cunningly devise the plan  
of any lofty structure: his hand is learned,

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<sup>29</sup>Creation as the 'handiwork' of God is alluded to in various biblical passages, including Hebrews 1:10.

<sup>30</sup>An example of a religious motive needed for craftspersons is implied in the *Chronicle of Battle Abbey*, written up to c.1189 (Searle, 1980, p.9), and its description of the building of the abbey church:

Now as it happened, true experts, attracted by motives other than cheap commercial ones, were set to work. Yet, because the overseers [apparently monks] were more interested in their own riches than in Jesus Christ, the construction, though begun, for a while progressed poorly, since they applied themselves more for appearance's sake than with zeal. (Searle trans., 1980, pp.44-45)

<sup>31</sup>Similarly, Boethius (480-524) considered music a divine gift by which the human could conform to the image of God and could thereby approach God. Further, instrumental music was to imitate the *musica mundana* or harmony of the Creator's macrocosm (Bukofzer, p.167; Boethius, *De institutione musica*, I.2).

<sup>32</sup>Leofric (d.1072), Bishop of Devon and Cornwall, and Chancellor to Edward the Confessor, gave the *Exeter Book* to Exeter Cathedral, where it remains today (Exeter, Cathedral Library MS. 3501; Gordon, p.xi). Leofric was the first Bishop of Exeter. The collection probably dates from the second half of the 10th century (Krapp et al. in *Exeter Book*, pp.xiii-xiv). The page size, and the structuring of "Christ," "The Phoenix," and "Guthlac A" poems of the *Exeter Book* have been argued to involve  $\sqrt{2}$ ,  $\sqrt{3}$ , and the 'golden section' (Stevick, 1994, pp.78-87, 151-174).

wise and powerful, as befitteth a craftsman,  
in the fixing of a hall: he can firmly frame  
the spacious dwelling 'gainst sudden fall. (lines 44-48, ed. Gollancz, 1895/1958)

...  
... One is a builder,  
good at raising a house. ... (lines 75-76, ed. Gollancz, 1895/1958)

...  
... variously distributeth His gifts;  
to one virtues, to another crafts,  
to another ...  
a well ordered mind ...  
Thus excellently the Lord soweth far and wide  
His bounty. Wherefore may He aye have glory,  
resplendent praise, who giveth us life,  
and revealeth unto men His gentle spirit! (lines 105-113, ed. Gollancz, 1895/1958)

In the poem "Christ," in the *Exeter Book*<sup>33</sup>, the supreme artist and builder is Christ, the "Craftsman and the King"<sup>34</sup>. Human craftspersons, made in the image of God (Genesis 1:26-27), and given their artistic gift by God (*Exeter Book*, "Christ," lines 686-690), are to follow and mirror the example of Christ, the supreme artist. For example, the poem "Christ"<sup>35</sup> states:

Thus mighty God, King of all created things,  
ennobleth by these crafts<sup>36</sup>, by gifts unsparing,  
earth's progeny, and giveth joy  
unto the blessed in heaven, and setteth peace  
for angels and for men to all eternity. (lines 686-690, ed. Gollancz, 1895/1958)

<sup>33</sup>The poem, "The Fates of Men," in *Exeter Book*, is also relevant here.

<sup>34</sup>Dodwell, 1982, pp.46, 257 n.23; "Christ," line 12, ed. Gollancz.

<sup>35</sup>A biblical source or parallel to "The Endowments of Men" and the section of "Christ" quoted above is Wisdom (VII.16; XIV.2, 3). A partial parallel is given by St. Paul on gifts in 1 Corinthians 12: 4-11 (Krapp et al. in *Exeter Book*, p.xl). Further biblical sources and parallels for "The Endowments of Men" are noted by Bernard J. Muir (p.497).

<sup>36</sup>Based on the preceding parts of the poem, the word "crafts" (Old English *cræftum*) is employed in the broadest sense of the various abilities and capacity for skills given to the human.

These and other similar tracts state that the crafts are part of humankind's working out of salvation<sup>37</sup>; that they help one experience joy and peace for all eternity in heaven; that they allow the human to become godly.

Another helpful source for understanding the crafts as a divine gift is *Libri Eraclii de artibus romanorum crafts manual*<sup>38</sup>. The earliest extant manuscript of Eraclius dates from the 10th century<sup>39</sup>. Eraclius's crafts manual praises the past glory of the Roman people and their artisans:

Who is now able to show us what these artificers, powerful by their immense intellect, discovered for themselves. He who, by his powerful virtue, holds the keys of the mind, divides the pious hearts of men among various arts. (Eraclius, I, "Introduction", trans. Merrifield, 1849/1967, p.182)

The "He" mentioned in the quote has the power to divide "the pious hearts of men among various arts", and thus for the Christian must be Christ. Noteworthy, too, that

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<sup>37</sup>Similar in spirit are:

(i) Clement of Alexandria's *The Stromata* (VI.XI, pp.501, 501 n.5-6) which reiterates Wisdom (VII.16; XIV.2, 3), that all skill in works are of God, and to be guided by God, as was the case in the exemplar of Solomon and the building of the Temple,

(ii) St. Gregory the Great's (c.540-604, Pope Gregory I) 29th homily on the Gospels (Migne, *Patrologiae Latinae*, Tomus LXXVI, 1218) gives a summary of 1 Corinthians 12:4-11,

(iii) in concluding an exegetical tract on the Book of Exodus, Rupert of Deutz, in speaking of the arts employed to build, under divine guidance, the Tabernacle, stated "who could doubt that these as well as all other arts of this sort are gifts from God?" (*In Exodum*, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168) and that the skill of a craft is a "divine skill" (*In Exodum*, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168), and care must be taken not to waste it in a profane manner,

(iv) *De diversis artibus* of Theophilus Presbyter (Prologue to "The First Book: The Art of the Painter," trans. Hawthorne et al., p.11; Prologue to the "Third Book: The Art of the Metalworker," trans. Hawthorne et al., pp.78-79), and

(v) The English Masonic Constitution of c.1400 (Cooke MS., British Library, Add.23198), thought to be largely based on an earlier (mid-14th-century) Constitution (Harvey, 1972, pp.191-202).

<sup>38</sup>Cf. Bruyne, 1969, pp.33, 43. Eraclius claims to have not written on anything in the text that he has not first tried (I, "Introduction", p.182). However, of the writers of the three main pre-1200 craft texts mentioned above, Theophilus appears to be the most likely author who may have been skilled in the crafts. The other texts are more compilations of much earlier technology with partial instructions (Hawthorne et al., pp.4, 14).

<sup>39</sup>Hawthorne et al., p.4. It has been suggested that Eraclius, or Heraclius, lived during the 10th century (Assunto, p.283).



persons of pious heart are in the various crafts, and that the artisan's mind and heart need to be activated by Christ and God.

The crafts were considered given by divine direction, and, further, were a sacred trust<sup>40</sup>. We see this in the medieval manual of craft techniques, the *Mappae Clavicula* (earliest extant fragment from the 9th century). Its Prologue states:

I swear further by the great God who has disclosed these things, to hand this book down to no one except to my son, when he has first judged his character and decided whether he can have a pious and just feeling about these and can keep them secure. (Hawthorne et al., trans., 1974, p.28)

Later, Master Peter of St. Audemar in his craft manual, *De Coloribus Faviendis* (*On Making Colors*)<sup>41</sup>, makes a related point: "By the assistance of God, of whom all things are good, I will explain to you ... how to make colours for painters and illuminators ..." (Master Peter in Merrifield, 1967, p.116). The view generally held was that the artisan must be receptive to God's guidance to apply the divine gift of the crafts.

A key precedent here is Bezalel, the inspired master craftsperson for the Tabernacle of Moses. Bishop Eusebius and Theophilus apply this precedent to the contemporary crafting of church art and architecture. Rupert of Deutz does the same, and refers to the crafts in general.

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<sup>40</sup>Craft manuals and methods were themselves sometimes described as sacred. The full text of the *Mappae Clavicula*, extant from the 12th century, refers in the "Prologue" to earlier texts on the methods of the crafts as sacred. Similarly, the instructions for colouring of gold in the *Mappae Clavicula* admonishes: "Keep this as a sacred thing, a secret not to be transmitted to any one, ..." (Chapt. 14, Hawthorne et al., ed.). The author is, of course, transmitting it, however its distribution is claimed to be for only the author's 'son,' according to the "Prologue." During the 12th century, a revival of antique ideas and imagery was witnessed once again in western Europe. Crafts manuals were deemed sacred due to the mysteries revealed therein, and their provenance and antiquity (Hawthorne et al., p.21)

<sup>41</sup>This text has been claimed to date no later than the beginning of the 14th century (Merrifield, 1967, pp.112-113).

However, the Church has appeared to some as reluctant to admit divine guidance outside its priestly and monastic fold. John Van Engen (1980) gives a very detailed and helpful examination of the cogent theology of the crafts provided by Theophilus, a monk who may have been a craftsperson (cf. 1980, p.147). He argues that Theophilus's Prologues are a new departure on the divine guidance and participation of the craftsperson, applying in part the contemporary writings of a leading Benedictine theologian, Rupert of Deutz (Davis-Weyer, 1971, p.167). Further, Engen claims that before Rupert, there was snobbery on the part of theologians and commentators on the Bible towards the crafts; ecclesiastics could not accept craftspersons being divinely guided. The key biblical passages are Exodus 31:1-11 and 35:30-36:2: "And he hath filled him [Bezalel] with the spirit of God, in wisdom, in understanding, and in all manner of workmanship" (35:31). Engen claims that Christian exegetical tradition commented on this passage allegorically only, and did not take it *literally*, in the sense that Bezalel was so inspired<sup>42</sup>. However, Engen notes that in the 12th century Rupert of Deutz and Theophilus broke with this tradition, by stating that craftspersons could be so inspired, and Bezalel was a reinforcing example.

The objection to Bezalel being literally inspired is not as strong as Engen suggests however. The important Jewish exegete and Middle Platonist Philo of Alexandria (c.25 B.C.-c.45 A.D.) stated that Bezalel worked with shadows/copies, as his name implies<sup>43</sup>, of the archetypes built by Moses (V, *De Somniis*, I, 206). Philo

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<sup>42</sup>Engen cites an exegetical tract on the Book of Exodus by St. Augustine (354-430) as the prime and influential example (1980, pp.153, 153 n.36; Augustine, *Quaestiones in Heptateuchum*, 2.CXXXVIII).

<sup>43</sup>'Bezalel' means "in the shadow of God" (Albert). Rupert of Deutz, in a passage at the end of his Exodus commentary, *In Exodum*, notes that 'Bezalel' means "The Lord's shadow' because by his name

recognized, both allegorically and *literally*, Bezalel's divine inspiration in carrying out the work, *but* Moses received the design/plan<sup>44</sup> and was the one who had the closer and greater realization of God:

This is why God hath expressly called Moses and why he spake to Him. Bezalel also He hath expressly called, but not in like manner. One receives the clear vision of God directly from the First Cause Himself. The other discerns the Artificer, as it were from a shadow, from created things by virtue of a process of reasoning. Hence you will find the Tabernacle and all its furniture made in the first instance by Moses but afterwards by Bezalel, for Moses is the artificer of archetypes, and Bezalel of the copies of these. For Moses has God for Instructor, as says "thou shalt make all things according to the pattern that was shown to thee in the mount" (Exod. xxv.40), but Bezalel is instructed by Moses. And all this is just as we should expect. (I, *Legum Allegoria*, 102-103)

Clement of Alexandria (VI.XI, 1913, pp.501, 501 n.5-6) reiterates Wisdom (VII:16; XIV:2, 3) that all skill in works is of God, and is to be guided by God, as exemplified in the building of Solomon's Temple. Bishop Eusebius's "Panegyric," or oration, at the dedicatory service of the church at Tyre<sup>45</sup>, c.324<sup>46</sup> provides part of the same theology issued by Rupert and Theophilus some 800 years later. We have noted for example that the important collection of Anglo-Saxon poetry, the *Exeter Book*, sees skill in the crafts as a gift of God<sup>47</sup>. The influential dialogue (1093-1096) of

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he signifies, as has been said, the tabernacle, because he made it a shadow, that is a type, of the heavenly tabernacle" (IV.44, col.744; trans. in Davis-Weyer, 1971, p.168).

<sup>44</sup>As noted earlier, Moses was said to have been divinely shown the pattern for the Tabernacle (Exodus 25:9, 40; Acts 7:44; Hebrews 8:5). Of course, he was already known as the (God-)inspired leader of the Children of Israel, and not as a craftsman.

<sup>45</sup>The oration was addressed to Paulinus, Bishop of Tyre, priests and laity in attendance (*Church History*, X.IV).

<sup>46</sup>McGiffert in Eusebius, p.45.

<sup>47</sup>A standard Anglo-Saxon text, the translation of Boethius's *Consolation of Philosophy*, emphasizes the necessity of wisdom for all skill, including the crafts:

Now knowest that no one can manifest any skill nor exercise any power without tools and material; that is, the material of each craft without which it can not be exercised. .... For every kind of skill and power quickly grows old, and is passed over in silence, if it is devoid of

Westminster's abbot, Gilbert Crispin, as noted above, implies a degree of divine guidance on the part of craftspersons in his justification of church art and architecture.

Theophilus's main points were essentially given earlier in Eusebius's oration in the latter's *Church History*<sup>48</sup>. Theophilus noted that the human was made in the image of God, and thereby has the reason, wisdom, skill and capacity for practical knowledge, to deservedly participate in God's design, and create like the Creator<sup>49</sup>. The parallel description by Eusebius centres on Bishop Paulinus, who is identified with Bezalel (1961, X.IV.24-26)<sup>50</sup>. However, he ascribes the principle also to the other contributors (1961, X.IV.26), which included the craftspersons. Additionally, Theophilus relates that others will be drawn to praise God the Creator through seeing and experiencing the craft work of, and in, the church building<sup>51</sup>. Again, Eusebius concurs (1961, X.IV). Thus,

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wisdom; because no one can manifest any skill without wisdom, since whatever is done foolishly can never be accounted as skill. (XVII; trans. in Cook et al., p.122)

Where now are the bones of the famous and wise goldsmith, Wayland? I said "the wise" for this reason, because the skilful can never lose his skill, nor can it be taken from him more easily than the sun can be removed from its station. (XIX; trans. in Cook et al., 123)

<sup>48</sup>Rupert of Deutz was familiar with Eusebius's *Church History*, and used it in interpreting the Book of Revelation (Engen, 1983, pp.279-280). It is quite possible that Theophilus, and indeed Gilbert Crispin, were also familiar with this fairly available text by Eusebius, in its Latin translation and, at times, paraphrased from the Greek by Rufinus of Aquileia. Among extant manuscripts written in or for England during the Anglo-Norman period, a copy of this text by Eusebius is at Corpus Christi College, Cambridge (MS. 187), and a 12th-century copy from St. Albans is at the British Library (MS. Royal 13 B.v) (Gameson, pp.4, 17, cf. pp.1-2). Rufinus omitted entirely the Panegyric at Tyre, indicating that it and the other bishops' panegyrics were not sufficiently historical in content (Rufinus, ["Preface to the History of Eusebius,"] p.3). However, it has been suggested that this section was excluded, in part, due to the Panegyric's 'heretical' Arian theological tendency (Oulton, pp.153, 156). (The Arian 'heresy' held that Christ was not divine, co-eternal and consubstantial with the Father, but was created by the latter.) However, this tendency need not affect or 'colour' the theological parallelism between Eusebius's oration at Tyre and Theophilus's Prologues.

<sup>49</sup>Theophilus, Prologue, "The First Book: The Art of the Painter" & Prologue, "The Third Book: The Art of the Metalworker."

<sup>50</sup>As noted earlier, Eusebius likens Bishop Paulinus not only to Bezalel (*Church History*, X.IV.3, 25), but also to Solomon and Zerubbabel (*Church History*, X.IV.3).

<sup>51</sup>Theophilus, Prologue, "The Third Book: The Art of the Metalworker."

while there was some resistance within the Church to the possibility of craftspersons being divinely instructed, there were well-known ecclesiastical writings that indicated that a degree of divine guidance was to direct artisans and their work.

## 2.1 The Liberal and Mechanical Arts

A related point is found in the medieval descriptions of the liberal and mechanical arts. The crafts, including architecture, are the mechanical arts and were often included as one of the parts of philosophy in the writings of Anglo-Saxon and Irish scholars, and, later, the theologians of the Carolingian Renaissance<sup>52</sup>. The linking of the mechanical arts, and architecture, with the *quadrivium*, and thus to the liberal arts and philosophy was common. This meant that mechanics was one of the means of salvation, provided by philosophy for the attainment of wisdom and the restoration of the fallen human<sup>53</sup>.

The great encyclopedic classifications of the Middle Ages also stressed the restoration of the human, made in the image of God, as the religious value of the crafts. The involved elucidations of Hugh of St. Victor's (1096-1141) *Didascalicon* are noteworthy<sup>54</sup>. This text also had a wide circulation throughout Europe and Britain

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<sup>52</sup>Whitney, p.62. Sometimes architecture was explicitly mentioned as one of the mechanical arts.

<sup>53</sup>Whitney, pp.70-73; cf. Noble, pp.17ff. John the Scot (b. c.810), in his commentary of Martianus Capella's allegorical *Marriage of Philology and Mercury*, describes the arts as being innate in the human. The arts, in the soul but obscured by the Fall, can be recalled through teaching (Text and trans. in Contreni, pp.25, 41 n.17; Whitney, pp.71-72, 71 fn.65). John the Scot, or John Scottus Erigena, was Irish and a renowned scholar teaching by 850 in the court of Charles the Bald, the Frankish emperor.

<sup>54</sup>This text was written c.1126-1129 for the broad use of students at the open school where Hugh taught, the recently founded Abbey of Saint Victor in Paris (Jerome Taylor in Hugh of St. Victor, 1961, pp.3, 158 n.1-2). Part of Hugh's purpose for this encyclopaedic text was to educate novice canons, so that they would be well trained to teach and preach in the town community (Illich, 1993, pp.78, 78 n.21).

during the 12th through 15th centuries<sup>55</sup>. Hugh found value in the mechanical arts (*Didascalicon*, I.5, 8), which explicitly and implicitly included the crafts and building (*Didascalicon*, II.20-22), for the securing of human needs and the attainment of wisdom.

Hugh described the attainment of wisdom, the purpose of life, as the restoration of the divine image in the human. Additionally, wisdom consists of two components: "understanding" (*intelligentia*) and "knowledge" (*scientia*). The "mechanical" sciences<sup>56</sup> are part of "knowledge" (*scientia*), and hence ultimately also a part of wisdom. Further, the other component of wisdom, "understanding" (*intelligentia*), derives from the divine rather than the human, and involves the restoration of the divine likeness in the human (*Didascalicon*, I.8). This restoration is the purpose and inspiration that guides the crafts. Thus, the "mechanical" sciences or crafts are guided by wisdom, through their relationship with the two constituents of wisdom, "understanding" and "knowledge."

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<sup>55</sup>Taylor in Hugh of St. Victor, 1961, p.4.

<sup>56</sup>Hugh of St. Victor stated that the "mechanical" sciences derive from the human rather than the divine, because they provide for the necessities required for our "infirm part" (1961, I.8, trans. Taylor). Further, he referred to the "mechanical" as "adulterate" (I.8-9, trans. Taylor) because it is of human labour, but this association is not a condemnation. Rather than associating the word "mechanical" with machine, Hugh connected it with the Latin *moechus*, adulterer (Taylor in Hugh of St. Victor, 1961, p.191 n.64). This association was made earlier in the ninth century in Martin of Laon's *Scholica graecarum glossarum*:

"*Moechus*" means adulterer, a man who secretly pollutes the marriage bed of another. From "*moechus*" we call "mechanical art" any object which is clever and most delicate and which, in its making or operation, is beyond detection, so that beholders find their power of vision stolen from them when they cannot penetrate the ingenuity of the thing. (Trans. in Laistner, ed., 1922-1923, p.439, and in Taylor in Hugh of St. Victor, 1961, p.191 n.64)

Hugh's description and apparent etymological derivation of the mechanical as adulterate, taken in context, was not a condemnation, but rather an emphasis on ingenuity. Indeed, shortly after this description he quoted a proverb: "Ingenious want hath mothered all the arts" (1961, I.9, trans. Taylor), and writes of the mechanical arts in complementary terms. For example, the artificer, like nature, was looked upon with wonder (Hugh of St. Victor, 1961, I.9).

Hugh noted that all disciplines and arts (including architecture as he explicitly describes) are oriented to philosophy<sup>57</sup>. Philosophy is the love of wisdom, the shining forth of the divine Idea or Pattern in the human (*Didascalicon*, II.1)<sup>58</sup>. For Hugh, the changeless and eternal archetypal patterns in the divine Wisdom are the ultimate concern of the arts. The human is to be inspired to be able to apprehend and then use these patterns for designing and creating craft work<sup>59</sup>. Startlingly, in the process, the *artisans themselves* are spiritually restored in the likeness of these archetypal patterns<sup>60</sup>.

## 2.2 The Apprehension of Archetypal Patterns

The apprehension of archetypal patterns was shown in the divine guidance and assistance that was said to have been received for the site selection, design, and building of churches and monasteries. Such guidance had biblical precedence and was therefore deemed an application of Christianity. Important divinely-given patterns for the church in Christian history are the Tabernacle of Moses, which leads to the Temple of Solomon and then ultimately to the Heavenly Jerusalem [Fig.10]. There was a shared coherence in

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<sup>57</sup>Hugh quotes Cassiodorus (*Institutiones*, II.III.5) or St. Isidore (*Etymologiae*, II.XXIV.9) (Taylor in Hugh of St. Victor, p.196 n.4).

<sup>58</sup>Hugh quotes and follows closely Boethius (*In Porphyrium dialogi*, I.III) (Taylor in Hugh of St. Victor, p.195 n.1).

<sup>59</sup>Futhermore, Hugh stated that the artificer imitates nature (1961, I.8, 9). Nature here includes the "archetypal Exemplar of all things which exists in the divine Mind, according to the idea of which all things have been formed" (I.10; trans. Taylor).

<sup>60</sup>Taylor in Hugh of St. Victor, p.196 n.2. In regard to the other encyclopaedic writings, the great *Mirror* or *Speculum majus* by Vincent of Beauvais (d.1264) also expounded the current doctrine that the arts have a role in the work of the human's restoration. This doctrine justifies the depiction of the crafts, composing part of what Vincent refers to as the Mirror of Instruction or *Speculum doctrinale*, in the sculpture and painting of cathedrals (Taylor, *The Mediaeval Mind*, II, p.83; Mâle, pp.65ff).

design associated with these biblical edifices<sup>61</sup>. Identifications of the church with the archetypal New Jerusalem, Temple of Solomon<sup>62</sup> and Tabernacle of Moses, or comparisons thereto, are quite common in the Middle Ages<sup>63</sup> (McCague, 1993, pp.68-72, 136-139).

Platonism and Neo-Platonism also stressed the importance of archetypes for craftspersons. Plato<sup>64</sup> stated:

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<sup>61</sup>This topic is discussed further in Appendix 1.

<sup>62</sup>In at least one European case, some remains from the Temple were even claimed to have been incorporated into the building of a later church. The helical, or 'spiral,' columns of the Shrine of Old St. Peter's for example were said to have been originally from the Temple of Solomon. The earliest reference is from the Renaissance, and dates from 1438. It is an inscription carved on a balustrade place around one of the columns by Cardinal Orsini. The inscription relates that this particular column, known as the "Colonna Santa," was the one which Christ leaned against during disputations with the doctors in the Temple. The miraculous powers of this column are also mentioned (Ward-Perkins, pp.22, 24). The Latin inscription reads as follows:

H(a)ec e(st) illa colu(m)na . in qua(m) d(omi)n(u)s n(oste)r YH'VS XPS appodiatu(s) . dum populo predicabat et deo p(at)ri p(re)ces i(n) templo effundebat . adherendo stabat qu(a)e una cu(m) aliis undeci(m) hic circu(m)stantibus de Salomonis templo in triumphum hui(us) basilic(a)e . hic locata fuit : demones expellit et ab inmundis (sic) spiritibus vexatos liberos reddit . et multa miracula cotidie facit ; p(er) reverendissim(um) p(a)trem d(omi)num Card(inalem) de Ursinis ornata : anno domin(i) MCCCCXXXVIII. (Quoted in Ward-Perkins, p.24 fn.19)

<sup>63</sup>Comparisons of church buildings to Noah's Ark seem uncommon, in part because this biblical structure was not literally a temple with an altar. A post-Roman Gaul example is from Avitus, metropolitan bishop of Vienne, (fl.500) (Wood, p.75). He described a particular church of his time, though it is not clear which one, that apparently had three levels, as Noah's Ark with its *multitudi mansionum* (hom 24; Perrat et al., p.441).

<sup>64</sup>It has often been thought that Plato condemned the fine arts (Oates, p.3; Cavarnos, pp.v, 11-13; Rau, pp.16, 38-39, 49; Keuls, p.49; James, 1975, p.6). However, recent scholarship in this area claims to have more closely examined all of Plato's writings, including the Greek text, and argues that this view is misleading (Oates; Cavarnos; Rau, pp.13-14; James, 1975, p.6; Keuls). The purported condemnation comes largely from the *Republic*, X. Constantine Cavarnos has argued that Plato, in the *Gorgias*, the *Republic*, and the *Phaedrus*, condemned sham, or the semblance, of art, but clearly not (true) art (Cavarnos, pp.13-30). Even in the *Republic*, X, a distinction is made between "true art and pseudo art; between the imitation of true being ... and the imitation of appearance" (Cavarnos, p.23; X.596e, 598b, 599a). Catherine Rau has argued that Plato rejected only art that appeals merely to sensual pleasure, particularly the art of his time, and not all art (p.22). Condemnation has been interpreted from art being: "(a) imitative, (b) concerned with particulars, (c) immoral" (Cavarnos, p.11). Cavarnos argues that Plato rejects only pseudo art that is imitative of particulars, not of universals or the divine ideas or forms, and that is immoral, and not true art which is beautiful, and thus good (including in the moral sense) (pp.11-30). Indeed, it is claimed that only the pseudo artist is the one who makes objects "thrice



painters look to their models, fix their eyes on the absolute truth, and always with reference to that ideal and in the exactest possible contemplation of it establish in this world also the laws of the beautiful, the just and the good ... . (*Republic*, VI.484d, trans. Shorey, 1977)<sup>65</sup>

The Neo-Platonist Plotinus (A.D. 204/205-270) notes in the *Enneads* how art, for example the image sculpted in a marble block, derives beauty from the Soul and Ideal-Form (V, 8.1, cf. I, 6.2). This point of following archetypal patterns in the crafts was made by Dionysius the Pseudo-Areopagite in the 4th or 5th century (Campbell in Dionysius, 1981, pp.10-11, 100-101 n.30). His description of the sacrament of oil, and of the consecrations carried out with it in the church building, states that:

Considering sensible images, if the artist looks constantly at the archetypal form, undistracted by any visible thing, his attention undivided, he will duplicate, if I may so speak, the very thing being depicted, whatever it may be. He will reproduce the reality in its likeness, the archetype in its image, one in the other except for difference in substance. In the same way, constant and unflinching contemplation<sup>66</sup> of the fragrant and hidden Beauty by artists who love what is spiritually beautiful will produce an exact and most godlike resemblance. (*The Ecclesiastical Hierarchy*, 4.3.1, trans. Campbell, 1981)

We see in this later point the influence of Greek philosophy characteristic of his writings, and indeed his main source here appears to be Plato (Campbell in Dionysius, 1981, p.11). Platonic and Neo-Platonic philosophy transmitted a traditional conception of the crafts as requiring, and participating in, divine guidance and receptivity.

The notion that design patterns for church building and the crafts were revealed by God was well in place in the Early Christian period and continued through the Middle

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removed from the archetypal nature of things" (Cavarnos, p.73; Plato, *Republic*, X.597e), and is to be banished from the Republic. Further, to speak of Plato's view of art requires the broad vista of all that he said about art. Many of his statements are very appreciative of art and artists (Cavarnos, pp.31-73).

<sup>65</sup>A similar comment on artificers appears in the *Timaeus* (28a-b).

<sup>66</sup>In regard to the spiritual exercise of contemplation, the Venerable Bede applies Exodus 24:40 on Moses's divine guidance for the pattern of the Tabernacle as a metaphor for the "most secret contemplation" (*Bede: On the Tabernacle*, p.44) of the Christian life.

Ages. Bishop Eusebius's "Panegyric," or oration, at the dedicatory service of the church at Tyre (1961, X.IV), c.324<sup>67</sup> proclaims that this temple or church was based on a divine pattern: "more wonderful than wonders are the archetypes, the rational prototypes of these things and their divine models"<sup>68</sup>.

A closely related and comprehensive statement is made by Eddius Stephanus (fl.669) in his account of the dedication of the church at Ripon (671-678):

For as Moses built an earthly tabernacle made with the hands, of divers varied colours according to the pattern shown by God in the mount, to stir up the faith of the people of Israel for their worship of God, so the blessed Bishop Wilfrid wondrously adorned the bridal chamber of the true Bridegroom and Bride with gold and silver and varied purples, in the sight of the multitudes who believed in their hearts and made confession of their faith. ... like Solomon the wise, they consecrated the house and dedicated it to the Lord in honour of St. Peter the chief of the Apostles, to assist the prayers of the people in it. (*The Life of Bishop Wilfrid*, XVII, trans. Colgrave, 1927)

The point that I would like to emphasize is that Moses's Tabernacle and Bishop Wilfrid's church at Ripon were considered to be built "according to the pattern shown by God."

This notion comes directly from the biblical descriptions of the Tabernacle<sup>69</sup>. Implicitly, the law of Wisdom 11:21<sup>70</sup> is applied because the "pattern shown by God" for the Tabernacle does indeed follow "measure, number and weight" (Wisdom 11:21). We

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<sup>67</sup>McGiffert in Eusebius, p.45.

<sup>68</sup>Eusebius, *Church History*, X.IV; trans. in Smith, *The Dome*, 1971, p.92. Eusebius notes that these same divine models are mirrored in the universe as a whole. The Tabernacle of Moses models the entire universe (Josephus, *The Jewish War*, V.212 & *The Antiquities of the Jews*, III.123, 180-187; Philo, VI, *De vita Mosis*, II, 76-127; cf. note on Cosmas Indicopleustes, fl. A.D. 540, the Ark of the Covenant, and the shape of the universe in Dilke, "Religion and Ancient Maps," 1987, p.3). We see this concept also in the ancient Roman world. For example, Cicero (106 B.C-43 B.C.) states: "... that god, whose temple is the whole universe that you see (*nisi enim deus is cuius hoc templum est omne quod conspicis*)..." (*The Dream of Scipio* (*Somnium Scipionis*), III.7, pp.138-139).

<sup>69</sup>Exodus 25:9&40, 26:30; Hebrews 8:5; Acts 7:44.

<sup>70</sup>"Thou madest all things in measure, number and weight." This passage was cited by Abbot Suger (1081-1151) in regard to the new construction work at his Abbey Church of St. Denis, 1140-1144 (Suger, *De Consecratione*, III, 1979, pp.96-97).

also see reference to the Temple of Solomon, and the Heavenly Jerusalem<sup>71</sup> by way of the bridal chamber imagery (Revelation 21).

We see these concepts emphasized in the craft tradition by the testimony of the ecclesiastic, Theophilus Presbyter. His *De Diversis Artibus (On Divers Arts)* gave guidance to others working in the crafts. Theophilus stressed the inspiration of Moses and the Tabernacle, and of Solomon and the Temple. In the Prologue to "The First Book: The Art of the Painter" he stated:

We read in the account of the creation of the world that man was created in the image and likeness of God<sup>72</sup> ... capable of reason, he might participate deservedly in the wisdom and skill<sup>73</sup> of God's design<sup>74</sup>.... (Trans. Hawthorne et al., 1963, p.11)

In the Prologue to the "Third Book: The Art of the Metalworker" we find:

Through the spirit of wisdom you know that created things proceed from God and that without Him nothing is. Through the spirit of understanding, you have received the capacity for practical knowledge of *the order, the variety, and the measure*<sup>75</sup> that you apply to your various kinds of work .... Inspired by these covenants with the virtues, dearest son, you have confidently approached the house of God and decorated it well and gracefully. By setting off the ceiling panels and walls with a variety of kinds of work and a variety of pigments, you have shown the beholders something of the likeness of the paradise of God, burgeoning with all kinds of flowers, verdant with grass and foliage, cherishing the souls of the saints with halos according to their merit. Thus you have caused

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<sup>71</sup>Much later, 1400, in the report of the consultative committee for the continuance of the building of Milan Cathedral, the Milanese master builders, in part, justify the four towers to be built at the corners of the crossing-tower by the following allusion to the Heavenly Jerusalem: "To be sure, as if for a model of this, the Lord God is seated in Paradise in the center of the throne, and around the throne are the four Evangelists according to the Apocalypse, and these are the reasons why they were begun" (trans. in Ackerman, p.100; cf. Revelation 4, 21:5).

<sup>72</sup>This, of course, follows Genesis 1:26-27.

<sup>73</sup>Cf. Exodus 31:3, 35:31&35, 36:1-2; I Kings 7:14.

<sup>74</sup>Cf. Exodus 25:9&40, 26:30; Hebrews 8:5; Acts 7:44; I Chronicles 28:12, 19; Wisdom 9:8.

<sup>75</sup>Theophilus describes the use of weight units, measurement units, rule, and compasses in various crafts in his manual (1963, pp.29, 49-51 fn.1, 61-62, 68, 93, 97-99 fn.1, 99, 100, 102, 126).

them to praise God the Creator in this creation and to proclaim Him marvelous in his works. (Trans. Hawthorne et al., 1963, pp.78-79; emphasis mine)<sup>76</sup>

Significantly, we see in this quotation the application of the essential principle of Wisdom 11:21 to the crafts. The human, being in the image of God, can participate in God's forming of Creation, and thereby assist others to experience and praise God.

### 2.3 Dreams and Visions

One of the ways the human was deemed a co-creator with God, in the image of God, was by means of spiritual dreams and visions. During the Middle Ages, dreams were considered an important medium for the conveyance of divine edicts and messages. This medium had the authority of classical writers, the Old and New Testament, and the early Christian writers and saints. An example from the Old Testament is: "By a dream in a vision by night, when deep sleep falleth upon men, and they are sleeping in their beds; then [God] openeth the ears of men, and teaching instructeth them in what they are to learn" (Job 33:15-16). The messages of these dreams were revealed by God directly, or through the intermediary of angels and saints<sup>77</sup>. Guidance could also come through a vision during the waking state.

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<sup>76</sup>"Measure" in this quotation is a translation of the Latin *mensura*. This Latin word has also been translated as "proportion" (Theophilus, trans. Hendrie, p.202).

<sup>77</sup>Additionally, many dreams had a miracle associated with them. In considering miracles, many modern historians question any truthfulness in them, and indicate or imply miracles stories were fabricated to effect or bolster political and economic ends. For such scheming to 'work,' a commonly-held belief in miracles is needed. Miracles had a reality to the people of the Middle Ages. Additionally, such stories, like those of the Bible, could be read for their non-literal moral and allegorical import, conveying deemed higher truths. The foregoing comments are not to say, though, that *all claimed* miracles were accepted unquestioningly during the medieval period, for they were not. On a parallel note:

Modern writers on East Rome, convinced that 'miracles do not happen', have quietly banished miracle from their histories and have thereby falsified the picture, for there can be no doubt that

Dreams and visions were said to indicate the need for a building project to be undertaken, as well as the site, design, and implementation process<sup>78</sup>. Each of the great

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the Byzantine lived in a world where miracles could happen and did happen, and that belief in miracles is itself a fact of history which the student ignores at his peril. (Baynes, "Supernatural Defenders," p.248).

This tempering guideline would apply as well to Western Christendom during the Middle Ages.

<sup>78</sup>There appears to be relatively little documentation regarding dreams and visions for the founding of medieval towns and cities. However, some cities in effect have a vision or dream associated with their founding, due to their origins in the founding of a church at their heart. Mont St. Michel and Durham, mentioned earlier, are cases in point.

Constantine's divine guidance in laying out the boundaries of Constantinople is an outstanding example from the Early Christian and Byzantine periods. This story of Constantine was repeated by various writers, including St. Aldhelm (Bishop of Sherborne, b. c.640 - d.709, *De Virginitate*, XXV) and William of Malmesbury (*Chronicle of the Kings of England*, IV.2, pp.372-373). The earlier ecclesiastics who gave this story are: (i) Eusebius (*Life of Constantine the Great*, IV.5; p.443), (ii) Sozomen (II.3) (d. c. A.D. 400), (iii) Philostorgius (II.9), and (iv) Socrates (I.16).

Constantine was guided by God through a dream, and then in the waking state was so guided to lay out the boundaries for the "New Rome" (Eusebius, *Life of Constantine the Great*, IV.5), "The City of Constantine," or Constantinople. The new city appeared as a beautiful maiden in his dream. The being guiding Constantine in laying out the borders of the city was probably "made up of the best attributes of such divine beings as Apollo, Christ, the Tyche of the city and the Genius of Constantine himself" (Smith, 1971, p.225).

Constantine, on foot or mounted on a divinely guided horse, marked out the limits of the city with his imperial standard or a spear. The different accounts vary somewhat. For example, Philostorgius and William of Malmesbury indicate that Constantine employed a spear to mark off the boundaries. St. Aldhelm states that an imperial standard was used. There were various elaborations on the divine ordination of the founding of Constantinople. The dream account was well known in the West, but "According to one Byzantine account, when Constantine, led from Troy by the divine hand, hesitated at Chalcedon, uncertain whether or not God intended him to cross the Bosphorus into Thrace, the eagles of the mountains flew down to pick up the architects' instruments, builders' tools and building materials, and carry them to the acropolis of Byzantium" (Smith, 1971, p.219).

Another example from the Middle Ages is in regard to Venice. Medieval legend held that during the 1st century A.D. St. Mark visited and preached in the area of the Venetian lagoons during a missionary tour of the northern Adriatic. The earliest account of this visit appears in Giovanni Diacono's *Cronaca veneziana*, early 11th century (Brown, "The Self-Definition of the Venetian Republic," 1991, p.512). Later, he became the patron saint of Venice, shortly after his relics were brought there in 828-829. Giovanni Diacono's account states that after the rebuilding of the S. Marco Church, the forgotten location of St. Mark's relics was rediscovered miraculously in 1094 (Brown, "The Self-Definition of the Venetian Republic," 1991, p.519). In the mid-13th century, Martino da Canal wrote that St. Mark, during his original visit, received a prophetic dream. An angel related that he would return there, the site of the later S. Marco Church, for his final resting-place (Brown, "The Self-Definition of the Venetian Republic," 1991, pp.513-514; Ammerman, pp.39-40; Muir, 1981, pp.70-72). This dream reinforced the iconographic connections made between St. Mark and Venice in the 9th through 13th centuries. An example is the lead seal of Doge Pietro Polani (1130-1148), in which the enthroned Evangelist Mark is shown handing over to the standing doge, the gonfalon or *vexillum* of St. Mark. Patricia Fortini Brown details other examples ("The Self-Definition of the Venetian Republic,"

building projects of the Old Testament was divinely inspired. This direction includes the impetus to undertake the project, the selection of the site, and how it was to be designed in number, geometry and measure<sup>79</sup>. There is a coherence and similarity in inspiration and structure of the biblical edifices that befits their culmination in the Heavenly Jerusalem at the close of the New Testament. These biblical themes of divine guidance

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1991, pp.519-521). The legendary dream and visit of St. Mark were important to the divine sanction for the founding of both the S. Marco Church and the city of Venice (Brown, "The Self-Definition of the Venetian Republic," 1991, pp.512, 518-520).

<sup>79</sup>Noah was guided by God as to the need to build the ark, how to design it, the materials to use, and its dimensions (Genesis 6:13-22). Jacob's ladder, seen in a dream as an interface between heaven and earth, inspired an altar dedicated to God at the place of Jacob's slumber (Genesis 28:10-22).

Moses was shown by God the pattern for the design of the Ark and its Tabernacle (Exodus 25:9, 40; Acts 7:44; Hebrews 8:5). Further, the craftspersons working on the Tabernacle, under Moses, were guided and endowed by God (Exodus 35, 36:1-2). Bezalel, the chief architect of the Tabernacle, was "called by name" (Exodus 35:30) by God to do this work. It is fitting, as noted earlier, that 'Bezalel' means "in the shadow of God" (Albert) or "The Lord's shadow" (Rupert of Deutz, *In Exodum*, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168) since the built tabernacle was a 'shadow' or manifestation of the archetypal and heavenly tabernacle (Rupert of Deutz, *In Exodum*, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168). Similarly, the other master craftsperson called by God to work on the Tabernacle, Ooliab (or Aholiab), has a name that means "'The Father is my Protection,' and signifies by his name that the protection of the Lord and his tabernacle may be hoped for as a reward by those who serve him" (Rupert of Deutz, *In Exodum*, IV.44, col.744; trans. in Davis-Weyer, 1971, p.168). This indicates the element of divine guidance and archetype in the building of the Tabernacle. The Tabernacle moved with the Children of Israel, but it was under the constant radiance and protection of God. Surrounding the Tabernacle, the encampment of the twelve Tribes of Israel in the wilderness was divinely inspired in its layout and choice of location, under the leadership of Moses and Aaron (Numbers 1:50-54; 2).

The site for the Temple was indicated through David's humbling himself to an angel (II Samuel XXIV.16-25). This mount was said to be Mount Moria of Genesis (XXII:2; II Chronicles 3:1). The Temple site was said to have been earlier the location of Abraham's altar, and the place of Abel's and Noah's sacrifices (Goldstein, p.58). The site's choice was reinforced when, one night, Solomon heeded a heavenly voice to go at once to Mount Zion. There he witnessed two brothers secretly and selflessly helping each other at the intended site (Goldstein, pp.124-125). The design of the Temple was shown to David and Solomon by God (I Chronicles 28:12, 19-20; cf. Wisdom 9:8). Additionally, God was said to have stirred the spirit of Cyrus, King of Persia, Zerubbabel, and the Children of Israel to rebuild the Temple (Ezra 1:1-6).

Nehemiah was inspired and assisted by God in rebuilding the walls and gates of Jerusalem (Nehemiah 2:8&12&18, 6:16). Ezekiel's vision was not only of the Temple, but also of the city of Jerusalem, both wondrously restored in his detailed numeric and geometric design (Ezekiel 40-48). St. John's vision of the Heavenly Jerusalem and its dimensions foretells the ultimate reality and purpose, through the metaphor of a city (Revelation 21) [Fig.10].

for building projects were extensively applied to contemporary projects during the Middle Ages<sup>80</sup>.

Records of such divine guidance are noted in medieval Britain<sup>81</sup>, Europe<sup>82</sup> and the Byzantine East<sup>83</sup>. These building projects applied the teachings of the Bible by following divine guidance in human activities in general, and most specifically, in the founding of Solomon's Temple and the other biblical edifices.

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<sup>80</sup>Divine guidance was considered to have directed a wide range of activities as well, including other art forms. For example, Caedmon's Anglo-Saxon *Hymn* was received in an inspiring dream (Lester, p.115). Additionally, a 9th-century legend maintained that Gregorian chant was received by Gregory the Great from the Holy Ghost, depicted in the form of a dove whispering in the saint's ear. This music was thus considered God-given, perfect and unchangeable, and thereby the proper music for the universal chant of the centralized Roman Church (Bukofzer, 1942, p.169).

<sup>81</sup>The topos of dreams and visions was associated with the building of churches in England. For example, the Church of Saint Mary at Hexham (Eddius Stephanus, fl.669), the restoration of the monastery of St. Peter at Peterborough in 966, the restoration of Westminster Abbey (11th-century dreams recorded in the 12th century) (Carty, 1991, p.120), and the rebuilding of Bath Abbey (late 15th-century dream) (Carty, 1991, p.135 n.43).

<sup>82</sup>Carolyn Marie Carty has written on "The Dream and Church Construction" with sections: (i) "The Housing of Relics Invented through a Dream", (ii) "The Dream as an Impetus to Construction", and (iii) "The Selection of the Dream as a *Topos* for Church Construction" (Chapt.IV, 1991). Additionally, Amy G. Remensnyder (1995) has discussed legends and divine guidance involved in monastic foundations in the south of France during the Middle Ages.

<sup>83</sup>Mango, pp.96, 98, 126-127, 211-214. The *Narratio de S. Sophia* (8th or 9th century), a semi-legendary and popular account during the Middle Ages (Mango, pp.56, 263), on the construction of the Hagia Sophia (532-537) in Constantinople built by Justinian I (c.482-565) claims: "The shape of the church was revealed to the emperor by an angel of the Lord" (8; trans. Mango, p.96). Additionally, during some indecision on how to proceed in building the presbytery,

there appeared to him [the master-builder] an angel of the Lord in the likeness of Justinian, wearing imperial vestments and red buskins, and said to the craftsman: "I wish that you make me the apse with three lights by means of three arches, in the name of the Father, the Son, and the Holy Ghost." (*Narratio de S. Sophia*, 12; trans. Mango, p.98)

Further, Procopius of Caesarea states, c.560 (Dewings et al. in Procopius, pp.ix, ix fn.2): "Whenever one goes to this church to pray, one understands immediately that this work has been fashioned not by human power or skill, but by the influence of God" (*Buildings*, I.I; trans. Mango, p.76). Procopius continues: "And so the visitor's mind is lifted up to God and floats aloft, thinking that He cannot be far away, but must love to dwell in this place which He himself has chosen" (*Buildings*, I.I; trans. Mango, p.76). These quotes are particularly notable because they are observations and legendary accounts of divine guidance for building one of the major churches in Christendom, the Hagia Sophia.

The liturgy reinforced the use of dreams and visions to guide the construction of churches. Jacob's dream and dedication of God's house (Genesis 28:17) are important references in the dedication of a church. They appear in the Mass for the dedication proper, and in the Mass of the hours of this feast's Divine Office (Carty, 1988, p.118). Similarly, the consecrated church was identified with the Heavenly Jerusalem revealed in the vision of St. John of Patmos<sup>84</sup>. The liturgy for the dedication of a church affirmed the project's divine rightness.

The ordained location of a church was shown in a variety of ways. For example, the Christian founding of Mont Saint Michel (Manche) was initiated by Bishop Aubert's dreams of St. Michael in the early 8th century<sup>85</sup>. The location for the Anglo-Saxon Cathedral at Durham was said to have been given to the monk, Eadmer, by revelation after St. Cuthbert's coffin miraculously became too heavy to transport, during his monastic community's 'wanderings' from Lindisfarne and Chester-le-Street<sup>86</sup>. Similar miracle stories appear in some other Anglo-Saxon accounts dealing with saints and the selection of ecclesiastical sites (Rollason, 1992, pp.185, 185 fn.8)<sup>87</sup>. Further, the location

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<sup>84</sup>Revelation 21, 3:12; Stookey, 1969, pp.38-39; Bowen, 1941, p.469.

<sup>85</sup>Carty, 1991, pp.122-124; MacLeish, p.823.

<sup>86</sup>Symeon, XXXVI or III.1; *Rites of Durham*, pp.66, 71, 74.

<sup>87</sup>King Wihtried, King Egbert's son, was shown, by St. Martin in a vision, the site where the king was to found the monastery of St. Martin in Dover (*Pa halgan*, 17 in Rollason, 1982, p.84; Rollason, 1982, pp.33-34).

An additional Anglo-Saxon example involves a legend of the martyr-princes, Saints Æthelberht and Æthelred appearing in the *Historia Regnum*. Attempts to move their remains to Canterbury, first Christ Church and then St. Augustine's Abbey, had proved unsuccessful because the relics had become miraculously too heavy to transport. However, the relics became light when it was decided to move them to a shrine before the high altar in a church at Wakering, Essex. The translation of the remains appears to have taken place c.700 (Rollason, 1982, pp.16-17).

Similarly in Normandy, the relics of the Saviour's Precious Blood, stored in a fig-tree, became tremendously heavy while being transported in a cart, and thereby indicated the site for the original foundation of the Abbey Church of Fécamp. Later, the abbey was founded again by Richard the



for Edward the Confessor's Westminster Abbey, dedicated to St. Peter and a 'forerunner' of the Anglo-Norman churches, was revealed in visions of the holy hermit Wulfsgie (Freeman, 1877, II, pp.511, 511 n.1). Like the exemplary case of King David realising the Temple of Solomon's divinely ordained site through an angel (II Samuel XXIV.16-25), the locations of churches and monasteries were sometimes claimed to have been chosen and ordained by God and revealed to a receptive individual.

Divine signs and dreams were also said to have revealed the location of lost tombs and relics. A divinely guided shaft of light was said to sometimes reveal to those properly prepared the location of 'lost' relics. A chapel, church or monastery was then often built at the revealed site to house and honour these sacred finds<sup>88</sup> (Carty, 1991, p.102). For example<sup>89</sup>, according to Matthew Paris's<sup>90</sup> *Vita Secundi Offae*, in 793 King Offa of Mercia received a vision revealing the location of St. Alban's buried body. The exact location was shown to the King at the site, with the clergy and faithful gathered, by a ray of light like a lightning shaft. Offa ordained that a monastery be founded at this

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Fearless, a Norman Duke, in the late 10th century, again following the inspiration of this legend (Goulburn & Symonds in Herbert, 1878, I, pp.54-55, 57 n.q, 58). A suggested etymology of Fécamp is *Fici Campus*, "Plain of the Fig-tree" (Goulburn et al. in Herbert, 1878, I, p.57 n.q).

<sup>88</sup>The site of a church could also be the claimed location some holy or particularly significant event. For example, the high altar of the Church of St. Martin, Battle, was said to have been placed where Harold and the royal standard fell. The church was built "in continual praise of God for the victory gained at Hastings, and a continual intercession for the souls of those who had fallen in the battle" (Goulburn et al. in Herbert, 1878, I, p.91; *The Chronicle of Battle Abbey*, Searle trans., pp.36-37, 40-41, 44-45, 66-67).

<sup>89</sup>Another example, in addition to the story of King Offa noted above, is Bishop Laudulfe's search for the tomb of St. Taurin. While praying, Laudulfe "saw a column 'brilliant as the sun' ... descending from the sky down to the spot where the saint was buried. Laudulfe founded a chapel dedicated to Saint Martin there ..." (Guillerme, 1983/1988, p.9). Bishop Laudulfe was probably active during the reign of Clothaire I (Guillerme, 1983/1988, p.9). Clothaire I (497-561) was the Frankish king (558-561) and the son of Clovis.

<sup>90</sup>Matthew Paris was a Benedictine monk at St. Albans writing around the mid 13th century.

site, with a church housing this relic in a shrine<sup>91</sup>. Revelations said to have helped locate 'lost' relics and tombs were another way in which the impetus and site for a church and monastery were presented as directed by God.

In addition to the impetus to build and the location being divinely intimated, the design of churches, their dimensions<sup>92</sup> and a demonstration of their laying out were also given in this way according to various accounts. For example, in the mid-7th century, the Frankish count and abbot of the Benedictine abbey at Soignies, Saint Vincent

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<sup>91</sup>Following the Venerable Bede's account, this would be the site of Alban's martyrdom, and an earlier church in honour of St. Alban. Bede's description indicates that the church was not only standing, but quite active at the time of his writing (*Ecclesiastical History*, I.7). The time of Bede's current description was only about sixty years before Offa's claimed rediscovery of the tomb, its exact location purportedly obscured over time after a Saxon invasion ruined the site. In this sense, Matthew Paris's 13th-century story, though possibly deriving from an earlier source, seems more likely inconsistent with Bede's account (Van der Westhuizen in Lydgate, pp.43-44). Matthew's account has been considered a way of increasing the prestige of the Abbey by claiming a royal foundation. The legend is repeated in *The Life of Saint Alban and Saint Amphibal* completed by John Lydgate in 1439 (lines 4356-4383; Van der Westhuizen in Lydgate, pp.43-44, 47, 59).

A related story appears on the life of St. Alban's alleged converter, St. Amphibalus (or Amphibal). In 1178, Robert Mercer of Redbourn received a vision in which St. Alban indicated to him the location of the bodies of Amphibal and his nine companion martyrs. The bodies were then found and translated under Abbot Simon's guidance to the Abbey church of St. Albans (Van der Westhuizen in Lydgate, pp.37-38, 38 fn.1).

<sup>92</sup>A notable Anglo-Norman example of divine guidance for the impetus and dimensions associated with a church, appears at Little Walsingham, a village near the north Norfolk coast:

In the [early] twelfth century Lady Richelde de Faverches [Fervaques] had three visions in which the Virgin Mary, showing her the house in Nazareth and asking her to remember its dimensions, instructed her to build a replica in Little Walsingham. After doing so, Lady Richelde surrounded the wooden house with a stone church, which became a very important pilgrimage site. (Carty, 1991, p.121; cf. Hearn et al., p.43; cf. Dickinson, 1956, passim)

The house referred to in Nazareth is the home of Mary, the childhood home of Jesus, the place where the Archangel Gabriel appeared to Mary (Adair, 1978, p.114) and the Annunciation occurred. In this case, as in others, there is the claim of detailed plan information being divinely conveyed, and then 'carried out to the letter'.

An Augustinian priory founded c.1153 by Geoffrey de Fervaques, possibly the son of Richelde, maintained this shrine chapel of the Virgin. The priory church was placed so that the eastern part of its north nave aisle adjoined with, and had an entrance to, the chapel. Later Lady Chapels located by the side of English churches appear to have followed this example of the pilgrimage shrine of Our Lady of Walsingham (Hearn et al., pp.42-43, 43 fig.2).

Madelgarius received a dream (Carty, 1991, p.125). As St. Benedict had instructed at Terracina<sup>93</sup>, an angel showed Madelgarius the location and dimensions of the abbey. A reed was drawn like a plough behind the angel to point out the basilica's measurements (Carty, 1991, p.125)<sup>94</sup>. An 11th-century psalter, provenance of the abbey of Soignies, includes a miniature depicting this story [Fig.12]<sup>95</sup>. The angel's reed is a long cross-topped measuring rod. The cross-end is in the heavenly sphere and the other end, used to trace out the church plan, appears beside Madelgarius's bed (Carty, 1991, p.126). The church of the future abbey forms the backdrop for the depicted dream. The reference to an angel with a measuring reed appears as a striking allusion to the same image in the visions of Ezekiel of the Temple (Ezekiel 40:3&5) and St. John of both the Temple of God and the Heavenly Jerusalem (Revelation 11:1, 21:15-17)<sup>96</sup> [Figs.10, 11]. The visual connection of the earthly and heavenly spheres by the reed, and the cross surmounting the reed, are both elements that help make a wonderfully succinct and comprehensive visual statement of divine guidance for a building project<sup>97</sup>.

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<sup>93</sup>For the founding of the monastery of Terracina, the abbot and prior both received a dream message from St. Benedict providing the specific placement of each of the monastery's parts. The two monks confirmed this dream with Benedict in person (Carty, 1991, p.124; Gregory the Great, 1959, pp.89-90).

<sup>94</sup>The earliest reference to the abbey at Soignies is 870. The oldest extant *vita* dates from the 11th century (Carty, 1991, pp.125, 137 n.59; Daoust). There are also accounts of church plans being 'miraculously' outlined in snow (Carty, 1991, p.137 n.59).

<sup>95</sup>Carty, 1991, pp.125-126, 179 #342, 290 fig.91.

<sup>96</sup>Similar allusions involving an angel, and a measuring line or rope appear in Ezekiel 47:3 and Zechariah 2:1.

<sup>97</sup>Another strong visual statement of divine guidance in building was derived from the 12th century *Vita Heriberti* by Rupert of Deutz. This text relates that in the early 11th century, Heribert, Archbishop of Cologne and saint, had a dream in which the Virgin Mary appeared giving instructions for a new abbey to be built. "[A] roundel from the twelfth-century shrine housing Heribert's relics depicts not only the event of the dream but also the building of the abbey in which Heribert himself was subsequently interred" (Carty, 1991, pp.127, fig.92, #42) at Deutz (suburb of Cologne) [Fig.13]. Pilgrim, Heribert's successor, also sleeps nearby, apparently confirming the subsequent transmission of the Virgin's instructions after Heribert's death (Carty, 1991, p.127). The guiding Virgin appears in a medallion at

God's direction for a building project, including design, was sometimes closely connected with a person's healing<sup>98</sup>. In an Anglo-Saxon example, St. Michael appeared in a vision to the ailing St. Wilfrid, conveying that Wilfrid would be healed, and that he was to build a church in honour of his intercessor, the Blessed Mary<sup>99</sup>. An example contemporary with the building of many of the Anglo-Norman churches appears at Cluny. In the dream of the ailing monk Gunzo, Saints Peter, Paul, and Stephen provide a design and surveying implementation for the great abbey church Cluny III<sup>100</sup> (begun 1088) [Fig.15]. The saints promise Gunzo that he will be healed if he can convince Abbot Hugh to undertake this (huge) building project<sup>101</sup>. The patrons and ecclesiastics healed in these cases can then play a crucial role in the fulfilment of the building project charged by God.

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the centre, surrounded by these illustrated events. The outer ring of the roundel has "an inscription which here makes reference to the divine sanction for the form and location of the building enterprise" (Carty, 1991, p.128): "*VISITAT ECCE PATER TE LVMINIS INCLITA MAT TEMPLI VOTA PBANS FORMAM SIGNANS LOCA MONTRANS*" (Carty, 1991, p.138 n.68). This c.1150 shrine was an influential masterpiece for later 12th-century craft work (Lasko, 1994, pp.203-204).

<sup>98</sup>A person healed at Le Puy in the 6th century had a dream in which she was "commanded to tell the bishop of Saint-Paulien to build a sanctuary on Mount Anis, the old name of Le Puy" (Carty, 1991, p.119). A deer then miraculously traced the boundary of the sanctuary (Carty, 1991, pp.119-120; Beigbeder, pp.55-56). "This story bears some similarity to the legends surrounding the architectural plan of Santa Maria Maggiore, Hildesheim Cathedral, and other churches whose plans were outlined in snow or frost" (Carty, 1991, p.134 n.34; Rosenau, 1934, pp.30-31). Michael Ott and M. S. Conlan both give the details for the story involving the plan of Santa Maria Maggiore on the Esquiline Hill in Rome. There is also a painting [Fig.14] attributed to Filippino Lippi, entitled "The Miracle of the Founding of Santa Maria Maggiore," c.1482 (Sutton et al., fig.48, pp.38-39).

<sup>99</sup>Stephanus, 1927, pp.122-123, 182-183; Carty, 1991, pp.120, 135 n.36-37

<sup>100</sup>There are four textual sources for this dream. An extant document from the end of the 12th century illustrates Gunzo being shown by these Saints the laying out of ropes for the practical-geometric design implementation for the new Cluny III, and then his relating it to Hugh, Abbot of Cluny [Figs.15-16] (Paris, Bibliothèque Nationale MS lat. 17716, fol.43; Carty, 1988, pp.113-115 & 1991, pp.86-87, 128-131, 138 n.70). One of the texts is given by Wolfgang Braunfels (pp.240-241).

<sup>101</sup>The three saints also indicate that if Abbot Hugh declines, he too will be struck down with the same illness as Gunzo. "In their curative role, then, Saints Peter and Paul as the titular saints of Cluny might be considered comparable to the deities of the ancient temple sites" (Carty, 1991, p.87) who also offered healing to worshippers at their shrines.

Divine assistance and intervention through the Virgin, saints, and angels was also claimed in building and rebuilding campaigns<sup>102</sup>. Some cases involve parts of buildings collapsing, burning, and cracking. The *Gesta Pontificum* of William of Malmesbury describes how St. Cuthbert came to the Durham monks' assistance in taking down the wooden framework for the stone vault over the shrine. The saint did this just before the translation of his body in 1104 to the new Anglo-Norman Cathedral's shrine<sup>103</sup> in the central east end apse. Later, St. Cuthbert helped frustrate the attempted building of a new east end chapel at Durham Cathedral which then needed to be built at the west end, c.1165-c.1175<sup>104</sup>. These acts can be seen as part of the ongoing divine protection and involvement of the titular saint in his church<sup>105</sup>, including its construction.

Thus we see that there are many examples of divine guidance and intervention claimed for the crafts and building projects. For the recorded dreams and visions associated with a building project during the Middle Ages, the recipient was a saint, a high-ranking ecclesiastic, a monk, or occasionally a person of the royalty or the nobility, and by far most likely a male (cf. Carty, 1991, pp.17-20). Master masons and artisans,

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<sup>102</sup>The Venerable Bede recounts how St. Cuthbert was assisted by angels in the lifting of rocks for his island hermitage (*Life of St. Cuthbert*, 17). Angels were said to have moved the wooden house at Little Walsingham, built to the specifications of the Nazarean home of Mary and Jesus, to its proper site nearby (Adair, 1978, p.114). The 1194 fire at Chartres Cathedral was interpreted as a sign from the Virgin, in order for a new, more glorious, edifice to be built.

<sup>103</sup>Greenwell, pp.44, 44 fn.76; Rollason, 1993, pp.8-9.

<sup>104</sup>Rollason, 1993, p.11; Snape, p.23; Harrison, p.213.

<sup>105</sup>Divine assistance was also said to be given at church dedications, ideally the closing ritual of the building process. A sermon of Pseudo-Maximus notes God's presence at these events, and thus "we see in our day many miracles performed at the dedication of churches" (Maximus, appendix 30; trans. Wood, p.77). In Sulcard of Westminster's 11th-century *Prologos de costruzione Westmonasterii*, St. Peter was claimed to have overnight performed the consecration ceremony for an early monastic church dedicated in his name at Westminster (Carty, 1991, pp.120-121, 135 n.42; Freeman, II, pp.511, 511 n.4).

male or female, likely had such experiences and manifested them in their craftwork, but this was not written about or generally recognized. These biases were, of course, a reflection of a hierarchical, church-centred, and predominately male-dominated society in which only relatively few members were recognized as important. In result, written records, including accounts of dreams and visions, largely focused on the activities of this minority.

The type of dream they experienced was, following the well known five-fold classification of Macrobius, an *oraculum*. An *oraculum* was a dream in which a venerated person advises and guides the slumberer on a future line of action<sup>106</sup>. For medieval Christians, the venerated 'person' or being was an angel, the Virgin or a saint. Sometimes the recipient of the dream or vision was skeptical at first as to the veracity of the intimation, and required a total of three spiritual 'visitations' to be convinced to act on the impressions received. In some instances, an ailing dreamer or visionary was divinely charged to undertake the building project as revealed, and was then miraculously healed. Additionally, in some cases, the divine message also revealed that serious consequences would result if the guidance was not heeded and acted upon.

God and divine agents were described guiding and assisting the full range of church-building activities from the commencement to the conclusion of the project. Dreams and visions related to building projects can be roughly grouped into the following types:

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<sup>106</sup>Macrobius, *Commentary on the Dream of Scipio*, pp.87-90; Carty, 1988, pp.115, 119, 121 n.16 & 1991, pp.2-3, 8 n.9.

- (a) impetus to build<sup>107</sup>,
- (b) selection of site<sup>108</sup>, and
- (c) instruction on, or demonstration of, the design and implementation<sup>109</sup>.

Angels or saints were also said to have directly intervened or assisted in the physical construction process and the consecration ceremony. Additionally, divine direction pervaded the project because skill and knowledge in human works and the crafts were deemed gifts from God. Indeed, overall, medieval-building projects were ideally ordained by God, guided by God, patterned after God's Creation, undertaken for God by patrons and artisans who were in the process being restored in the image of God, and for the faithful's return to God. The themes of this Introduction, and certain other themes to be developed, will now be applied to three divergent Anglo-Norman towns as case studies, beginning in the next chapter with Durham in Durham County, Northumbria.

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<sup>107</sup>Sometimes the person receiving the dream or vision for the impetus to build was also the official who would be the patron of the project. If this was not the case, the recipient was also then divinely instructed as to who should be approached to undertake the project.

<sup>108</sup>As noted earlier in this Chapter, the impetus to build and the selection of the site were sometimes directed by the finding and housing of relics (cf. Carty, 1991, pp.113-115).

<sup>109</sup>The plan on the ground was sometimes marked through the aid of an animal, such as a deer, and through weather phenomena, such as snow.

### Chapter 3: Durham

Durham can be considered the most dramatic display of Church and state in all Britain<sup>110</sup>. There appears to have been the intention to create not only a holy fortified citadel but also a model of the Heavenly City. A grand urban vision encompassed Durham's growing sense of importance during the Anglo-Norman period. The close relationship at Durham of the twinned authorities of state and Church, *regnum et sacerdotium*<sup>111</sup>, are expressed architecturally in a panoply of power<sup>112</sup>. Durham, as a great medieval building project, was represented as ordained and empowered by God.

The *regnum et sacerdotium* were to be oriented to God and to manifest on earth the divine hierarchy [cf. Fig.47]. In practice, this sacred or 'high' calling for potentates

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<sup>110</sup>The second most dramatic display being the aerial view or view from across the River Medway of Rochester castle and cathedral (Brown, 1989, pp.107-108, 200-201).

<sup>111</sup>Cf. Loomis, 1971.

<sup>112</sup>Brown, 1989, pp.107-109, 200. City seals also often expressed, in a compact and simplified way, the rule of church, and state or city.

Borough seals, although known on the Continent before the mid-12th century, did not appear in England until the 1190s (e.g. York and Oxford). The design of these seals was fairly consistent across Europe. There was always a crenellated wall with one or more of the following elements: towers, figures, flags, a ship if the town was a port, or a visual reference to the place-name, such as an ox on the Oxford seal. (Heslop, 1984, p.319)

A matrix for a seal of Exeter survives from c.1200 (and before 1209). It is silver (65mm diameter), with the inscription: "+ SIGILLUM CIVITATIS EXONIE" (Heslop, 1984, p.319). The seal depicts a church surrounded by fortified towers and gates, and so emphasizes the link between town and church. The church image had been used on its own in Exeter ecclesiastical seals (Heslop, 1984, p.319).

The Common Seal of London, employed from c.1219, depicts St. Paul on one side and St. Thomas on the other [Figs.34-35]. St. Paul stands towering amid the city. Over the London skyline, we see an impressively enthroned St. Thomas (Clark, 1989, pp.39, 44). Here, London is depicted as a city with circular walls and a central gate, fortifications and church spires dominating the scene. St. Thomas Becket, Chancellor of England and Archbishop of Canterbury, referred to himself as "Thomas of London," because he was born and raised in London. He was adopted by London as patron saint, shortly after his martyrdom on December 29, 1170.



and society had to face its opposite in overcoming the ruler's or others' profane or purely self-serving motives. This challenge was, of course, a long-familiar theme in biblical stories and the apparent dualism of good and evil in Christianity. We will see that the intention to serve God and to participate in the divine hierarchy, and the resulting dynamic tension between the sacred and the profane, were represented in the historical and literary accounts of the creation of Durham and in its monumental architecture and urban planning.

The apparent God-ordained origins of this great centre were explained by the Durham monk Symeon in his *A history of the Church of Durham (Libellus de exordio atque procursu ... Dunelmensis ecclesie)*, written between 1104 and 1109. This book portrays the Benedictine monks at Durham as the legitimate successors of the monastic community at Lindisfarne, as first founded by Bishop Aidan and King Oswald, and as the ordained custodians of St. Cuthbert's shrine<sup>113</sup>. Indeed, the chronicle begins by stating that Durham Cathedral "is still the very same church founded by God's command" (Trans. in Rollason, 1995, p.23) at Holy Island, Lindisfarne, by King Oswald and Bishop Aidan in 635.

Viking attacks and threats were given as the reason for the Lindisfarne monastic community's 'wanderings' commencing in 875. At the time of the re-establishment of the community, this time at Chester-le-Street in 883, the anonymous *Historia de sancto Cuthberto*<sup>114</sup> relates that Cuthbert appeared during the night to the Abbot of Carlisle.

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<sup>113</sup>Symeon, XXI or II.6; Foster, 1994, pp.56-57.

<sup>114</sup>This text, in its present form, dates from the second quarter of the 11th century (Rollason, 1995, p.25).

The saint gave instructions to obtain peace with the Danish army, and to make a slave boy, Guthred, their king. Following, Cuthbert's instruction, the new king granted the saint the land between the Rivers Tyne and Wear (Rollason, 1995, pp.28-29) which included the site for the later Durham. The monastic community's 'wanderings' from Lindisfarne, Ripon, and Chester-le-Street eventually came to an end in 995, at Durham, 'Dunholm' meaning 'hill island.' It is a striking parallel that Cuthbert's first and last resting-places were both 'islands' in certain senses that provided a degree of monastic seclusion. St. Cuthbert, as a divine agent, would continue to guide his community and their building undertakings.

The location for Durham Cathedral was said to have been divinely revealed at the close of the monastic community's 'wanderings' from Lindisfarne. First, St. Cuthbert helped indicate his resting-place by making his coffin too heavy to carry. Bishop Aldun then instructed the community to conduct a three-day fast in prayer and watchfulness in order to receive divine understanding of this sign from heaven. During this fast, the monk Eadmer had a revelation that the community was to go and settle at the site of Durham<sup>115</sup>. More generally, this account of locating a monastic site through divine guidance was a common type of miracle story<sup>116</sup>.

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<sup>115</sup>Symeon, XXXVI or III.1; Rites of Durham, pp.66, 71, 74.

<sup>116</sup>Similarly, "Prayer, watching, and fasting" (*Life of St. Sturm* in Talbot, p.184) was applied by Abbot Sturm and his monks in locating the divinely foreordained site for the important Abbey of Fulda. The location for Edward the Confessor's Westminster Abbey dedicated to St. Peter was revealed in visions to the holy hermit Wulfsgie (Freeman, II, pp.511, 511 n.1).

Also similar to the Durham story, the relics of the Saviour's Precious Blood, stored in a fig-tree, became tremendously heavy while being transported in a cart, and thereby indicated the site for the original foundation of the Abbey Church of Fécamp. Later, the abbey was founded again by Richard the Fearless, a Norman Duke, in the late 10th century, again following the inspiration of this legend (Goulburn et al. in Herbert, 1878, I, pp.54-55, 57 n.q, 58). A suggested etymology of Fécamp is *Fici Campus*, "Plain of the Fig-tree" (Goulburn et al. in Herbert, 1878, I, p.57 n.q).

Bishop Aldun received considerable grants of land, including Durham, from Uhtred as a consequence of the marriage of Aldun's daughter<sup>117</sup> and Uhtred. The site's isolation helped to maintain and defend resources (Roberts, 1994, p.14). For Uhtred, Durham was a fortress to resist the Danes and the Scots (Roberts, 1994, p.14). Indeed, Uhtred was awarded the earldom of Northumbria after his forces repulsed the Scots who were laying siege to Durham, probably in the early 11th century. He placed their impaled heads around the citadel's walls<sup>118</sup>. Apart from being a memorable object 'lesson' for the populace, this gruesome act would have emphasized the town walls as literally and symbolically marking the town as a well-defined entity, political centre, and fortified citadel to be heeded and reckoned with.

Further, in regard to the meaning of the site, in recounting the dedication of the Anglo-Saxon Cathedral at Durham on September 4, 998, Symeon mentions:

The whole population, no less than the bishop, was exceedingly delighted with the locality in which the providence of God had been pleased to fix the future abode of the body of his servant, and to manifest that such was his pleasure by the miracle and revelation which we have already recorded. (XXXIX or III.4, trans. Stevenson, 1855/1993)

The whole of Symeon's account of the continuity of St. Cuthbert's community, and their divine guidance ultimately to Durham, is hagiography, and a miracle story (Rollason, 1995, pp.23-24). The story of the 'wanderings' was probably, in part, grafted from the prominent biblical story of the wanderings of the Children of Israel in search of the

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<sup>117</sup>Anglo-Saxon priests could marry.

<sup>118</sup>Rollason, 1995, p.30. This account comes from *On the Siege of Durham and the Probity of Earl Uhtred*, written apparently at Durham in the early 12th century. The siege is dated there in the late 10th century, but probably took place in the early 11th. Uhtred was later killed by surprise by King Cnut's deception (Rollason, 1995, p.30).

Promised Land. A more strictly historical interpretation by David Rollason argues that the 'wanderings' were the maneuverings of an ambitious religious community, St. Cuthbert's community, set on regaining its status as Northumbria's premier church group (Rollason, 1995, pp.29). However, Symeon's religious reasons were what were considered important to convey by his monastic community. The site of Durham for St. Cuthbert's body and community was presented as foreordained by God and revealed through miracle and vision.

Symeon relates that the peninsula was found densely wooded "with the sole exception of a moderate sized plain ... kept under cultivation having been regularly ploughed and sown" (III.2, trans. in Roberts, 1994, p.14). The archaeological evidence does not yet indicate settlement on the acropolis before the 995 arrival of the monks (Roberts, 1994, p.61).

Archaeological excavations on Saddler Street, just outside the fortified precinct, north-east of the Castle, found evidence of settlement and industry from c.1000 to the early 13th century (Carver, 1980; Roberts, 1994, pp.61-62). Boroughs founded by the prince-bishops immediately bordered the acropolis on its east, north and west sides. The present Market Place may be at its original Anglo-Saxon location (Roberts, 1994, pp.61-63).

Durham Cathedral and its monastery, and Bishop's Castle and Palace are situated atop a peninsular acropolis<sup>119</sup> above the River Wear and the surrounding town [Fig.46].

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<sup>119</sup>The stone for these construction projects was quarried around the gorge's cliff walls of the Durham Peninsula. The light-reddish-coloured Low Main Post sandstone was the preferred building stone. This well-cemented stone was readily masoned and sculpted (Johnson, 1993, p.115). The foundations of the cathedral appear to have not been deeply dug:

This commanding vantage point conveyed Durham's special status: it was the political and administrative centre of a County Palatine (Craster, 1954, p.199)<sup>120</sup> and the bishop's see. William the Conqueror had recognized its value as an administrative centre<sup>121</sup> near the East Coast lowland route, with a demonstrated ability to resist Scottish attacks. The twinned powers of Church and state were combined in the Bishop who, in addition to being the ecclesiastical authority for the surrounding county, also wielded administrative powers on the king's behalf (Manley, 1938, p.147). The monastery at Durham had no abbot. Instead, the prior in charge of the monastery reported directly to the bishop. In this arrangement, the cathedral served as a monastic church and a house for the bishop's throne or *cathedra*, as well as a pilgrimage shrine site and place of worship. Unlike abbots who lived at their assigned monastery, the bishop with pastoral duties throughout the diocese lived in a separate, but closely neighbouring, Palace that was part of the Castle complex on the acropolis. The Castle, as a bulwark against Scottish attack, was strategically placed at the north end of the site toward Scotland. Southward across a cleared field known, at least later, as the Palace Common, was the Cathedral. This route allowed for the ceremonial procession of the Bishop leaving the Palace through the ornate portal of the Constable's hall south side and heading to the north portal of the

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The early 12th Century builders seem to have excavated a foundation trench in to the bottom drift horizon of broken sandstone, but did not extend their trench to rockhead less than one metre below. ... The short period between the start of digging the foundation in [29th] July 1093 and the laying of the foundation stone on the 11th August 1093 supports the conclusion that no elaborate foundations were prepared for the Cathedral walls. (Johnson, 1993, p.117)

<sup>120</sup>County Durham remained a County Palatine until 1836 (Manley, p.147).

<sup>121</sup>As part of its administrative duties, Anglo-Norman Durham had a mint during c.1117-c.1161 and possibly, as early as 1087 coins were being issued there. The coins typically had the town's name, the moneyer's name, and a cross on one side, and the king's name and image on the other side (Allen, pp.396-397, 398 plate 81).

Cathedral<sup>122</sup>. Fittingly, on the other side of the great church, the south side, was the adjoined monastery that benefited from this more secluded, sunnier, warmer and more protected location. The coordinated building complexes on the acropolis fulfilled their various functions well and dramatically expressed the bishop's twinned duties for the *regnum et sacerdotium*, under St. Cuthbert and the divine hierarchy.

### 3.1 Opening and Closing Rituals for the Construction Process

At Durham Cathedral, as with other medieval churches and ancient temples, there were opening and closing rituals for the construction process. The ancient Egyptians<sup>123</sup>, Etruscans and Romans had such rituals for the founding and building of towns and temples. Indeed, the founding and initial surveying of town and temple sites were

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<sup>122</sup>Thompson, 1994, pp.426-427; cf. for Winchester: Biddle and Keene, 1976, p.472. Bishop Puiset (1153-1195) had the Constable's Hall's ornate doorway built as part of a rebuilding programme after a fire occurring early in his episcopate (Leyland, 1994, pp.418, 418 fig.28, 420, 420 plate 83, 423 fig.30). The processional route would have been generally the same under Bishop Flambard (1099-1128) who had the Palace Green cleared of houses (Continuation after Symeon, *Opera* in Arnold, ed., I, 140; Thompson, 1994, pp.426-427; cf. Leyland, 1994, p.417 fig.27).

<sup>123</sup>For several thousand years, the traditional Egyptian 'stretching of the cord' ritual was performed by the Pharaoh and the gods in order to lay out a temple. One text for this ceremony reads:

I have grasped the peg ... I observe the forward-striding movement of the constellations. My eye is fixed on the Great Bear. I determine the corners of your temple. (Quoted in Lundquist, p.13)

The ceremony was also a re-enactment of the laying out of the universe (Lundquist, p.13). There are also wall paintings of royal surveyors at work measuring land by stretching a knotted rope (Clarke et al., p.64 fig.62; Connor, 1987, fig.2; Lyons, p. between 132&133). Additionally, the ancient Egyptian foundation ceremonies included: the boundaries of the temple pegged out, the first sod cut, what may be grains of incense or seed poured into the foundation trenches, the first mud-brick moulded, and finally the temple presented to the designated god (Clarke et al., pp.60-61).

ritualized activities. For example, during the Roman period, Livy (*Livy*, 1988, I.10.5-6) and Dionysius of Halicarnassus (*Roman Antiquities*, 1961, III.69.3-70.1) gave some description of the inaugural ceremony for a planned temple. For a town, a temple precinct and certain other sites, the augur consulted the gods through the taking of auspices to determine the best location in a specified area. Next, the augur would inwardly see and assist the descent of the heavenly *templum* [Fig.8], the divine archetype, from the sky and heavens down to the selected site. In this manner, the grounds became sacred and habitable. Thus, through this opening ritual, the site or grounds became a sacred precinct, a *templum*<sup>124</sup>.

In the case of a temple site, the augur would continue this opening ritual by marking off the limits of the planned building mentally and then on the ground<sup>125</sup>. Later, once construction was completed, the temple building itself was then consecrated and dedicated under the direction of the *collegium pontificum*<sup>126</sup>. Through the actions of this closing ritual, the temple became the dwelling place of a god, *aedes sacra*, or simply, *aedes*<sup>127</sup>.

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<sup>124</sup>Godfrey et al., 1986, pp.200-201; Rykert, 1976, pp.45ff. In Roman augury, at the intersection of the *cardo* (N to S line) and the *decumanus* (E to W line), a *tabernaculum*, or tent was placed. (Strikingly, this parallels the Children of Israel's Camp in the wilderness centered at the tent of the Tabernacle (Numbers 1:50-54; 2).) The Roman *tabernaculum* was the *templum minus* that had, on a smaller scale, the same plan as the boundaries of the *templum* (Godfrey et al., 1986, p.200). The *templum* had four corners, four sides, and more specifically, appears in practice to have been rectangular in shape (Godfrey et al., 1986, pp.200-201; 207 n.40, 43). *Templum* was sometimes used later in the Roman period to mean the temple building (Godfrey et al., 1986, pp.200, 207 n.46).

<sup>125</sup>Livy, *Livy*, I.10.5-6; Dionysius of Halicarnassus, *Roman Antiquities*, III.69.3-70.1; Godfrey et al., 1986, pp.200, 207 n.37.

<sup>126</sup>The dedication and consecration ceremony involved the touching of the doorframe, and the pronouncement of a ritual formula by a member of the *collegium pontificum*. This formula was then repeated by a designated state official in attendance (Godfrey et al., 1986, p.200).

<sup>127</sup>Godfrey et al., 1986, p.200. *Aedes* was one of the words used during the Middle Ages for a church.

The Christian church was dedicated and consecrated and does have some parallels with the Roman inauguration. There were roughly corresponding elements, for example, in (i) the fasting and prayer to cleanse and consecrate the site<sup>128</sup>, (ii) the *templum*-like vision of the Heavenly City (Revelation 21) emphasized in the consecration and dedication ceremony for the church (Stookey, 1969; Rykert, 1976, p.199) and (iii) the touching of the door or doorframe and the pronouncing of certain formulae there. Given the adaptation of Roman civic rites and their architectural settings in Early Christianity, it is likely that the consecration and dedication ceremony for churches drew, in part, upon the earlier non-Christian Roman rites<sup>129</sup>.

### 3.1.1 Opening Rituals for the Construction Process

At Durham Cathedral, the ceremony for the laying of the first foundation stones was recorded in two sources:

This was begun on Thursday 11 August 1093 of the Lord's Incarnation, the thirteenth of William's time as bishop, the eleventh since he had brought together monks at Durham. On that day the bishop and Prior Turgot, who was second in authority to him in the church, with the other brothers laid the first foundation

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<sup>128</sup>Bede, *Historica Ecclesiastica (A History of the English Church and People)*, III.23.

<sup>129</sup>The influence of the rites of the Roman augurs and the *collegium pontificum* on Christian ceremonies of dedication and consecration could be a good area for more in-depth checking of historical and liturgical documents.



stones in the foundations. Shortly before, that is on Friday 29 July<sup>130</sup>, the bishop and prior after saying prayer with the brothers and giving their blessing had begun to dig the foundations. While the monks were responsible for building the monastic buildings, the bishop carried out the work on the church at his own expense. (Symeon, LXVII or IV.8, trans. in Rollason, 1993, pp.6-7)

and

The new church of Durham was begun on Thursday 11 August, with Bishop William, Malcolm, king of the Scots<sup>131</sup>, and Prior Turgot laying the first stones in the foundations. (*History of the Kings*, trans. in Rollason, 1993, p.7).

We note that prayers and blessings were offered before the foundations were dug. This constitutes a purification and divine invocation for the project.

Indeed, the founding of some monastic sites required the 'purging' and combating of 'demons', dragons, and 'pagan' structures and associations. St. Cuthbert, as a "soldier of Christ" (Bede, *Life of St.Cuthbert*, 17, trans. Webb, 1965) purged the island selected for his hermitage of the "devil and his host of allies" (Bede, *Life of St.Cuthbert*, 17, trans. Webb, 1965)<sup>132</sup>. In the founding of monasteries in the 'wilderness', the early medieval

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<sup>130</sup>The two specific dates given in this quote do not appear to have a special significance in regard to the foundation of the Cathedral. However, some foundation dates for cities and buildings were sometimes selected for their astrological significance. This topic is addressed further in Appendix 6.

<sup>131</sup>Valerie Wall discusses the implications of King Malcolm's inclusion in this record of the ceremony of the laying of the foundation stones.

<sup>132</sup>Other examples of saints' involvement in the purging of sites are common. For example, St. Guthlac purged his hermit cell's site, on the island of Crowland in the fen, of 'mythological' creatures (Felix, XXV, XVII-XXVI, pp.135-143). St. Aubert had children and a baby topple the menhir 'pagan' monument atop Mont Saint Michel in preparation for a Christian oratory (MacLeish, p.823). St. Boniface (c.675-754) cut down the tree of the 'pagan' thunder god Thunor, the holy oak near Geismar, and used its wood to build a chapel in its place (Zacour, pp.51-52; Willibald, *The Life of St. Boniface*, VI in Talbot, pp.45-46). At the beginning of the 7th century, St. Romain, bishop and contemporary of King Dagobert, was said to have exterminated a dragon of the Robec marshes by the base of Mount Gargon. St. Romain thereby prepared Rouen, which receives these waters, for Christian buildings (Guillermie, 1983/1988, p.13). (The Archangel Michael, the divine army's leader, was the Christian counterpart of the 'pagan' Gargan, the mountain's namesake. Gargan was said to control stormy and dangerous water conditions, represented by the dragon. The Robec was Christianized by Bishop Romain having subdued the 'pagan' dragon (Guillermie, 1983/1988, p.13).) Eddius Stephanus's *The Life of Bishop Wilfrid* has many Old Testament allusions, including the domination over the 'pagan' South Saxons in 666 as being likened to the defeat of the Midianites by Gideon (Dodwell, 1982, pp.31-32;

hagiographers often stressed monastic asceticism's parallel battles against both the power of 'evil' and the forces of nature (Parsons, 1987, p.13).

However, selected monastic sites were praised for their fertility and beauty, such as Jumièges in the *Life of Philibert* (probably mid-8th century) and Fulda in the *Life of St. Sturm* (Parsons, 1987, pp.11-13). Eigil's *Life of St. Sturm*<sup>133</sup> gives such a description of the time when Sturm (d.779) was selecting the site for the monastery at Fulda. Sturm was checking for the "lie of the land, the fertility of the soil and of the supply of running water" (Eigil in Talbot, trans., 1954, p.188) while putting his trust in God. Sturm, it is recounted, was guided by God to the foreordained<sup>134</sup> location (Eigil in Talbot, trans., 1954, p.187). Eigil relates that Sturm felt great joy upon his discovery, and that it was through the "merits and prayers of St. Boniface" (Eigil in Talbot, trans., 1954, p.188), his Archbishop, that he was so favoured<sup>135</sup>. The religious were to actively seek and apply their knowledge and skills for determining a suitable monastic site. In the process, those receptive would be divinely directed to the proper location.

In addition to the prayers said, and blessings given, on Friday 29 July 1093 at the time of the breaking of the soil to dig the foundations for Anglo-Norman Durham Cathedral<sup>136</sup>, there may have been earlier spiritual preparation and 'cleansing' of the site.

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Stephanus, p.28), who had destroyed a 'heathen' sacred grove and altar to the god Baal, and replaced it with an altar to the God of Israel (Judges 6).

<sup>133</sup>This text was written about fifty years after the death of Bede (d.735) by Eigil, Abbot of Fulda (c.818-822) (Parsons, 1987, p.13). Sturm was a hermit, and latter the first Abbot of Fulda, under the Anglo-Saxon missionary and Archbishop St. Boniface (c.675-754).

<sup>134</sup>"An interior prophetic voice told him [St. Boniface]: 'A place has indeed been prepared in the wilderness, and when Christ wills He will show it to His servants'" (Eigil, *Life of St. Sturm* in Talbot, p.185). The reference to the wilderness likely echoes both the journey of the Children of Israel with the Tabernacle in the wilderness, and possibly Jesus's sojourn in the wilderness.

<sup>135</sup>Chapt.7-19; Eigil in Talbot, pp.186-188; Parsons, 1987, pp.13, 40.

<sup>136</sup>Symeon, LXVII or IV.8; trans. in Rollason, 1993, pp.6-7.

A longer period of prayer and fasting at the chosen monastic site may have been conducted close to the time of the community's arrival in 995. This religious practice is suggested by the Venerable Bede's account of the founding of the Anglo-Saxon monastery at Lastingham in 664. Bishop Cedd and the priest Cynibill conducted a standard purification of this monastic site:

The man of God [Cedd] wished first of all to purify the site of the monastery from the taint of earlier crimes by prayer and fasting<sup>137</sup>, and make it acceptable to God before laying the foundations. ... He explained that it was the custom of those who had trained him in the rule of regular discipline to dedicate (*consecrent*) the site of any monastery to God with fasting and prayer. (Bede, *Historica Ecclesiastica*, III.23, trans. Sherley-Price, 1955, p.177)

We note that the practice here is customary for monastic foundations<sup>138</sup> and is referred to as a dedication or consecration of the site. Most likely the Anglo-Saxon monastic site at Durham was so prepared because Cedd was trained at Lindisfarne (Bede, *Historica Ecclesiastica*, III.23, trans. Sherley-Price, 1955, p.177), and Durham, of course, continued the Lindisfarne monastic tradition<sup>139</sup>. The actions of prayers, fasting, blessing

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<sup>137</sup>Cedd and Cynibill conducted their prayer and fasting at Lastingham during the 40 days of Lent. However, it seems from Bede's wording that this practice in general did not necessarily need to take place during Lent (Bede, *Historica Ecclesiastica*, III.23). Certainly, Lent is a fitting period to choose because it is a period of fasting and penitence. Additionally, Bede describes the Lastingham site in terms of "high desert mountains" (Bede, *Historica Ecclesiastica*, III.23, trans. King, I, p.443) and dangerous wilderness that match Lent's commemoration of Christ's fasting and temptation in the wilderness for 40 days (Mark 1:12-13; Matthew 4:1-11). Lent ends at Easter Eve, so, in more northern climes, the building year would have been suitably still largely ahead (cf. Coldstream, 1991, p.18).

<sup>138</sup>These spiritual exercises were part of the preparing of the site of the Abbey of Fulda:

On the twelfth day of January in the year of the Incarnation seven hundred and forty-four, ..., the brethren set foot for the first time on this holy spot preordained for this purpose by God. They prayed to the Lord to watch over and protect it at all times by His invincible power, and then serving Him day and night in fasting, watching and prayer, they set to work, as far as they were able, to cut down the trees and to clear the site with their own hands. (Egil, *Life of St. Sturm* in Talbot, p.190)

<sup>139</sup>The founding of the monastic site at Durham was about 331 years after that of Lastingham. However, given the emphasis on the value of tradition maintained by earlier holy persons, it seems likely the practice would have persisted for the founding of Durham's monastery.

and the ceremonial laying of foundation stones not only prepared the site, but also appeared to ready the builders to be instruments of God.

### 3.1.2 Closing Rituals for the Construction Process

The Anglo-Saxon Cathedral at Durham was dedicated on September 4, 998 (Symeon, XXXIX or III.4). There is no direct reference to the dedication of the Anglo-Norman Cathedral, but the east end or the entire church may have been dedicated when the remains of St. Cuthbert, and the head of the martyred King St. Oswald, were ceremoniously translated to the new Cathedral's shrine in the eastern central apse. This seems likely because the prescribed dedication of a whole church or its east end involved an overnight vigil and processional translation of relics (Gage, 1834, p.240; cf. Parsons, 1989, pp.10-11), like that done at Durham on August 29, 1104 (Rollason, 1993, p.8).

Durham Cathedral was not dedicated to St. Cuthbert, but rather to God in memory of St. Cuthbert. More broadly, St. Augustine (354-430) instructs that "To the saints we appoint no churches, because they are not unto us gods, but as memorials unto dead men [and women], whose spirits are still living" (Trans. in Bond, 1914, p.1). A church is dedicated only to God. The church's titular designation indicates that this dedication is in memory of the assigned saint or event (Bond, 1914, p.2).

For the dedication and consecration of a church, the Heavenly Jerusalem was the key archetype. Archetype was a term employed in medieval theology. It is the divine pattern by which earthly things were said to have been created, with the latter mirroring the former. It is also an ideal for the pattern of human life and conduct. This Christian

doctrine is conveyed in the Lord's Prayer: "Thy will be done on earth, as it is done in heaven" (Matthew 6:10; Luke 11:2). This conception was developed in the Old Testament, as well as in Greek philosophy, particularly that of Plato. The human is seen as a microcosm of the larger reality, the macrocosm. A temple can also be seen as a microcosm, though some prefer the refinement of an intermediary stage, as designated by the coined term, 'mesocosm.' We will see that this concept of the archetype<sup>140</sup> was applied imaginatively and extensively to architecture (particularly churches), ritual, skills, tools and technology.

Essentially, the whole matter is laid out in the Old and New Testaments. The Early Christian and medieval ecclesiastics had a comprehensive grasp of the entire Bible that synthesized the text's stories and multiple senses of meaning into a unified conveyance of truth. This synthesis included the close affinity and successive revelation from the Tabernacle of Moses and the Encampment in the Wilderness to the Temple of

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<sup>140</sup>In Hindu and Buddhist architecture and town planning this archetype is a *mandala* (Kramrisch, pp.19-63; Snodgrass, *The Symbolism of the Stupa*, pp.104-152). Additionally, in Buddhist traditions, the meaning of *mandala* can be quite broad. For example, within Japanese Shingon Buddhism, one of the three complementary definitions of *mandala*, given by Subhakarasiṃha's *Commentary on the Mahāvairocana-sūtra*, is that which awakens the aspirant to Buddhahood (Snodgrass, *The Matrix*, pp.120-123). From a broad perspective of world religions, Buddhahood converges with Christhood experientially, and thus *mandala* can have meaning within Christianity. Further, following standard English dictionaries, this Sanskrit word for circle, disc or wheel, and technical term of Hindu and Buddhist tradition, has come to be adopted into the English language to mean a cosmological diagram or a symbol of psychological wholeness. In these broader senses, the term *mandala* can be employed to refer to the archetypal patterns said to be followed in medieval church architecture.

Indeed, the concept of the *mandala* has been applied in some scholarly studies of the Middle Ages, including the art, theology, and mysticism associated with Hugh of St. Victor (Zinn), St. Francis of Assisi, and Bonaventure (Cousins). Alternative terms are cosmogram and psychocosmogram (cf. Tucci, pp.23-25). They have been used in reference to the pictogram described by Hugh of St. Victor in his *De arca Noe mystica*, c.1128-1129. Its drawing instructions were given in that text, and it was a pictorial device intended to assist the initiation and introduction into the contemplative life (Kupfer, pp.269-271, 284 n.59; Zinn, pp.326-327ff).

Solomon to the Heavenly Jerusalem. Further, the stories and lessons of the Bible were imaginatively applied in people's lives, and were adapted to match contemporary activities such as medieval-building projects. These applications were part of being a Christian adherent. For example, churches being consecrated were identified with Jacob's Ladder, the Temple of Solomon and the Heavenly Jerusalem<sup>141</sup>. Divine guidance and assistance claimed for many medieval-building projects, of course, had earlier biblical precedent in the lives of Noah, Moses, Bezalel, King David, King Solomon, King Cyrus, Zerubbabel, Nehemiah, and, in a broad sense, Ezekiel and St. John of Patmos.

### 3.1.3 The Medieval Church as a Divine Pattern

The medieval church was intended to be the re-creation of a divine pattern. In this regard, the centrally important dedication and consecration ceremony of a church applies various metaphors to describe the edifice. The temple edifice and the medium of ritual assist the human to realize the divine archetype for which the earthly temple is a model. For example, the Venerable Bede (673-735), in his homily *On the Dedication of a Church*, mentions that he will explain a

few things out of many concerning the making of the Temple, so that the wondrous fabric of the terrestrial house of the Lord may delight your hearing and that this same, spiritually understood, may excite our minds the more ardently to a love of the dwelling-place on high<sup>142</sup>.

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<sup>141</sup>Cf. Bowen, 1941; Bradley, pp.225-227; Parsons, 1989; Puniet; Schulte, pp.280-282; Stookey, 1969.

<sup>142</sup>*Homelia*, II.25; trans. in Bradley, p.225; cf. trans. by O'Reilly in Bede, 1995, p.xlix. The Venerable Bede stressed the spiritual exegesis of the sacred architecture of the Bible much more than the spiritual interpretation of church buildings. This appears to be because he was concerned that the latter could easily degenerate into being idolatrous and overly materialistic (O'Reilly in Bede, 1995, p.xlvi-xlix).

Indeed, the temple forms an *axis mundi*, an interface between the material and the immaterial. In medieval dedications, the church is referred to as Jacob's heavenly ladder and the gate of heaven (Carty, 1988, p.118). Further, it is built among the mountaintops<sup>143</sup>. The ladder, gate, and mountain are symbols for the *axis mundi* [Fig.46].

The dedication and consecration of a church during the Middle Ages was an elaborate and profound ceremony that referenced divine archetypes of the Christian tradition. St. Augustine noted that the outer actions and statements of the church dedication ceremony signify a corresponding operation within the soul<sup>144</sup>. A key feature of this ritual was the identification of the church with the archetypal Heavenly Jerusalem<sup>145</sup>, descending in the mystical marriage of the Bride (the Church and the faithful) and the Bridegroom (Christ)<sup>146</sup>. This symbolism was ultimately intended to transport the faithful to the expansive and regenerative inner realization of Heaven<sup>147</sup>. As part of achieving this end, the divine pattern was ideally a guiding concept for the builders to work with God to manifest the church as a foretaste of the Celestial City.

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<sup>143</sup>*Pontificale*, p.192; Bowen, 1941, p.472.

<sup>144</sup>St. Augustine, *Sermones de Tempore*, CCCXXXVI; Bowen, 1941, p.469; cf. Caesarius, *hom.* 27-29; cf. Eusebius Gallicanus, *hom.* 48; cf. Wood, pp.77, 79.

<sup>145</sup>The prototype of the Temple of Solomon, and its dedication (II Chronicles 7:1-16), are also important to, and referenced in, this ritual (Stookey, 1969, p.37).

<sup>146</sup>This references Revelation 21 and 3:12.

<sup>147</sup>Stookey, 1969, pp.38-39; Bowen, 1941, p.469.

### 3.1.4 Liturgical Actions and Other Elements of the Church Dedication Ceremony

Some of the other important elements of the church dedication ceremony that would have occurred at Durham Cathedral include:

- (i) circumambulation thrice of the church exterior<sup>148</sup> [Fig.20],
- (ii) marking of crosses on the church walls, and
- (iii) marking out a great cross of the Latin and Greek alphabets<sup>149</sup>, on the floor stretching between four corners of the church<sup>150</sup>.

*The Pontifical of Egbert*<sup>151</sup> (10th century) mentions that during the consecration of a church, and likely Anglo-Saxon Durham Cathedral:

- (1) twelve candles are lit and placed, three in each of the four cardinal directions, around the church's exterior; further prayers are followed by a procession around the church while chanting a litany,
- (2) a large cross consisting of the letters of the alphabet is drawn on the floor (covered by dust and ashes) by the bishop with his staff,

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<sup>148</sup>The circumambulation of the church included:

The aspersion was performed in conjunction with a threefold circuit of the building, recalling Christ's incarnation, his descent into hell, and his resurrection. The first two circuits were made from right to left, or counter sunwise, whereas, very interestingly, the third was made sunwise, that is left to right. The sunwise procession proclaimed of course the triumph of light over darkness, God over death, man over his fallen nature, and the day of the celestial Jerusalem. (Bowen, 1941, p.472)

<sup>149</sup>Hugh of St. Victor, in his *Mystical Mirror of the Church*, expounds on the meaning of the large cross traced on the church's floor (II; 1843/1973, p.207). Remigius, monk of Auxerre, does likewise in his *De Dedicatione Ecclesiae* (Gage, 1834, p.243).

<sup>150</sup>Helpful sources on the consecration and dedication ceremony are Bowen, 1941; Bradley, pp.225-227, plates XXIV-XXV; Parsons, 1989; Puniet; Schulte, pp.280-282; Stookey, 1969.

<sup>151</sup>Egbert was the Archbishop of York, 733-767. The *Pontifical* book was used by bishops for special services.



(3) aspersing of walls of the church inside three times, and outside three times, in each of the four cardinal directions, and

(4) the altar is circumambulated seven times (Parsons, 1989, p.10).

Above, (1) and (3) must allude to the three gates in each cardinal direction of the foursquare Heavenly Jerusalem, and their various profound associations, such as the twelve Tribes of Israel, and the twelve Apostles (Revelation 21:12-14&16&21).

Three crosses were marked on each of the four walls inside the church as mentioned by *The Pontifical of Egbert*. Indeed, this practise was standard during the Middle Ages. It was common in England to do so inside and out. Such crosses appear to be still extant in the fabric of some Romanesque and Gothic churches, while some crosses were removed in 19th-century restorations<sup>152</sup>.

The occasion of the consecration of a church was considered particularly important and holy<sup>153</sup>. Though not uncommonly performed before the substantial completion of a church, it was in intent the culmination of the building process. An anniversary ceremony would be held each year to commemorate the consecration and dedication of the church<sup>154</sup>. The essential features of the consecration ceremony were

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<sup>152</sup>Middleton; Gage, 1834, p.243; Marucchi et al., pp.534-535.

<sup>153</sup>Part of the holiness of the event was associated with relics. The second Council of Nicaea (A.D. 787) decreed that churches to be consecrated should have relics (Adair, 1978, p.10). This requirement was already a custom in England from the time of St. Augustine (d. c.604), sent as a missionary to that country in 597 by Pope Gregory I (c.540-604). Relics were to be set in the altar, or on top of it in a reliquary, or beneath it in a crypt, like the remains of Saints Peter and Paul in Old St. Peter's in Rome (Adair, 1978, p.10).

<sup>154</sup>The commemoration of the consecration of a church could still continue after it had been moved. The Byzantine Theodore, Archbishop of Canterbury (668-690), required in his canons that a standing cross be erected at the previous place of an altar, when a church had been removed to another place (*Councils*, III.190; Dodwell, 1982, p.111; Stenton, 1971, p.150).

impressed annually on the church's congregants. The liturgy for the dedication of a church, as noted earlier in Chapter 2, affirmed the project's divine rightness.

I have not found the ritualization of image-making or craft work so *explicitly* described in the Latin West during the Middle Ages, with the partial exception of church building<sup>155</sup>. Even there, the day-to-day church-building process was not *explicitly* a religious ritualistic act<sup>156</sup>. However, in an *implicit* sense it was, because the rituals for (i) the preparation of the site, (ii) the laying of the foundation stone ceremony<sup>157</sup>, and (iii)

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<sup>155</sup>Other studies on liturgy and medieval architecture have not dealt explicitly with the relationship of the construction process with ritual. Instead the focus has been on the relationship of the liturgy with architectural and craft designs, liturgical furnishings and accoutrements, and iconography (Stokey, 1969; Klukas, 1978; 1983; "Liturgy and Architecture," 1984; "The Continuity of Anglo-Saxon Liturgical Tradition," 1984; Coldstream, 1987; Draper, 1987; Fernie, 1987; Parsons, 1989; Stansbury-O'Donnell, 1990; Spurrell, 1992; Russo, 1994). The latter approach is also a part of this dissertation.

<sup>156</sup>There are well documented cases of image-making that are explicitly religious ritualistic acts, and of the spiritual preparation and prayers by the artisan before commencing work. The elaborate construction, including measure and geometric design, of the Kalachakra sand Mandala is an example that continues today. This Mandala is employed in an important ceremony of Tibetan Buddhism, the Kalachakra Initiation (Bryant et al.). For the creation of this mandala by monks, both the chalk strings employed in laying out the oriented design and the delicately poured coloured sand are consecrated. The work proceeds as a spiritual exercise: the artisan monks contemplate the meaning of the manifesting diagram, and attempt to transform themselves into the presiding deities of the mandala. The mandala is employed to initiate students, and its archetypal form is said to radiate peace and harmony to the planet earth and all beings (Bryant et al.). Also, the ritualistic and initiatory forming of the Japanese Shingon Buddhist Matrix and Diamond World Mandalas on the ground is another example (Snodgrass, *The Matrix*, pp.152-170, 578-585). Of particular architectural note, Hindu, Buddhist, and Jain cities, temples, palaces and houses have been traditionally laid out following the ritual and mandala procedures in the *Silpasastras*, the Indian building manuals (Snodgrass, *The Symbolism of the Stupa*, pp.14-20). The traditional creation of icon paintings in the Eastern Orthodox Christian Church also involved religious practices and ritual. This provides an important area of study following the theme of this dissertation.

<sup>157</sup>Modern builders still place a symbolic tree bough at the top of a building, upon its completion, including 'skyscrapers.' When the central tower of Washington National Cathedral was dedicated in 1964, the *last* stone was raised up from the ground, and put in place with an evergreen bough attached. Later, at this same Cathedral's dedication in 1990, the final, pinnacle stone was raised up accompanied by a tree bough (*Washington National Cathedral*). The depiction of a consecration of a church in a 15th-century Flemish Missal or service-book shows two tree boughs, and a flag with a cross on it, protruding from the windows of the central tower (Manchester, John Rylands Library, M.S. Lat. 39, fol. 146<sup>v</sup>;

the dedication and consecration rituals, and their anniversary ceremonies held each year for the church, involve the religious ritualistic enactment of the building process. For example: (1) in the laying of the foundation stone ceremony: foundation stone(s) are laid for the church, and (2) in each of these ceremonies, the site is being *acted* upon so that it is sacred, auspicious, and suitable for a church and monastery, and these activities were, in a broad sense, part of the building process. The intent of the ritual involvement in the building process was for the builders to act as God's instruments and centre their lives and the project on God.

I have found no references yet to a ceremony held in conjunction with the founding of Anglo-Saxon or Anglo-Norman towns and their anniversaries. It is likely that some simple religious rituals were involved considering that they occurred elsewhere in Europe during the Middle Ages<sup>158</sup>. Additionally, the rituals for the founding of an abbey or cathedral church can tacitly and partially extend to a new town site, such as at Durham.

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James 1921, I, p.100 and II, plate 93; Gardner, 1994, plate 4). These two examples are, at least, *generally* suggestive of practices builders may have followed during the Middle Ages. These rites could be designated under the subject area of folklore studies. Such practices tend to be transmitted orally, and through practice, so their documented history may be quite limited. However, this would be a good avenue to explore further. Additionally, during the Middle Ages, Christ was also identified with not only the foundation stone of the church building, but also a crowning stone, "*lapis in summo*" (Durandus, "*De Festo et Officio Dedicationis Ecclesiae*," *Rationale Divinorum Officiorum*, VII.48, paragraph 5; Ladner, 1942, p.54).

<sup>158</sup>This subject is discussed further in Appendix 7.

### 3.2 Liturgy and Architecture

The Anglo-Norman Cathedral at Durham was completed in 1130/1133. It was a major Anglo-Norman building following the large-scale 'shrine churches' at St. Albans, Winchester, Ely, Bury St. Edmunds and St. Paul's Cathedral in London<sup>159</sup>. As noted earlier, the Cathedral was dedicated to the memory of the important Northumbrian saint Cuthbert, whose remains were ceremonially transferred to the shrine in the east end in 1104.

Durham Cathedral followed the *Decreta Lanfranci* in its liturgical observances and formal arrangements [Fig.22]<sup>160</sup>. Archbishop Lanfranc and Westminster Abbot Gilbert Crispin assisted Bishop William of St. Calais in introducing the liturgical reform of the *Decreta Lanfranci* at Durham Cathedral<sup>161</sup>. The copy of the *Decreta Lanfranci* sent by Lanfranc to William remains in this Cathedral's Library<sup>162</sup>.

Liturgy is the central *use* of a church. It is, in part, a dramatic and emotional expression of the more intellectual theology. The form of churches was partly determined by liturgical function, but the relationship is not an exacting and highly detailed one<sup>163</sup>. There can be different architectural solutions for a given use. Churches

<sup>159</sup> Old St. Paul's Cathedral housed the shrine of St. Erkenwald (Gem, 1990, pp.52-53, 58). Anglo-Norman Old St. Paul's was close in size to the huge Winchester Cathedral (Gem, 1990, pp.57-58).

<sup>160</sup> Klukas, 1983, pp.144, 144 fn.34-35, 164 fig.11, 165. Through an examination of the Cathedral's stone fabric and the *Rites of Durham* text, Thomas E. Russo has made some convincing adjustments to the liturgical plan suggested by Arnold Klukas; specifically, the placement of the rood screen, the choir, and associated walls (Russo, 1994, pp.259-260, 259-260 fig.19-20).

<sup>161</sup> Klukas, 1983, pp.144, 144 fn.35; Symeon, *Opera* in Arnold, ed., I, 119-122.

<sup>162</sup> *Consuetudines Dorobornenses (Canterbury Customs)*, Durham Cathedral Library, MS B.IV.24.

<sup>163</sup> Stansbury-O'Donnell, p.404; Klukas, 1978, p.434; 1983.

using the same liturgy could have marked differences in form<sup>164</sup>. Conversely, churches sharing some of the same architectural forms may use them in different ways<sup>165</sup>.

For Anglo-Saxon and Anglo-Norman England there has been some examination of the implication of the liturgy and monastic rules for architectural design, including, but not limited to, the *Regula S. Benedicti* (Spurrell, 1992), the Egbert Pontifical (Parsons, 1989), the *Regularis Concordia*<sup>166</sup>, and the *Decreta Lanfranci* (Klukas, 1978, 1983). The large majority of evidence on Anglo-Saxon and Anglo-Norman churches indicates that liturgical function is one of the factors commonly helping to determine architectural form (Klukas, 1978, p.434 & "Deerhurst," 1984).

Function is not, of course, the only factor that informs a design. As noted by Vitruvius (1st century B.C.), durability and beauty are also factors (*De Architectura*, I.III.2; Stansbury-O'Donnell, 1990, pp.1, 404). Liturgy, music, and political programmes interact with architectural design<sup>167</sup>. In addition to the liturgical function, a church can also have theological and political functions. These purposes, of course, partially

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<sup>164</sup>The choirs at Ely and Peterborough Cathedrals were different in their formal arrangements, but had the same function (Klukas, 1978, p.434). Additionally, "a procession can just as easily be performed by means of an ambulatory with radiating chapels (such as Battle Abbey) or by means of a straight path across the chord of an apse (such as St Albans Abbey)" (Klukas, 1983, p.137). Another example is the Priory Church of Tynemouth, a dependent of, and in liturgical uniformity with, the Abbey Church of St. Albans. Tynemouth had an apse-ambulatory and radiating chapels plan, whereas St. Albans had an apse-echelon plan. Arnold Klukas conjectures on why there may have been this difference. However, the other liturgical arrangements are quite close (1983, pp.157-158 fig.7-8, 161).

<sup>165</sup>The closely related forms of the secondary choirs in Trier, Bamberg, Mainz, and Verdun largely did not share the same functions (Stansbury-O'Donnell, p.404). Tribunes in Anglo-Norman churches sometimes had chapels and sometimes did not (Klukas, 1978; 1983).

<sup>166</sup>Spurrell, 1992; Parsons, 1989; Klukas, 1978 & "Deerhurst," 1984 & "Winchester, Ely, and Canterbury Cathedrals," 1984.

<sup>167</sup>This combined interaction has been demonstrated, for example, at the Abbey Church of St. Denis during 1231-1281 (Walters). Another function that can be considered is the performance of religious dramas in churches.

overlap. The huge size of many of the Anglo-Norman cathedrals and abbey churches went far beyond the strict needs of the liturgy, congregation size and Christianity itself<sup>168</sup>. Notably, they also exceeded in size their Anglo-Saxon predecessors and counterparts in Normandy (Le Patourel, 1976, pp.352-353). Part of the reason for such extensive building may have been as an act of compensation spurred by the conquerors' guilt or remorse as has been suggested (Whittingham, 1971/1992, p.5). However, these large churches along with the castles strongly conveyed the dominating presence and 'rightful' place of the Norman conquerors and their ecclesiastical authorities to confront any doubts about who was in 'charge' (cf. Le Patourel, 1976, pp.351-354).

Another contrast between the Anglo-Saxon and Anglo-Norman culture is centred in Archbishop Lanfranc. The guidelines of his liturgical reform document, the *Decreta Lanfranci*, were well-ordered and simple, compared to the more involved and laboured guidelines of the *Regularis Concordia*. He preferred simplicity to dramatic ritual (Klukas, 1983, p.144, cf. p.169). Though possibly contrary to monastic piety, Lanfranc accepted grandeur and splendour as part of the public display of a cathedral (Klukas, 1983, p.145).

The incorporation of the liturgical function into the design of a church, such as Durham Cathedral, involved building the edifice in a form suitable for the worship of God. The biblical precedents of Jacob and God's house, Moses and the Tabernacle, King Solomon and the Temple, and even Jesus and the Last Supper indicate that the

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<sup>168</sup>The construction of large buildings for worship, the formulation of theological systems and the development of elaborate rituals for assemblies of the public were arguably not part of the more private and interior approach taught by Jesus. Thus, this type of 'Christianity' may be more aptly called "churchianity" (Lewis, 1981, p.231) for which the most dramatic symbol is a huge church.

method and setting for worship required God's instruction. In this sense, the liturgical planning of a church was building with and for God.

### 3.3 High Praise for Craft Work

The craft work of Durham Cathedral was given high praise by chroniclers for its quality and contribution to piety<sup>169</sup>. The larger of the two Anglo-Saxon churches at Durham was described as being built of noble workmanship under Bishop Ealdhun's (d.1018) devotion to Christ and St. Cuthbert (Symeon, *History of the Church of Durham*, XXXVII or III.2). In 1093, Bishop William of St. Calais<sup>170</sup> "began to construct another [church] on a nobler and grander scale" (Symeon, IV.8, trans. in Rollason, 1993, p.6) than the earlier Anglo-Saxon cathedral. The replacing Anglo-Norman cathedral was "being built of such beautiful workmanship in his [St. Cuthbert's] honour"<sup>171</sup>. Indeed, in post-Conquest England, this church was the richest decorated to

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<sup>169</sup>Laurence, Prior (1149-d.1154) of Durham also extolled the beauty of the buildings on the acropolis, especially the Castle and Bishop's Palace. The craft work and artisans received much admiration, for example:

But the pleasant citadel displays a round form; by art, beauty, and situation it is strong, pleasant, and agreeable. (Laurence, lines 385-386; trans. in Boyle, 1892, I, p.148)

Nor is the place which the ambit of this high wall surrounds void or barren of building; -- it contains beautiful structures.

It displays two great adjoining palaces with porticoes, in which art itself sufficiently attests the artificers. (Laurence, lines 397-400; trans. in Boyle, 1892, I, p.148)

Behold what art has added to the defences of the strong city! (Laurence, line 449; trans. in Boyle, 1892, I, p.150)

<sup>170</sup>This first patron of the Anglo-Norman Romanesque Cathedral at Durham is also referred to as Bishop William of Carilef.

<sup>171</sup>Anonymous, c.1100, in Arnold, ed., 2, pp.352-353; trans. Rollason, 1993, p.7.

date and set the aesthetic standard for later English medieval architecture (Webb, 1956, pp.35-39). The craft work of Durham Cathedral and other medieval buildings, including geometric design methods, were often described with much associated honour and as acts of devotion<sup>172</sup>.

### 3.4 Orientation

The impressive impact of Durham Cathedral was assisted by the crafts' employment of measure and geometry<sup>173</sup>, including orientation, in the design and building process. Church orientation is the direction to which the church 'points' on the horizon. More precisely, the directional line is given by the central axis running from the main entrance to the choir, high altar or main altar end. This applies to churches whose

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<sup>172</sup>For example, in the *Vita Sancti Oswaldi* (c.995-1005), we note that when St. Oswald, Bishop of Worcester and then Archbishop of York (972-992), wanted to build Ramsey Abbey:

He sought most keenly for masons (*cæmentarios*) who would know how to set out the foundations of a monastery in a proper way, with the straight line of the rule, the threefold triangle and the compass (*qui recta rectitudine regulæ et triangulo ternario atque circino scirent honorifice monasterii fundamenta exordiri*). (Trans. in Harvey, 1972, p.107; Raine, I, p.434; cf. trans. in Davis-Weyer, 1971, p.111).

Additionally, *The Chronicle of Battle Abbey* states in its description of the virtues of Abbot Ralph of Caen (office 1107-1124) that

The venerable abbot, delighting in the embellishments of God's house, took proper pains with the church's lead-work, built what remained to be finished of the encircling wall, enlarged the courtyard, and surrounded it with new buildings. He took great care, both he and his men, to adorn the abbey in many ways with excellent customs and with various decorations that were necessary for the honour of God. (Searle trans., 1980, pp.128-131).

<sup>173</sup>Measurements of Durham Cathedral have been taken by R. W. Billings, John Bilson, C. C. Hodges, John Henderson Taylor, and me.



ground plans are polygonal, circular, basilican or cruciform<sup>174</sup>. Durham Cathedral's cruciform ground plan is oriented between 3 and 4 degrees south of due east<sup>175</sup>.

The practice of orienting Christian churches due east (i.e. the central axis from the west facade and portals to the east end) appears as a standard rule from the 5th century onwards (Vogel, 1967; Krautheimer, 1975, p.69). Various ecclesiastics describe

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<sup>174</sup>It is sometimes claimed (Michell, 1975) that, or wondered if, the art of geomancy is relevant to the placement and orientation of medieval architecture. Geomancy is a term derived from the Greek for 'earth' and 'divination' ("Geomancy," p.461). *Feng-shui* ('winds' and 'waters'), as traditionally practiced by the Chinese, and referred to as geomancy, certainly has much to do with orientation. *Feng-shui* is a technique for determining propitious sites and positionings for towns, households, and tombs. This ancient system, still widely applied, deals with the distribution of winds and water currents over the earth, of various atmospheric and terrestrial emanations that are held to significantly influence peoples' well-being (Bourguignon).

In a discussion of magic decrying its deemed falsity and immorality, Hugh of St. Victor mentions geomancy. Following Varro, Hugh states that there is a form of divination for each of the four elements, earth, water, fire, and air. He mentions, but does not elaborate, that the method of divination by means of earth is geomancy (*Didascalicon*, Appendix B). However, the method of divination referred to as "geomancy" (*geomantia* or *geomancia* in Latin) during the Western Middle Ages does not appear to deal with subtle currents of the earth for the harmonious siting and aligning of buildings and living spaces. Rather, it involved the inspired and learned interpretation of certain mathematical diagrams, generated by the geomancer, in order to answer pressing queries (Charmasson; Thorndike, II, pp.110, 118-121, 835-838; Means; Martin of Spain's *De Geomancia*, Middle English trans. in Means). The term 'geo' in geomancy here, is traditionally derived from the use of a flat surface of earth to create such diagrams (Bourguignon).

Plutarch (A.D. c.46-c.120), a prolific writer and a priest at Delphi, discussed in his *The Decline [Obsolescence] of Oracles* subtle 'streams' in the earth that are formed by the powers of the sun and the earth. These currents are described as strongly affecting humans' health and their mental state, as well as the placement of oracular shrines for prophecy (*Moralia*, 432D-434C; Michell, 1975, pp.18-19, 21-22). The Roman notion of the *genius loci*, a site's guardian spirit, may also be of note. John Michell has attempted, with some success, to place "geomancy" in not only an Eastern context, but also a Western ancient, medieval and later context (1975). However, there does not appear to have been a recognized type of "geomancy," a *systematic discipline*, called upon for the siting of towns and buildings during the Middle Ages. Nevertheless, in a broad sense, the factors and practices discussed in this dissertation, that came to bear on site determination and preparation, and the legends of these sites, are akin to a modern designation of "geomancy." It may be helpful to explore this further.

<sup>175</sup>McCague, 1993, p.79. From John Henderson Taylor's detailed 1907 plan of Durham Cathedral's south nave arcade, the orientation can be inferred to be c.3 1/2 degrees S of E. A value of c.3 degrees S of E is inferred from John Billings, 1843, Plate V.

the orientation to due east in terms of the sunrise position at the equinoxes<sup>176</sup>. The most likely method employed by medieval masons to achieve the eastern orientation for a church is the documented geometric method involving a vertical gnomon and two shadows<sup>177</sup>.

There is archaeological and documentary evidence for the orientation of churches to due east as a *general tendency*<sup>178</sup>, with topographical factors playing an important part<sup>179</sup>. The planning and orientation of churches and monasteries were based on definite decisions of the founders and builders, attentive to the existing settlement

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<sup>176</sup>St. Isidore, *Etymologiarvm Sive Originvm*, XV.IV.7, trans. Neale and Webb in Durandus, p.216; Bishop Durandus, I.I.8. Eadmer's 12th-century account of Archbishop St. Dunstan's 're-alignment' of the wooden church being dedicated at Mayfield provides another example (Arnold-Forster, pp.336-337).

<sup>177</sup>This method was employed by Roman land surveyors and it was known during the Middle Ages (McCague, 1993, pp.80-91).

<sup>178</sup>Various other solar alignments have been claimed for church orientations. They include:

- (i) the sunrise position at one of the solstices (Bishop Durandus, I.I.8),
- (ii) the sunrise position on the Feast Day of the church's titular saint, the saint to whom the church is dedicated (Neale et al. in Durandus, p.21 fn.17), and
- (iii) the sunrise position on first day of construction of the church (Price, 1955, pp.8-9).

At the present state of research, there is no convincing evidence for (iii) (cf. similarly for burial orientation, Boddington, 1987, pp.417-418, 418 fig.5 & 1990/1991, pp.191-194); there appears to be no evidence for (ii) during the Middle Ages, it may be later folklore; the only evidence for (i) is Bishop's Durandus's criticism of this practice. Additionally, there is a discredited theory on the deviation of the eastern half of some churches:

Another curiosity of planning is the not infrequent occurrence of a deviation of the axis of the eastern limb of the church to north or south. This is thought to be symbolical of the fact that Our Lord dying on the cross, 'bowed His head and gave up the ghost.' [John 19:30] And as tradition is that His head sank on His right shoulder, the axis of the chancel was deflected *in memoriam* to the north. (Bond, p.247)

There appears to be no medieval source for this being intended in churches (Bond, p.248). Additionally, one wonders how extensively such deviations have been accurately detected, measured, and documented by modern scholars. I suspect in the vast majority of churches, an axial deviation, if any, would be slight, and more easily explained by challenges and inaccuracies in the building process. Francis Bond rejected this theory (pp.247-250). Comte Robert de Lasteyrie, supposedly after an exhaustive examination of the matter, also rejected it (Bond, pp.247, 247 n.3). I have not closely examined this issue, but it does not seem promising.

<sup>179</sup>McCague, 1993, pp.78-103, 140-144; Rodwell, 1984.

structure and land forms. Church orientation is a key element in understanding Anglo-Saxon and Anglo-Norman townscapes and landscapes (Rodwell, 1984, p.21).

Durham Cathedral could not be much bigger and still maintain an orientation close to due east and be able to fit on the plateau of the peninsular acropolis. One notes the extensive buttresses put in place to keep the Galilee Chapel, c.1165-c.1175<sup>180</sup>, from toppling off the plateau. After that building project, there were no longer exterior entrances at the extreme west end of Durham Cathedral because the west wall of the Galilee Chapel constitutes a near-vertical drop down the high banks<sup>181</sup> of the River Wear. At the other end of the church, the east end, we also observe that the bank starts to slope downward under the later Chapel of the Nine Altars. The cathedral's axis is very close to a right angle to the immediate banks of the River Wear and the defensive wall. Thereby the cathedral's axis is not askew to, but at right angles to, the longitudinal axis of the acropolis which is close to north-south. Indeed the latter axis aligns with the axis of the Cathedral's transepts and with many of the walls of the monastery and cathedral, such as the west facade. Additionally, the orientation of the Anglo-Norman Cathedral may have followed that of the replaced Anglo-Saxon Cathedral.

The main symbolic and scriptural associations of eastern orientation<sup>182</sup> were based on the identifications of Christ with the sun<sup>183</sup>, Christ and Paradise with the

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<sup>180</sup>Harrison, p.213; Rollason, 1993, p.11; Snape, p.23.

<sup>181</sup>The height of hill from the base of the W. end of the Cathedral to the bank of the River Wear below is c.100' (Bowen-Jones, p.22 fig.12). An estimate from a 1995 Ordnance Survey Map, scale 1:1250, is (65.69m-35.64m) = 30.05m or c.99'.

<sup>182</sup>Bishop Durdanus gives over eight reasons for the orientation of churches to due east (V.II.57, I.I.8; cf. McCague, 1993, Appendix VII; cf. Rahtz, 1978, p.4).

<sup>183</sup>Lowrie, p.109; Honorius Augustodunensis, *De gemma animae*, XXIX in Harvey, 1972, p.227; Durandus, V.II.57.

east<sup>184</sup>, and the equinox with the moderation of the Church in adversity and prosperity<sup>185</sup>. Additionally, another important association connected with orientation was that cruciform churches face or look to the four corners, or quarters, of the earth (the east, south, west and north)<sup>186</sup>. Traditionally, each of the four Evangelists corresponded to one of four tetramorphs, the four animals of the visions of Ezekiel and St. John of Patmos<sup>187</sup>. In turn, the four tetramorphs matched four zodiacal constellations forming a great cross in the sky and associated with the four cardinal directions<sup>188</sup>. Hence, an additional significance of the oriented church appears to have

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<sup>184</sup>Hassett; Landsberger, pp.201-202; Honorius Augustodunensis, *De gemma animae*, XXIX in Harvey, 1972, p.227; Durandus, V.II.57.

<sup>185</sup>Durandus, I.I.8. At the equinox period there is equal day and night. This observation is the Latin derivation of the name: *equi* for equal and *nox* for night. Also, during the equinox period, the sunrise and sunset positions on the horizon form an E-W axis that divides the horizontal plane in two equal parts. St. Isidore makes essentially this same point in discussing temple orientation, except he refers to equal "sections of the sky" (*Etymologiarvm Sive Originvm*, XV.IV.7, trans. Neale and Webb in Durandus, p.216). Either one or both of these points of equality would be involved in Durandus's use of the equinox as a metaphor for moderation.

<sup>186</sup>This point was made by 1) Arculf, a Frankish bishop, in his description (c.683-686) of the church at the well of Jacob (Arculf in Adamnanus, *De locis sanctis*, II.21; Krautheimer, 1969, pp.121, 142 n.25, 143 n.43), 2) Æthelwulf, in his Anglo-Saxon poem of his vision of a church, first quarter of the ninth century (*De abbatibus*, lines 711-720 quoted in Parsons, 1987, pp.23-24, 43 and in Gem, "Towards an Iconography," 1983, pp.12-13), 3) St. Ælred of Rievaulx (1110-1167), in his description of a chapel at Hexham (c.705-709) built under St. Wilfrid (*De sanctis ecclesiae Haugustaldensis* quoted in Gem, "Towards an Iconography," 1983, pp.11-12, 12 fn.62), and 4) Nikolaos Mesarites, in his description (1198-1203) of the Church of the Holy Apostles at Constantinople (XIII.5). A church could be considered cruciform or in the shape of a cross in various ways. Examples include, but are not necessarily limited to, churches with a plan in the form of (i) a Latin cross (with transepts), (ii) a *tau*-cross or T-cross, (iii) a Greek cross, and (iv) a circle or polygon (centrally planned church) with four porticus positioned in the four liturgical directions (Krautheimer, 1969, p.121; Gem, "Towards an Iconography," 1983, pp.12-14).

<sup>187</sup>Ezekiel 1:10; Revelation 4:7. St. Matthew is the man, St. Mark is the lion, St. Luke is the ox or bull, and St. John is the eagle. The derivation of these correspondences relates to the qualities associated with these animals and the nature of the commencement of the respective Gospels (Byrhtferth, 1929/1966, pp.201-203; Mâle, pp.35-37; Woodward, pp.336, 336 table 18.6; Snodgrass, 1990, pp.299-300). For example, the Gospel of St. Luke begins with the sacrifice offered by Zacharias. Luke is then identified with the sacrificial animal, the ox (Mâle, p.36).

<sup>188</sup>St. Matthew, the man, is associated with the constellation of Aquarius, Man the Water Carrier. St. Mark, the lion, is associated with the constellation of Leo, the Lion. St. Luke, the ox or bull, is identified with the constellation of Taurus, the Bull. Finally, St. John, the eagle, is identified with the

been its fourfold pointing to, or configuration with, the four Evangelists and their tetramorphic stellar constellations indicating the four quarters of the world [Figs.44-45]. This emphasized the Evangelists' pastoral charge to disseminate the Word of Christ to the four corners of the world (Snodgrass, 1990, pp.299-303, 303 fig.48-49). Thus, orientation set the microcosmic church in correspondence with the macrocosmic universe and alluded to the Church's pastoral mission.

The tetramorphic association with the four cardinal directions may have been present for not only Durham Cathedral but was also mirrored in the Shrine of St. Cuthbert at the far east end of the church. The saint's body and tomb would have aligned with the building's liturgical W-E axis. Further, the lid of the saint's wooden coffin<sup>189</sup>

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constellation of Scorpio which replaced the Eagle in the Hebrew zodiac. In this manner, the visions of Ezekiel and St. John can be interpreted as the spectacular cosmic rotation of the constellations (Snodgrass, 1990, pp.295-300, 303 fig.48). The cardinal direction assigned to each Evangelist appears to have varied some (cf. Snodgrass, 1990, 303 fig.48-49; cf. Singer et al., 1921, pp.144 fig.3, 145 fig.4; cf. Woodward, p.336 table 18.6). Of note here is an influential writer during the Anglo-Norman period, Honorius Augustodunensis (fl. c.1095-c.1135), who spent part of his career in England (Flint, "The Chronology," 1972, p.75 & "The Works," 1972, pp.241-242). He stated the following correspondences in regard to the cardinal directions: East-Mark; South-John; West-Luke; North-Matthew (*De neocosmos*, cols.833-834; Marner, 1994, pp.482, 483 fn.25). Another designation was East-Luke-Taurus; South-Mark-Leo; West-John-Eagle/Scorpio; North-Matthew-Aquarius (Snodgrass, 1990, 303 fig.48-49). Following the zodiacal configuration in Byrhtferth's diagram of "The Physical and Physiological Fours" (Singer et al., 1921, pp.144 fig.3, 145 fig.4), an assignment can be made that constitutes a rotation northward of half a right angle from the previous designation: NE-Luke-Taurus; SE-Mark-Leo; SW-John-Eagle/Scorpio; NW-Matthew-Aquarius. Similar to the latter, medieval *mappae mundi* sometimes had the four Evangelists placed in the NE, SE, SW and NW (Woodward, p.336), though the exact assigned correspondences could be checked for variation.

Additionally, in regard to the cardinal directions and constellations, the Latin name for north, *septentrio*, derived from the name of a constellation: *septem triones*, 'seven plough-oxen'. This constellation indicated the polestar, and hence the direction considered north (Derolez, 1971, p.260).

<sup>189</sup>St. Cuthbert's body was originally reinterred in this wooden reliquary coffin in 698. The coffin was wrapped in linen and situated atop a stone sarcophagus to the right of the main altar at Lindisfarne's monastic church (Hawkes, 1998, p.199).

depicts Christ in Majesty surrounded by the four tetramorphs<sup>190</sup> placed towards the four quarters of the world.

The association of these four constellations with church orientation can be placed in the context of the substantial awareness of the Anglo-Saxons and Anglo-Normans of the movements of the constellations and heavenly bodies. The reckoning of time, the seasons, and the liturgical calendar was contingent upon knowledge of these movements<sup>191</sup>. We see this awareness, for example, in Laurence's poem on Durham itself, c.1145, which mentions the movements and positions of Leo and the Sun in regard to the planning of the acropolis site and its fortified wall:

From this field [the Palace Green] the Castle wall keeps out northern blasts<sup>192</sup>, as also does the citadel, planted by art and placed upon the heights.  
Hither also from the citadel a strong wall, descending to the south, is extended forward, and is carried even to the higher part of the church [the cathedral];  
The roof of which, exposed to the mid-day flames of heaven, protects (the field) on this side from the solstitial heat of swift Leo.  
A wall also on the west occupies the bank of the stream, and the same wall often shuts out the day on this side at swiftly-descending eve.  
Behold what art has added to the defences of the strong city!<sup>193</sup>

<sup>190</sup>Kendall, 1988, p.521; Hawkes, 1998.

<sup>191</sup>The observation of stars and constellations seems to have been one of the main methods for nocturnal timekeeping employed by medieval monasteries. For example, the short treatise *De Cursu Stellarum* (*On the Course of Stars*), written by Gregory of Tours after his consecration as bishop in 573 (McCluskey, 1990, p.11), provides a detailed description of this practice. This time reckoning was required for the performance of the monastic night offices and rituals of nocturns (now called matins) and matins (now called lauds) (McCluskey, 1990, note especially pp.10, 15, 18, 20 & 1998, pp.97-113).

<sup>192</sup>In medieval nomenclature and cosmology, the winds were intimately associated with the four cardinal directions and their further directional subdivisions. The directional winds and their meaning could be explored further in regard to church orientation, architectural design and urban planning. Notably, Vitruvius discusses this matter in regard to urban planning and the directional alignment of streets for the health and well-being of a town's inhabitants (I.6). Additionally, Barbara Obrist's article on medieval wind diagrams (1997; also of note is Derolez, 1971, p.260) provides some helpful background for this topic.

<sup>193</sup>Laurence, lines 441-449; trans. in Boyle, 1892, I, pp.149-150; Boyle, 1892, I, p.149 fn.5.

Another example appears in the anonymous *Vita Sancti Oswaldi* (c.995-1005). In 969, St. Oswald, Bishop of Worcester and later Archbishop of York (972-d.992) was planning the building of one of the important centres of the 10th-century monastic revival, Ramsey Abbey<sup>194</sup>. This remarkable account of preparing and constructing a monastery mentions geometric instruments and design, a stellar and solar configuration, the cruciform plan and the four cardinal directions:

Boreas the coldest wind, who is also called Northwind and who sends his awful snorts from the Thracian cave, lying in a northern region, from where he usually comes, could not stop him [St. Oswald] from continuing the work he had begun. It was, as we have already said, in the ninth week of autumn when the holy man came to this place, ... . After the autumn passed he did not slacken his efforts, but<sup>195</sup> sought most keenly for masons who would know how to set out the foundations of a monastery in a proper way, with the straight line of the rule, the threefold triangle and the compass<sup>196</sup>. Afterwards he prepared cement [mortar] during the whole winter and ordered stones to be gathered. And when the Swan ascended into the sign of Aries at sunrise, he began to construct the foundations of the church<sup>197</sup>. And since he had protected it by the sign of the revered cross, through which we believe ourselves to be saved, so also therefore he began to construct the buildings of that place in the fashion of a cross: a porticus on the East, on the South, and on the North; a tower in the middle, which having been raised up might be supported by the porticus butting against it; then in the West he annexed a tower to the church (or he annexed to the tower the church), trusting greatly in the mercy of the High King and in the patronage of the most holy abbot Benedict<sup>198</sup>.

The astronomical arrangement mentioned occurs at the commencement of spring (Davis-Weyer, 1971, p.111 fn.7). The Swan refers to the constellation of Cygnus, and the Ram is the zodiacal sign of Aries (Eade, 1984, pp.15-16). Overall then, we see that activities

<sup>194</sup>Gem, "Towards an Iconography," 1983, p.13; Davis-Weyer, 1971, pp.111.

<sup>195</sup>*Vita Sancti Oswaldi*, trans. in Davis-Weyer, 1971, pp.111; Raine, I, pp.433-434.

<sup>196</sup>*Vita Sancti Oswaldi*, trans. in Harvey, 1972, p.107; Raine, I, p.434; cf. trans. in Davis-Weyer, 1971, p.111.

<sup>197</sup>*Vita Sancti Oswaldi*, trans. in Davis-Weyer, 1971, pp.111-112; Raine, I, p.434.

<sup>198</sup>*Vita Sancti Oswaldi*, trans. in Gem, "Towards an Iconography," 1983, pp.13, 13 fn.71; Raine, I, p.434; cf. trans. in Davis-Weyer, 1971, p.112.

such as building and planning incorporated the cosmic 'clock' and orientation of the heavens.

The eastward orientation was also, of course, closely related to achieving certain liturgical actions and ecclesiastical practices which involved the four cardinal directions, such as during the consecration of a church, burial eastward<sup>199</sup> and the standard practice of eastward prayer<sup>200</sup>. The cardinal directions were also matched with the two equinoxes and the two solstices and their corresponding four days of the year<sup>201</sup>. In this manner,

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<sup>199</sup>Generally, the head was placed westward and the feet eastward. Burial and church orientation largely shared the same symbolic attributes of East (Rahtz, 1978, pp.4-5). Additionally, there appears to have been the intention that the Christians' bodies so buried were associated with their rising at the Last Trumpet on the Day of Judgement and Resurrection to immediately face Christ in the East (cf. Rahtz, 1978, p.4).

<sup>200</sup>Christian churches were not intended to face Jerusalem as is occasionally claimed (cf. Kapica). There is, of course, the Jewish practice of praying towards: (i) the land of Israel, if outside it, (ii) Jerusalem, if in the land of Israel, and (iii) the Temple, if in Jerusalem (Jeffrey et al., p.443). Traditionally, synagogues outside Jerusalem were aligned towards this city (Landsberger), but not churches.

However, two indirect points connecting church orientation with Jerusalem have been noted. Jerusalem was the cradle of the new Christian faith (Landsberger, p.193). It has been argued that very early Christianity was likely influenced by the Jewish practice of praying towards the Temple. The Temple was to the east of the greater part of Jerusalem, so the prayer of Jews in this city tended to be eastward (Landsberger, p.193). Secondly, Bishop Durandus (V.II.57) mentioned that one of the (over eight) reasons that Christians pray (and churches are oriented) towards the *east* is because Daniel, while in captivity, prayed toward the Temple (Daniel 6:10 – Jerusalem is explicitly mentioned). This explanation, however, is given in the context of why Christians pray towards the *east*, and with other reasons that do not directly reference prayer towards Jerusalem. Durandus's writing is, of course, in the context of Christendom in the *West*, so prayer towards Jerusalem can easily be considered *eastward*. Another biblical reference, not mentioned in the list by Durandus, is that Solomon also mentions the practice of prayer towards Jerusalem (and the Temple as understood) during the dedication of the newly built Temple (King James I Kings 8:41&48; Vulgate III Kings 8:44&48).

In Christianity, prayer was not towards a sacred edifice. However, on a parallel note of sacred direction in Christianity and Judaism, from the early period of Islam, daily prayer was towards the Kaba in Mecca. Mosques were to have an alignment to Mecca, with "the *mihrab*, or prayer-niche, indicating the *qibla*, or local direction of Mecca" (King, p.303). The matter is succinctly summed up in al-Biruni's (973-c.1050) text on mathematical geography. This treatise includes a method for determining the *qibla*, or sacred direction for prayer toward the Kaba in Mecca. He broad-mindedly notes that his method can be usefully adapted to Jews for their prayer towards the Temple in Jerusalem, and for Christians in orienting their churches and prayer towards the true east (pp.175-176, 258-259).

<sup>201</sup>Snodgrass, 1990, pp.xxiv fig.1, 103-104, 300; Byrhtferth's diagram of "The Physical and Physiological Fours" in Singer et al., 1921, pp.144 fig.3, 145 fig.4. There appears to be some variation in the specific assignment of the cardinal directions to the equinoxes and solstices. The



the four cardinal directions of a church may have had a more subtle association with the annual cycle of the sun's movement [Figs.43-45] and the unfolding of the liturgical calendar over the year<sup>202</sup>.

In considering church orientation, the following factors appear in descending order of importance: the liturgical and symbolic east, topographical factors, and geographical or due east. At Durham Cathedral, all of these factors appear to have worked nicely together. Further, orientation is one of the examples of the sacred and Christian purpose of geometry, both conceptually and literally, in the design of medieval churches. The aligning of churches eastward metaphorically oriented them, and the builders and congregants, to God and Paradise.

### 3.5 Geometry, Ratios and Measures

The design of Durham Cathedral applied the geometric motif of the square's side and its diagonal in a variety of ways in its design<sup>203</sup>. Additionally, the Cathedral's design

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oriented church, explicitly associated with the four cardinal directions and the four quarters of the world, may have also had at least implicit associations with other meanings of the number four (cf. Byrhtferth, 1929/1966, pp.200-203 and Woodward, p.336 table 18.6) [Fig.43].

<sup>202</sup>For example, Christmas, the Incarnation and the Nativity are associated with the winter solstice when the sun is 'reborn.' At the time of this solstice, the shortest day occurs and the sun rises to its lowest point in the (southern) sky. After this, the duration of daylight and the height of the sun in the south increases daily until the next solstice at midsummer. Further, the Lenten Passion, the Resurrection, and Easter are associated with the time around the spring equinox. At the time of the equinoxes, the sun rises in the due east, sets in the due west, and the sun's passage is most rapid. Additional associations of the equinoxes, the solstices and the sun's movement with liturgical feasts have been made (Snodgrass, 1990, p.300; McCluskey, 1989, pp.S2-S15 & 1998, pp.60-76).

<sup>203</sup>Kidson, 1956, II, pp.62-76; McCague, 1993, chapt.4.

appears to have applied the English royal foot (30.48cm), a 7' module<sup>204</sup>, and the geometric motif of the equilateral triangle's side and its altitude<sup>205</sup>. The regular pentagon's side and its diagonal, associated with the 'golden section,' may have also been employed<sup>206</sup>. These geometric operations, measurement units and modules were applied in a complementary and co-ordinated fashion in designing and laying out the building (McCague, 1993, pp.25, 39).

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<sup>204</sup>A 21-foot pole (3 x 7', 7 yards) was important in the Durham area, including the 1381 Bishop Hatfield's Survey where the rod or pole employed is stated to have been 21 feet (Roberts, 1972, pp.41, 43, 44 fn.14, 48). This may have had earlier currency in Anglo-Norman Durham. Much later, c.1696, there is documentation that in some places in England, a 21' perch (7 yards) was termed Church-measure (Zupko, 1968, p.121). A 7-foot module is arguably important at Durham Cathedral. This finds a parallel with 5 1/2' important at Ely Cathedral (Fernie, 1979, pp.1-4 & 1985, p. 250) and Norwich Castle Keep (Heslop, 1994, pp.18-19, 68 n.17), and the 16 1/2' pole (3 x 5 1/2'). Indeed, the *Statutum de Admensuratione Terrae* (c.1300) defines the royal perch as five and a half elnes (yards) (Grierson, 1972, pp.13-14, 13 fn.55, 14 fn.61; Kidson, 1990, p.74). This yard, the English Imperial yard, half a fathom, appears to long pre-date Henry I's legendary creation, as related above by William of Malmesbury (Kidson, 1990, pp.85-88). Thus, the expression of these two perches in terms of this yard in the late 11th century is plausible. We note, of course, that taking a third of a perch is equivalent to changing its expression from yards (e.g. 5 1/2 yards) to feet (e.g. 5 1/2 feet), while the numeral (e.g. 5 1/2) simply stays the same. However, this yard connection is not essential, the point is that *thirds* of a perch could be employed. This matter is discussed further in the Norwich section below.

<sup>205</sup>McCague, 1993, chapt.4. The two simplest regular polygons mentioned here, the equilateral triangle and the square, and additionally the regular pentagon are the formative figures in the construction of the five regular polyhedra or 'Platonic' solids. This geometric association with the 'Platonic' solids has been considered relevant to the meaning of medieval architectural design. This subject is reviewed and discussed in Appendix 10.

<sup>206</sup>Kidson, "Cathedral of Durham," 1993. The square's diagonal to its side, the equilateral triangle's side to its altitude, and the regular pentagon's diagonal to its side are equivalent to  $\sqrt{2}:1$ ,  $\sqrt{3}:1$ ,  $(\sqrt{5} + 1)/2:1$  ('golden section'), respectively. However, during the Middle Ages, mathematical knowledge of the irrational numbers, such as  $\sqrt{2}$ ,  $\sqrt{3}$  and  $\sqrt{5}$ , was quite limited. For example,  $\sqrt{2}$  was not understood as a non-repeating decimal expansion beginning 1.414 ... as commonly understood today. Indeed, even the mathematical terminology  $\sqrt{2}$  would have been foreign to medieval masons, in contrast to their familiarity with the geometric maneuvers involving the square's diagonal and its side. Nevertheless, there would have been some awareness of the special quality of these ratios and their associated geometric motifs, and even some sense of the implications of the irrationality of these ratios (cf. Vitruvius, IX.Preface.4-5). Notably, proportions involving whole numbers were employed directly, or in effect, to approximate irrational numbers. For example, 7/5 and 17/12 both approximate  $\sqrt{2}$ , and can be used to approximate the relationship of the square's diagonal to its side (McCague, 1993, pp.22-23, 148-150; Kidson, 1975, pp.32, 43 & 1990).

The same and similar underlying mathematical design methods were applied in wide-ranging art forms related to Durham Cathedral and, more generally, medieval architecture. For example, the application of simple musical<sup>207</sup> and 'golden section' (or 'extreme and mean') ratios have been found in Old English poems, 7th to 12th century, early medieval Latin poetry and biblical texts<sup>208</sup>. Similarly, the sesquialter (3:2), the

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<sup>207</sup>The musical ratios involved are 1:1, symmetry; 2:1, duple ratio or octave; 3:2, sesquialter ratio; 4:3, sesquitercian ratio; and 9:8, sesquioctave ratio (Howlett, 1994, p.488). These ratios are discussed by Boethius (*De Institutione Arithmetica*, II.52; *De Institutione Musica*, I.10).

<sup>208</sup>Howlett, 1994; Howlett in Patrick, pp.17-24. David Howlett cites Euclid's *Elements* and Plato's *Timaeus* as direct sources for these ratios (Howlett, 1994, p.488; Howlett in Patrick, p.18 fn.12). The term 'golden section' appears to have been first used during the 19th century ("Section," 1989; Kidson, 1970, p.488; cf. Sarton, 1951). The ratio is discussed as the 'extreme and mean ratio' in the *Elements* (II.11; VI.30; XIII.1-6, 8-9). However, the complete *Elements* was not available in the Latin West until the 12th century, and more specifically in England, the 1130s. Nevertheless, some of the plane geometry of the first four Books was taught earlier in the Carolingian monastic schools during the 9th century (Stevens, p.422; cf. Shelby, 1972, pp.399-400, 400 fn.14). It could be checked if the 'extreme and mean ratio' discussed in Book II.1 was taught. Further, the *Timaeus* does not explicitly refer to the 'extreme and mean ratio' in Euclid's sense (i.e. the 'golden section' and a special case of the geometric mean noted below). Plato speaks of means and extremes in regard to, though he does not explicitly name them, the arithmetical and harmonic means (36; Bury in Plato, *Timaeus*, pp.67 fn.4, 68 fn.1). A section of the *Timaeus* describes a proportion that is a key to creation of the cosmos (31-32). It was not necessarily the 'extreme and mean ratio' (Herz-Fischler, 1987, pp.84-85).

It is often claimed that the 'golden section' is commonly applied in art and architecture. However, when many of the methods for gathering artistic evidence and the usually mentioned documentary sources before 1854 are closely examined, they are found wanting (Fischler, 1981). Nevertheless, some artistic evidence makes it *plausible* that the 'golden section' as a simple 'geometric' ratio and geometric operation was in use throughout the Middle Ages (Kidson, 1975, pp.32-34; cf. Howlett, 1990, pp.86-89, 92-93, 97; Stevick, 1994).

The 'golden section' defines a point on and dividing a line segment, so that the ratio of the lengths of the shorter part to the longer part is equal to the ratio of the lengths of the longer part to the whole. There are various geometric constructions determining the 'golden section' (e.g. the "auron" in Conant, 1968, pp.34, 34 fig.1). Any use of the 'golden section' by medieval craftspersons would be through these geometric constructions, and possibly simple whole number approximations (e.g. 8:13, 13:21) as suggested by Peter Kidson (1975, pp.32-34; 1990, pp.86-89, 92-93, 97).

A mathematical note on means and the 'golden section' is given immediately below. It is meant as a clarification to the modern reader, and it is *not* indicative of the mathematical knowledge or expression of the medieval artisan or mason as discussed by Lon Shelby (1970; 1972). For positive numbers  $a$  and  $b$ :

- (i) the arithmetical mean is  $(a + b)/2$ ,
- (ii) the harmonic mean is  $2ab/(a + b)$ , and
- (iii) the geometric mean is  $\sqrt{ab}$ .

square's diagonal to its side, the equilateral triangle's side to its altitude, and the regular pentagon's diagonal to its side ('golden section') ratios have also been found not only in the 7th to 12th century work of Old English poems, but also in illuminated manuscript pages (Stevick, 1994). These ratios were applied in the composition of literature through the counting of letters, syllables, words and lines in specific sections and the entire text. In illuminated pages, ratios can be applied in the sequence of geometric operations that formed and positioned on the folio the boundaries and the wealth of pictorial motifs. A literary example is the Old English poem, "Durham"<sup>209</sup>, describing the town and Cathedral. This text applied musical and 'golden section' ratios:

The entire poem occupies twenty-one lines, which divide by extreme and mean ratio and by the sesquialter ratio at 13 and 8. The first part, *de situ Dunelmi*, contains eight lines and forty-five words. The number 8 divides by extreme and mean ratio and by sesquialter at 5 and 3; the number 45 divides by sesquialter ratio at 27 and 18. The verses divide at the parallelism. The first five lines describe the surrounding wood. The first five lines contain twenty-seven words. The last three lines contain eighteen words. (Howlett, 1994, p.494)<sup>210</sup>

The quote is an example of part of the analysis of this poem for ratios applied in its composition. Such arguments for this and other poems, and illuminated manuscript

The geometric mean,  $m$ , satisfies  $a:m = m:b$  or  $a/m = m/b$ . (In modern mathematics, a distinction is made between a ratio (e.g.  $a:m$ ) and a proportion (e.g.  $a/m$ ).) The 'golden section' arises in a special case of the geometric mean, when  $b = a + m$ . In result,  $a/m = m/b = (\sqrt{5} - 1)/2 = 1/\phi = .618 \dots$ , where  $\phi = (\sqrt{5} + 1)/2 = 1.618 \dots$ . From this mathematical expression, we see the close relationship between the two irrationals,  $\phi$  and  $\sqrt{5}$ . In loose usage, the 'golden section' can refer to the following ratios and proportions:  $1:\phi$ ,  $1/\phi$ ,  $\phi:1$ , and  $\phi$ .

<sup>209</sup>This poem probably dates from c.1104-1109 (Kendall, 1988; Schlauch, 1941, p.16; Dobbie, pp.xliv-xlv).

<sup>210</sup>Parallelism is a structural feature of a text. It is the "statement of ideas followed by [the] restatement of ideas in the same order" (Howlett, 1994, p.485). A related feature is chiasmus, the "statement of ideas followed by [the] restatement of ideas in reverse order" (Howlett, 1994, p.486). They are common motifs in the Hebrew Old Testament, the Greek New Testament, the (Latin) Vulgate, and Old English poetry (Howlett, 1994, pp.485-488; Howlett in Patrick, pp.17-18), and both are applied in the "Durham" poem (Howlett, 1994, pp.492-494). In a broad sense, these features can be considered forms of 'reflective symmetry.'

pages, would be assisted by statistical analyses to check how much matching could be expected to occur by chance<sup>211</sup>. However, overall there is sufficient evidence that these works were well crafted in mathematical orderings.

Such orderings and the rhythms can be considered in terms of the influential writings of St. Augustine. In the *City of God* he states: "*Ordo est parium dispariumque rerum sua cuique loca tribuens dispositio* (Order is the classification of things equal and unequal that assigns to each its proper position)" (XIX.13, quoted in Clemoes, 1970, pp.23-24; Latin & trans. Greene, 1960, VI, pp.174-175). Augustine argues at length in the sixth book of his treatise on rhythm, *De Musica*, that the soul is elevated by rhythm that the ear hears such as in music and poetry, the eye sees<sup>212</sup> in material proportioning such as in artwork, and the mind considers "*ad immutabiles numeros qui in ipsa sunt immutabili veritate*" (*De Musica*, *Patrologiae Latinae*, XXXII, 1161-1162; quoted in Clemoes, 1970, pp.24, 28 n.24)<sup>213</sup>. Further, Augustine states: "The mind is raised from

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<sup>211</sup>Robert Stevick has held that later poetry and illuminated pages, from the Romanesque period and after, exhibit these ratio methods much less (1990, pp.174-175, 179 n.16). David Howlett has the implied the same for poetry and literature after the 13th century (1996, pp.10-11). This, at best, suggests that the approaches of these investigators are not so flexible to always find the presence of these ratios even when they were not employed. Howlett mentions that usually the ratios that were applied were either symmetry (1:1) and the 'golden section' (Howlett in Patrick, p.18). Certainly, the limiting of possible ratios helps decrease the element of chance involved. However, these items are not sufficient to address the crucial extent to which matches can be expected to occur by chance.

The proposed series of geometric manoeuvres for the carpet page, fol.26, preceding St. Matthew's Gospel, Lindisfarne Gospels (British Library, Cotton MS. Nero D.VI, 2) found some confirmation in the detailed examination of the folio's blank recto or reverse side. Compass holes, pencil-like markings, and impresses from drafting instruments can be seen. Some of the lines marked do not appear on the final picture, but are part of the proposed intermediary geometric steps (Stevick, 1994, pp.148-149). The location of all the discernible compass holes would be telling. More of this type of evidence from the close examination of the physical condition of illuminated pages would be very helpful indeed (cf. Brown, *Anglo-Saxon Manuscripts*, 1991, p.50 plate 51).

<sup>212</sup>*De Musica*, VI.13; cf. Boethius, *De institutione musica*, I.32.

<sup>213</sup>A translation of this Latin quote is: "to unchangeable numbers in unchangeable truth itself" (*De Musica*, rubric to VI, trans. Taliaferro, 1947, p.324).

the consideration of changeable numbers in inferior things to unchangeable numbers in unchangeable truth itself" (*De Musica*, rubric to VI, trans. Taliaferro, 1947, p.324).

Rhythm and order are key compositional elements in Old English literature for example. Rhythm would have been all the more noticeable because Old English literature was usually read aloud (Clemoes, 1970, pp.23-24). It has been argued that the Anglo-Saxon literary artists considered themselves as necessarily applying the universal and divine law of rhythm. By this law the universe was created, all things operate<sup>214</sup>, and all creatures live and express themselves:

My claim is that, literary artists as they [Ælfric and Wulfstan] were, they gave their prose an abstractly conceived rhythmical structure in order to extract from language itself the regular, patterned relationships which they and their contemporaries believed were ubiquitous in a divinely created universe, and which they believed were common to the immaterial and the material and were the apprehensible manifestation of ideal truth. (Clemoes, 1970, p.24)

In visual concordance with this, the cross-carpet pages of the renowned Lindisfarne Gospels<sup>215</sup>, the two portrait pages of the Durham Cassiodorus<sup>216</sup>, and the covers of the St. Cuthbert Gospel of St. John<sup>217</sup>, which apparently came to Durham with St. Cuthbert's body and remains, are masterful applications of geometry and proportion. Reginald, a monk at Durham, showed an appreciation of proportion in his account (c.1175) of St. Cuthbert's remains, translated in 1104 into the new shrine in the

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<sup>214</sup>Examples of rhythm in the world were the movement of the sun, the moon and other heavenly bodies, the seasons, the wind, sea waves and tides, and rivers.

<sup>215</sup>British Library, Cotton MS. Nero D.VI, 2; Stevick, 1994, pp.90-91, 103-115, 136-150, 197-200.

<sup>216</sup>This 8th-century manuscript is a commentary by Cassiodorus on the Psalms (Durham Cathedral, Dean and Chapter Library, MS B.II.30); the David rex page, f.81v (Stevick, 1994, pp.16-18); David page, f.172v (Stevick, 1994, pp.50-54).

<sup>217</sup>This manuscript is also known as the Stonyhurst Gospel of St. John (English Province of the Society of Jesus: on loan to the British Library) (Stevick, 1994, pp.26-32).

Cathedral. In describing a very old ivory comb<sup>218</sup> in the coffin, he noted its size is "finely proportioned to the breadth, for the length is almost equal to the breadth, except for artistic effect the one differs a little from the other"<sup>219</sup>. The appreciation and use of certain ratios and geometric motifs were<sup>220</sup> also important for the design of Anglo-Norman architecture at Durham. These shared and deemed God-given ratios and geometric motifs were underlying elements for design<sup>221</sup> widely applied by various medieval artistic and building crafts.

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<sup>218</sup>This appears to be a liturgical comb and an a bonafide relic of St. Cuthbert (d.687) (Lasko, 1956; Evelyn, 1998, p.442). Documentation starting from the late 13th century indicates that:

Bishops and priests were instructed to comb their hair before (and sometimes during) the celebration of the mass, this practical action symbolizing the ordering and tidying of the mind. But perhaps the most important occasion was that prescribed by the pontifical of the Roman curia during the consecration of a bishop, following his anointment. (Evelyn, 1998, p.442).

Probably, the early medieval use was quite similar in intent. The "ordering and tidying of the mind" (Evelyn, 1998, p.442) is a fitting complement to Symeon's aesthetic appreciation of the proportion of the ivory comb in the coffin of St. Cuthbert, a bishop.

<sup>219</sup>Trans. in Schapiro, p.13. A translation of Reginald also appears in Symeon, p.784.

<sup>220</sup>This was noted at the beginning of this section 3.5.

<sup>221</sup>Intriguingly, a drawing of a cross appears on one of the last pages of the earliest extant copy of Vitruvius's *De architectura* (British Library, Harleian 2767, fol.145<sup>v</sup>; Heitz, 1975, p.750, plate X) dating from c.800 (Reynolds et al., pp.440-441). This drawing may be a later addition from the 9th or 10th century (Jones, "London Vitruvius," p.65 n.2, 66). The cross is in the style of those in the cross-carpet pages of the early medieval Irish and English illuminated Gospels, but much less detailed. Its basic resemblance to the crosses of the Lindisfarne Gospels (British Library, Cotton MS. Nero D.IV, 2) has been noted (Granger in Vitruvius, vol.I, p.xvii; Dilke, 1977, pp.26-27; cf. Jones, "London Vitruvius," p.66). The cross has written beside it "*Goderam(n)us p(ro)posit(us)*" (Jones, "London Vitruvius," p.65 fn.2; Heitz, 1975, p.750 fn.50, plate X) to indicate the manuscript was in the possession of Goderamnus of the Abbey of St. Pantaleon in Cologne and who later was the first Abbot of Hildesheim (1022-1030) (Jones, "London Vitruvius," p.65 fn.2; cf. Heitz, 1975, pp.749-750). Goderamnus may have drawn the cross (Jones, "London Vitruvius," p.66; cf. Heitz, 1975, p.750). His interest in Vitruvius could have found expression as an ecclesiastical official with working contacts with a master mason (cf. Heitz, 1975, pp.749-750). Additionally, this Christian cross's placement in this Classical text is a striking juxtaposition: the cross (1) alludes to an awareness of the early medieval Irish and English manuscript illustrations which thoroughly involved geometric design with compass and straightedge (Stevick, 1994) and (2) was placed in Vitruvius's *De Architectura*, the main text that centrally and emphatically stressed such design methods in architecture (and alludes to them in sculpture). These observations seem to underline further the shared geometric design methods employed by various art forms including architecture and illuminated manuscripts.

### 3.5.1 The Divine Origin of Weights and Measures

Measurement units and modules can work hand in hand with geometric applications in design such as at Durham Cathedral<sup>222</sup>. Of note here is a widespread and standard encyclopedia of the Middle Ages, the *Etymologiae* of St. Isidore of Seville (b.560-d.636)<sup>223</sup>. There was a copy of this text at Durham Cathedral's library by the early 12th century<sup>224</sup> when this church was under construction. Isidore found the origin of units of measure in theological and cosmological principles<sup>225</sup>. In his encyclopedia's

<sup>222</sup>This was noted at the beginning of section 3.5.

<sup>223</sup>Hillgarth, pp.565-566.

<sup>224</sup>Durham Cathedral Library, B.IV.15, and excerpts in B.IV.4; Mynors, pp.47, 58.

<sup>225</sup>For example, the *uncia*, 12 of which made a pound, "measures the hours of day and night" (Isidore, *Etymologiae*, XVI.XXV.19, trans. in Brehaut, p.256). (The Roman term *uncia* also meant a twelfth of a *pes*, or foot.) The *libra* or pound consisting of 12 ounces "is counted a kind of perfect weight, because it is made up of as many ounces as a year is months" (Isidore, *Etymologiae*, XVI.XXV.20, trans. in Brehaut, p.256). The *modius*, or "peck" (Isidore, *Etymologiae*, XVI.XXVI.10, trans. in Brehaut, p.257), is deemed perfect because it is forty-four "pounds" (Isidore, *Etymologiae*, XVI.XXVI.10, trans. in Brehaut, p.257), or twenty-two *sextarii*. Isidore elaborates:

The cause of this number [22] is derived from this, that in the beginning God made twenty-two works. ... And in all twenty-two kinds were made in six days. And there are twenty-two generations from Adam to Jacob, from whose seed sprang all the people of Israel, ... and twenty-two letters of the [Hebrew] alphabet out of which the doctrine of the divine law is composed. According to these precedents a modius of twenty-two *sextarii* was established by Moses according to the measure of holy law, and although different nations in their ignorance add weight to this measure or detract from it, still among the Hebrews it is kept unchanged by divine ordinance. (Isidore, *Etymologiae*, XVI.XXVI.10, trans. in Brehaut, p.257; cf. Brehaut, pp.64-65).

(The documentary sources of a *modius* of twenty-two *sextarii* or forty-four "pounds" could be investigated. The Romans had a dry measure *modius* of sixteen *sextarii*, and two *heminae* equal one *sextarius* (Dilke, *Mathematics and Measurement*, 1987, p.27). Isidore's *Liber Numerorum* (Brehaut, pp.24, 29) has a section dealing specifically with the sacred symbolism and law of numbers, including among other whole numbers, six and twelve appearing in the examples above. He takes this numerical symbolism and law very seriously in applying it to all things, including weights and measures.



section on weights and measures, St. Isidore cited the theological and cosmological law of Wisdom 11:21: "Thou madest all things in measure, number and weight." He made this reference to explain the ultimate origin and reason for the use<sup>226</sup> of standard

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<sup>226</sup>In regard to the early origins of standard measures, Isidore related that Moses, the dispenser of holy law, was the first philosopher and that Moses "first told us of measures and numbers and weight in different passages in the Scripture" (*Etymologiae*, XVI.XXV.1; trans. in Brehaut, p.256). Notably, in regard to the application of Wisdom 11.21 and by implication the use of weights and measures, Cassiodorus stated "that evil works of the devil are not ordered by weight or measure or number, since, whatever iniquity does, it is always opposed to justice ..." (*An Introduction to Divine and Human Readings*, II, Preface, 3, trans. Jones, p.143).

Cassiodorus's statement and St. Isidore's treatment of the divine origins of weights and measures may appear to contrast with that of Flavius Josephus (A.D. 37- c.95), a Jewish historian, in his *The Antiquities of the Jews*. Josephus wrote in Greek, and Latin translations of his work were popular throughout the medieval period (Alexander et al., 1984, p.108). Josephus's text, commencing with a commentary on Genesis, states that Cain was the originator of metrology, that is systems of weights and measures, or measurement units (I.61). This claim is not directly stated in Genesis. Possibly, Josephus was following an earlier Rabbinical text. Josephus characterizes Cain as bringing complexity into human activity, and hence life became a greater test to live morally or guilelessly.

He [Cain] put an end to that simplicity in which men lived before by the invention of weights and measures: the guileless and generous existence which they had enjoyed in ignorance of these things he converted into a life of craftiness. He was the first to fix boundaries of land and to build a city, ... (I.61; Thackeray trans.)

His description, however, does not say that the invention or use of measures was necessarily sinful. Indeed, Josephus implicitly recognizes the sacred element in metrology. Shortly after relating the story of Cain, he recounts that Noah's Ark was said to be built according to God's instructions, centrally expressed by measurements in cubits (I.76-77 based on Genesis 4:8-17).

A source often used by Josephus is Philo of Alexandria. Philo, in his extensive writings about Cain, does not make this attribution of metrological invention. However, he is, in effect, helpful in clarifying this issue. First, he indicates that "Cain" means "possession," and hence the self-asserting principle (Colson et al. in Philo, I, p.xxv) or, indeed, self-consciousness. Second, in elucidating the relevant part of the story (Genesis 6:15) he makes reference to the following notion:

That the human mind is the measure of all things, an opinion held they tell us by an ancient sophist named Protagoras, an offspring of Cain's madness. ... For if man is the measure of all things, all things are a present and gift of the mind. ... But if these are gifts, so too is thinking, including in itself countless products of thought, resolves, counsels, forethought, comprehension, acquisition of knowledge, skill in arts and in organizing, other faculties too numerous to recount. (II, *De Posteritate Caini*, 35-36).

The gifts of "skill in arts and in organizing" would include the use of weights and measures. "Man is the measure of all things" is a quotation from Plato on Protagoras (*Theaetetus*, 152A; *Cratylus*, 386). This doctrine of Protagoras relates that the truthfulness of judgments of sense perception, and moral and aesthetic qualities, is according to each individual or group (Gale, pp.505-506). This doctrine, representative of Cain's way of life, being human-centred rather than God-centred, is deemed false and impious by Philo (II, *De Posteritate Caini*, 37-38). We can see how Cain's claimed invention of

measurement units<sup>227</sup>. This application of Wisdom 11:21 to weights and measures is to be expected because, as Isidore recognized<sup>228</sup>, this law was all-embracing. Its universal applicability derived from its thorough use by the one Creator to form all creatures and things in Creation<sup>229</sup>. This viewpoint on measures included the context of architecture, a subject which Isidore also expounded upon in his encyclopedia<sup>230</sup>, and its use of measurement units. Similarly, we note again that Abbot Suger (1081-1151) cited Wisdom 11:21 in his 1140s chronicle of the rebuilding of the eastern part of the Abbey Church of St. Denis (1140-1144)<sup>231</sup>. Further, proper weights and measures employed in the crafts and architecture were ordained by God, and partook of the structure of the exemplary and ultimate handiwork, God's Creation, the cosmos.

Myths and biblical stories give varied descriptions of the profane and sacred origins of weights and measures, and their divinely inspired application in Creation, on earth and in heaven. Such descriptions are evident during the ancient Egyptian<sup>232</sup> and

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weights and measures follows from, and indeed is an allegory for, the doctrine that "the human mind is the measure of all things" (Philo, II, *De Posteritate Caini*, 35).

<sup>227</sup>Isidore, *Etymologiae*, XVI.XXV.1. Isidore refers, in effect, to Hebraic and Roman measures.

<sup>228</sup>Isidore, *Etymologiae*, III.IV.1&4, XVI.XXV.1; Brehaut, pp.64-65.

<sup>229</sup>Byrhtferth, 1929/1966, p.199; McCague, 1993, pp.51-53.

<sup>230</sup>Isidore, *Etymologiae*, XV.II-XII; XIX.VIII-XIX.

<sup>231</sup>Suger, *De Consecratione*, III, 1979, pp.96-97. In a related manner, shortly after Suger's reference to Wisdom 11.21, he also mentioned that the old and new parts of the building were "aligned" or "equalized" by "means of geometrical and arithmetical instruments" (*De Consecratione*, IV, trans. Panofsky et al., 1979, pp.100-101; Harvey, 1972, p.124).

<sup>232</sup>In the ancient Egyptian Hymns to Amon-Re, the chief of all gods and the creator of all things, He created and sanctioned "the royal cubit, which measures blocks of stone" (60.III.10 in Clagett, p.562), and surveyed the land and temples, by stretching the cord. A god was associated with each of the Egyptian royal cubit's 28 finger-breadths (Budge, II, p.291; Scott, 1942, 72, 75). Plutarch claimed that these 28 finger-breadths or digits had sacred significance because they were intended to correspond to the 28 days of the lunar cycle, and the maximum flood height of the Nile at 28 cubits (Nicholson, p.19 fn.1).

In another ancient tradition, Hinduism, units of measure and time are divinely created from the Prana, the immanent Energy or Breath. On the microcosmic level, this Breath is mirrored in human respiration, and the time duration for inhalation and exhalation. These notions are explicitly applied in

Roman<sup>233</sup> periods and the Middle Ages. The Bible repeatedly relates divine instructions for architecture in terms of metrological units. For example, the Heavenly Jerusalem, ordained at the beginning of time, was revealed to St. John through an angel using the measurement unit of the reed (Revelation 21:15-17) [Fig.10]<sup>234</sup>. Thus it is portrayed that a unit of heaven mirrored, and gave rise to, an earthly unit of measure.

Medieval depictions of God the Creator as quantifier made implicit reference to measurement units. Illuminations, drawing, and sculpture depict God creating the universe with the aid of a compass, and sometimes of a weighing balance as well. Some late Anglo-Saxon manuscript drawings for Genesis and canon tables, c.1025-c.1050, show God or the hand of God operating a compass and weighing scale<sup>235</sup>. These images are in the spirit of St. Augustine's *City of God* quoting the Wisdom of Solomon:

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architectural manuals, such as the *Kamikagama*, to create the cosmic and architectural design diagram, the Vastupurusamandala (XVIII.8; Kramrisch, pp.51-53; Snodgrass, *The Symbolism of the Stupa*, pp.28-36, 58-59, 111).

<sup>233</sup>One of the writers of the Roman *Corpus Agrimensorum*, copied during the Middle Ages, states that centuration had heavenly origins, and Varro mentions that it was adopted from Etruscan ritual (Dilke, 1980, "Sheet Two: Roman Surveyors," p.4 & 1976 & 1988, pp.158-159). Centuration was the Romans' method of land apportionment based on their linear and area metrological systems. The key surveying instrument was the *groma*. It consisted of a pole surmounted by an offset arm upon which an equal-armed cross-piece could rotate. The bottom end of the pole had a pointed shoe which was thrust into the ground, so that the pole was vertical and the cross-piece horizontal. Plumb-lines were attached from the outer ends of the cross-piece so that two straight lines, at right angles to each other, could be surveyed by viewing a plumb-line and the one diametrically opposite [Fig.9]. The cross-piece and the surveyed cross on earth manifested the cross of the heavenly *templum*, said to have descended beforehand during augural ritual [Fig.8]. The augur would inwardly see the *templum* descend from the sky and heavens to form and make sacred and habitable the selected site or area. This preparation was needed to commence the surveying of the land (Rykwert, pp.45ff).

<sup>234</sup>Knowledge of metrology was applied in biblical exegesis. Additionally, English tracts of the 10th to 12th centuries and later, elucidating metrology, show an interest in contemporary measures in conjunction with biblical measures, such as the cubit employed by Noah and Moses (Hall et al., 1929, pp.1 n.2, 2, 4).

<sup>235</sup>Heimann, 1966, pp.46-56. This concept took later visual form, as noted above, in some 13th- to 15th-century illuminated creation miniatures, generally French. They depicted God as the Creator wielding a large masonic compass (Friedman, 1974, p.423, fig.I-XII).

"Thou madest all things in *measure*, number and *weight*" (11:21; emphasis mine).

Thus, weighing and measuring are acts mirrored in the act of Creation and the ordering of the cosmos. Further, various medieval craft manuals state that their instructions, full of detailed specifications in units of weights and measures, were divinely revealed. The *Manual* of Theophilus Presbyter for example notes that the artisan, made in God's image, is a co-creator with God and can thereby apply wisdom and knowledge of God's design in the proper order and measure in craft work<sup>236</sup>. Again, the implication is that weights and measures had their ultimate origin in God and their use was based upon, and in harmony with, the Creator's laws.

Another approach to the divine derivation of measures is by way of the human body as the handiwork of the Creator. Many of the smaller linear units have names, and very approximate sizes, derived from the adult human body<sup>237</sup>. The digit (or

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<sup>236</sup>Theophilus, Prologue to "The First Book: The Art of the Painter", trans. Hawthorne et al., p.11 & "Prologue to the "Third Book: The Art of the Metalworker", trans. Hawthorne et al., pp.78-79.

<sup>237</sup>Some other units were derived from elsewhere in Creation, including agriculture. For example, in medieval England and Scotland, the length of three round and dry barley corns, placed end to end, was employed as a determination of the inch (Connor, 1987, pp.3-5, 79-80, fig.4; Zupko, 1977, pp.10, 21, 21 fn.9).

The perch and measures of land during the Middle Ages were intimately related to the ploughing of fields. It has been suggested, but not documented, that the English perch or rod measures derived from the length of the ox-goad, the rod used by the person ploughing to control the oxen. A related suggestion is that the perch was the distance between successive ploughed furrows. These suggested origins are quite plausible. By the Anglo-Norman period, there was a standard for the widths of important roads under the king's protection that included the ox-goad. These roads were to be so wide to allow one wagon to pass another wagon, the goads of two oxherds to just touch across the road, and sixteen armed knights ride abreast (*Leges Henrici Primi* 80.3; Stenton, 1936, pp.3, 3 fn.1). Notably, the words goad and gad, used to indicate the sharp rod for driving oxen (i.e. the ox-goad), were also terms employed for measures of length and land area ("Gad," *Oxford English Dictionary*, VI, p.304; "Goad," *Oxford English Dictionary*, VI, p.631).

The furlong, 10 perches or poles, derives its name (fur+long) and early meaning from the length of a ploughed furrow. Similarly, the Roman *actus* arising from *ago*, 'drive,' derived from the distance a plough pulled by oxen would be driven over a field before being turned. The *actus* was 120 *pedes* of the Roman foot in use (Dilke, *Mathematics and Measurement*, 1987, pp.26-27 & 1971, pp.82-83; cf. Kidson, 1990, pp.77, 80).

fingerbreadth), the palm (handbreadth), the foot, the cubit (forearm and hand), and the fathom (full span between outstretched arms and hands) are examples<sup>238</sup>. Further, Vitruvius related the derivation of the measurement units employed by sculptors and architects to a canonic prescription for the human body and its *symmetria*, the ideal and perfect proportional relations to its parts and the whole (*De Architectura*, III.I). This prescription was in the context of the Greek and Roman ideals of beauty. These ideals were based on *symmetria*, measure and the proportional relations prescribed for art and

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Additionally, the acre, 4 perches by 40 perches, or 4 perches by 4 furlong, seems to have been derived from the area of land that could be ploughed in a morning's or day's work. Indeed, *The Oxford English Dictionary* defines acre as "A definite measure of land, originally as much as a yoke of oxen could plough in a day" ("Acre," I, p.118). Strikingly, the prominent measure of land area in the Bible, the *zemed*, and the Roman area measure, the *iugerum*, appear to have also been defined in this same manner as the acre. Indeed, the *zemed* and *iugerum* may have been formative forerunners of the acre (Bashan et al., p.381; cf. Kidson, 1990, pp.77, 80ff). The *Oxford Latin Dictionary* defines *iugum* as a yoke and as "A day's ploughing; also a measure of land equivalent to one day's ploughing" ("*Igum*," in Glare, p.981; Dilke, 1971, pp.84, 221 "Chapter 6" n.2; cf. Pliny, *Naturalis Historia*, 18.49.178). Significantly here, the *iugerum* was connected to the *igum* ("*Iugerum*," in Glare, *Oxford Latin Dictionary*, p.980; Dilke, 1971, p.84). The *iugerum* was 240 *pedes* by 120 *pedes* or equivalently 2 square *actus*. This area was about 5/8 acre (Dilke, *Mathematics and Measurement*, 1987, p.27 & 1971, pp.83-84; "*Iugerum*," in Glare, *Oxford Latin Dictionary*, p.980), though a more accurate estimate would depend on the Roman foot and the English perch in use. Of related note, the oxgang was said to have been reported "In ancient laws, as much land as an ox can plow in a year" ("Oxgang" in Webster, II, 1970) and could be roughly in the range of 15 to 20 acres ("Oxgang" in Webster, II, 1970).

These agricultural explanations of the origins of the English perch and acre have the value of making direct, and practical, links between a field's area and its ploughing (Homan, pp.69-70; Nicholson, pp.71-72; Newman, p.137; Jones, 1979, pp.13, 13 n.25). The agricultural origins of all these land measures could be a fruitful area to check more fully including how early the historical references can be traced.

<sup>238</sup>Connor, 1987, pp.1-2. Some linear units were deemed perfect because of their claimed derivation from the king's body. Charlemagne's foot-length was said, in the later Middle Ages, to have been used to create the *pied du Roi* foot unit (Grierson, 1972, p.9 fn.30; Connor, 1987, p.83). Another renowned example was given by William of Malmesbury (1095- c.1143) who claimed that the English royal standard yard was derived from the measure of the arm of Henry I (*Chronicle of the Kings of England*, 411; Grierson, 1972, pp.8-9, 8 fn.27). It may not be literally from Henry's body, but the royal attribution would have reinforced the yard's rightness and authority (Connor, 1987, p.83). (To have an arm a yard long, even including the hand, a person would need to be unusually tall, or have an unusually long arm for one's height. It is possible that the measurement included the shoulder(s) and head in its span. The length could have been the distance from the king's nose to the tip of the index finger of his outstretched arm (Ferne, 1985, p.252)). The attribution seems more legend in the making.

architecture, and thereby had moral and sacred aspects as explicitly indicated by Plato<sup>239</sup> and others. The ideal proportions of the human body could be associated with the work of the Creator, the human being made in the image of God and the body as a temple<sup>240</sup>. In this manner, measurement units based on the human body could be considered as being ultimately derived from God.

The origin and purpose of weights and measures was not generally explained in a human-centred way by stating that these units had been developed for their convenience and practicality. Rather the other way around, their worldly utility was explained by the deemed fact that they were based on divine precept and thereby harmonized with God's laws and by extension, with the way things operate in Creation. Hence, the doubled value of employing the English royal foot or other units in a great building project such as Durham Cathedral was both their utility and divine origins. Part of being able to build with God involved using instruments and tools that were considered ultimately derived from, and provided by, the Creator.

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<sup>239</sup>*Philebus*, 64e-65e; *Laws*, II.667c-669a.

<sup>240</sup>For example, Philo describes the first human body made by God:

for a sacred dwelling-place or shrine was being fashioned [Genesis 2:7] for the reasonable soul, which man was to carry as a holy image, of all images the most Godlike. ... that the Creator excelled, as well in all else, in skill to bring it about that each of the bodily parts should have in itself individually its due proportions, and should also be fitted with the most perfect accuracy for the part it was to take in the whole. And together with this symmetry (of the parts) He bestowed on the body goodly flesh, and adorned it with a rich complexion, desiring the first man to be as fair as could be to behold. (I, *De Opificio Mundi*, 138)

This passage alludes to the human being made in the image of God (Genesis 1:26-27), and anticipates various New Testament passages on the human body as a temple (I Corinthians 5:16-17; II Corinthians 6:16; John, 2:19-21; Ephesians, 2:19-22).

### 3.5.2 Royal and Ecclesiastical Authorities, Law and Measures

Another aspect of the sacred significance of weights and measures involves royal and ecclesiastical authorities who were in charge of measurement standards, and placed their official and sacred seals thereon. This practice dates back over three thousand years, as seen on Egyptian royal standards<sup>241</sup>, and later on Byzantine<sup>242</sup> and medieval standards. The official seal mark was deemed obligatory and indispensable for these standards to be certified as authentic. When William I issued standardized weights and measures throughout England, he had his seal stamped on them (Zupko, 1977, p.15). The royal seal, Anglo-Saxon, Anglo-Norman, or other, on a unit of measure, gave it an implicit sacred connotation. This also applies to standard measures with the seal of an

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<sup>241</sup>The Egyptian royal cubits were extensively marked, including the monarch's royal seal. An example is the royal cubit of Amen-hotep II, New Kingdom, Eighteenth Dynasty (c.1570-1310 B.C.) at the Oriental Institute, University of Chicago. Gold overlay covers this measuring stick (Sellers, p.836 fig.20). Stone weights were also so inscribed. An example, also from the Eighteenth Dynasty, is a stone weight, c.1550 B.C., in the British Museum with the name of King Amenophis I, and marked with the value 5 (Dilke, *Mathematics and Measurement*, 1987, p.46 fig.44).

<sup>242</sup>The Byzantine eparch's seal was placed on scales and measures, and the Emperor's effigy on coinage (Freshfield, p.xv). Part of the larger context of these practices is seen in the "Ordinances of Leo VI," *The Book of the Eparch*, c.895. This text was a legal manual dealing with the civic and economic control of the trade and building guilds in Constantinople. The Emperor's "Preface" proclaims a divine pattern for the orderly and harmonious organization of the city, including guilds, of which metrological standards were a part:

Having created all things and made order and harmony reign in the world, God engraved the law with his own finger on the Tables, and set it forth for all to see so that it might prevent by a happy discipline the members of the human family from hurling themselves one upon the other and the stronger from crushing the weaker. He desired that all should be weighed among them with a just balance. It is for this reason that it has appeared good to our Serenity also to formulate the dispositions which result from the law, so that the human race is governed as is fitting and so that one person does not oppress another. (Greek text in Freshfield; trans. in Sherrard, p.14)

This preface finds an earlier parallel in St. Augustine's *De Civitate Dei* (XIX.XIII).

Archbishop or Bishop. These seals contain explicit sacred symbols<sup>243</sup>, indicating that the measurement unit is an act and expression of the divine ruler [Fig.17].

Laws issued by kings commonly included the uniformity of weights and measures<sup>244</sup>. English laws for standard weights and measures were in place since the

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<sup>243</sup>An extant seal for Charter to the City of London, granted by William I, is illustrated on both sides. A similar seal exists in the National Archives of France. These seals are the king's second seal-type, employed starting in 1069. One side shows the Conqueror as a knight in equestrian pose. The other side shows him seated on a throne with a sword in his right hand, and an orb surmounted by a cross in his left hand. The inscription identifies his name and kingship with a cross. In both cases the king is, of course, crowned (Douglas, 1929, p.opposite title page). Edward the Confessor and William II also used similar seals. The Confessor's image of orb (held in left hand) and sceptre (held in right hand) was adopted unchanged from Ottonian monarchs of Germany (Heslop, 1984, pp.301-302). These seals vary c.70-86mm in diameter. This is much wider than what the width of the standard measuring rod would probably have been, considering the later English ones, such as the one of Henry VII and Elizabeth I at the Westgate Museum, Winchester Museum Service. This hexagonal bronze yard was stamped at its ends with a crown surmounted by a cross, and an "h" (c.1487) and later "E" (c.1571) for the respective monarchs' names (Stevenson, *Weights and Measures*) [Fig.17]. William I's seal may have used a similar simplification for his standard weights and measures. In any event, the fact that it is the monarch's seal makes it sacred, and the crown, cross, and letter "W" would likely appear.

<sup>244</sup>One of the common things said about medieval weights and measures is that they varied considerably in unrelated ways from place to place, and over the centuries. There is definite evidence to show this position is partly true. However, measures were not as wildly varied as they are often characterized. The *repeated* efforts of European kings and queens to maintain metrological uniformity, speaks of both the presence of standards and of work to maintain them, and of the incompleteness of their success. Except through special concessions, other weights and measures were illegal in a country or state, but of course laws are in effect only to the degree that they are respected by the populace, and enforced by authorities. Medieval English town officials were in charge of insuring that no false weights and measures were in use in their towns. Such falsification was considered a serious crime. Consider as an example Bury St. Edmunds, where the authority would ultimately be the abbot (Lobel, 1935, p.90; c.1190-1210 document from Bury St. Edmunds, British Library M.S. Harleian 1005, fols.44b, 210b-211, text in Lobel, 1935, pp.189-190). An example of royal enforcement at Bury St. Edmunds c.1272 involves two bailiffs, Luke, son of John, and William of Walpole. Bailiffs had semi-royal duties as guardians and justices of the peace (Lobel, 1935, pp.65-66). The king's clerk of the market accused them of employing measures without the royal seal. The lands and goods of the two arrested bailiffs were confiscated (Lobel, 1935, pp.66-67). Another example is provided by a grant from the King of Mercia, Burgred, to the Bishop of Worcester, Ealhun, for commercial rights and a house in London (18 April 857). This includes the provision "to freely use the scale and weights and measures as is customary in the port" (Trans. in Whitelock, ed., 1955, pp.487-488). Peace and security are granted to those obeying the privileges, and the vengeance of God "on those opposing or denying it, if they have not made worthy amends to God and men" (Trans. in Whitelock, ed., 1955, p.488). Additionally, Peter Kidson's work on metrology suggests mathematical inter-connections among linear and area measures that may initially appear as unrelated (1956, I; 1990; Fernie, 1991, pp.4-5).



Anglo-Saxon period (Connor, 1987, p.xxiv). Such laws were issued by Kings Edgar, Aethelred, Canute<sup>245</sup>, apparently William I<sup>246</sup>, and later kings and queens, as well as inscribed in the Magna Carta. These laws imply accessible standards were in use (Grierson, 1972, p.7), for distribution to authorities<sup>247</sup>, and for correction of unfit measures.

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<sup>245</sup>For example, the laws of King Edgar state: "And there shall be one system of measurement, and one standard of weights, such as is in use in London and Winchester" (III Edgar 8.1; Robertson, p.29). The inclusion of "London" is considered to be a later interpolation (Connor, 1987, p.39 fn.). The laws of King Aethelred (c.1000 -1008) announce:

And deceitful deeds and hateful injustices shall be strictly avoided, namely *untrue weights and false measures* and lying testimonies and shameful frauds, and foul adulteries, and horrible perjuries, and devilish deeds such as murder and homicides, thefts and robberies, covetousness and greed, gluttony and intemperance, frauds and various breaches of the law, violations of marriage, and of holy orders, breaches of festivals and of fasts, sacrilege, and misdeeds of many kinds. (VI Aethelred cap.28.2; very close to V Aethelred cap.24-25; Robertson, pp. 87, 101; emphasis mine)

"And weights and measures shall be corrected with all diligence and an end put to unjust practices" (VI Aethelred, cap 32.2; Robertson, p.101). "Measures and weights shall be diligently corrected, and an end put to all unjust practices" (II Canute cap 9; Robertson, p.179).

<sup>246</sup>William I was said to have renewed the laws and measurement standards of his predecessors, and issued standardized weights and measures throughout England with his seal:

In one of his [William the Conqueror's] earliest decrees -- the only one during his entire reign dealing with weights and measures -- he reinforced the decrees of the Wessex kings that aimed at metrological uniformity. In commanding that all weights and measures throughout the realm be uniform and stamped with his seal to authenticate them, he took as his model the Winchester standards to London and deposited them, along with the royal treasures, in the Pyx Chapel (or the Chamber of the Pyx) of Edward the Confessor, in Westminster Abbey. (Zupko, 1977, p.15).

*Et quod habeant per universum regnum mensuras fidelissimas et signatas, et pondera fidelissima et signata sicut boni praedecessores statuerunt* (And throughout the whole of the realm they shall have weights and measures which are stamped and thoroughly reliable, in accordance with the decrees of our worthy predecessors). (*Willelmi Articuli Retractati*, cap.7; Robertson, p.247).

Philip Grierson points out that this text, attributed to William I, is from a compilation c.1210, and while the renewal likely occurred, the source needs some caution in use (1972, pp.8, 8 fn.26; cf. Robertson, 1925, p.225).

<sup>247</sup>Richard I declared uniformity of measures, including, it is said, during his coronation in 1189 (Connor, 1987, p.90). The Pipe Roll of 1196/7 gives the expense incurred in London for his "measures and gallons and iron rods and scales and weights to be dispatched at all the counties of England" (Grierson, 1972, pp.11, 11 fn.38).

Maintaining just weights and measures was of considerable importance to the system, order and royal control of society. Offences were deemed serious matters and sinful. Moral codes from antiquity<sup>248</sup> and the Bible<sup>249</sup>, and English medieval laws show that maintaining just weights and measures was part of being in harmony with God's laws, important to a virtuous life<sup>250</sup> and the maintenance of the 'divinely ordained' order and rule of a society. Injunctions of sacred texts, Church documents and royal laws for standardized and fair weights and measures were to maintain monarchical<sup>251</sup> and ecclesiastical<sup>252</sup> control, order, justice and virtue in subjects and society. The

<sup>248</sup> An example appears in the ancient Egyptian text *The Book of the Dead*. It includes among its wide-ranging affirmations of righteousness for the deceased, not only the avoidance of thievery, adultery, and murder, but also:

I have not increased or diminished the measure, I have not diminished the palm(-measure); I have not encroached upon the fields. I have not added to the balance weights; I have not tampered with the plumb bob of the balance ... ("Spell 125," pp.465, 469 n.21 in Clagett)

"This spell from 18th-dynasty papyri .. is one of the most celebrated of the spells of *Book of the Dead*" (Clagett, p.469, n.21). Dynasty 18 covers c.1550-c.1307 B.C., and is part of the New Kingdom period, c.1550-c.1070 B.C. (Clagett, p.632).

<sup>249</sup> Leviticus 19:35-36; Deuteronomy, 25:14-15; Ezekiel 45:8-14; Proverbs 11:1, 20:23; Micah 6:9-11; cf. Matthew 7:2.

<sup>250</sup> A related point is that there were also religious moral sanctions to maintain surveyed boundary marks in "many ancient civilisations, from early Babylonia and dynastic Egypt onwards ... in the Communion, in the Book of Common Prayer, we find:

'Cursed is he that removeth his neighbour's land-mark.

Amen.'" (Dilke, 1971, p.15)

<sup>251</sup> These laws tell us that they are to the praise of God (I Canute preamble; Robertson, p.155), to promote the laws of God (II Canute cap 1; Robertson, p.175), and to further what is the good so God will be more ready to assist us (II Canute cap 84.4b; Robertson, p.219). The laws of Kings Edgar and Athelred are arguably in this spirit as well.

<sup>252</sup> A law decree attributed to Theodore, Archbishop of Canterbury (668-690), explicitly cites scriptural and divine precedence:

*Ut mensurae et pondera justa fiant, sicut in divinis legibus sancitum est; ergo statuimus ab omnibus hoc observandum* [Just as it is confirmed in divine law that weights and measures be just, we establish, therefore, that this be observed by everyone]. (*Capitula et Fragmenta Theodori* in Thorpe, II, p.75; Zupko, 1977, pp.12 n.7).

A twenty-day penance on bread and water could be incurred by a person falsifying weights and measures (*Capitula et Fragmenta Theodori* in Thorpe, II, p.75; Grierson, 1972, p.7 fn.16). Homiletic literature, such as "The Christian Life" in *The Homilies of Wulfstan* (X.c, lines 88-89) and a sermon by Rabanus Maurus (*Homilia*; Bethrum in Wulfstan, pp.324, 329), commonly warned against false weights and measures (Bethrum in Wulfstan, p.329).

employment of a just and proper unit, such as the English royal foot or other standard units likely used at Durham Cathedral, was deemed moral and godly.

### 3.5.3 Churches, Priests and the Care of Weights and Measures

As part of the moral and godly order and rule of societies, weights and measures standards were commonly kept in temples, parish and larger churches under the care and control of priests and bishops<sup>253</sup>. This practise was no doubt for the safekeeping and the avoidance of any tampering of these standards, but the very fact that these important items were stored in consecrated space under the care of consecrated persons grants a sacred connotation.

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*Episcopus* (*The Bishop's Duties*) was a set of Anglo-Saxon laws for bishops and priests. It was inserted in the *Institutes of Polity* by Wulfstan, Archbishop of York (1003-c.1020), and appears to date from after Wulfstan (d.1023), but before the Conquest. The *Episcopus* indicates wide-ranging episcopal power in litigation and administration. This text included that a bishop is responsible for maintaining just weights and measures in his diocese (Loomis, 1971, p.143). This task was part of the bishop's overall duty, the law states, to ensure justice is done and to protect his flock or diocese from the 'devil's snare' (Loomis, 1971, p.143; Whitelock et al., eds., 1981, I, p.419).

<sup>253</sup>This practice has a long history. In ancient Egypt to Coptic Christian Egypt for example, priests were in charge of the standards of weights and measures (Rutschowskaya, p.4). A key temple in Jewish and Christian traditions, the Temple in Jerusalem, housed the standard weights and measures (Krauss). Further, a Roman foot, the *pes monetalis* derives its name from the Roman writer on land surveying Hyginus (60 BC-AD 10), who noted that this foot unit, and the other standards of Rome, were kept in the Temple of Juno *Moneta* in Rome, which included a mint (Hygini, ed. Thulin, p.86; Hygini, ed. Hultsch, p.60; Connor, 1987, p.11; Lewis et al., "Moneta," p.1161). Roman coins show Juno *Moneta* holding a weighing scale (Kisch, p.77). The Latin *monetalis* means "of or belonging to a mint; minted, coined" (Lewis et al., "Moneta," p.1161). Sacred records and lists were also kept in this Temple of Juno *Moneta* on the Capitol, one of the hills of Rome and a hallowed seat of Roman authority. Juno *Moneta* was the guardian of finances (Bell, pp.270, 312) and the goddess of recollection (Mommsen, I, p.281). It is fitting that the goddess of recollection should maintain records and standards. Additionally, Byzantine parish churches were the repository of measurement standards according to Justinian's *Novels* (CLII.15).

Anglo-Saxon and Anglo-Norman ecclesiastical officials and priests were among those responsible for just weights and measures. Parish priests under the bishop's supervision were assigned the duty of keeping the weight and measurement standards, including a measuring rod<sup>254</sup>. This duty was remarked on in the *Episcopus (The Bishop's Duties)*<sup>255</sup>, mentioned earlier. In addition to the king's seal, standards could bear the bishop's name<sup>256</sup>.

The Winchester weights and measures were the standards of the realm during the Middle Ages and later. William I, as noted above, apparently renewed the laws and measurement standards of his predecessors, and issued standardized weights and measures throughout England. He had the Winchester standards moved to the later Pyx Chapel, in Edward the Confessor's Westminster Abbey (Zupko, 1977, p.15).

Linear measure standards were typically iron rods (Grierson, 1972, pp.18-19). It was not uncommon for an iron rod, or for a stone carved on a wall, to be fixed in a church as a linear measure standard for its parish<sup>257</sup>. It would seem likely that the

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<sup>254</sup>Loomis, 1971, p.143 fn.1; Grierson, 1972, pp.8, 8 fn.25. Additionally, in the laws of King Æthelred, local borough authorities were responsible for standard weights (IV, cap.9.2; Robertson, p.79), and presumably the linear measures employed in commerce (Grierson, 1972, p.8). In some cases, these local authorities would be ecclesiastics, in others at least persons under sacred oath to perform their duties on behalf of the borough and the King.

It has been reported that: "In Ireland a measuring stick which was held in great awe used to be kept in churchyards for measuring corpses and graves" (Rees, p.31). However, whether this practice was as early as the medieval period was not indicated.

<sup>255</sup>The relevant section is in the *Institutes of Polity*, VII (Thorpe, ed., *Ancient Laws*, II, pp.312-315).

<sup>256</sup>In regard to the Archbishop of Canterbury, Lanfranc, during the reign of William the Conqueror, "an inventory of the property of Canterbury cathedral lists cheese weighed 'by Lanfranc's weight'" (quoted in Loomis, 1971, p.143 fn.1). Additionally, at Bury St. Edmunds c.1186-1200, coombs (*cumbas*) of fresh barley were reckoned "by the measure of St. Edmund" (Davis, ed., 1954, pp.119 fn.2, 119).

<sup>257</sup>An example occurred at the exterior of the chancel wall of a church in Harlestone, Northamptonshire. Henry de Bray's (1269-c.1340) Harlestone estate book for 1306 gives land measures for the town of Harlestone. The estate book states in regard to the perch being employed: "*Et continet quaelibet pertica 16 pedibus de pedibus rectis, secundum quod appareat per perticam mensuratam in gabula cancelli de*

masons and other craftspersons working for the bishop or priests would be required to follow the very standards enforced by their patrons and held in the vicinity of the worksite, the church and parish, for consultation and correction.

An important example of a measure standard at a church was the foot unit "sculptured on the base of a column in the [Anglo-Norman] church of St. Paul"<sup>258</sup> in London. It was referred to as 'Algar's foot' (*pes Algari*), but usually as the 'St. Paul's foot' (*pes Sancti Pauli*). Algar here is reckoned to be the Algar who, during Henry I's reign (1100-1135), was the first prebendary of Islington<sup>259</sup>. There are various documentary references for this unit commencing c.1181-1183. The 'St. Paul's foot' is documented as being the same unit as the English foot (Imperial foot or standard royal foot, 30.48cm) (Grierson, 1972, p.18). In this manner, the English foot, still in use today, has a history that traces back to the first third of the 12th century (Grierson, 1972, pp.16-

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*Herleston exterius*" (Henry de Bray; quoted in Grierson, 1972, pp.21, 21 fn.100). Apparently, an iron-bar 16-feet perch was affixed to the exterior of a chancel wall (Grierson, 1972, p.21). The chancel wall at Edwinstowe, Nottinghamshire and an entrance to Newstead Abbey's church, Nottinghamshire provide two more examples. *The Sherwood Forest Book* states that the *pes foreste* was carved for display at an Edwinstowe church, and the Newstead Abbey church. The exact location on the chancel wall at Edwinstowe, and the particular entrance to Newstead Abbey's church are not specified. The forest foot here was stated to be 18 'inches,' presumably fingerbreadths (Boulton, ed., pp.107-108; Grierson, 1972, pp.19, 19 fn.86). This book was a record of forest rights and privileges, and an administrative reference for the forest (Boulton, p.3). This particular entry record dates from 1334 (Boulton, p.103). A final example is the porch of St. Stephen's at Vienna (Grierson, 1972, p.19 fn.85).

Much later in England, during the 19th century, City Corporations or Town Councils commonly displayed in public (non-ecclesiastical) locations standards of length. For example, at the London Guildhall, a floor marked 100 and 66 feet, and a window displayed 1, 2, and 3 feet. In 1876, measures were set in the north wall of Trafalgar Square. It has been claimed that this practice was uncommon earlier (Connor, 1987, pp.86-87, fig.24). However, the opposite seems correct, that it was not uncommon during the Middle Ages to have publicly displayed linear standards (Grierson, 1972, pp.18-19, 19 fn.85, 21, 21 fn.100).

<sup>258</sup>Quoted in Connor, 1987, p.85; Grierson, 1972, pp.18-19, 18 n.81. The "base of a column" presumably refers to the plinth.

<sup>259</sup>Connor, 1987, p.85; Grierson, 1972, p.18.

19). Furthermore, this standard unit can be traced even earlier<sup>260</sup>. It was likely the same foot unit that William I was said to have brought from Winchester and re-issued throughout England. This standard unit was probably held for safekeeping at Durham Cathedral for the Bishop, and applied in the design of this Cathedral: ultimately, God's unit for building God's house.

### 3.6 Durham and Rome

Another way in which measure appears to have been important at Durham was in the builders being able to plan the length of their Cathedral in comparison with those of other large Anglo-Norman churches and the Constantinian Basilica of St. Peter in Rome. Indeed an important key to understanding the great length of Durham Cathedral, as completed in 1133, is that its length seems to have been intended to be the same as that of Old St. Peter's Basilica in Rome<sup>261</sup>. The exterior length of Durham Cathedral was then

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<sup>260</sup>Kidson, 1990; Fernie, 1985, 1991, pp.4-5.

<sup>261</sup>This apparent intention was noted by Malcolm Thurlby (1994, pp.162 fig.4, 163-166), and by me (McCague, 1993, pp.13-18). Additionally, the interior width of Durham Cathedral (nave plus two aisles, or choir plus two aisles) may have been intended to be the same as Old St. Peter's nave width. The (interior) width of Durham's choir plus the two aisles is 77' 2" (Billings, Plates IV-V). The clear width of the nave at Old St. Peter's was given by Krautheimer et al. as c.77' 7" (pp. 242, 286). The width of the nave plus two aisles at Durham Cathedral is 81' 1" (Billings, Plates III,V). The distance between wall or pier centres for the width of the nave at Old St. Peter's was given by Krautheimer et al. as c.82' 6" (p. 242, Plate V). These measurements suggest the possibility of an identification through width as well. However, they are not as convincing in this regard (McCague, 1993, p.14) because they involve different comparative points of measurement, such as including aisles at Durham or pier centres at Old St. Peter's.

The huge size of Durham Cathedral, and other churches mentioned below, is further explained by a combination of factors, including 1) increasing number of altars and space needed for clergy, the monastic community, the laity, and pilgrims to the shrine, and 2) baptismal rites conducted in the church rather than in a separate baptistry (Horn et al., 1979, I, p.189).

403' 10" (within 1') (Billings, 1843, Plates III-V). The exterior length of Old St. Peter's was given by Richard Krautheimer et al. as c.401' 6" (c.122.37m) (1977, pp.242-243, 286, Plate V). The exterior length of Old St. Peter's would have been measurable directly because of doorway openings in the east and west ends<sup>262</sup>. Also possibly noteworthy is the fact that the interior length of Durham was c.386' 7"<sup>263</sup> (Billings, 1843, Plates III-V). The interior length of Old St. Peter's was given by Krautheimer et al. as c.391' 2" (c.119.23m) (1977, pp.242-243, 286, Plate V). Considering possible variations in exactly where and how measurements were taken, and tolerances in construction work, the length of Durham Cathedral seems to have been intended to be the same as Old St. Peter's<sup>264</sup>.

As noted earlier, Durham Cathedral was among the large scale Anglo-Norman 'shrine churches.' Durham housed a major shrine in its central semi-circular apse similar to Old St. Peter's. The 'spiral' design in the columns of Durham appears to harken back

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<sup>262</sup>There is no documented reference to this length measurement of Old St. Peter's having been employed at Durham Cathedral. A measurement could have been taken explicitly for the purpose of reproducing it at Durham Cathedral. Alternatively, there may have been a text with a description of Old St. Peter's that gave a length measurement. However, the plausibility of such a dimension being used is strengthened by considering a parallel case: we have such references for the making of medieval 'copies' of the Anastasis and Holy Sepulchre in Jerusalem (Krautheimer, 1969, p.124).

<sup>263</sup>The present length of the church is greater due to the changes at the liturgical east end with the addition of the Chapel of the Nine Altars. The length can be increased again if the Galilee Chapel is included at the other end, the liturgical west.

<sup>264</sup>A passage from William of Malmesbury on the Normans in England, sets a definite context for the comparison of the length of Durham Cathedral with that of Old St. Peter's:

As I have said, they wished to have huge buildings, but modest expenses; to envy their equals, to surpass their betters; to defend their subjects from outsiders while robbing them themselves. Upon their arrival [1066] they raised the standard of religion which in England had died down; you may see everywhere churches in the cities, monasteries in the villages and towns, rising in a new style of building; the country flourishing after a modern manner. (Trans. in Harvey, 1972, p.60; Stubbs, ed., II, p.306).

to Old St. Peter's Baldacchino's 'spiral' columns<sup>265</sup>. These points of identification could well be in keeping with Richard Krautheimer's contention that a medieval "copy" meant the selective recombination of the original building's elements in the new "copy" building<sup>266</sup>. This identification with Old St. Peter's of Rome was indicative of the attempt to establish Durham as the great religious and political centre of northern Britain and, indeed, a notable centre in Christendom. This association would be akin to some medieval cities that saw themselves as the New or Second Rome<sup>267</sup>. In similar terms, the Norman capital of Rouen with its 'imperial' power was likened to Rome in a poem c.1148<sup>268</sup>. In part, Durham Cathedral and the other large Anglo-Norman churches were imperial-sized churches for the Norman empire and Christian kingdom.

<sup>265</sup>Fernie, 1980, pp.51, 53 & *Norwich Cathedral*, 1993, pp.129-133; Thurlby, 1994, pp.163-164. Spiral columns also had a special function during the 4th-11th centuries to mark locations that were particularly holy (Fernie, 1983, p.119).

<sup>266</sup>Krautheimer, 1969, pp. 125, 140. There are documented cases of the architectural copying of major monuments during the Anglo-Saxon and Anglo-Norman periods. The monk Eadmer at Canterbury Cathedral described the Anglo-Saxon Cathedral, see of the Archbishop, as he recalled it from 1067 when he was thirteen years old. He notes that it has parts in imitation of Old St. Peter's, including the crypt with this Apostle's relics which are held in exalted veneration by the entire world (*De reliquiis S. Audoeni*, trans. in Davis-Weyer, 1971, p.113 and in Willis, pp.10-11). Later, Gervase of Canterbury (1141-1210) quotes Eadmer's description in the former's history and description (1185) of Canterbury Cathedral (Willis, pp.9-10 n.y, 36 n.f). An Anglo-Norman example of architectural copying is provided through Robert, Bishop of Hereford, 1079-1095, who built the Bishop's Chapel there. William of Malmesbury in *Gesta Pontificum* recorded the following in this regard:

Non multo post accepit sedem illam Rotbertus Lotharingus, qui ibi ecclesiam tereti aedificavit scemate, Aquensem basilicam pro modo imitatus suo.

(Not long after Robert of Lorraine received the see, and he built there a church of elegant form, having copied for its design the basilica at Aachen.) (Gem, 1986, p.87)

<sup>267</sup>This topic is discussed further in Appendix 4.

<sup>268</sup>Le Patrouel, pp.353, 353 fn.1; Haskins, p.144; poem quoted in Haskins, p.144 fn.72.



The extension of the ribbed vaulting over the entire church ceiling suggests that the whole cathedral had been transformed into a ciborium<sup>269</sup>. In this sense, the church resembles more the Jewish Temple (a House of God)<sup>270</sup> than the Early Christian meeting hall (a House for the People of God), and thereby reflects an on-going tension present in Christian church architecture from its earliest beginnings (Ferne, "Durham Cathedral", 1993, p.155). The church furniture elements of the rib and the 'spiral' column of Old St. Peter's shrine were applied to the huge architectural scale of the whole of Durham Cathedral. Bishop William had, in effect, given to St. Cuthbert a great architectural shrine (Thurlby, 1994, p.165).

### 3.7 Durham: Citadel and Jerusalem

Another aspect of the design and iconography of Durham is associated not only with the design of the Cathedral but with the site as a whole. The holy citadel and acropolis of Durham could have many iconographic identifications that would complement and extend its purpose as a military fortification and centre of Christianity. The great and revered cities of Troy and Jerusalem were such citadels. Prudentius's popular allegorical tale, *Psychomachia*, features a military camp of the Virtues, a holy city, with a look-out hillock summit in the centre and Wisdom enthroned in the camp's

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<sup>269</sup>A ciborium is the canopy over a high altar or shrine, such as the rib-like canopy over the shrine in Old St. Peter's.

<sup>270</sup>Harold W. Turner (1979) provides a helpful discussion of the concepts of the house for the god or God (*domus dei*), and the house for the people of the god or God (meeting-house, *domus ecclesiae*). Both modalities were active in the meaning and function of Christian churches.

temple<sup>271</sup>. The dedication of a church referred to the edifice as founded on a mountain, the New Jerusalem seen by St. John on a mount<sup>272</sup>, and like unto the Temple of Solomon high up in Jerusalem<sup>273</sup>. The lofty and coordinated plan of Durham suggests such associations.

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<sup>271</sup>Prudentius (A.D. 348-c.410) wrote Christian poems and hymns in Latin. He was born in Spain, and appears to have lived and worked there (Thomson in Prudentius, I, p.vii). *Psychomachia* was a Christian allegorical tale of the human soul's struggle for perfection in a battle between the Virtues and Vices. The story describes the military camp of the Virtues (lines 730-740, 753; I, pp.330-331). As part of the allegory, the camp is referred to as the "*purgati corporis urbem* (city of the cleansed body)" (lines 818; I, pp.336-337). The story climaxes with the building of the camp's temple, and the enthronement of Wisdom there.

The building of the temple (lines 809-915; I, pp.336-343) has been claimed to follow Roman rituals for the founding of a temple (Dougherty, pp.20-21). However, Prudentius appears mainly to be following St. John's description of the Heavenly Jerusalem (Thomson in Prudentius, I, p.336 n.a; Mâle, p.101), which follows Roman ritual, augury, and town/*castrum*-design to a fair extent. Additionally, St. John described the Heavenly Jerusalem as a fortified camp (Revelation 20:9). The Latin term *castrum*, a Roman fortified military camp, was used by Saints Augustine (*City of God*, 20.11) and Jerome in describing the Heavenly Jerusalem (Dougherty, pp.27, 154 n.4).

"Prudentius was much read in the middle ages, and the surviving MSS. number more than three hundred; a much smaller number, however contain the complete works" (Thomson in Prudentius, I, p.xiv). Numerous early medieval copies of *Psychomachia* survive (Raw, p.285). A 10th-century volume is at the Dean and Chapter Library, Durham Cathedral (B4.9) (Thomson in Prudentius, I, p.xv). A copy of Prudentius was at Montecassino (Montecassino 374) since the 11th century (Reynolds, ed., p.203 n.22). Abbot Leofstan (1044-1065) of Bury St. Edmunds made a list of books held at the church, or by individual monks at the time of his accession -- two copies of *Psychomachia* were included. They are Oxford, Bodleian Library MS. Rawl. C. 697 and London, British Library, MS. Add. 24199 (Thomson, 1972, pp.618, 623, 623 fn.28). The latter manuscript was made in the late 10th century in England, and so were Cambridge, Corpus Christi College, MS. 23 and British Library Cotton MS. Cleopatra C.viii (Raw, p.285 fn.1).

Anglo-Saxons were prominent in illustrating the extant texts. Further, images of the Virtues and Vices derived from the *Psychomachia* were common in Romanesque church sculpture and painting in France, and some in England (Norman, pp.24, 28; Mâle, pp.99-103). The triumphant camp and temple of *Psychomachia* could have been one of the tacit identifications with Durham's acropolis, and Bury St. Edmunds's fortification and great monastic enclosure.

<sup>272</sup>The mountain is a common image employed to comprehend and express spiritual ascension. The Norman St. Anselm, Archbishop of Canterbury, had a vision during his boyhood in which he climbed a mountaintop to converse with God, a great king holding court (Eadmer, pp.4-5).

<sup>273</sup>At another city, from the 12th century onwards, there appears to have been the intention to create a remarkable and comprehensive architectural, liturgical, and topographical copy of Jerusalem in Bologna, Italy (Ousterhout). More generally, the Stations of the Cross in churches tacitly identifies the church space with Jerusalem.

The 'surveyed' layout of the region surrounding Jerusalem is later prophetically described with respect to the cardinal directions and extensive cubit measurements (Ezekiel 45: 1-7). The appointed

Part of Durham's renown in the north-east of England, Northumbria, would have derived from the Cathedral being a great pilgrimage centre [Fig.21], like the exemplary Jerusalem and Rome. The impressiveness and formidableness of the fortification was added to by Ranulf Flambard (d.1128), the third Norman Bishop, who had massive stone walls with sentry walks built around the Peninsula (23.5 hectares, 58 acres) (Johnson, 1993, p.111). In this regard, the anonymous continuation of Symeon's *History of the Church of Durham* states that: "Although the town was naturally fortified, he [Bishop Ranulf Flambard] made it still stronger and more majestic with a wall"<sup>274</sup>. Given the common practice of directly or indirectly applying biblical allusions in ecclesiastical writings, one suspects it would be hard for the writer not to have been aware of the parallel of Flambard with two of the great builders of the Old Testament: David, who enclosed Jerusalem with a strong wall and had the Ark of the Covenant placed there<sup>275</sup>, and Solomon who strengthened and extended the walls and built several palaces and the Temple there<sup>276</sup>. Thus, the text's continuator may have also been indirectly linking Durham, with its temple, palace, acropolis (mount) and defensive walls, to the same urban features at the exemplary Christian city, Jerusalem.

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layout of Jerusalem is described with respect to the cardinal directions, and reeds and cubits (Ezekiel 45, 48). The forty-eight cities decreed by the Lord to Moses for the Levites are similarly described (e.g. 2000 cubits on each of the east, south, west, and north city borders) (Numbers 35:1-7). These town planning descriptions could serve as general models or iconographic identifications for medieval town planning, but I have found no direct evidence of this.

<sup>274</sup>Trans. in Rollason, 1993, p.9. It is inferred that this new wall was made of stone, whereas the earlier wall, mentioned in the *Siege of Durham* (Rollason, 1995, p.30), would have been made of wood. It was common for Anglo-Saxon wooden town walls (built up on earthworks) to be rebuilt under the Normans in stone, as at Wareham.

<sup>275</sup>II Samuel 6, cf. 5:9.

<sup>276</sup>I Kings 3:1; 6-7; 9:15. King Hezekiah also built city walls at Jerusalem (II Chronicles 32:5; Isaiah 22:10). Additionally, Nehemiah, Governor of Judea, was inspired to rebuild the walls of Jerusalem (Nehemiah 2-6).

Also, Palm Sunday Processions identify a town with Jerusalem, by re-enacting Jesus's triumphal entry into the latter city<sup>277</sup>. The town acts as Jerusalem and a ritualistic space. The procession generally moves from one church outside the city wall<sup>278</sup> or town's boundary to a principal church in the town (O'Shea, 1967, p.934). From the time of Lanfranc in Normandy, it was customary for the consecrated Host to be carried during the Palm Sunday procession (Klukas, 1978, p.439; 1983, p.170). This practice (with four stations of the cross on the route) was set forth in the Anglo-Norman liturgical reform document, the *Decreta Lanfranci*, and followed at Durham Cathedral (Klukas, 1983, p.144)<sup>279</sup>.

In a town with walls, such as Durham, a gate played a prominent liturgical role in the Palm Sunday procession:

Upon returning to the gate of the city or to the door of the principal church, the faithful would cast their garments and their palm or olive branches before the symbol of Christ and repeat the same acclamations the Jews had used to greet the coming of the Messiah King. There too the hymn *Gloria Laus* was sung, a choir within the gates alternating with those outside. Then one of the clerics

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<sup>277</sup>John 12:12-13; Luke 11:6-11; Matthew 16:1-9. The Palm Sunday procession began in Jerusalem, at least by the 4th century (Merishman, "Palm Sunday"; O'Shea). It was introduced to Britain in the early 8th century (Buxton).

<sup>278</sup>Some processions made a circuit around the walls before entering the city. The Palm Sunday procession at Siena

guided by the bishop around the walls of the city proceeded to the Porta Salaria in order to welcome Christ. In contrast, the entrance of Christ into Jerusalem painted by Duccio on the reverse of his famous *Maestà* reveals that the actual city was used by him as his model. (Frugoni, *Distant City*, p.28)

The circuit around the walls reminds one of the circumambulation in the Roman ploughing ceremony for the founding of a town [Fig.19], and in the consecration of a church.

<sup>279</sup>Norwich Cathedral also followed this Palm Sunday practice (Klukas, 1978, pp.484 table VII & 1983, p.171). The Abbey of Bury St. Edmunds largely continued to follow Anglo-Saxon traditions, particularly the *Regularis Concordia* (Klukas, 1978, p.390, 491 diag.IX-A). The *Regularis Concordia* does not instruct that the Host should be carried during the Palm Sunday procession (Klukas, 1978, p.484 table VII & 1983, p.171).

knocked at the door and all entered singing the antiphon *Ingrediente Domino in Sanctam Civitatem*. (O'Shea, 1967, p.934)

By 1114, such a halt was made at the West Gate of Winchester, and the *Ingrediente Domino* and *Gloria Laus* was sung. A similar halt was made at Canterbury<sup>280</sup>. One of the three great gates to the acropolis of Durham, as described by Laurence, monk and later Prior (1149-d.1154) of Durham<sup>281</sup>, likely served a similar purpose. During Palm Sunday, the town was identified with Jerusalem and, tacitly, with the archetypal Heavenly Jerusalem. Jerusalem, as a central fixture in the Christian world and imagination, a God-inspired citadel city 'centred' on the Temple, was at least implicitly a model and source of inspiration for the building of Durham.

### 3.8 Durham and a Threefold Cosmic Structure

Another iconographic and archetypal reference for Durham involves the climate of Platonism in Anglo-Norman culture. Knowledge of Plato's *Timaeus*, directly or indirectly, was then the main source of Platonic thought. During the Middle Ages, the era in which the *Timaeus* was held as a central or key text of scholarly inquiry was c.1050-c.1150 (Gibson, 1969, p.190). Here, two key figures of the Anglo-Norman period, Lanfranc (c.1005-1089) and St. Anselm (1033-1109), are of influential note. Lanfranc was a renowned teacher of the liberal arts and theology (Southern, 1990, pp.39-41). He was brought from the Abbey of Bec, Normandy, by William the Conqueror, to

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<sup>280</sup>It has been suggested that the contents of these liturgical halts at the gates of Winchester and Canterbury were instituted under Archbishop Lanfranc's liturgical reforms (Biddle and Keene, p.269, 269 n.5).

<sup>281</sup>Laurence, lines 335-362; trans. in Boyle, 1892, I, pp.144-145; Boyle, 1892, I, p.142.

be the Archbishop of Canterbury (1070-1089). Notably, Lanfranc wrote, c.1050, an exegetical note comparing a passage in Chalcidius's translation of the *Timaeus* (41A-B), with Cicero's translation (41A) as quoted in St. Augustine's *City of God* (Gibson, 1969, p.184 & 1971, pp.436-441). It shows Lanfranc's close knowledge of the available sections of the *Timeaus* (Southern, 1990, p.57 fn.28), particularly through Chalcidius. This text of Lanfranc was appended to copies of the *City of God*, and was widely circulated in the Anglo-Norman cathedral and monastic schools (Gibson, 1971, pp.436-441). The learned Bishop William of Carilef's (d.1096) library at Durham Cathedral included a copy, which remains there today<sup>282</sup>. Anselm was a student of Lanfranc at the Abbey of Bec, and succeeded his master as Archbishop of Canterbury (1093-1109). He was the greatest and most influential thinker of the Anglo-Norman period. Though knowledge of Plato's writings was still fragmentary or indirect in the early 12th century, Anselm was a Christian Platonist (Douglas, 1969, pp.208-209; cf. Bourke, 1988). Additionally, he considered that any other kind of philosophy was hopeless intellectual blindness and would lead to heresy (Southern, 1990, p.134).

Plato's *Republic* and *Timaeus*, and Chalcidius's partial Latin translation and commentary on the *Timaeus*, describe the city-state and the human as mirroring each other in a threefold or tripartite structure. Both are also microcosms of the cosmos, the macrocosm<sup>283</sup>. These conceptions were well known and elaborated upon in the 12th

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<sup>282</sup>Durham Cathedral Library, B.II.22, fol.231<sup>v</sup>; Mynors, pp.32, 35-36; Gibson, 1971, p.436. This manuscript was made originally at Lanfranc's see, Christ Church Canterbury (Thomson, 1986, pp.36, 36 fn.45).

<sup>283</sup>The temple and church, as we have noted earlier, were also such microcosms. Notably too, the human body was important for the derivation of linear measurement units.

century, by such writers as William of Conches, Bernard Silvestris, Allan of Lille, and some anonymous writers (Dutton, 1983; Luscombe, 1992, pp.47, 47 fn.26)<sup>284</sup>. The human, the city-state, the cosmos, and indeed the church building, had mirroring structures and functions because the same fundamental organizing principles underlay their creation [Fig.36].

An important but unattributed commentary on the *Timaeus* describes the tripartite structure and corresponding functions of the human and the city-state. This commentary synthesizes and applies *Timaeus* 17c and 44d:

the state is fashioned after the likeness of the human body and its faculties or powers, ... the state is established so that in the loftiest part of the city the powerful (*potentes*) reside, in the middle dwell noble citizens (*ciues honesti*), and on the outskirts of the city (*in suburbiis*) are located cobblers and the practitioners of other trades. ... The state and the human body are similar, ... , because just as the greatest men dwell in the highest place of the city, so the greatest power of the soul, namely reason, is set in the head. Soldiers, who defend the city, live in the middle of it, and so the heart possessing the natural energy of the soul, that is, the anger by which we resist evil, resides in the middle of man. At the outer edges of the city (*circa extremos*) live workers, namely, tradesmen and other servile classes, who always desire to acquire things, and so in man desire lives around the body's hindmost quarters. (Trans. in Dutton, 1983, p.95)

There are at least six extant copies of this commentary (Dutton, 1983, pp.95, 95 fn.62-63, 96, 96 fn.64). One of these<sup>285</sup> was at the library of Durham Cathedral by the early 12th century<sup>286</sup>.

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<sup>284</sup>The tripartite division of the cosmos was of the form of, or similar to, the directing God (the Trinity), ministering spirits, and obeying spirits or humans; celestial divine powers, angelic and demonic powers, and terrestrial powers (Dutton, 1983, pp.84-85, 98, 105, 114).

<sup>285</sup>Durham Cathedral Library C.IV.7, f.42<sup>va</sup>.

<sup>286</sup>The Cathedral Library at Durham had various manuscripts before and during the construction of the Cathedral that are of particular note to this dissertation. The learned Bishop William of Carilef died in 1096, and his library of nearly fifty volumes was in place before then (Mynors, p.32). One of the books (Durham Cathedral Library, B.II.22) was, as noted earlier, a copy of St. Augustine's *City of God*,

The description of society in such tripartite divisions was common during the Middle Ages and earlier. For example, the division of the potentates, the noble citizens, and the practitioners of the trades finds some parallel in the Anglo-Saxon scheme from King Alfred's (reign 871-899/900) circle. There a society, ruled by a king, was to be divided into priests, warriors, and workers. This description is given in the old English version of Boethius's *De consolazione philosophiae*,<sup>287</sup> a standard school-text of the Anglo-Saxons. It was added to the section where Boethius discusses the ideal king. The three-fold pattern was to enable the monarchy to fulfil its divine duty to rule, with efficiency and virtue<sup>288</sup>. Significantly, this structure matches well with the distinctive layout of Durham with quarters predominantly<sup>289</sup> for the (i) clergy and monks in the monastery and Bishop's palace, (ii) knights in the castle, and (iii) labourers in homes surrounding the acropolis.

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adjoined with a short piece by Lanfranc on fol.231<sup>v</sup>, commencing "Sententia quam beatus Aug. de Tymeio Platonis sumit" (text in Mynors, pp.35-36; text in Gibson, 1971, pp.436, 439). By the early 12th century (the Cathedral under construction), the library included copies of:

- 1) St. Isidore, Bishop of Seville's *Etymologiae* (Durham Cathedral Lib., B.IV.15),
- 2) Anonymous Glosses (Durham Cathedral Lib., C.IV.7) including a gloss on a Latin version of Plato's *Timaeus* (f.42), mentioned above, and Boethius's *Arithmetic* (f.50),
- 3) A group of short theological texts by Hugh of St. Victor (Oxford, Bodleian Lib., MS. Laud misc. 277), and
- 4) A Latin version of Flavius Josephus's *Jewish Antiquities* (Durham Cathedral Lib., B.II.1) (Mynors, pp.35-36, 56, 58, 60).

<sup>287</sup>Boethius, *King Alfred's old English version of Boethius De consolazione philosophiae*, 1899, XVII, p.40 -- dating from c.875-900; trans. in Cook et al., p.122.

<sup>288</sup>Dutton, 1983, pp.88, 88 fn.38; Le Goff, 1980, pp.53-54, 297 n.3. John of Worcester recounted a dream of the Anglo-Norman King Henry I in 1130 that is relevant here. In the dream, these three estates of society, each in succession, appeared and confronted the king at his bedside (Oxford, Corpus Christi College, MS. 157, fols.382-383; Le Goff, 1964, pp.344, Plates 117-118 & 1980, pp.57, 300 n.25 & 1988, pp.310-311, 343).

<sup>289</sup>The priests assigned to the churches in the boroughs neighbouring the acropolis may have lived in their parishes.



Further, the description of the city-state and citadel noted above, originally from Plato, is an apt and potent description of Durham. This particular commentary, apparently acquired shortly after Bishop William of Carilef's death in 1096, may have been known to him, given his scholarly learning and the Anglo-Norman predilection for Christian Platonism. However, at least part of the conception of the city-state and citadel was, nevertheless, at work. Certainly, during the construction of the Cathedral, and around the time of Bishop Ranulf Flambard's (1099-d.1128) building of greater walls around the citadel and the clearing of houses off the Palace Green<sup>290</sup>, the early ecclesiastical readers of this Durham manuscript would have found a compelling example in their very midst [Fig.51]. To a degree, it appears that the town of Durham, like the Cathedral, was built following a divine pattern reflected in the structure of Creation.

### 3.9 The Old English Poem "Durham"

In the Old English poem "Durham," the town is specifically described as being a celebrated city of the Britons. This poem is the only extant city laudation or *encomium urbis*<sup>291</sup> written in Old English verse (Schlauch, 1941)<sup>292</sup>. It probably dates from

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<sup>290</sup>The demolition of houses between the Cathedral and the Castle by Ranulf Flambard (Continuation after Symeon, *Opera* in Arnold, ed., I, 140; Thompson, 1994, pp.426-427), would have meant that regular housing for townspeople was removed off the plateau of the acropolis. As we have noted earlier, boroughs founded by the prince-bishops largely surrounded the acropolis (Roberts, 1994, pp.61-63; Carver).

<sup>291</sup>*Encomium urbis* is discussed further in Appendix 3.

<sup>292</sup>The earlier Old English poem in the Exeter Book, "The Ruin" is arguably an *encomium urbis*. This poem most likely describes the Roman city of Bath no later than the mid 8th century (Howlett, 1976, p.291).

c.1104-1109. The poem was likely written on the occasion of the ceremonial translation of Cuthbert's remains to the new Anglo-Norman Cathedral's shrine in 1104<sup>293</sup> which was quite possibly also the occasion of the dedication of the church. Certainly the monk Symeon (d. c.1130) mentions and briefly describes this poem in his *History of the Church of Durham* (XLII or III.7), noted earlier as written between 1104 and 1109.

The poem speaks of the hill-top city where saints await the Judgment. The work allegorically alludes to *the* city on the hill, (Mount) Zion<sup>294</sup> and Jerusalem, the City of God, and the Heavenly Jerusalem. It links on successive corresponding levels St. Cuthbert's coffin, the cathedral, Durham city, and the City of God (Kendall, 1988, pp.516-517, 519-520) [Fig.37]. An earlier comparable poem on Milan<sup>295</sup> has a concluding prayer that the eternal city may be entered by all Christians "*in qua sancti per eterna gratulantur saecula*" (quoted in Schlauch, 1941, p.18). That ending is similar to the conclusion of the "Durham" poem: Saints Cuthbert, Oswald, and Bede, and the faithful, await the Last Judgment ("*domes bided*") (quoted in Schlauch, 1941, p.18), where the righteous may then enter the Heavenly City.

Contrary to the standard practice of *encomium urbis*, the poem itself does not name Durham. However, there is an apparent wordplay with the saint's name, *Cuthberch*, with *burch*, the city. Thus, *Cuthberch* also means here the *burch* of Cuthbert, or Cuthbert's city (Kendall, 1988, pp.519-520).

<sup>293</sup>Kendall, 1988; Schlauch, 1941, p.16; Dobbie, pp.xliv-xlv.

<sup>294</sup>The Old English poem in the Exeter Book, "Christ" (lines 875-877), in its section of the Day of Judgment, directly mentions Zion's hill as the place of the ascension of the faithful.

<sup>295</sup>This poem on Milan was written during Langobard Luitprand's reign (A.D. 712-744) (Schlauch, 1941, pp.17-19).

This finesse would be akin to the typical reference to the populace of Durham as the 'people of Cuthbert' (Craster, 1954, p.199; Rollason, 1997)<sup>296</sup>. Further, lands and privileges were granted to St. Cuthbert. '*Liber Sancti Cuthbertus*' was commonly written in the medieval manuscripts of Durham (Rollason, 1997). St. Cuthbert, as God's agent, was seen as a pervasive presence overseeing, protecting, and in charge of Durham, its building works and area of sanctuary. Further, the "Durham" poem's apparent grand linkage of St. Cuthbert's coffin, the cathedral, Durham city, and the City of God represents the town, right down to the saint's shrine, as planned according to a divine pattern reflected and repeated in the structure of Creation.

### 3.10 Right of Sanctuary

One aspect of Cuthbert's protection was associated with the instructions he was said to have given to his community of monks just before he died, in regard to his burial place offering sanctuary for fugitives and malefactors (Bede, *Life of Cuthbert*, 37, trans. Webb, 1965, p.119). These instructions followed the common medieval practice of churches and bishops offering such sanctuary. Indeed, Durham Cathedral, and its clergy and monks, offered the right of sanctuary to persons seeking refuge from claims of wrong-doing and imminent punishment. A person had thirty-seven days<sup>297</sup> of solace,

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<sup>296</sup>Even beyond the town of Durham, the people in the surrounding lands of the bishop, between the Rivers Tyne and Tees, were known as the 'people of Cuthbert' and as *Haliwerfolc* or holy persons' folk. Apparently, *Haliwerfolc* came close to becoming County Durham's name, similar to the names of Norfolk and Suffolk in East Anglia (Craster, 1954, p.199).

<sup>297</sup>An early source for the thirty-seven days appears to be the Laws of King Alfred. There it is stated that persons could seek the right of sanctuary in a church for seven days. If they were willing to give their weapons to their foes, they could stay thirty days (5.-5.3 in Whitelock, ed., 1955, pp.374-375;

during which time the church authorities would negotiate the required compensation. Varying degrees of sanctuary extended certain distances out from a church, and could include the whole town and some of the surrounding region. These distances, or one set distance, were recorded for other related northern English towns at Ripon, Hexham, York, and Beverley<sup>298</sup>. For example, this arrangement for Hexham was described by Richard of Hexham (fl.1141). He notes that the outer boundary was marked by four crosses (*"Infra quatuor cruces extra villam"*<sup>299</sup>), presumably associated with the four cardinal directions (cf. Hall, 1989, p.427 fig.34) [Fig.42]. Likely, a similar rule was in effect for Durham's right of sanctuary (Rollason, 1997; Hall, 1989). The *Rites of Durham*, written much later, in 1593, mentions that before the dissolution of the monastery there was the ancient practice of sanctuary, and that it extended beyond the church and its yard in a larger surrounding "*circuit*" (XXI, p.41)<sup>300</sup>. The right of sanctuary also expanded the sanctity of the church out into the town and an encircling area. Ideally, the circuit or circular boundary was marked by four standing crosses, aligned to the cardinal points

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trans. in Cook et al., p.79). The seven and thirty days seem to have been intended to correspond to a week, and then an extension of a month respectively, giving a maximum refuge of thirty-seven days. (A person could, of course, delay giving up their weapons until the seventh day and then request the thirty additional days, and thereby ensure sanctuary for thirty-seven days. Hence, in general, possibly a maximum of thirty-seven days was granted, even if the weapons were given up earlier in the first week. In other words, even though the written statement of the Law is not clear on this, the thirty days may not have started until after the first seven days, provided the weapons had been given up at some point in the first week.) This appears to be part of the explanation for what initially might seem an 'unusual' number to select, thirty-seven.

<sup>298</sup>Chester-le-Street also had a right of sanctuary (Rollason, 1997; Hall, 1989).

<sup>299</sup>Richard of Hexham, I, 61-62; quoted in Hall, 1989, p.427 fig.34.

<sup>300</sup>Ripon, Hexham, and Beverley had crosses marking the boundary of their sanctuary. There were crosses surrounding Durham marking various boundaries, including possibly rights of sanctuary. For example, an agreement, 1162-1189, between the lord of Houghnall and the Durham monks mentions crosses marking the boundary between city and manor (Hall, 1989, pp.427 fig.34, 434-435, 435 fn.44; Fowler in *Rites of Durham*, pp.226-227).

and forming a great cross or cruciform pattern centred at the church. The forming of the sanctuary area, to a degree, extended the God-given or divine pattern of the church onto the surrounding landscape<sup>301</sup>.

### 3.11 The Poem by Laurence

In addition to the Old English poem on Durham, Laurence, monk and later Prior (1149-d.1154) of Durham, wrote a Latin poem (c.1145) describing this city. This work extols the beauty and the well-conceived arrangements of the buildings on the acropolis, especially the Castle and Bishop's Palace, and the impregnability of this natural and fortified site. Some selections from the poem include:

Therein the citadel (*arx*)<sup>302</sup>, sitting as a queen raised on high in a threatening manner, and all that she sees judges to be her own. (Laurence, lines 367-368; trans. in Boyle, 1892, I, p.145)

On this a solidly-built house [the keep], higher than the citadel (*arx*), stands out all radiant with eminent beauty. (Laurence, lines 375-376; trans. in Boyle, 1892, I, p.147)

Behold what art has added to the defences of the strong city! (Laurence, line 449; trans. in Boyle, 1892, I, p.150)

Laurence lauds Durham as a beautiful, strong and righteous city which one must ascend to its heights. This monk's praise of the "art" applied at Durham emphasises the town as well-planned for function and "beauty" and, implicitly, as divinely directed to the Glory of God.

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<sup>301</sup>This subject is considered further in Section 4.5 in the Chapter on Bury St. Edmunds.

<sup>302</sup>By *arx*, translated as citadel, Laurence appears to have referred to the keep's circular mound and the skirting wall at its base, and the keep itself (Boyle, 1892, I, p.145 fn.3).

The dualism of the debased worldly city and the Heavenly City in St. Augustine's *City of God* was tempered in laudations of cities<sup>303</sup>. The city in the world can tend in likeness to the New Jerusalem. Individual cities could be deemed to be in the image of the Heavenly City<sup>304</sup>:

The model of the heavenly Jerusalem did not remain a merely literary image, fit to adorn the commentaries and the texts of churchmen, but was as far as possible, applied to the real world. All strove visually to make out this concept of the "divine city," fundamental to them, in the very structures of their churches, in the layout of their cities – in sum, in the corporeal completeness that lay about them. (Frugoni, *Distant City*, 1991, p.27)<sup>305</sup>

I have argued that there was a grand urban vision at Durham to create not only a stronghold of Church and state, a holy fortified citadel, but also a model of the Heavenly City. This vision guided not only the construction of remarkable buildings, but also their coordinated positioning and interaction. City planning has been succinctly described as "not merely about practicalities, it also reflects human ambitions and desires" (Rybczynski, 1995, pp.126-127). Durham is certainly a dramatic display of "human ambition and desires": the Norman conqueror's presence and the authority of the Church

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<sup>303</sup>Additionally, medieval Christian theologians saw definite value in the city (Lang, 1952, p.92 & 1955, pp.104-105 & ). Thomas Aquinas considered the city as the ideal community: "*Civitas communitas perfecta est*" (*Summa Theologica*, 91.2 & *De Regimine principum*, I.1; quoted in Lang, 1952, p.92 & 1955, p.105, cf. p.104).

<sup>304</sup>This topic is discussed further in Appendix 1. Constantinople was identified with the New Jerusalem, the Heavenly City (Sherrard).

<sup>305</sup>A similar, more preliminary, statement is made by Robert D. Russell in his study concentrating on Brescia in Italy (p.157).

It has been remarked that the elements of the Heavenly Jerusalem are so formulaic (e.g. the four rivers of Paradise) that they were insufficient to model a temporal city after. This purported insufficiency is claimed to be in contrast to traditional Asian cities that are microcosms that spatially encapsulate the structure of heaven (Kostof, p.173). However, the elements of the Heavenly Jerusalem have been imaginatively and flexibly applied to suggest and materially recreate the archetypal city, not only in the church but also in the city as a whole.

and prince-bishops<sup>306</sup>. To fulfil the purpose of the *regnum et sacerdotium* in the divine hierarchy, these human ambitions and desires were to have been derived and directed by God. In this manner, this town was portrayed as ordained by the Creator, divinely inspired and thoughtfully designed. In the medieval view, Durham represented the visible manifestation of the unseen and unconquerable City. In the next chapter, some of these themes and others will be taken up at Bury St. Edmunds in East Anglia, a town that was focused not on a bishop, but even more than Durham on its monastery.

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<sup>306</sup>The historian of castles R. Allen Brown wrote that "The symbolism is, ..., inescapable and deliberate" (1989, p.107).

## Chapter 4: Bury St. Edmunds

Bury St. Edmunds has many similar features to Durham. However, Bury St. Edmunds had an abbot not subject to a bishop, whereas Durham had a 'prince-bishop' with a castle. As a result, the emphasis on, and control of, the monastery was even greater at Bury St. Edmunds. Further, as was typical of monasteries and for their practical functioning, their sites were chosen close to rivers. Durham towers citadel-like above the River Wear whereas the monastery at Bury St. Edmunds is in a shallow valley nestled on its east side against the River Lark. Nevertheless, both towns present themselves as applying their contrasting episcopal and administrative arrangements and topography towards the service of God through their respective titular saints.

Bury St. Edmunds can be seen as built with and for God because of its continuous association with the divinity of kings and the central pursuit of God through monasticism and priesthood. According to the traditional account in the abbey registers, monasticism was associated with the settlement from its earliest history<sup>307</sup>. A monastery was said to have been built by King Sigebert who retired into it c.633. King Cnut (Canute, c.994-1035) was likely the founder of the settlement as a *burh*<sup>308</sup>. The founding and development of Bury St. Edmunds and its monastery appears to have had royal support throughout its history (Lobel, 1935, p.1).

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<sup>307</sup>There does not appear to have been Roman occupation at Bury St. Edmunds (Lobel, 1935, p.1).

<sup>308</sup>*Burh* is the Old English form of borough ("Burh," p.670). *Burh* refers to a town, a fortified town, or a town with municipal organization ("Borough," p.416). For Bury St. Edmunds, the earliest name of the *burh* was Bedericsworth (Lobel, 1935, p.1). This name was largely superseded by St. Edmundsbury, or simply Bury, in the first half of the 11th century (Lobel, 1935, p.4).



To add to the sanctity of the site, a pivotal event was said to have occurred around 903. The relic of the body of St. Edmund, King of East Anglia (reign 855-870) was brought to the settlement<sup>309</sup>. Tradition relates that King Athelstan (reign 924-939) founded a college of secular priests dedicated to guard St. Edmund's shrine and to serve his church<sup>310</sup>. The central emphasis on this saint, king and martyr made him, in effect, the spiritual founder of Bury St. Edmunds and its great abbey<sup>311</sup>.

The community of St. Edmund had special governing powers. King Edmund I (reign 940-946) was said to have given confirmation to the college's special jurisdiction over the town<sup>312</sup> or vill<sup>313</sup> and its surrounding land<sup>314</sup>. Later, under the reforms of Cnut

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<sup>309</sup>Lobel, 1935, p.1. It may be that the arrival of St. Edmund's body at Bury St. Edmunds was after 903, but still during the first half of the 10th century (Ferne, 1998, p.4). Edmund had refused to submit to Danish rule and to renounce Christianity. After his demise in battle, Edmund's head was miraculously guarded by a wolf (Stephen et al., "Edmund," p.401). This parallels in some ways St. Stephen, the first martyr of the Christian Church: "After Stephen was martyred in the first century, his body was left for the beasts, who instead of devouring it miraculously protected it" (Carty, 1991, p.91). Edmund's body was at a wooden chapel at Hoxne for a claimed thirty-three years, before it was taken to Bedericsworth. Miracles then started to be ascribed to the martyred king (Stephen et al., "Edmund," p.401). Probably of note, thirty-three was the number of years associated with the earthly life of Jesus the Christ, the Christian's ultimate martyred king. It was also the number of years that King David ruled in Jerusalem.

<sup>310</sup>Lobel, 1935, p.2. This arrangement was also in keeping with the former's policy of resisting Danish influence (Lobel, 1935, p.2)

<sup>311</sup>The seals of Bury St. Edmunds Abbey dramatically display Edmund and his symbols of royalty. The second seal of, c.1150, is extant and derives from the previous seal c.1139-1148. It contains the name St. Edmund, King and Martyr, with a cross. Edmund is enthroned with a flowering rod in his right hand and a orb surmounted by a cross in his left hand (Heslop, 1984, p.313). He is presumably crowned, but this is obscured due to damage.

Master Hugo of Bury St. Edmunds, a superb sculptor, painter and metal-caster, may have crafted these seals (Heslop, 1984, pp.313, 316). He did cast the bronze doors for the church's west front (Kauffmann, 1966, pp.63-64). He was active during first half of the 12th century, so Bury's renowned artisan may well have made the seals as well (Heslop, 1984, pp.313, 316).

<sup>312</sup>There may have been a mint there that issued some or all of the St. Edmund's pennies 870-905 (Lobel, 1935, p.2). A mint was set up by Edgar the Martyr (reign 975-979) (Lobel, 1935, p.3).

<sup>313</sup>Vill has been designated an obsolete word in the English language. It can mean village, or more appropriately in this case, "A territorial unit or division under the feudal system, consisting of a number of houses or buildings with their adjacent lands, more or less contiguous and having a common organization; corresponding to Anglo-Saxon tithing ..." ("Vill," p.631).

(reign in England 1016-1035), the priests were evicted and were replaced by twenty Benedictine monks from St. Benet Hulme and Ely in 1020<sup>315</sup>. Cnut appears to have granted the monastery full power over the banleuca<sup>316</sup> and exemption from geld payments (Lobel, 1935, p.5). This grant was confirmed by Edward the Confessor (reign 1042-1066)<sup>317</sup> and his immediate successors. This included exemption from

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<sup>314</sup>Lobel, 1935, p.2. Edmund I's charter, claimed to be from 945, is probably spurious (Lobel, 1935, p.2 n.7).

<sup>315</sup>Cnut's advisers for this eviction were Ælfric the Bishop of Elmham and Queen Emma (Lobel, 1935, pp.4-5)

<sup>316</sup>The banleuca was the town, and its designated surrounding land (Lobel, 1935, p.3). The etymology derives from the Teutonic *ban*, and the Latin *leuca*. Thus, the term means "the league over which the lord's right of jurisdiction (*ponendi bannum*) extends" (Lobel, 1968, p.122). The records on the refounding of the monastery at Bury St. Edmunds in 1020 indicate that this area extended a mile radius (Lobel, 1968, p.123).

<sup>317</sup>The profits from, and authority over, the town were assigned to the monastery by at least 1065. The town was often said to have been held by the abbot in *servicio et dominio* (Lobel, 1935, p.33). The position of sacrist, who exercised most of the abbot's extensive rights, was likely in place by 1100. The town was held by the monastery, not the abbot alone:

As the town formed part of the convent's property and did not belong to the abbot's barony, the latter's connexion with it was little more than nominal. The sacrist, as the convent's representative, was for all practical purposes lord of the borough, while the cellarer was lord of the manor of Bury and in consequence had control over a large portion of the town fields and special privileges in the borough itself. The bulk of the property both in houses and fields seems to have been kept in the hands of various obedientiaries and rented directly from them by the burgesses. (Lobel, 1935, p.17).

The cellarer and reeves (or bailiffs, *prepositi*) were servants of the sacrist (Lobel, 1935, pp.18, 31, 33). The nomination of reeves was solemnized ceremonially. "On Easter Day 1182, knights, clerks, and burgesses were summoned to the chapter house, and there two burgesses were nominated reeves" (Lobel, 1935, p.61). Abbot Samson said he was renewing the ancient custom, as part of this nomination by convent members only. This nomination was then ceremonially confirmed:

After the nomination the reeve went through the ceremony of receiving the *mot-horn* and the keys of the town gates, the symbol of his office, from the prior and sacrist as an indication of his obedience to the convent rather than to the abbot. On receiving the *insignia* the reeve took oath to defend loyally the church and its interests. (Lobel, 1935, p.61; Lobel, 1935, p.61 n.3 cites British Library, MS. Harleian 308, fol.84).

There are various later medieval references to this ceremony at Bury St. Edmunds (Lobel, 1935, p.61). The reeves were active at Bury St. Edmunds at least before 1097. The later name for the reeve was bailiff (Lobel, 1935, p.60). The *mot-horn* was the horn blown to signal the convening of a session of the borough's court (Lobel, 1935, p.98). We note the sacred ceremony, and the passing of the keys of the town gates for protection, entrance, and exit from the city.

participating in shire and hundred<sup>318</sup> courts beyond the banleuca, and from being subject to any officials except those of the monastery (Lobel, 1935, p.5)<sup>319</sup>. Additionally, the monastery and its banleuca were exempted from episcopal control by the bishop of Elmham, and later, by the bishop of Norwich.

St. Edmund was deemed the overseeing force in the development of the town. Roger de Horedon records that King Sweyn (d.1014), Cnut's father, had doubted St. Edmund's sanctity and that Sweyn threatened the town at his peril in 1014<sup>320</sup>. Cnut was said to have taken his father's death as a warning against trying to defy St. Edmund, and so Cnut fortified the town to further defend St. Edmund's property from any attacks of the royal tax-gatherers<sup>321</sup>. William of Malmesbury (c.1090-1143) records that King Cnut built a ditch around the town<sup>322</sup>. However, St. Edmund appears to have been working to protect<sup>323</sup> the town<sup>324</sup>, and guide its fortification since it came to no harm. In

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We know from 13th-century documentation that four persons were selected gate-keepers, presented to the sacrist or to his bailiffs, and "swore that they would faithfully perform their duties both as regards the guardianship of the gates and the collection of toll and all other things pertaining to their office" (Lobel, 1935, pp.89-90). The abbot handled appointments for the fifth gate, the east gate near the monastery (Lobel, 1935, p.89 n.5).

<sup>318</sup>A hundred was a subdivision of a county or shire and included its own court.

<sup>319</sup>Henry I granted exemption from all customs and toll in the kingdom (Lobel, 1935, p.119; Douglas, ed., 1932, p.62).

<sup>320</sup>Adair, 1978, p.104; William of Malmesbury, *Chronicle* II.10, p.190.

<sup>321</sup>Lobel, 1935, p.4; William of Malmesbury, *Chronicle*, II.13, p.242 & *Monachi de Gestis Pontificum Anglorum*, II, fol.136.

<sup>322</sup>Indications are that by the early 11th century it was a royal *burh*, fortified, and an administrative and trading centre (Lobel, 1935, p.15). There was a market at Bury St. Edmunds before William I (Lobel, 1935, p.119; Douglas, ed., 1932, p.73).

<sup>323</sup>Hospitals were also under the beneficence of a saint. Such institutions were supported by the Anglo-Norman abbey at Bury St. Edmunds. The hospital of St. Peter was founded by Abbot Anselm (1120-1148). The hospital of St. Saviour was founded by Abbot Samson (abbacy 1182-1211). Additionally, the hospital of St. Nicholas was most likely built in the 12th century (Lobel, 1935, p.120 n.2, 120).

<sup>324</sup>Another instance of St. Edmund's protection is given in a cartulary of the Abbey (I have not determined the date of this text). The text discusses Bishop Herbert's attempt to take Bury St. Edmunds into the East Anglian see. The matter was dealt with at a Council of Archbishop Anselm. The Abbot of Bury produced a decree of exemption from this see from the time of William the Conqueror and under

general, patron saints, their relics, churches, and monasteries<sup>325</sup> were thought to help guide and protect their respective towns<sup>326</sup> and kingdoms.

#### 4.1 The Planning of the Town and Monastery

The plan of the town and monastery indicate a jointly coordinated and orderly layout. The approximate grid plan of Bury St. Edmunds was laid out<sup>327</sup> under the Normans, more specifically Abbot Baldwin<sup>328</sup> (1065-1097)<sup>329</sup> [Fig.26]. Three hundred

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Archbishop Lanfranc's primacy. Thus, the cartulary concludes, "the aforesaid Herbert dared not, while he lived, so much as to wag his tongue against the Church of St. Edmund; and so he utterly failed in his unrighteous cause *through the merits of the blessed Edmund*" (Goulburn et al. in Herbert, 1878, I, pp.243, 243 n.d; emphasis mine).

<sup>325</sup>Protection was said to be provided by churches and monasteries for towns and kingdoms. There is some element of this in 5th- and 6th-century writers on the city as the Heavenly Jerusalem such as Bishop Avitus, the metropolitan bishop of Vienne, (fl.500): "This imagery of the divinely protected city is also tied up with the notion of recreating a heavenly Jerusalem on earth; the spiritual regeneration of the congregation and the dedication of new churches were regarded as aspects of this symbolic development" (Wood, p.78; Avitus, *hom* 22, 24). Avitus stresses the central importance of churches in a town and their protective spiritual quality: "This city [perhaps Lyon] is more protected by its basilicas than by its bastions; on all sides the rich approaches are surrounded by a garrison of sacred buildings" (Avitus, *hom* 24; trans. in Wood, p.78). The Norman historian Oderic Vitalis, in his *Historia Ecclesiastica*, describes how monasteries were viewed as castles against evil, and that these "fortresses" helped secure a country's peace. He relates that William the Conqueror (IV.90-94) and Roger of Montgomery (III.142-146) held this viewpoint. This outlook in similar spirit to the writings of St. Anselm of Bec (1033-1109), Archbishop of Canterbury. Anselm often employed military analogies, including monks as soldiers ceaselessly fighting Satan in a spiritual castle (pp.66-67; Chibnall, pp.56, 56 fn.80). Patron saints, their relics, churches, and monasteries were thought to help protect towns and kingdoms.

<sup>326</sup>The saintly protection of towns and cities is discussed further in Appendix 5.

<sup>327</sup>Medieval surveying practices are not as well documented as Roman surveying. Some aspects of medieval surveying are discussed by Derek J. Price (1955). Also, a comprehensive and concise exposition is provided by David Friedman (pp.256-258 n.33).

<sup>328</sup>Baldwin was French and had originally been a monk at St. Denis. He was appointed abbot by Edward the Confessor. Additionally, he was renowned for his medical skill, and he was a physician to both Edward and William the Conqueror (Stephen et al., "Baldwin").

<sup>329</sup>Lobel, 1935, p.8; Smith, 1951, pp.162, 164.

and forty-two houses were built on this new street pattern according to the report in the Domesday Book of 1086<sup>330</sup>. This street plan is roughly<sup>331</sup> a rectangular grid<sup>332</sup>.

The study of town planning at Bury St. Edmunds can be put into context through an examination of the contemporary Anglo-Norman town of Battle as the latter has more preserved documentation regarding its early planning and functioning. Battle follows a regular two-row layout<sup>333</sup>, rather than a grid-plan like Bury St. Edmunds, but planning and plot-sizes are still highly ordered by measurements. Strikingly, *The Chronicle of Battle Abbey*, written up to c.1189 (Searle, 1980, p.9), goes into some detail:

The surrounding *leuga*<sup>334</sup> having been in this way brought into the possession of the abbey, and the building of the church by now making headway, a great number of men were recruited, many from neighbouring districts and even some from across the channel. The brethren who were in charge of the building began to apportion the individual house-sites of definite dimension near the boundary of its [the abbey's] site. These, with their customary service, can be seen to have remained to this day just as they were then arranged. (Searle trans., 1980, pp.50-51)

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<sup>330</sup>Lobel, 1935, p.9; Smith, 1951, p.162.

<sup>331</sup>The earlier fortress and town planning of the Romans evidences a stricter adherence to a rectilinear system than at Bury St. Edmunds, with the exception of the monastic complex. A helpful study, comparing the rectilinear and measurement specifications of the Roman *Corpus Agrimensorum* with the extant archaeological evidence of Roman fortresses and towns in Britain is given by Philip Crummy (1993). At most Roman land surveying and town planning was largely an indirect influence on the planning of Anglo-Saxon and Anglo-Norman town streets and plots on non-Roman sites.

<sup>332</sup>Streets that formed rectangular spaces of land were simple and practical for the subdivision into rectangular plots. Such plots were amenable to the calculation of area, and other matters of administration and rent (Dickinson, 1945, p.76; Colvin, 1958, I, p.64; Beresford, 1967, p.16).

<sup>333</sup>Roberts, 1987, pp. 196, 197 fig.10.3. "The messuages [properties] bordered the monastery on two sides, and extended up a High Street away from the gate of the abbey to a market-place at the far end of the street" (Searle, 1980, p.52 fn.1).

<sup>334</sup>The *leuga* was all the land within a mile and a half of Battle Abbey. Hence it was an estate in the form of a circle with a diameter of three miles (Searle, 1963, p.290).

Detailed rents (in money and work owed) were systematically<sup>335</sup> recorded for each house in the town (c.1102-1107) (Searle trans., 1980, pp.50-59, 52-53 fn.1). By c.1120, in less than forty years, the vill had grown to 115 households (Searle, 1963, p.300). This rental description concludes with: "The town of Battle, laid out with these fixed measurements<sup>336</sup> of house-plots, can be seen to have stayed just the same to this day" (Searle trans., 1980, pp.58-59). It is highly likely that the orderly rectilinear nature of the street-plan of Bury St. Edmunds was reflected at a smaller scale in the plot-size measurements similar to those at Battle<sup>337</sup>.

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<sup>335</sup>The property descriptions for the *leuga* proceed clockwise (Searle, 1980, p.61 fn.2), or sunwise, around the circular boundary.

<sup>336</sup>The *Chronicle* defines various area and linear measures, including "A perch is sixteen feet in length" (Searle trans., 1980, pp.50-51). A study could be undertaken to see if evidence remains of this perch and other measurement units in the present town.

<sup>337</sup>A study of burgage plot dimensions at Bury St. Edmunds, as best as they can be inferred, would be helpful. Extant charters from the time of Abbot Samson (abbacy 1182-1211) would be of help because they, in fact, list rents and plot-sizes (Statham, 1998, pp.102, 110 n.53; Davis, ed., 1954, e.g. pp.80, 82). *Feudal Documents from the Abbey of Bury St. Edmunds*, edited by David Charles Douglas (1932) and covering the period 1066-1182, could also be checked.

There has been some promising work on English medieval town plot-sizes made elsewhere, including Salisbury, Stratford-upon-Avon, Winchester, Lichfield, Ludlow, and Alnwick. The new town charters at Salisbury and Stratford-upon-Avon specify standard plots of 3 by 7 perches, and 3 1/2 by 12 perches, respectively. The 3 and 3 1/2 perch lengths give the street frontage (Hindle, 1990, p.53; Slater, 1981, p.212 & 1987, p.195). The specific length of the perch units employed at these two towns were apparently the royal or statute perch of 16 1/2' (Slater, 1981, pp.212, 215). However, it would be good to check these perch lengths further. R. D. Connor examined the average tenement frontages in Winchester c.1148 (with some exceptions in dating) based on data from Survey II of the Winton Domesday. Averages were taken for individual streets. He notes that average property widths are equivalent to whole number multiples of the 16 1/2' perch, plus a 'half-perch' in some cases (1987, pp.46-47; Biddle and Keene, p.377). Brian Paul Hindle claims a similar result for medieval Ludlow, by using a reprint of the 1914 Ordnance Survey 25-inch map (1990, pp.54-55), but this method does not seem sufficiently accurate (Slater, 1981, pp.212-213). M. R. G. Conzen makes some suggestions for burgage frontages at Alnwick (1960, pp.32-33). A review of the data and methods of analysis would be helpful. Overall, T. R. Slater (1981, 1987, 1996) is an important author on English medieval town planning and burgage plots. He has discussed some helpful methodical guidelines for the study of the dimensions of burgage plots (Slater, 1981, 1987).

Orientation also plays an important role in ordering the plan of Bury St. Edmunds. The orientation of the great Abbey church<sup>338</sup> was important to most of the layout of the monastic complex [Fig.24]. Beyond the exterior of the liturgical east end of the church, the monks' cemetery and infirmary conform to the approximately N.N.W. alignment of the River Lark<sup>339</sup>. However, the cloister and most of the monastic buildings align with the church and were built on its north side rather than the more common sunnier and warmer south side, as was done at Durham and Norwich Cathedrals. Further, an extension of the central axis of the church out from its liturgical west end proceeds through the middle of the St. James's tower portal and straight up Churchgate Street to align with the westward street-plan<sup>340</sup> [Fig.26]. The directional alignment of the street-plan seems to be based on both the cardinal directions and conformity to the direction of the valley's slope eastward down to the fairly level monastic precinct and the River Lark. There appears to have been a harmonization of topography and orientation at Bury St. Edmunds, not unlike that noted on the acropolis of Durham.

Another unifying element in the planning of Bury St. Edmunds appears to be a common geometric operation. Eric Fernie has shown the use of the geometric motif of the square's side and its diagonal in the plans of the abbey church and St. James's tower (1998, pp.5-12). Additionally, he has plausibly argued for the use of this motif in the

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<sup>338</sup>The orientation of the Abbey church at Bury St. Edmunds is about 10 degrees north of due east. This is an estimate from a 1995 Ordnance Survey Map, scale 1:1250 and a plan in Whittingham, 1992, p.12 [Fig.25].

<sup>339</sup>This alignment is estimated from the Abbey plan by A. B. Whittingham (1992, pp.4-5).

<sup>340</sup>Gauthiez, 1998, pp.90, 91 fig.6; Fernie, 1998, pp.12, 13 fig.12, plate IIIA. A church's orientation can also be influenced by pre-existing topographical features, such as earlier building foundations and neighbouring streets (Rodwell, 1984).

street-plan of the town<sup>341</sup>. The employment of the square's side to its diagonal ratio in a town-plan is striking indeed. It also raises the intriguing question of whether or not this motif was also applied in the further subdivision of that space for plots of land (for businesses, dwellings, and rent collection)<sup>342</sup>. Thus, the cohesiveness of the town-plan of

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<sup>341</sup>Fernie, 1998, pp.12-13 fig.12; cf. Gauthiez, 1998, pp.90, 91 fig.6, 92 fig.7. A preliminary scheme for the street-plan of Bury St. Edmunds was proposed with a 4-pole unit using the 16 1/2' pole (Crummy, 1979, pp.160-161 fig.8.4). However, the investigator took measurements variously with and without streets widths included. This variability or flexibility allows for the increased possibility that the proposed theory approximately matches the street-plan of Bury St. Edmunds by chance. Additionally, one questions if the town would have been surveyed or laid out with the inconsistency and seeming unnecessary complication of measuring out on the ground sometimes with street widths and sometimes without. It would seem simpler and more practical to have consistently done one or the other but not both. The measurement points in Eric Fernie's scheme vary less, and much longer lengths than the key 4-pole unit are being fit (1998, pp.12-13, 15 n.15), which decreases the element of chance. The application of the 4-pole unit (using the 16 1/2' pole) has been suggested for some other 9th-through 13th-century towns (Crummy, 1979; Haslam). This 4-pole unit is also closely related to the acre as defined in the *Statutum de Admensuratione Terrae* (c.1300). For example, a rectangular plot of land, 4 poles by 40 poles has an area of one acre. Additionally, this very same proposed 4-pole unit (66' 0") was later known in English land surveying as 'Gunter's chain' (1609) (Crummy, 1979, p.149), after the land surveyor Edmund Gunter (1581-1626).

<sup>342</sup>The square's side to its diagonal ratio may have been used to determine the standard plot-sizes stated in the new town charters at Salisbury and Stratford-upon-Avon which were, as noted earlier in this section, 3 by 7 perches, and 3 1/2 by 12 perches, respectively (Hindle, 1990, p.53; Slater, 1981, p.212 & 1987, p.195).

For Salisbury, 3 by 7 relates to the 7:10 approximation to the square's side to its diagonal ratio because, of course,  $10 - 7 = 3$ . In geometric terms, 3 represents the additional length from the square's side, 7, to the square's diagonal, 10. In modern mathematical terms,  $3/7$  equals approximately  $\sqrt{2} - 1$ .

Next for Stratford-upon-Avon, 3 1/2 by 12 relates to the 17:24 approximation to the square's side to its diagonal ratio. Note that halving each term in the ratio 17:24 produces the equivalent ratio  $(8\frac{1}{2}):12$ . Further,  $12 - 8\frac{1}{2} = 3\frac{1}{2}$ . In geometric terms,  $3\frac{1}{2}$  represents the additional length from the square's side,  $8\frac{1}{2}$ , to the square's diagonal, 12. In modern mathematical terms,  $(3\frac{1}{2})/12$  equals approximately  $(\sqrt{2} - 1)/\sqrt{2}$  or equivalently,  $1 - 1/\sqrt{2} = (2 - \sqrt{2})/2 = 1/(2 + \sqrt{2})$ .

These two results are not convincing in themselves, but further checking of the use of this ratio motif at these two towns, and in the plot-sizes of Bury St. Edmunds and other medieval towns would be most helpful. (For example, the designs of the Cathedrals of Old Sarum and Salisbury likely involved the geometric motif of the square's side to its diagonal (Kidson, "Salisbury Cathedral," 1993, pp.70-81).) This line of investigation involves ratios of simple whole numbers to approximate the square's side to its diagonal ratio and other geometrically-based ratios. Notably, this approach has been advocated by Peter Kidson (1956, 1975, pp.32-35, 43 & 1990, pp.76-80, 82, 84, 90-91, 95, 97) in the closely related subjects of medieval architectural design and standard measurement units.



Bury St. Edmunds involved topographical factors, orientation and axial alignment, rectangularity, and probably the geometric motif of the square's side and its diagonal.

These unified elements in the urban layout added to the significance of Bury St. Edmunds. Notably, the rectilinear disposition of Bury St. Edmunds in terms of streets and plot-sizes facilitated legal title and the calculation of rent. The town was held and operated by the abbey. Thus, this orderly urban pattern can be read as a sign of the abbey's divinely ordained and royally conferred control and authority, as well as legal agreement with its townspeople (cf. Randolph, 1995, pp.306-307). Further, the axial alignment would have allowed for an impressive processional route along Churchgate Street through St. James's tower proceeding to or from the abbey and its great church. Additionally, the unified nature of the town-plan, focused on the abbey and the central axis leading through the great church to the Shrine of St. Edmund, was a fitting built expression for the divine 'reign' of this martyred king and titular saint over his town.

#### 4.2 Design, Geometry and Iconography

In the previous chapter on Durham, we examined some of the iconographic elements of geometry and measure in the architectural design. That discussion can be extended to our examination of Bury St. Edmunds. As already noted, artistic expressions of God the Creator as the quantifier, orderer and geometer were common<sup>343</sup>.

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<sup>343</sup>In medieval illuminations, drawing, and sculpture, there are depictions of God creating the cosmos with the aid of a compass, and sometimes a weighing scale or balance as well. There are late-Anglo-Saxon manuscript drawings for Genesis and Canon Tables that show God, or the Hand of God, operating

a compass, or dividers, and an equal-armed weighing scale. In addition to the example in the Bury St. Edmunds Psalter (Vatican Library, Reg. Lat. 12, fol.68<sup>v</sup>), c.1025-c.1050 [Fig.2], there are also:

(1) Eadwi Gospels (Hanover, Kestner Museum, fol.9<sup>v</sup>), c.1025, probably from Winchester. Here, God's Hand, with these instruments, is depicted in the upper part of the Canon Table, hence creating and ordering the Gospels' texts,

(2) Tiberius Psalter (British Library, Cotton Tiberius C. vi, fol.7<sup>v</sup>), c.1050, probably from Winchester [Fig.1],

(3) Bible, with one illustration of Genesis (British Library, Royal 1. E. vii, fol.1<sup>v</sup>), c.1050 (Heimann, 1966, pp.46-56, plates 10a, 11a, 11c, 12b) and

(4) Psalter (Paris, Bibliothèque Nationale, Lat. 8824, fol.3<sup>v</sup>), c.1025-c.1050, possibly made at Canterbury. Here, God's Hand is shown holding a compass or dividers while below the psalmist appeals to the Lord (Temple, 1976, pp.99-100 cat.83, ill.207). Normally, God is depicted holding the compass or dividers in the right Hand, but in (4) above the left Hand is used.

There are various 13th- to 15th-century Genesis illuminations, generally French, that grandly portray God as wielding a large masonic-type compass in the process of forming Creation (Friedman, 1974) [Fig.3]. These are often Creation miniatures that are impressive frontispieces of Bibles, each a *Bible Moralisée*. This image is also given in miniatures illustrating Guyart des Moulins's version of the *Historia scholastica*. Examples are: (i) British Library, Royal 15. D. iii, fol.3<sup>v</sup>, early 15th century, (ii) British Library, Royal 19. D. iii, fol.3, c.1411 (Friedman, 1974, pp.424, 426, fig.IX, XII). Similar images appear in St. Augustine's *City of God* manuscripts as a fitting accompaniment to this bishop's citing of Wisdom 11:21. An example is British Library, Add.15245, fol.3<sup>v</sup>, 14th-15th century (Friedman, 1974, p.424, fig.XI). Thus, we see that the image of God the Creator as a geometer and orderer appeared in wide-ranging manuscripts over the medieval period.

Additionally, a masonic application of the idea of God creating all things, including time, appears in the iconography of certain English stone sculpted sundials on church exteriors, and on large standing crosses. Such sundials were particularly popular in medieval England, and at least part of this popularity was probably due to Bede's writings on sundials and *horologia* (Heimann, 1966, p.50). An example is the stone-sculpted sundial on the south exterior nave wall of St. John the Evangelist Church (c.670-c.690), Escomb, County Durham [Fig.4]. The sundial's stones appear to have been sculpted and put in place at the time of the building of the Escomb church. We see there what appears to be the head of a human-like figure with its arms embracing, from above, a circular sundial (Heimann, 1966, pp.50-51, plate 11d). However, the sculpture of the sundial is quite worn after being outdoors for thirteen centuries. The sculptural elements above, and embracing, the circular dial are not yet clearly determined. Another interpretation is that the 'arms' embracing the dial is rather a serpent, below a creature-like head (Green, 1928, pp.496-497; Taylor & Taylor, 1965, p.236; Taylor, 1978, p.1057; Beddow, c.1990, p.8). This interpretation was rejected by Adelheid Heimann (1966, pp.50, 50 fn.64), but it may be correct. However, the authors referenced here provide, in effect, various suggestive leads that could be helpful in clarifying this matter. Additionally, this purported adaptation of 'pagan' or pre-Christian religious imagery of the Angles, who settled in Yorkshire and Northumbria, still appears to represent a creator God fitting for a Christian church (Beddow, c.1990, p.8).

A similar work, with a human-like figure, appeared later on the south exterior nave wall, over a blocked-in doorway, at the Church of St. Mary, North Stoke, Oxfordshire [Fig.5]. Wide-ranging medieval dates have been suggested for this stone-sculpted sundial (Okasha, 1992, No.200, pp.51-52; Sherwood et al., pp.349, 723, 936). It appears to be 13th or early 14th century. Early 14th century seems likely because this would place the sundial as contemporary with the rebuilt nave wall where the dial is housed. During restoration work, sculpted arms were revealed, but they were covered over again. A careful study of this sculpture and its church, including the restoration report, would provide a more confident dating for the dial. Powerfully, the befitting text "+A:W", appears on the dial. This signifies

A noteworthy document here is the beautiful Bury St. Edmunds Psalter<sup>344</sup>. One of its illustrative drawings in the margin (fol.68<sup>v</sup>), adjacent to the text of Psalms 61[Vulgate 60].6-7, provides visual reference to Isaiah 38 and II Kings 20 [Fig.2]. The latter two biblical passages describe how the Lord granted Hezekiah, King of Judah, fifteen more years of life<sup>345</sup>. As a sign of this, God sets the cast shadow back ten degrees on the sundial of Ahaz (Isaiah 38:5-8; II Kings 20:6-11). The illustration shows God the Creator blowing two horns<sup>346</sup> with an equal-arm balance in his right arm, and from His neck down hangs a large sundial<sup>347</sup> representing the cosmos (Heimann, 1966, pp.54-56, plate 12b). The God the Creator and orderer depicted in the Bury St. Edmunds Psalter also implies the divine origin of geometry and measure applied in creating and ordering this great abbey and town.

On a parallel note, Geometry and Arithmetic were also depicted as inspired personified figures, consorting with the gods, and indispensable to the attainment of wisdom and the mastership of life. The 5th-century allegorical descriptions in the *De*

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Christ in God, the eternal Creator and sustainer, the Alpha and Omega at the beginning and end of *time* and Creation (Revelation 1:8&11, 21:6, 22:13; Okasha, 1992, No.200, pp.51-52, plate Vd). The timepiece reminds one of eternity, of which this world is a reflection. The implication is that the sundial measures time sustained and ordered by the Creator, and does so between the beginning and end of time. The dramatic sculpted figure here and the figure accompanying the Anglo-Saxon sundial at Escomb have both been appropriately argued to be God the Creator (Heimann, 1966, pp.50-51, 56, Plate 11d).

<sup>344</sup>Vatican Library, Reg. Lat. 12. This psalter was written for, and possibly at, Bury St. Edmunds, most likely c.1025-c.1050 (Heimann, 1966, p.45).

<sup>345</sup>Psalms 61[Vulgate 60].6 also speaks of God prolonging a king's life. The next verse, 7, explains the supplicatory position of the king to God in the Bury Psalter, fol.68<sup>v</sup>: "He [the king] shall abide before God for ever: O prepare mercy and truth, *which* may preserve him."

<sup>346</sup>These two horns appear to signify the creation of the winds. The four winds of the four cardinal directions are personified in visual depictions as blowing two similar horns, in 10th-century work and in earlier examples (Heimann, 1966, p.53). Additionally, the horns could also signify God's "breath of life" (Genesis 2:7) through which the human "became a living soul" (Genesis 2:7).

<sup>347</sup>A compass is not portrayed, but the circular sundial suggests the former instrument.

*Nuptis Philologiae et Mercurii* and the *Quadrivium*<sup>348</sup> by Martianus Capella are the source for the visual depictions of the Liberal Arts (Masi, 1973, p.52). The virgin figures of Geometry, Arithmetic, and the associated figure of Cassiodorus, are described or depicted as holding, among other things, measuring rods/rules, a large masonic-like compass, and a staff with a handle at the top and a sharp point at its bottom (Masi, 1973, pp.52 fig.1, 54 fig.5<sup>349</sup>, 55). We note that the large compasses are depicted in the hand of Geometry [Figs.6-7]<sup>350</sup>. These instruments may mirror what the masons and surveyors employed. They are at least in the same *spirit* as those used by masons and surveyors, under the embracing figures of Arithmetic and Geometry, and included applications<sup>351</sup> of these two subjects<sup>352</sup>. Notably, during the reign of Abbot Anselm (1121-1148) at Bury St. Edmunds there was a great undertaking of increased acquisition

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<sup>348</sup>This text was written c.410-c.439 (Stahl et al. in Martianus Capella, I, p.15).

<sup>349</sup>In Michael Masi's article (1973), the correct image for fig.5 is incorrectly shown as the image for fig.4.

<sup>350</sup>*Temperantia* or Temperance, one of the seven Cardinal and Theological Virtues, was also depicted as personified female figure, and, in at least one case, holding a compass. An example appears in a crowned sculpted figure, on the southeastern corner pier in Andrea Orcagna's Tabernacle of Or San Michele, Florence, 1352-1360. This emblem suggests wisely circumscribed action. By the later half of the 13th century, Temperance was widely seen as combining (i) the proper measure, *mesure*, of chivalry and (ii) the Aristotelian *aurea mediocritas*, golden mean. Both are befittingly depicted by this held compass (White, 1969, pp.206-207, fig.4; Kreytenberg, pp.15, 24, 148-151 plates 86-89, 169).

<sup>351</sup>In regard to applications, Geometry wore a beautiful gown that had marked figures of "numbers of various kinds, gnomons of sundials, figures and designs showing intervals, weights and measures, depicted in many colors" (Martianus Capella, II, 580 p.218). Also Geometry, 'earth-measuring,' indeed expounds at some length on distance measurements of the earth (Martianus Capella, II, 589-703 pp.220-263).

<sup>352</sup>Martianus's text was well known throughout the Middle Ages (Mâle, pp.77, 79). The personifications of the seven Liberal Arts were repeated in medieval poetry, and were commonly depicted in stained glass and sculptural programmes of French Gothic cathedrals. They appeared at the cathedrals of Auxerre, Chartres, Clermont-Ferrand, Laon, St. Omer, Sens, Soissons, and Rouen. Also, they were depicted in pavements in St. Remi at Reims, and at the church of St. Irénée at Lyons, and at Freiburg Cathedral, Germany (Mâle, pp.79-90). In this architectural application particularly, masons, sculptors, and glaziers would have had some familiarity with these ennobling personifications for Geometry, Arithmetic, and their applications, such as in the crafts.

and copying of learned manuscripts (Thomson, 1972, pp.630ff, 645). The Abbey's library became rich in not only patristic titles, but also classical and late antique texts including those of Martianus Capella (Thomson, 1972, p.633) on these personifications of the Liberal Arts. For the monastic reader, a dramatic example of the work of Geometry and Arithmetic, inspired by divine wisdom, lay all about in the construction of the Abbey and town.

#### 4.3 The Great Length of Bury St. Edmunds Abbey Church

Another aspect of the significance of the geometry and measure of the Abbey church of Bury St. Edmunds is its great length. It was one of the remarkably large Anglo-Norman churches, and indeed one of the larger<sup>353</sup> churches in Christendom: the longest of the Anglo-Norman churches was Winchester Cathedral with Bury St. Edmunds only about 8 m shorter. The entire interior lengths of Winchester Cathedral and Bury St. Edmunds were c.157.00 m (c.515 feet) and c.148.57 m (485 feet),

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<sup>353</sup>There are a variety of ways to measure the size of a church: overall length including or excluding west end towers and atrium, length of transepts, width of nave and aisles, width of choir and aisles, interior height(s), height of tower or spire, surface area of the ground plan, cubic volume contained by the church, or mass or volume of building materials such as ashlar. Additionally, length measurements can, of course, be taken both in the interior or exterior. Depending on the criterion or composite set of criteria employed, the size rankings assigned to churches can vary. We see, for example, some of these criteria applied in the *Guinness Book of Records* to determine the world's largest cathedral and the largest church (McWhirter and Greenberg, eds., pp.206-207). Overall length is arguably the simplest way for church size to have been compared during the medieval period and, indeed, in general. Hence, measures of overall length are given the main emphasis in size comparisons in this dissertation.

The sacredness ascribed to a building was dependent on the faithful's thought and conduct there not its size. In terms of Christian spirituality, the large church would have, at best, suggested its corresponding archetype to the outer mind of the visitor, the unseen and *limitless* Heavenly Jerusalem.

respectively<sup>354</sup>. Further to the earlier discussion of the length of Durham Cathedral, these lengths were comparable<sup>355</sup> to, and by some comparisons even longer than, the Constantinian basilicas in Rome. For example, the interior length of Old St. Peter's in Rome, including the atrium, was c.132.77 m (c.436 feet)<sup>356</sup>. Winchester Cathedral was the longest, as might be expected for William the Conqueror's capital<sup>357</sup>. The second<sup>358</sup> longest, Bury St. Edmunds Abbey church, may have its great length attributable to its holding of a martyred king's relics<sup>359</sup>. Corresponding to the housing of the revered shrine of St. Peter, Winchester housed the shrine of St. Swithun, and Bury St. Edmunds, of course, the shrine of St. Edmund. It is noteworthy that the main building project of Edward the Confessor, William I's predecessor, was Westminster Abbey, which was larger than other Anglo-Saxon churches and contemporary building projects in Normandy. This may have been a formative part of the Anglo-Norman impetus to build big<sup>360</sup>.

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<sup>354</sup>Fernie, 1993, *Norwich Cathedral*, pp.135-136, 137 fig.51, 138 table 1.

<sup>355</sup>Fernie, 1993, *Norwich Cathedral*, pp.135-136, 137 fig.51, 138 table 1; Fernie, 1998, pp.1, 3 fig.4, 4-5, 5 table 1.

<sup>356</sup>Fernie, 1993, *Norwich Cathedral*, p.138 table 1 & cf. p.137 fig.51.

<sup>357</sup>Fernie, 1993, *Norwich Cathedral*, p.135; cf. Biddle and Keene, 1976, pp.310, 472.

<sup>358</sup>Anglo-Norman Old St. Paul's Cathedral in London appears to have been quite close in length to Winchester Cathedral and the Abbey church of Bury St. Edmunds (Gem, 1990, pp.57-58). This is not surprising considering London as the largest English city and the importance of the Bishop of London, the "'Dean' of the church of Canterbury" (Gem, 1990, p.51). Winchester Cathedral was begun in 1079 (Gem, 1990, p.58), Bury St. Edmunds in the 1080s (Fernie, 1998, pp.1, 4), and Old St. Paul's begun in 1087 or after under Bishop Maurice (d.1107) (Gem, 1990, pp.51-53). Old St. Paul's appears to have emulated the scale of Winchester Cathedral that was commenced earlier. However, Old St. Paul's Cathedral did not have as extensive architectural components as Winchester Cathedral, such as the west end's great massif and the transepts' aisles and grouped towers (Gem, 1990 pp.57-58). In consideration overall, including the great massifs at the west end of Winchester and Bury St. Edmunds, it seems more likely that Old St. Paul's became the third longest Anglo-Norman church, rather than the first or second. Later in medieval period, Old St. Paul's length was extended and apparently became over 50 feet longer than Winchester Cathedral (Morris, 1990, p.74)

<sup>359</sup>Fernie, 1993, *Norwich Cathedral*, p.135.

<sup>360</sup>Fernie, 1993, *Norwich Cathedral*, pp.135-136.

The great length of Abbey Church of Bury St. Edmunds was also related to nearby Norwich Cathedral. The Abbey wished to remain exempt from the episcopal control desired by the Bishop of East Anglia, Herfast and later Herbert<sup>361</sup>. This rivalry helped intensify the drive to build these two huge churches in East Anglia, and appears to have even caused extensions in the length and width of the Abbey church (Fernie, 1998, pp.1, 11-12). Also, Abbot Baldwin's 'success' in promoting the cult of St. Edmund provided funds for the expansion of the Abbey church (Fernie, 1998, p.12). In sum, the Abbey Church of Bury St. Edmunds was (i) an imperial-sized church for this monastically controlled town within the Norman empire and Christian kingdom and (ii) apparently a fitting house for the shrine of the martyred king, St. Edmund. Both (i) and (ii) appear as centring the construction of the great Abbey on fulfilling the divine hierarchy on earth.

#### 4.4 Liturgy and the Abbey Church of Bury St. Edmunds

Though much longer than earlier Anglo-Saxon churches, the Abbey Church of Bury St. Edmunds largely continued to follow Anglo-Saxon liturgical traditions derived from Ely and St. Benet, particularly the *Regularis Concordia*. Indeed, this huge church provided all the formal arrangements required by this text<sup>362</sup> [Fig.25]. This Abbey church represented, along with Ely and Winchester Cathedrals, the post-Conquest

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<sup>361</sup>Fernie, 1998, p.4; Goulburn et al. in Herbert, 1878, I, pp.243, 243 n.d.

<sup>362</sup>Klukas, 1978, pp.388-391, 429, 491 diag.IX-A.

adaptation of the *Regularis Concordia*, in the larger Anglo-Norman scale and style<sup>363</sup>.

The requirements of the liturgy helped focus the purpose of the church design and construction on the worship of God, in this case in an Anglo-Saxon way for an Anglo-Norman setting.

#### 4.5 Pervasive Cruciform Geometry

Part of the grand size of this abbey church was due to its large transepts<sup>364</sup> which formed the cross-arm of its cruciform ground plan. Transepts were one way to increase the number of small chapels and altars in a great abbey church or cathedral.

Additionally, there is documentation from the 4th to the 12th century that cross-shaped churches<sup>365</sup> were meant to signify Christ's victory, His cross, and the four quadrants of the earth<sup>366</sup>. In this manner, the cruciform plan and the cross were associated with orientation and the meaning and role of the number four<sup>367</sup>, one of the sacred numbers, *numeri sacratiss.*

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<sup>363</sup>Klukas, 1978, p.427 & 1984, "Winchester, Ely."

<sup>364</sup>The total exterior length of the transepts is over 65m (c. 213 feet) (Ferne, 1998, pp. 2 fig.1, 5).

<sup>365</sup>A church may be referred to as cross-shaped even when the church proper is round, but has a cross-shaped chapel (Krautheimer, 1969, p.121).

<sup>366</sup>Krautheimer, 1969, p.121; Gem, "Iconography," 1983; McCague, 1993, pp.104-111.

<sup>367</sup>The number four had many symbolic associations, including but not limited to the four quarters of the world or globe, directions, equinoctial and solstitial points, seasons, times of the day, elements, climates, bodily humours, Gospels, Evangelists, and ages of the human (Woodward, p.336 table 18.6). This took dramatic visual form in the various versions of the diagram of "The Physical and Physiological Fours" (Singer et al., 1917, pp.47ff & 1921) that appears in some manuscript copies of the Anglo-Saxon Byrhtferth's *Manual*, or *Enchiridion*. One example, originally from Thorney Abbey, is Oxford, St. John's College, MS. 17, fol.7<sup>v</sup>, c.1110 (Edson, p.35; cf. Alexander et al., 1984, p.104; Foster, 1991, p.138). A copy of this manuscript from Peterborough Abbey is in the British Library, divided between Cotton Tiberius MS. C.1. and Harleian MS. 3667, c.1122 (Edson, pp.37, 41 n.47; cf. Southern, 1970, pp.ix, plate IV).



Number had a profound religious meaning during the Middle Ages. It underlay Christian doctrine as manifested in theology, monastic rule (e.g. *The Rule of St. Benedict*), liturgy and other daily religious practices<sup>368</sup>. For example, Byrhtferth expounds at some length on the sacred meanings of individual numbers, including of course the number four, in his encyclopaedic compendium of 1011, his *Manual* or *Enchiridion*, written for young Anglo-Saxon priests, and mentioned earlier. He justifies these *numeri sacratiss* by quoting Wisdom 11:21 (Byrhtferth, 1929/1966, pp.199, 203). Indeed, number symbolism is an important key to the iconography of medieval ecclesiastical architecture<sup>369</sup> which would have been applied to the cruciform plan of

<sup>368</sup>Sunderland, pp.95-97; Horn et al., 1979, pp.118-125; Blair, pp.259-260.

<sup>369</sup>In addition to cruciform churches, octagonal baptistries involved number symbolism. The octagonal baptistry was linked to the clergy's intention to convey the profound meaning of resurrection, salvation and regeneration through the sacred number eight. Eight had this meaning because the eighth day was a new beginning or a return to one after the seven days of Creation (Krautheimer, pp.122-123, 138).

Richard Gem points out that it is not clear whether sacred number in the iconography of medieval architecture indicates the intentions of the masons and patrons, or only of the later chroniclers ("Towards an Iconography," 1983). However, he and Richard Krautheimer (1969) note that these fairly consistent interpretations have persisted for centuries, starting at least in the 4th century, in documents available to patrons. Many of the very same symbolic descriptions of the church are repeated over the centuries in these works. Indeed, Bishop Durandus explicitly references the earlier writings of Richard of St. Victor and the Bishop Sicard of Cremona in this regard (Durandus, I.I.14, 42). These fairly consistent symbolic descriptions may have been passed down widely to ecclesiastics, masons and others through the medium of writing, preaching, and consultative contacts between patrons and masons (Shelby, 1970, pp.16-18, 26 & 1972, p.413; Harvey, 1972, pp.94-95). Krautheimer suggests that the symbolic value of number and geometric shapes interacts with architectural design through somewhat vague and tacit connotations in the patrons' and masons' minds (1969, p.122). From a cultural viewpoint, we see a common medieval interpretation of ecclesiastical architecture through sacred number.

More elaborate attempts have been made to identify the use of biblical numbers and gematria in measurements of Old St. Peter's Basilica (Bannister) and Cluny III (Conant, 1963, p.12 & 1966, p.306 n.24). Also, similar claims have been made for:

- (i) Glastonbury Abbey's Lady Chapel (Frederick Bligh Bond, *Gate of Remembrance*, 4th edn., (Oxford: Blackwell, 1921), pp.150-151),
- (ii) Chartres Cathedral (John James, *The Traveler's Key to Medieval France* (New York: Alfred A. Knopf, 1986), pp.70-71), and
- (iii) King's College Chapel (Nigel Pennick, *The Mysteries of King's College Chapel*, (Wellingborough, Northamptonshire: Aquarian P., 1978), pp.88, 90).

Bury St. Edmunds and the other large Anglo-Norman churches. The built form of the church itself was a subtle code for the remembrance of God.

Another aspect of the cruciform geometry of Bury St. Edmunds appeared in the designation of the town's boundaries. Crosses surrounded the banleuca, and thereby formed its boundaries, under God and the protection of the Crucified. The limits of the banleuca were said to have been marked by four crosses in the confirming charter of Edward the Confessor (Lobel, 1935, p.5; *Codex Diplomaticus*, dccccx). In papal and royal documents, this banleuca was commonly titled as "*libertas ville Sancti Edmundi* or *libertas infra quatuor cruces*" (Lobel, 1968, p.125). The latter, of course, refers to the four crosses. The area surrounding the town had many standing crosses. The four crosses that were likely the boundary crosses were suggested by Mary Doreen Lobel, but the matter has not been definitely determined (1935, p.5 n.8). It is most probable that the location of these crosses largely followed, and were associated with, the four cardinal points (Lobel, 1935, p.5 n.8)<sup>370</sup> [Fig.41]. These four designated boundary crosses of the

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However, as Kenneth J. Conant partly notes for Cluny III (1963, p.12 & 1966, p.306 n.24), these claims are not convincing due to questions of historical metrological units, accuracy of measurements, and overly fortuitous matches.

Nevertheless, gematria is a profound tool in biblical exegesis. Each letter in the Hebrew, Greek, and Latin alphabets corresponds to numerical equivalents. For example, "Jesus" in Greek corresponds to 888 by summing the individual numbers corresponding to each letter in the word (Bannister, p.20). Byrhtferth's *Manual* or *Enchiridion*, described earlier, gives such correspondences (1929/1966, pp.194, between 196&197, 202-203).

<sup>370</sup>Additionally, in reference to the four crosses, the mention of the number four in itself is *suggestive* of the four directions and the cross. The two axes of north-south and east-west, of course, form a cross. Further, the four boundary crosses can be viewed as a cross of crosses over the landscape. The placement of crosses or religious sites in the four directions seems a common archetypal pattern applied in various ways. For example, a common feature of Rogations Days was to set stations "toward the four points of the compass and to read at each the beginning of one of the four Gospels with other prayers" (Thurston, "Processions," p.448). It would seem likely that the designated four boundary crosses at Bury St. Edmunds were also significant liturgical stations in the Rogation Day processions around the banleuca. The four crosses could also be associated with the founding of a town. A cross

banleuca indicated the area of jurisdictional liberties, exempt from episcopal control (Lobel, 1935, pp.5, 5 n.7), and, almost certainly, the right of sanctuary<sup>371</sup>. They were also possibly stations of the four cardinal directions employed in the Rogation Day processions around the parish's and abbey's property boundaries<sup>372</sup>. Boundary crosses and their cruciform positioning served multiple purposes of protection, liberty, sanctity and possibly the liturgy.

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was placed in each of the four cardinal points marking the boundary in founding a new town in France (probably 13th century) (Evans, 1969, p.43). Another similar pattern involved in the consecration of a church is the marking of three crosses in each of the four directions on the interior walls, and sometimes exterior walls as well, as mentioned in *The Pontifical of Egbert* (10th century) (Parsons, 1989, p.10).

Additionally, some cities were referred to as having four churches so located that they formed a cross over the city with the cross's intersection point at a fifth central church (Frugoni, *Distant City*, p.22; Krautheimer, 1969, pp.121, 143 n.45). Evidence for churches forming a cross in a town occur for:

(i) Utrecht (Mekking; Bosman; Hoekstra), (ii) Bamberg, (iii) intended at Paderborn in 11th century, according to the biographer of the bishop of Paderborn, (iv) Fulda (first half of 11th century) where Richard, abbot of Fulda, takes it as a sign from God that a fourth church should be built, so that a cross is completed with three other churches of the town, surrounding the abbey, and (v) Chester (Frugoni, *Distant City*, p.22). This layout was thought to help secure a town, through the protection of the Cross and the Crucified, and of the prayers said at the monasteries or churches at the cardinal points. There may be an association with the Heavenly Jerusalem as well:

The disposition, in the apocalyptic Jerusalem, of the gates at the four cardinal points, immediately understood as the Cross of Christ, influences as well the planning of the churches that are intentionally set up at the four points of the city. (Frugoni, *Distant City*, p.22).

The imprint of the triumphant Cross was placed on the city. At Utrecht, the type and function of the churches appears to have been related to their position in the cross with respect to the four cardinal directions (Mekking, pp.102-106; cf. Bosman, pp.93-96).

An earlier parallel is found in the ancient Egyptian, Nineteenth Dynasty papyri of "In Praise of the City of Ramses." The city was founded by the god Re. The poem says that there is a temple in each of the four quarters, west, south, east, and north, of the city. Ramses II was a god in the city, and its centrally-placed fortress "is like the horizon of heaven" ("In Praise of the City of Ramses," in Pritchard, pp.470-471, 470 fn.4-5).

Further, stone altars and religious groves helped fix Roman boundaries. Christian shrines are found at important points of the Roman centuration grid in the vicinity of Lugo in the Po Valley (Dilke, 1988, p.161).

<sup>371</sup>Hexham, Ripon, and Beverley also had crosses, *bancruces* or *cruces Athelstani*, that marked the boundary of their banleuca. These three banleuca had not only jurisdictional liberties, but also the right of sanctuary (Hall, 1989, p.434).

<sup>372</sup>Rogation Days' processions are discussed further in Appendix 8.

The essential underlying pattern suggested is that of a circle with crosses situated on its circumference or perimeter in the four cardinal directions and thereby forming a cross of crosses, or simply an equilateral cross circumscribed by a circle. These patterns are significant in the increasing scales of:

- (i) the oriented church, particularly during the consecration liturgy when the church is circumambulated and three crosses are marked on the interior walls, and sometimes exterior walls as well, in each of the four directions,
- (ii) the cardinally-aligned street plan and the town gates associated with the four directions, Eastgate, Southgate, Westgate and Northgate<sup>373</sup> [Fig.41],
- (iii) the banleuca and outer right-of-sanctuary boundaries marked by four crosses [Fig.41], and the Rogation Days procession stations in the four cardinal directions, and
- (iv) the world maps or *mappae mundi*, such as the T-O maps described and drawn in copies of a standard encyclopedia of the Middle Ages, St. Isidore's *Etymologiae* [Fig.40].

The similarity of patterning was a way of conceptualizing space. If the concept or pattern was innate in the human, the microcosm, it was because the pattern was deemed inherent in the corresponding macrocosm.

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<sup>373</sup>At Bury St. Edmunds there was also a fifth gate called Risbygate. Of further significance in regard to the town plan and the four cardinal directions, the streets passing through these entrances were named after their corresponding entranceway, with the possible exception of Eastgate. As an example, Northgate Street was a major road exiting northward from the town through Northgate [Fig.41]. The names of the gates may date back to the Anglo-Saxon and Anglo-Norman periods.

In the influential tradition of the early Christian theologians, including Tertullian, St. Ambrose, St. Jerome and Justin Martyr, the sacred cross was seen significantly as the pattern of all things. Illustrations that they give include: 1) the world (the four cardinal points), 2) the human being (e.g. standing erect with arms extended in the early Christian practice of prayer), 3) the bird with its wings extended so that it may ascend in the air, 4) built items (e.g. a ship, when sailing has mast and yard-arms in the form of a cross), tools and implements (Didron, 1851/1968, I, p.373). In regard to item 1) above, St. Irenaeus (c.130-c.202), St. Gregory of Nyssa (c.335-c.394) and St. Augustine also describe the Cross of Christ as imprinted on the structure of the entire universe through the cruciform configuration of length, breadth, height and depth. This configuration was also expressed as the four cardinal directions, height upwards and depth downwards (Ladner, 1995, pp.99-100). Items 1), 2) and 4) would apply to the cruciform and oriented plan of a church.

The layout of Bury St. Edmunds can also be placed against the background of medieval geography and even cosmology and world music (*Musica mundana*). The orderly and directional layout of Bury St. Edmunds was essentially the same as the larger structures of the world and universe. These structures to a degree mirrored each other and held the church and town in successive layers of containment. First, picture the cruciform and oriented abbey church, on scale with the central church of the Latin West, Old St. Peter's Basilica (Fernie, 1998) [Fig.25]. Further, the abbey and its church was within the four boundary crosses, probably set in the four cardinal directions, for the town and the surrounding area held by the monastery [Fig.41; cf. Fig.42]. From this we

extend out to the entire world or earth, as represented in T-O maps<sup>374</sup>, some of which have a cross marked in each of the four directions like four boundary crosses<sup>375</sup> [Fig.40]. Next, the world or earth was, of course, within the universe<sup>376</sup> which contains the planets, stars, moon and sun and whose motion was considered part of the world music<sup>377</sup>. More explicitly, the universe was centred on a stationary and spherical earth revolving around a great axis with terminal north and south poles, with planets in eastward and stars in westward motion<sup>378</sup>. The universe was, or merged with, the Heavenly Tabernacle and Heavenly Jerusalem [Fig.10; cf. Fig.8], as the cosmos and heaven<sup>379</sup>. At these various levels of containment, we find ordered structures following the four cardinal directions. The Creator apparently formed this grand cruciform scheme. At least tacitly, this divine scheme was applied in the construction of the

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<sup>374</sup>Additionally, the circular depictions of Jerusalem mirror the (circular) *mappae mundi* on the same or separate maps [Figs.38-40] (Harvey, 1991). In addition to Fig.39, an example of a circular plan of Jerusalem appears in a 12th-century manuscript at Stuttgart, Landesbibliothek, Cod.bibl. 2056, end pastedown (Brown, 1984, p.135 fig.). An Anglo-Norman map (1109-1110) from Thorney Abbey consists of an elaborated T-O-format *mappa mundi* with Jerusalem marked at the map's centre simply by a small circle with a Latin cross within (St. John's College, Oxford, MS. 17, fol.6; Southern, 1970, p.ix, Chart III). Jerusalem was considered to be at the centre of the world by biblical interpretation (Ezekiel 5:5). Bede's *De Locis Sanctis Libellus* describes the hole where the Cross of Jesus was placed as the middle of Jerusalem and the centre of the earth (Goulburn et al., II, p.405 n.r).

T-O maps and other *mappae mundi* were included in computus from the 9th to the 12th centuries (Edson). This shows the harmonious relationship of space and time commencing with the Creation and closing with the Last Judgment. The movement of the stars, sun, and moon viewed from the earthly base linked time and *mappae mundi* (Edson, p.39).

<sup>375</sup>An example of a T-O map with four crosses so marked appears in a 12th-century manuscript of Isidore's *Etymologiae* in the British Library (Hay, pp.332 plate 7, 354) [Fig.40].

<sup>376</sup>The entire universe consisted of seven heavens climaxing with the heaven of the Trinity (Bede, *De Natura Rerum*, 5, 11-12; Eckenrode, pp.492-493). Thus this conception of the universe merges with the Heavenly Tabernacle and Heavenly Jerusalem.

<sup>377</sup>Boethius, *De institutione musica*, I.2; Chamberlain, 1970, pp.81-82.

<sup>378</sup>Bede, *De Natura Rerum*, 5, 11-12; Eckenrode, pp.492-493.

<sup>379</sup>Holder in Bede, 1994, p.xvi; Bede, 1994, 1.3, p.10; Hough et al., p.533; Snodgrass, 1990, pp.297-300, 306; Josephus, *The Jewish War*, V.212 & *The Antiquities of the Jews*, III.123, 180-187. The Tabernacle had an extensive range and 'levels' or senses of interpretation (Holder in Bede, 1994, pp.xv-xvi, xix, xxiii; Malherbe et al. in Gregory of Nyssa, pp.179 n.212, 179-180 n.219).

oriented church, directed to the four quarters of the world and modelled after the Heavenly Jerusalem.

#### 4.6 The "Cosmic" City

The Abbey church of Bury St. Edmunds was consecrated in 1095. As standard for the consecration of a church, this rite formally identified the building as a model of the Heavenly City. Only the eastern parts of the church appear to have been completed then<sup>380</sup>, but this would not affect the symbolic attributions made during the dedication ceremony. Additionally, one can consider the degree to which the whole town, as an extension of the abbey and its church, may have also been a model of the Celestial City.

As background in this regard, we note that some writers on urban form and history apply a theory of two ideal city types. One ideal type is the "holy" city or city of local sacrality related to sacred objects, sacred persons and miraculous events (e.g. Mecca, Banaras, Jerusalem). The other ideal type is the "cosmic" or "cosmocized sacred" city laid out ritualistically along a divine pattern (e.g. Peking, Babylon, Rome). These two ideal city types are intended as heuristic devices, and are not comprehensive or mutually exclusive categories (Meyer, 1991, pp.147-165).

While the term "cosmic" city was not an historic designation, it does indicate that the city was intentionally planned with certain closely related and outstanding characteristics. The features of the "cosmic" city are: a) orientation, b) symbolism of

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<sup>380</sup>Fernie, *Norwich Cathedral*, 1993, pp.13, 13 fn.39.

centrality, c) a throne of the sacred king<sup>381</sup>, d) a stratified social order and e) the plan of the city and the structure of its government modelled on their heavenly counterparts<sup>382</sup>.

There is some evidence for this notion of a "cosmic" city that applies directly to medieval Christian towns and cities, particularly when a cathedral or abbey was a focus.

Alternatively, if the term city is used more figuratively, a cathedral, or abbey church such as at Bury St. Edmunds is a "cosmic" city. This attribution can be made  
a) because of the orientation to the four directions and quadrants of the world,  
b) because of the church being a centre in the sense of a metaphorical ladder to heaven built at the height of mountains, and of being a model of the heavenly and central city, the New Jerusalem,

c) because of it being the throne of the sacred king in the sense of the Bishop's throne (the *cathedra*) in the east of the cathedral demonstrating apostolic succession in the ordination of the bishop; or the abbot's seat; or the shrine of the guiding and commanding saint, especially in regard to the martyred King Edmund; moreover, the Heavenly Jerusalem has at its centre the throne of the King of Kings, Christ,

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<sup>381</sup>From Babylonian through Sassian times, Near Eastern rulers had titles such as: "King of the Four Quadrants," "King of the Four Quadrants of the World," "Sun of Babylon," and "Brother of the Sun and Moon" (Meyer, 1991, pp.153-154). These names corresponded to the king's position at the centre of the four quadrants of the "cosmic" city (L'Orange, p.13).

<sup>382</sup>Meyer, 1991, pp.155-156. The following of a heavenly pattern seems particularly common for earlier capital cities, and has been expressed as follows: "But in many parts of the world the co-ordination of natural and social forces was expressed not only ceremonially but also plastically, by laying out the capital as a model of a celestial archetype" (Wheatley, 1971, p.436). Elements applied in the planning of "cosmic" cities include circle, square, four directions (two horizontal axes at right angles) and the four quarters of the heavenly vault, *templum, mundus* at the centre, and a vertical axis (Yi-Fu, p.153; Meyer, 1991, pp.149-156; Wheatley, 1971, pp.423-436). The *mundus* is the "place of the departed souls" (Yi-Fu, p.153).



d) because a stratified-hierarchical social order was, of course, evident in churches and monasteries (and cities),

e) because of the church being a model of the universe and heaven of which there are connotations in i) the church's identification with both the Tabernacle of Moses and the Heavenly Jerusalem, which are models of the universe and heaven, ii) the church's four directions representing the four quadrants of the earth, iii) the bishop (Bowen, 1941; Bradley, 1988) and the abbot (Benedict, *The Rule of St. Benedict*) as representatives of Christ in the cathedral and abbey, respectively, and iv) the earthly and heavenly hierarchies deemed to mirror each other as evidenced, for example, in the *Laudes regiae* liturgy. Additionally, a medieval cathedral or abbey church was laid out ritualistically in the sense that various ceremonies were performed involving the preparation of the site, the laying of the foundation stone, and the consecration of the building. Further, a cathedral or abbey church could also help the entire town fulfil the features of the "cosmic" city as outlined above.

Indeed, the entire town of Bury St. Edmunds can be viewed as both a "cosmic" city and a "holy" city with the focus on the Abbey church. The borough was a "holy" city, of course, because of the presence of the martyred saint's relics, enshrined at the 'city's heart,' and their associated miraculous events. Bury St. Edmunds can also be considered to have been a "cosmic" city largely for the reasons given above in regard to this town's Abbey church. There may have been some ceremony involved in the laying out of successive parts of the town during the Anglo-Saxon and Anglo-Norman periods, in addition to rites performed as part of the building of the Abbey church. Further, the symbolism of centrality was apparent in the town's focus on the abbey church,

particularly the Shrine of St. Edmund. Additionally, the orientation of the town was indicated by the street-plan that literally and conceptually aligned with the four cardinal directions. This urban configuration was emphasized by the alignment of the town with the oriented Abbey church, the town gates and, most likely, the four boundary crosses. Thus, Bury St. Edmunds can be reasonably argued to have been, at least tacitly, a "cosmic" city and, more specifically, the Christian version of this city type, a model of the Heavenly Jerusalem<sup>383</sup>. Remarkably, the consecration of the great Abbey church as a model of the Heavenly Jerusalem established the context for the same, though less explicit, attribution for the town as a whole. Bury St. Edmunds was an important Anglo-Norman centre that well framed itself with the House of God in the City of God.

#### 4.7 Saint, Shrine and Community

A grand urban scheme, civic symbols and impressive monuments require a strong sense of community to have a sustained meaning (cf. Rybczynski, 1995, p.234). Monasteries would have, in part, given a strong sense of community. Notable here is the *Little Domesday Book* which deals with Bury St. Edmunds (fol.372, trans. in Darby, 1971, p.198). In it we see St. Edmund, king and martyr, as the central sacred focus of the town:

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<sup>383</sup>The "cosmic" city, as defined in this section, and the Heavenly Jerusalem have corresponding characteristics. The notions of the "cosmic" city and the archetypal city in regard to the Heavenly City and Jerusalem were also touched on earlier in this section, in the discussion of the cathedral and abbey church as a figurative "cosmic" city. This topic is discussed further in Appendix 2.

- (i) "In the town (*villa*) where rests enshrined Saint Edmund, king and martyr, of glorious memory ..." (trans. in Darby, 1971, p.198),
- (ii) "... the land of Saint Edmund ..." (trans. in Darby, 1971, p.198), and
- (iii) the town's workers "daily wait upon the Saint, the abbot and the brethren" (trans. in Darby, 1971, p.198).

Further to (iii) above, the workers would be particularly active during the church's feast-days, fairs, market days, and when the courts were held by the abbot (Beresford, 1967, pp.333-334). These four 'main' activities gave the town the sense of being a unified community<sup>384</sup>.

Christian drama was one the collective expressions of this community. Bury St. Edmunds, like many other medieval towns, was transformed annually for the performance of miracle plays:

The climax of any medieval pilgrimage often came during the Saint's festival, when the streets of the town would be decked out for a fair. Both inside churches and on the street, actors drawn from the townsfolk performed miracle plays. (Adair, 1978, p.107)

Henry I granted to the abbot of Bury St. Edmunds the right to hold a seven-day fair in conjunction with the feast of St. James (Lobel, 1935, p.119; Douglas, ed., 1932, p.73). We note, of course, the conjunction of the fair with the sacred time of St. James on the liturgical calendar.

Indeed, fairs, extending over several days, were common at medieval towns, such as Durham and Bury St. Edmunds from at least the ninth century and later. These fairs

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<sup>384</sup>The sense of community later took on a more polarized form. From the end of the 12th century onwards, the burgesses felt increasingly hampered by the rule of the monastery over the town (Lobel, 1935, p.120).

would be centred on a feast day associated with the town's titular saint or another saint. This practice was in place from the early years of Durham and great crowds came there in the 12th century for St. Cuthbert's annual fair in September<sup>385</sup>. By law it was decreed that travellers to this fair were granted the special "peace" of St. Cuthbert ensuring their protection during travel seven days before and after the event, and punishment for peace-breakers (Craster, 1957; McCluskey, 1998, p.72). A fair was also held at nearby Bamburgh, an early royal town of Northumbria. The fair centred around the Feast Day of St. Oswald (d.642) held on August 5. Like King Edmund, Oswald was a martyred king and defender of the Church. His Feast Day replaced the Celtic harvest festival of Lughnasa, held at the solar calendar's mid-quarter day between the summer solstice and the autumnal equinox (McCluskey, 1989, pp.S2-S15 & 1998, pp.61, 63 table1, 66-68, 72). Through such fairs, medieval towns, such as Durham, Bamburgh and Bury St. Edmunds, accommodated and fulfilled their heavenly purpose of Christian community under a saint's direction and in adaptation of the cyclical solar calendar.

In recognition of Bury St. Edmunds stress on Christian community, this borough has been referred to as "a Monastic Town" (Lobel, 1935, title). This designation is an apt appellation because the monastic presence, control, and inspiration would have permeated this town during the Middle Ages. These qualities were reinforced in a grand urban vision that would have been apparent in the town's layout and appearance that I

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<sup>385</sup>This Feast Day on September 4 likely commemorated the translation of St. Cuthbert's remains from Lindisfarne to Norham by Bishop Ecgred (830-845), before the subsequent removal to Chester-le-Street in 883. The festival was listed in a liturgical calendar from the 9th century and was discussed in the "*Consuetudo et lex sancti patris Cuthberti*" from the 11th century (Craster, 1954, pp.187-188 & 1957). The Feast Day of St. Cuthbert is March 20.

have identified, at least tacitly, with the "cosmic" city, a model of the Heavenly Jerusalem. Further, as a dramatic complement to the town as a "cosmic" city, Bury St. Edmunds was also a place of local sacrality and miraculous events. Indeed, extending out from the formal shrine in the great Abbey church's east end, the entire town appears to have been conceived as an immense 'shrine' for St. Edmund (Gauthiez, 1998, p.94), and thus was all the more aptly deemed a "holy" city.

Guide and protector, Saint and King, Edmund was considered to be the pervading and pivotal benefactor at Bury St. Edmunds. It has been noted in regard to the acquisition of St. Edmund's body in the first half of the 10th century, that at this town "Almost all else follows from this"<sup>386</sup>. As an early Bishop declared: "Towns are glorified no less by their churches (*aedes*) than by their spiritual patrons, or rather cities have been created out of towns by such patronage"<sup>387</sup>. This statement could well be applied in spirit to both Bury St. Edmunds and Durham as they are guided and built extensions of their super-human saints and the saints' monasteries. In the next chapter, a town will be examined that was not so dominated by the milieu of saints, Norwich in Norfolk, East Anglia.

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<sup>386</sup>Fernie, 1998, p.4.

<sup>387</sup>Avitus, [dedication] *hom* 29; trans. in Wood, p.78. The statement was made by Avitus, the metropolitan bishop of Vienne (fl.500), in regard to post-Roman Gaul. However, it is also apt for Bury St. Edmunds much later, and also Durham.

## Chapter 5: Norwich

Norwich was an Anglo-Scandinavian centre that came to have elements of both the 'monastic town' and 'citadel' [Fig.28] that we noted above in the grand urban visions of Bury St. Edmunds and Durham. Unlike the former two towns, Norwich was not focused on a saint. Its cathedral had the more 'abstract' titular designation of the Holy Trinity. Further, the bishop was not a 'prince-bishop,' so the cathedral and castle complexes were not as closely linked as at Durham. As a result, at Norwich, the Bishop's palace adjoined the cathedral's north nave aisle in contrast to Durham where the prince-bishop's palace was integrated into the castle complex. Durham and Bury St. Edmunds represented more unusual mergers of Church and state, whereas Norwich exhibited the more typical polarised balance of *regnum et sacerdotium*. Nevertheless, all three towns essentially strove to place themselves in the same divine hierarchy and to reflect their heavenly counterparts.

### 5.1 Church and State and the Building of Norwich and its Cathedral

By the late 9th and 10th century there was growing Danish occupation at Norwich (Ayers, 1994, p.25). The land occupied by the manor of "Thorpe" later formed a significant portion of the monastic complex of Norwich Cathedral. "Thorpe" means "new settlement" in old Danish. Norwich is a hilly city. However, the "Cowholme" area, belonging to the manor of Thorpe and later part of the monastic complex, derives part of its name from the old Danish word "holm" meaning "flat ground" or "water meadow".

Thus, "cow" joined with "holm" signifies the pasture of cattle (Ayers, 1994, p.25; Goulburn et al. in Herbert, 1878, I, pp.111-113). At the time of the Norman Conquest, Norwich was one of largest and most important towns in England (Green & Young, 1981, p.13; Campbell, 1975, p.1), with a population of 5,000 to 10,000<sup>388</sup>. There appear to have been twenty-five to forty churches in Norwich c.1066 (Ayers, 1994, p.43) [Fig.27].

Part of the significance and recognition of Norwich as an urban centre includes its establishment of a mint. During King Athelstan's reign (924-939), there was the policy of naming each mint on at least some of its coins, including Norwich (Dolley, 1964/1970, pp.21-22). Indeed, a silver penny of King Athelstan gives the settlement's earliest definite name reference, "Norvic" [Fig.33]. This name is part of the signature of a mint that operated in Norwich<sup>389</sup>. An inscription around the outer circle reads: "NORVIC+MANTIC:EM. MO."<sup>390</sup>. There is also a "+" in the centre of this side of the coin. These two crosses by and near "Norvic" tacitly invest Norwich and its mint with sanctity<sup>391</sup> under King Athelstan, whose name and image are presumably on the other side of the penny.

<sup>388</sup>Campbell, 1975, p.3; Carter, 1978, p.202.

<sup>389</sup>Ayers, 1994, pp.29, 29 fig.16; Green et al., pp.10, 10 fig.7.

<sup>390</sup>Judging from other Anglo-Saxon pennies (cf. Dolley, 1964/1970), the "MO." in this inscription seems to stand for the Latin *moneta* (mint) or *monetarius* (moneyer, minter). "EM." appears to be an abbreviation of the moneyer's name. It is not clear to me what "MANTIC" means here. It may mean mint, though not obviously so. It may be related to the etymology of the Latin *mantacula* (wallet) and *manticularius* (concerned with the making or manufacture of wallets). Thus the inscription appears to mean: from the mint at Norwich (under the sanctity of the cross) operated by the moneyer EM. This matter could be checked further.

<sup>391</sup>Similar sanctity for a town is seen on other coins. An example is a silver penny of King Alfred the Great, minted in London c.886 (Dolley, 1964/1970, p.20, plate XII.34; Clark, 1989, pp.backcover, 15). One side gives the name and image of King Alfred, and the other side gives a monogram of London ("LVNDONIA") with a cross [Fig.32].

Ralph, Earl of Norfolk, founded a new Norman section of Norwich to the west of the castle. The section included a rough grid of streets in the area around the present parish church and market. It was underway or complete by 1075 (Ferne, *Norwich Cathedral*, 1993, pp.5, 5 fn.4, 6).

Also noteworthy for Norwich was the Council of London held around 1075<sup>392</sup>. At this particular council, the Norman policy<sup>393</sup> of placing bishoprics in centres of institutional or commercial importance was set<sup>394</sup>. This policy could have been hastened by its necessity: to bring most of the cathedrals within or near defensible walls during the threat or outbreak of the rebellion of 1075 (Whitelock et al., eds., 1981, II, p.609).

The East Anglian see was transferred from Thetford to Norwich in 1094 (Dodwell, 1957, p.6). This move was initiated by Herbert (c.1050-1119), the bishop for Norwich Cathedral who was a Norman from Hiémois. He had been called to England by William Rufus (William II) (Dodwell, 1957, p.4). Further, Herbert apparently bought the East Anglian bishopric in 1091 from the King. This act of simony<sup>395</sup> may have made

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<sup>392</sup>At the Council of London, most of the bishops and abbots of England convened sometime between 25 December 1074 - 28 August 1075, probably around Easter or Whitsun like other Anglo-Norman councils (Whitelock et al., eds., 1981, II, pp.607-612).

<sup>393</sup>A similar policy may have been in effect in Normandy before the Conquest. A transfer had occurred earlier in England in 1055, with the move of the see at Crediton to Exeter, under the authorization of Pope Leo IX. However, the number of moves, and the lack of direct assent from the Pope, were unusual (Whitelock et al., eds., 1981, II, pp.609, 609 fn.2).

<sup>394</sup>Ferne, 1993, *Norwich Cathedral*, pp.9, 9 n.17; noted also in Whitelock et al., eds., 1981, II, pp.607-616. In compliance with this directive, the following transfers of bishoprics had taken place before the transfer to Norwich: (i) Sherborne and Ramsbury to Old Sarum, (ii) Wells to Bath, (iii) Selsey to Chichester, (iv) Lichfield to Chester, (v) Dorchester to Lincoln, and (vi) Elmham to Thetford (Goulburn et al. in Herbert, 1878, I, p.125).

<sup>395</sup>Simony was not uncommon in Herbert's time. In councils held at Winchester, London, Gloucester, under Archbishop Lanfranc, from 1072 to 1086, regulations were made against simony. In 1102, six abbots were removed from their offices on charges of simony, during a Synod at Westminster Abbey under Anselm (Goulburn et al. in Herbert, 1878, I, pp.78, 78 n.q).



the occasion of building Norwich Cathedral an act of penance<sup>396</sup>. In "The Charter of the Foundation," Herbert begun by speaking intensely and at some length on his sins, though not in specific terms. His culminating statement was:

Therefore for the redemption of my soul, and for the absolution of all my sins, I am the first who have built at Norwich a church in honour and in the name of the

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<sup>396</sup> Atonement was also claimed as the purpose of Battle Abbey. *The Chronicle of Battle Abbey* claims that William, Duke of Normandy, when about to face King Harold Godwinson and the English knights at the Battle of Hastings, declared:

'... But in all my affairs I have committed myself trustingly to my creator. ... I am at this moment too, confident of His aid. And to strengthen the hands and hearts of you who are about to fight for me, I make a vow that on this very battlefield I shall found a monastery for the salvation of all, and especially for those who fall here, to the honour of God and his saints, where servants of God may be supported: a fitting monastery, with a worthy liberty. Let it be an atonement: a haven for all as free as the one I conquer for myself.' (Searle trans., 1980, pp.36-37, cf. pp.66-67).

The *Chronicle* states that after the battle, the location where Harold's standard and emblem fell was marked (Searle trans., 1980, pp.40-41). Later, the high altar of the abbey was built at this very spot (Searle trans., 1980, pp.44-45).

The *Chronicle* relates that five monks from the Abbey of St. Martin, Marmoutier worked to found Battle Abbey. They did not wish to have the abbey built atop the dry-soiled hill where Harold's standard fell. Instead, they suggested an alternative site nearby, *Herste*, NW of the present abbey. It was a wide level area, and was well watered. Nevertheless, the Conqueror ordered them to keep to the original hill site. Some leveling of this hill site was subsequently carried out (Searle trans., 1980, pp.42-43; Searle, 1980, pp.42-43 fn.2).

Also, the monks complained of difficulty in finding building stone nearby, so William had some brought across the English Channel from the region of Caen, but then:

And tradition has it ... it was revealed to a pious lady that if they dug in a place shown her in a vision, they would find there an abundance of stone for the projected work. Accordingly they searched not far from the boundary that had been marked out for the church, and there they found such a supply of good stone that it was quite apparent that the Lord had laid up a hidden treasure of stone there from the beginning of time for the predestined work. (Searle trans., 1980, pp.44-45)

(The medieval quarry, based on rental records, appears to have been in the immediate vicinity, and to the ESE of the church (Searle, 1980, p.44 fn.1).) The settlement was called Battle, as ordered by William I, in memory of the victory by the grace of God (Searle trans., 1980, pp.68-69). A powerful reinforcement in the narrative is that the quarry had been foreseen at no less than "the beginning of time." Divine guidance, the fulfilment of a vow, and atonement were claimed to be part of the essential purpose for the building of this abbey.

An earlier Anglo-Saxon example of a church founded on a battlefield occurred in regard to the Battle of Heavenfield in 634. The Bretwalda under Oswald of Northumbria fought the Britons under Cadwallon. In memory of the Heavenfield victory, a church was built on the battlefield *in modum crucis*, because the cross had given Oswald the victory (Stevens, 1935, p.20). However, unlike at Battle, atonement may not have been explicitly mentioned as a reason for the church.

Holy and Undivided Trinity, and have constituted and consecrated it the head and mother church of all the churches of Norfolk and Suffolk. (Herbert, 1878, I, p.147, trans. Goulburn et al.)

William of Malmesbury claimed that Herbert sought and received absolution for this sin of simony from Pope Urban (Dodwell, 1957, pp.4-7, 18). It was common for churches to be built or funded to ease a patron's conscience<sup>397</sup> before God.

The organizing and financing of the building of the Norwich Cathedral and monastery [Fig.30] was an involved process. Financial loans were provided by Jews living in Norwich (Green et al., p.13). Land was acquired in stages by Herbert, including property from the land of St. Michael to the bridge of St. Martin (Ayers, 1994, p.54). Two churches, St. Michael Tombland and Holy Trinity<sup>398</sup>, and possibly three others, St. Mary in the Marsh, St. Martin at Palace, and SS. Simon and Jude, were demolished or incorporated within the new monastic close. Additionally, an entire grid of streets with houses was probably removed (Ayers, 1994, p.54 & 1996). The land for the cathedral, monastic complex, and bishop's palace was purchased from the citizens and magnates, William II, and Henry I. Also land was exchanged with the sheriff of Norfolk, Roger Bigod (Ferne, *Norwich Cathedral*, 1993, p.11). William II made or confirmed two donations. A grant of land from Henry I, dated 1101, stated: "therefore in the church of the Holy Trinity of Norwich I have given to God and Bishop Herbert and his successors

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<sup>397</sup>Ferne, *Norwich Cathedral*, 1993, pp.11, 11 n.29.

<sup>398</sup>A Roman road, aligned roughly east-west, previously ran through what became the east-west axis of Norwich Cathedral, then extended across the River Wensum. A Saxon road may have run roughly north-south from a bridge over the River Wensum through the middle of the monastic complex (Carter, 1978, p.192 fig.7; Green et al., pp.9 map 1, 10 map 2; Ayers, 1994, p.32 fig.18 & 1996, p.67 fig.10). If this second road existed, the earlier Church of the Holy Trinity may have been at this junction (Ferne, *Norwich Cathedral*, 1993, p.7 fig.2). The crossing of the Anglo-Norman Cathedral would have been close to the 'cross' of this junction (based on Carter, 1978, p.192 fig.7).

and the monks who serve therein and will serve God, the manor of Thorpe ...<sup>399</sup>. We note that the land is given to God, towards the purpose of serving God. This follows the pattern for the founding of other earlier monasteries<sup>400</sup> ..

## 5.2 The Ceremonial Laying of the Foundation Stone

Bishop Walkelin of Winchester, Ralph the Chaplain, and Roger Bigod

"inspected, established, and caused to have surveyed"<sup>401</sup> the lands for the new cathedral and monastery. After this, in 1096, Bishop Herbert commenced to build "from the lowest foundations"<sup>402</sup>. At the commencement of building, Herbert set the first stone with the inscription: "In the name of the Father and of the Son and of the Holy Spirit, Amen, I Herbert the Bishop have placed this stone"<sup>403</sup>. Hubert de Rye, Baron and Castellan (or warden) of Norwich Castle laid the second stone<sup>404</sup>. From the Cathedral's Register records, it is determined that these two stones were laid in the axial chapel dedicated to the Saviour at the far east end of the cathedral where construction had

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<sup>399</sup>Trans. in Fernie, *Norwich Cathedral*, 1993, p.13; *First Register*, fol.3, lines 13-16 in Fernie, *Norwich Cathedral*, 1993, p.13 n.45, and in Saunders.

<sup>400</sup>In 966, the restoration of the monastery of St. Peter, and its control of Peterborough (*Medehamstede*), follows the same pattern (*Peterborough Chronicle* in Rositzke, pp.76-77). Similarly, we note for the great abbey at Fulda: "The donation was accordingly confirmed by all and passed from the possession of men [land of king and nobles] into the possession of God" (*The Life of St. Sturm* in Talbot, p.190; emphasis mine).

<sup>401</sup>Trans. in Fernie, *Norwich Cathedral*, 1993, p.13; *First Register*, fol.1<sup>v</sup>, lines 28-31, and fol.2<sup>v</sup>, lines 17-18 in Fernie, *Norwich Cathedral*, 1993, p.13 n.40, 41, and in Saunders.

<sup>402</sup>Trans. in Fernie, *Norwich Cathedral*, 1993, p.13; *First Register*, fol.1<sup>v</sup>, lines 28-31, and fol.2<sup>v</sup>, lines 17-18 in Fernie, *Norwich Cathedral*, 1993, p.13 n.40, 41, and in Saunders.

<sup>403</sup>Trans. in Fernie, *Norwich Cathedral*, 1993, p.13; *First Register*, fol.8, lines 8-13 in Fernie, *Norwich Cathedral*, 1993, p.13 n.42, and in Saunders. Another section in the *First Register* (IV in Saunders, p.2) gives a version that is slightly different (Dodwell, 1957, p.8 fn.7).

<sup>404</sup>Goulburn et al. in Herbert, 1878, I, pp.114-115; Dodwell, 1957, pp.8-9.

begun<sup>405</sup>. The fact that churches were generally built east to west, to facilitate their earliest possible liturgical use and placement of relics, may be suggestive of this practice in general, i.e. ceremonial stones were laid where the first above-ground work was to commence.

The ceremonial laying of the foundation stone<sup>406</sup> has a long history through antiquity<sup>407</sup>. In the Christian period, this practice was probably in place by the early 9th century, if not much earlier (Thurston, "Stone," 1913). Belethus (fl.1182), the English liturgist, described the ceremony:

When the foundations have been dug it is necessary that the bishop sprinkle the place with holy water and that he himself, or some priest at his bidding, should lay the first stone of the foundation, which ought to have a cross engraved upon it<sup>408</sup>.

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<sup>405</sup>Fernie, *Norwich Cathedral*, 1993, p.13; *First Register*, fol.8, lines 8-13 in Fernie, *Norwich Cathedral*, 1993, p.13 n.42, and in Saunders; Dodwell, 1957, p.8; cf. Goulburn et al. in Herbert, 1878, I, pp.115-117.

<sup>406</sup>James George Frazer (II, pp.89-90) and J. Rendell Harris (pp.441-442) have collected, world-wide, cases of human and animal sacrifices, or 'captured' souls buried with the foundation-stone. In the latter case, the soul was deemed captured by burying a measure of an unsuspecting person's body or shadow, or by having his or her shadow cast on the foundation-stone. Purportedly, the person would die shortly afterwards. This appears to have been an indirect equivalent to human sacrifice. In principle, Christianity would avoid such practices. However, it is related that: "In England and on the Continent, workmen have found, when dismantling walls of homes and churches, the bones of animals, dolls, coffins, images, and other items which seem to have acted as substitutes for human sacrifice at the foundation rites" (Smith, 1972). Ralph Merrifield discusses some English medieval examples (pp.116-119), as well as examples from Roman and other periods. This area could be checked further.

<sup>407</sup>Evidence for this ceremony is found in cuneiform inscriptions regarding Babylonian-Assyrian temples and palaces, for the Temple of Solomon, and for Roman temples (Ladner, 1942, pp.45-46; Thurston, "Stone," 1913). In the 6th century, the *Novellae* of Justinian, and the Council of Orleans, state that a bishop shall place a cross at the site, and the former indicates that a prayer is to be said. The laying and blessing of a foundation or cornerstone is not explicitly mentioned (Meinberg, p.335).

<sup>408</sup>Belethus, 10; trans. in Thurston, "Stone," 1913, p.303. In regard to holy signs and inscriptions on building materials, the semi-legendary *Narratio de S. Sophia*, mentioned earlier, is of note for the building of the Hagia Sophia in Constantinople. Three officials under Justinian I, had each brick, from the island of Rhodes, stamped with the following words:

'God is in the midst of her, and she shall not be moved. God shall help her, and that right early.' (8; trans. Mango, pp.96, 96 fn.212; Psalms 45(46).5)

Christ was identified with the foundation stone and corner-stone of this ceremony, following various biblical passages<sup>409</sup> (Ladner, 1942, pp.43, 54). The didactic works on liturgy by Hugh of St. Victor, Siccardus of Cremona<sup>410</sup>, and William Durandus<sup>411</sup> confirm this identification. The ceremony was deemed necessary to undertake the construction of the church, and its importance was underlined by the participation of bishops, lords and royalty.

In addition to the foundation-stone ceremonies for Durham and Norwich Cathedrals that have already been described, a more detailed description is helpfully given for such a ceremony at St. Denis about four and a half decades later. Abbot Suger recounts an elaborate foundation-stone ceremony for the new chevet of the Abbey church of St. Denis on Sunday, July 14, a day before the Ides of July, 1140<sup>412</sup>. A procession descended to the level of the foundation. Bishops mixed the mortar with their own hands using blessed water<sup>413</sup>. They then "laid the first stones, singing a hymn to God and solemnly chanting the *Fundamenta ejus*<sup>414</sup> to the end of the Psalm" (Suger, *De Consecratione*, IV, trans. Panofsky et al., 1979, pp.102-103). King Louis, the two abbots, and monks then laid the (first) stones. "Certain persons also [deposited] gems

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<sup>409</sup>Ephesians 2:11, 2:20; Psalms 87:1, 118:22; Isaiah 28:16; Matthew 21:42; Mark 12:10; Luke 20:17; Acts 4:11; I Peter 2:4-7; Romans 9:32. Other biblical passages that reference the corner-stone, foundation stone, or foundations are: Job 4:19, 38:4-7; Exodus 9:18; 2 Samuel 22:8; Proverbs 10:25; 2 Timothy 2:19; Hebrews 1:10, 6:1; Psalms 104:5; Luke 6:48; Romans 15:20; Revelation 21:14&19.

<sup>410</sup>Siccardus of Cremona, "*De Fundatione Ecclesiae*," *Mitrale*, I.2.

<sup>411</sup>William Durandus, "*De Ecclesia et Eius Partibus*," *Rationale Divinorum Officiorum*, I.1, paragraph 8f.

<sup>412</sup>Suger, *De Consecratione*, IV, 1979, pp.100-103; Panofsky et al. in Suger, 1979, p.241.

<sup>413</sup>This blessed water was from the new nave and chapel dedications, conducted in the Abbey Church on June 9, 1140 (Suger, *De Consecratione*, IV, 1979, pp.96-99, 102-103; Panofsky et al. in Suger, 1979, p.236).

<sup>414</sup>"The foundations thereof [are in the holy mountains]" (trans. Panofsky et al. in Suger, 1979, p.103 fn.\*).

out of love and reverence for Jesus Christ, chanting: *Lapides preciosi omnes muri tui*"<sup>415</sup> (Suger, *De Consecratione*, IV, trans. Panofsky et al., 1979, pp.102-103). Suger proclaims that they were guided by the Holy Spirit in this "good beginning of the house of God" (Suger, *De Consecratione*, IV, trans. Panofsky et al., 1979, pp.100-103) and "exhilarated by so great and so festive a laying of so holy a foundation" (Suger, *De Consecratione*, IV, trans. Panofsky et al., 1979, pp.100-103). The ceremony at Norwich Cathedral would have had at least some of these additional elements. The practice was intended to set the project literally and spiritually on a good foundation with divine blessing and guidance.

### 5.3 The Great Length of Norwich Cathedral

The building projects at Norwich Cathedral, its monastery and Bishop's Palace were a huge undertaking in financing, planning and administrative logistics, the sheer quantity of stone and the fine quality of the craft work. As noted earlier with some other large Anglo-Norman churches, Norwich Cathedral has a length comparable to the Constantinian basilicas in Rome<sup>416</sup>. In particular, the interior length of Old St. Peter's, including the atrium was c.132.77 m (c.436 feet). The interior length of Norwich Cathedral is very close at 132.00 m (c.433 feet)<sup>417</sup>. Also noteworthy are the cathedrals at

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<sup>415</sup>"All of your walls are precious stones" (Suger, *De Consecratione*, IV, trans. Panofsky et al., 1979, pp.102-103 & cf. p.103, fn.†). This would reference Revelation 21, and echoes the later dedication of the church where the edifice is identified with the Heavenly Jerusalem.

<sup>416</sup>Fernie, *Norwich Cathedral*, 1993, pp.135-136, 138 table 1.

<sup>417</sup>Fernie, *Norwich Cathedral*, 1993, p.138 table 1.

Mainz and Speyer (begun 1030), founded by German emperors, and the Great Abbey Church of Cluny III (begun 1088), centre of the Cluniac monastic 'empire.' These three buildings were the only 11th-century churches on the continent in the Constantinian scale like Norwich Cathedral<sup>418</sup>. The great length of Norwich Cathedral may have also related to the rivalry with the nearby and longer Abbey Church of Bury St. Edmunds<sup>419</sup>. Nevertheless, Norwich and its imperial-sized Cathedral would have, like at Bury St. Edmunds and Durham, been associated with a great centre in Christendom, Rome and its Old St. Peter's Basilica.

#### 5.4 The Heavenly Jerusalem

"The First Charter of the Foundation" (Herbert, 1878, I, p.147) speaks of Herbert<sup>420</sup> ordaining the attached monastery "before God and the heavenly Jerusalem" (Herbert, 1878, I, p.147, trans. Goulburn et al.), and that all the property, previously the property of the bishops, "belong to God and His Church" (Herbert, 1878, I, p.148, trans. Goulburn et al.)<sup>421</sup>. The Cathedral's dedication is to the Holy Trinity, replacing on this

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<sup>418</sup>Fernie, *Norwich Cathedral*, 1993, p.135. The interior lengths of Speyer Cathedral and the Abbey Church of Cluny III (including the atrium) were c.128.61 m (c.422 feet) and 172.27 m (565 feet), respectively (Ferne, *Norwich Cathedral*, 1993, p.138 table 1 & cf. p.137 fig.50).

<sup>419</sup>Ferne, 1998, pp.1, 11-12.

<sup>420</sup>Herbert was an active building patron. He had two hospitals built in Norwich, one dedicated to St. Mary Magdalen and one that seems to have been St. Paul's or Norman's Hospital. Additionally, he founded St. Leonard's Priory with an associated chapel nearby, dedicated to St. Michael, atop the steep hill of Mousehold Heath (Ayers, 1994, p.57). Like St. Michael Tombland, we note again, the higher ground location for a church or chapel dedicated to St. Michael.

<sup>421</sup>The charter concludes with "These grants and ordinances King Henry and Queen Matilda confirmed, and signed with their cross" (Herbert, 1878, I, p.151, trans. Goulburn et al.), and it was renewed with ecclesiastical authorities signing it and placing a cross by their names. The document concludes with a typical statement that shows various tacit ways in which the project was sanctified:

site Herbert's earlier church of, again, the Holy Trinity (Dodwell, 1957, p.8). The signing of the Charter by ecclesiastical authorities at a council meeting at Windsor in 1101 can be considered as a dedication of the institution. Bishop Herbert may have consecrated some altars by 1101<sup>422</sup>. The Cathedral was consecrated much later, in 1278<sup>423</sup>.

A key feature of the dedication and consecration of a church during the Middle Ages was the identification of the edifice with the Heavenly Jerusalem (Revelation 21, 3:12)<sup>424</sup>. This identification could also extend to the whole monastery as well, as shown at the Abbeys of Fécamp and Fulda<sup>425</sup>. The relevant description for Fécamp appears in a

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This gift was made in the year of the Incarnation of our Lord 1101, in the month of September, under an ordinance of the blessed Pope Gregory, at Windsor, during the reign of our Lord Jesus Christ, who is of the consubstantial and co-eternal equality, honour, and glory with the Father, in the unity of the holy Spirit, for ever and ever. Amen. (Herbert, 1878, I, p.153, trans. Goulburn et al.)

<sup>422</sup>Fernie, 1993, *Norwich Cathedral*, p.14; cf. Dodwell, 1957, p.9.

<sup>423</sup>Fernie, 1993, *Norwich Cathedral*, p.14. A church could be consecrated before its completion (Cheney, pp.36, 36 fn.2; Gardner, 1994, pp.11, 11 fn.35). However, a delay of decades, or a century or more, such as at Norwich Cathedral, is not uncommon between the completion and the later consecration of a church (Fernie, 1993, *Norwich Cathedral*, pp.14, 14 fn.52). A series of church dedications sometimes occurred when a bishop was visiting a particular area. Such a series of dedications occurred in 1239 when the Bishop of Worcester, Walter de Cantilupe, dedicated churches at Pershore Abbey, Gloucester, Winchcombe, Alcester, and Great Malvern (Stalley and Thurlby, 1974, pp.113 fn.4, 117; *Annales Monastici*, Rolls Series, i.112, iv.430). The dedication date of a church does not necessarily imply the completion of a church (Stalley and Thurlby, 1974, p.117).

At Norwich Cathedral, the 13th-century feast of dedication was held on September 24 (Dodwell, 1957, p.9). The consecration and dedication date of the Cathedral, or at least a substantial part of its east end, is sometimes specifically given as September 24, 1101 (Goulburn et al. in Herbert, 1878, I, p.145) or slightly earlier (Dodwell, 1957, p.9). This early date is not supported by a careful re-examination of the historical documents involved (Fernie, 1993, *Norwich Cathedral*, p.14).

<sup>424</sup>As noted earlier, helpful sources on the consecration of a church are Bowen, 1941; Bradley, pp.225-227, plates XXIV-XXV; Parsons, 1989; Puinet; Schulte, pp.280-282; Stookey, 1969.

<sup>425</sup>We see an example of the monastery as City of God in a description of Abbot Sturm's waterworks in the mid-8th century at Fulda:

with his usual ingenuity, having surveyed the course of the river Fulda, he drew off a stream from it at some distance from the monastery and made it flow through large canals underneath the abbey workshops, so that the stream of waters made glad the city of God (*coenobium dei*). (Eigel, *Vita Sturmi*, chap.21 in Parsons, pp.15,41; Talbot, pp.198-199)

The phrase "the stream of waters made glad the city of God" derives from Psalms 46:4, and is also applied in St. Augustine's *City of God* (11.1).



variation on the *encomium urbis*, discussed earlier. Archbishop Baldrichus of Dol (1046-1130) wrote an *encomium* for the Abbey of the Holy Trinity at Fécamp, and its surrounding plain, Normandy<sup>426</sup>. Baldrichus described the plain of Fécamp by penning: "This place resembles the terrestrial Paradise"<sup>427</sup>. He also states, in regard to the monastery, "They compare it to the Heavenly Jerusalem; they call it the gate of Heaven, the palace of the Lord"<sup>428</sup>. In both cases, he elaborates with explicit and wondrous description<sup>429</sup>. Notably, Herbert of Losinga, Bishop of Norwich, was trained at the Abbey of Fécamp, and became its prior<sup>430</sup>. Later, Herbert modelled the monastic practices at Norwich after those at Fécamp. Akin to Archbishop Baldrichus's comments on Fécamp, Bishop Herbert would have likely built and identified Norwich Cathedral and its monastery as a foretaste and semblance of the City of God.

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An early Northumbrian example of the relationship of the sacred, the divine archetype and idea of the city, design and implementation is given in St. Bede's description of St. Cuthbert's creation of a secluded hermitage on Farne Island. As we have noted earlier, first, as a "soldier of Christ," he purged the island of the "devil and his host of allies." Cuthbert thus "became monarch of the place, in token of which he built a city worthy of his power ... almost circular in plan, from four to five poles in diameter." The wall height was such that only the sky could be seen, so that "eyes and thoughts might be kept from wandering and inspired to seek for higher things." Angels helped him lift large rocks for the wall. An oratory and living chamber were built within the enclosure. A bigger house was constructed for visitors near the landing-place (*Life of St. Cuthbert*, 17). Thus, we see that to receive this "city," the City of God, Cuthbert had to spiritually prepare the site. The hermitage was tailored to "higher things" by its high-wall design. The implementation was even said to be angelically assisted. By having prepared this hermitage, Cuthbert was fulfilling the ultimate progression for a monk as given by *The Rule of St. Benedict*: to be strengthened and readied to move from the cenobitic life to the eremitic life of the spiritual hermit or anchorite.

<sup>426</sup>Goulburn et al. in Herbert, 1878, I, pp.57 n.q.

<sup>427</sup>Trans. Goulburn et al. in Herbert, 1878, I, p. 57 n.q.

<sup>428</sup>Trans. Goulburn et al. in Herbert, 1878, I, p. 57 n.q.

<sup>429</sup>The description also echoes a biblical account of the promised land of the Children of Israel, in which fig-trees appeared prominently (Deuteronomy 8:8-10; cf. John 1:48&50). The likening of the plain of Fécamp to Paradise is reinforced by the legend associated with this abbey site involving a fig-tree, noted earlier, and a suggested etymology of Fécamp as *Fici Campus*, "Plain of the Fig-tree" (Goulburn et al. in Herbert, 1878, I, pp.54-55, 57 n.q, 58).

<sup>430</sup>Goulburn et al. in Herbert, 1878, I, pp.54, 63, 358-359, 367, 381 n.y, 381-382.

### 5.5 Building as an Inner and Outer Process

Herbert was a capable scholar who had read widely patristic and Roman classical authors (Dodwell, 1957, p.3). During the construction of the Cathedral, Bishop Herbert wrote Prior Ingulf and the monks, admonishing them to be active and diligent, like the Bishop's and King's servants who were working hard transporting stone to the site. He makes numerous indirect biblical allusions to the moral and spiritual value of their work, and its ultimate heavenly reward (Herbert, 1878, I, pp.131-135, Letter XIV, trans.

Goulburn et al.):

... your duty ... to apply yourselves fervently and diligently to the work of your Church, and to show carefulness in that work, as done under the inspection of God's own eyes. ... Gird yourselves [for your work], and bear in mind those Israelites who, in repairing the walls of Jerusalem, fought with one hand and built with another {Nehemiah 4:17<sup>431</sup>} ... let your labours have a sweet savour unto the saints who [as a great cloud of witnesses] compass you about, until the Lord shall come, Who both will bring to light the hidden things of the heart, and unlock the secret intents, and then every righteous man have praise of God {Hebrews 7:1; I Corinthians 4:5}. For this is what the true Rewarder [of His people] holds forth; Well done, good and faithful servant, thou hast been faithful in a little; I will set thee over many things: enter into the joy of thy Lord {Matthew 25:21; Luke 19:17} (Herbert, 1878, I, pp.132, 134-135, Letter XIV, trans. Goulburn et al.)

We note in subsequent letters that he again admonishes Prior Ingulf to "Attack forewith the foundations of the [Cathedral] towers with all alacrity, as ye hope to repose with true

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<sup>431</sup>Later, Bishop Durandus also references this biblical passage on explicating the allegorical meaning of church walls ("*De Ecclesia et Eius Partibus*," *Rationale Divinorum Officiorum*, I.1). Many of the same allegorical meanings of the church edifice are repeated by various ecclesiastical writers, such as those named immediately after the quote. Possibly, a plausible intermediary source could be found for Herbert's biblical allusions for church building.

devotion on Christ, Who is our tower of strength" (Herbert, 1878, I, p.140, Letter LI, trans. Goulburn et al.). Herbert's allegorical approach to the building project is typical of other ecclesiastics writing on the allegorical meaning of the church edifice and its offices<sup>432</sup>.

The allegorical meaning of the building process is also seen in regard to the manor of Thorpe on the monastic grounds. A canal was constructed from the River Wensum to the lower Close to assist in the transportation of limestone from Caen (Calvados) and Barnack<sup>433</sup>, and of flint and lime from nearby quarries. The latter quarries were on the manor of Thorpe, opposite the canal on the east side of the River Wensum and at the base of a hill leading up to Mousehold Heath (Ayers, 1994, p.57; Dodwell, 1957, p.9). The Thorpe area also provided timber. Bishop Herbert wrote, c.1100 (Ayers, 1994, p.57), to William the Monk on the proper conservation of the Thorpe wood: "As for you, do you guard the wood of the Holy Trinity, as you wish to be

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<sup>432</sup>A later English example; c.1218-1222, appears in a letter sent to the dean of Wells Cathedral by Abbot David of St. Augustine's, Bristol. The letter requested the loan of "your servant 'L' to hew out the seven pillars of wisdom's house, meaning, of course, our chapel of the Blessed Virgin" (Trans. in Hill, p.152; Stalley and Thurlby, p.362 fn.28). This request for master mason 'L' to work on the Bristol Elder Lady Chapel applied Proverbs 9:1: "Wisdom hath builded her house, she hath hewn out her seven pillars." Examples of writers dealing at some length with the allegorical interpretation of the churches and their offices are Honorius Augustodunensis (fl. c.1095-c.1135), Hugh of St. Victor (1096-1141), Sicard of Cremona (bishop; c.1160-c.1215), William Durandus (Bishop of Mende; c.1237-1296), and in *The Metrical Life of St. Hugh* (c.1225), Bishop of Lincoln (Trans. in Harvey, 1972, pp.236-239). Much earlier examples are given by: (i) Eusebius's "Panegyric on the building of churches, addressed to Paulinus, the bishop of the Tyrians" given at the 4th-century dedication of the church at Tyre (*Church History*, X.IV), (ii) a Syriac hymn on the Byzantine Cathedral of St. Sophia, Edessa, now Urfa, Turkey (Trans. Mango, pp.57 fn.8, 57-60), (iii) St. Maximus the Confessor's *Mystagogia*, a 7th-century Byzantine text, and (iv) the *Historia mystagogica* attributed to Germanus I, Patriarch of Constantinople (715-730) (Trans. Mango, pp.141-142, 262).

<sup>433</sup>Barnack in Northamptonshire had important English quarries during the 11th and 12th centuries. Quarries were active there during the Anglo-Saxon period and throughout much of the medieval period (Alexander, 1995, pp.115-116).

guarded by the Holy Trinity, and to continue in my favour" (Herbert, 1878, I, pp.141, Letter VIII, trans. Goulburn et al.). Herbert emphasises the building work as a moral duty and spiritual test in the monastic and Christian life.

Building was often applied as a metaphor in theology and pastoral care (Battles, 1949, pp.229-239, especially 229; Montague, 1967)<sup>434</sup>. The analogy of the building process with the building of the Church, that is the Bible's people of God, the Christian community, is often applied in the Old Testament, in regard to the Temple, and in the New Testament. The technical term in the New Testament for 'building up' the Church is

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<sup>434</sup>The element of pastoral care in Bishop Herbert's admonishments on building have earlier precedence in important Anglo-Saxon texts. St. Gregory the Great, in one of the standard school texts of the Anglo-Saxon period, *Pastoral Care*, stated:

The holy teacher constructs a fortress round the city of the mind, when he teaches the art of withstanding temptations, and tells him how, when a man's virtue and wisdom increase, his temptations often increase in proportion to his excellence. (King Alfred's translation, 1958, XXI, pp.160-164)

This quote was his wise counsel for rulers towards their subjects, and for holy teachers/priests towards their students. Gregory was explicitly following an allegorical interpretation of Ezekiel's instruction from God for the siege of Jerusalem, where Ezekiel is to draw a map of Jerusalem on a tile, then besiege it and protect it (4:1-3).

There was also a pastoral care aspect to the Venerable Bede's texts, *On the Tabernacle*, *On the Temple*, and on the Heavenly Jerusalem (in *In Apocalypsin*). Most of the contemporary readers of this work would have been monks, involved with a monastic life of prayer and worship, but also with ministry and pastoral care. Bede's moral and mystical interpretation of the Tabernacle and Temple, and their associated ritual, and the Heavenly Jerusalem, was intended to assist in ministry and pastoral care as well:

Along with a subsequent companion treatise on the temple of Solomon and several shorter expositions of Old Testament houses of worship, *On the Tabernacle* is a prime example of what Charles Jones once called "Bede's rather exceptionally architectural approach to Revelation." Indeed, there seems to have been something about the balance, harmony, and regularity of architectural design that appealed to Bede's imagination and stimulated him to formulate a comprehensive theological and pastoral vision in relation to the various sacred structures described in the Bible. (Holder in Bede, 1994, p.xv)

Indeed, the furtherance and support of pastoral care, the cure of souls and the guidance of the English people in Christianity, were the central motivation of all of Bede's writings (Holder in Bede, p.xiv). The building of the Tabernacle of Moses and the Temple of Solomon were interpreted as the 'building' of the 'universal' Church on earth and in heaven (O'Reilly in Bede, 1995, pp.xxi, xxiii, xxvii, xxxii-xxxiii). Strikingly, the sacred architecture of the Bible were seen as 'blueprints' and guidelines for this work of pastoral care and the evangelization of England (O'Reilly in Bede, pp.xxxiv-li).

"edification" (Montague, 1967). "Edification," and "edify" have etymological roots in the Latin *ædificare*, meaning to construct, build, or erect<sup>435</sup>. *Ædificare* is the conjoining of *ædes*, a house, and *facio*, to make. God is identified as the Builder (1 Corinthians 3:10; Acts 20:32). Jesus is referred to as the cornerstone or keystone (Mark 12:10; Matthew 21:42; Luke 20:17), and his body as the new temple of God (John 2:19-22). Christians are members of this body-temple of Christ (1 Corinthians 3:16-17; 6:15). Further, the human is said to be the "workmanship" (Ephesians 2:10) of Christ. The Christian is 'building up' a body-temple of, and dwelling place for, God (Ephesians, 2:21-22). In this theological analogy, the building process, "edification," is a sacred act, in consummation, the indwelling of God (Montague, 1967).

Jesus, in His ministry, commonly applied imagery and analogies from the building trades and masonry (Sproul, 1972). As befitting a representative of Christ, Bishop Herbert admonished the monks at Norwich Cathedral with the phrases "sweetness"<sup>436</sup>, "gird yourselves"<sup>437</sup> and "tower of strength"<sup>438</sup>, all figuratively referring to edification. Another bishop, St. Isidore, in his standard encyclopedia, the *Etymologiae* (XIX.VIII.1), applied the principle of edification in 1 Corinthians 3:10 to introduce one of this encyclopedia's sections on architecture. This biblical passage emphasizes how the Christian must *learn* to be like "the wise master-builder" (Isidore, *Etymologiae* XIX.VIII.1, trans. in Brehaut, 1912/1967; 1 Corinthians 3:10) who constructs upon a well-laid foundation, Jesus Christ. Hence, Isidore implies, the key purpose in *learning*

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<sup>435</sup>"Edifice" likewise has its roots in the Latin *ædificium*, meaning a building.

<sup>436</sup>Herbert, 1878, I, pp.132, 134-135, Letter XIV, trans. Goulburn et al..

<sup>437</sup>Herbert, 1878, I, pp.132, 134-135, Letter XIV, trans. Goulburn et al..

<sup>438</sup>Herbert, 1878, I, p.140, Letter LI, trans. Goulburn et al..

architecture is to be *like* "the wise master-builder." The literal process of building assists the outer mind in having images to clothe and comprehend the metaphorical inner spiritual 'building' process. Further, Hugh of St. Victor made related remarks in his *Mystical Mirroure of the Church* explaining the meaning of the church edifice and its dedication ceremony:

But whatever things be done visibly, the same doth God work by His invisible Power in the Soul, which is the true Temple of God: wherein Faith layeth the foundation, Hope raiseth the buildings, and Charity finisheth it. (II, trans. Neale and Webb, 1843/1973, p.206)

The material church in which the people come together to praise God, signifieth the Holy Catholick, which is builded in the heavens of living stones. This is the Lord's House which is firmly builded. (I, trans. Neale et al., 1843/1973, p.198)

Edification is an important point. The literal construction and dedicating of the church are to mirror and assist edification, an individual's spiritual 'construction' or development and the community's ultimate fulfilment as the Body of Christ and House of God.

The principle of edification was also closely related to the gifts of the Holy Spirit and the God-given gift of the crafts to humanity, as described in the "The Endowments of Men" poem in the *Exeter Book* and in the "Prologues" of Theophilus Presbyter's *De Diversis Artibus*. The theological notion of the seven gifts of the Holy Spirit was extended to include the crafts and other forms of labour (cf. Engen, 1980, pp.154-156). The New Testament relates that every person is given a particular divine gift specifically for the edification or 'building up' of the Church<sup>439</sup>. The crafts and works in building are among those distributed gifts, to be applied in building the material church and the corresponding immaterial Church and Christian community.

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<sup>439</sup>Ephesians 4:11-12; Romans 12; 1 Corinthians 12; Sproul.

More generally, Bishop Eusebius (1961, X.IV.24-26) and others provide key points that link the crafts, the meaning of the church building, and edification. Eusebius draws together the architect's inspiration, the existence of the heavenly archetype, which material churches are to follow, and the Spiritual Church's general symbolism indicated and mirrored by the visible fabric and ritualistic accouterments of the church building (Neale and Webb in Durandus, 1843/1973, p.lxx). Additionally, we note that the construction process (Eusebius, 1961, X.IV.53), the dedicatory service (Eusebius, 1961, X.IV.53; St. Augustine in Bowen, 1941, p.469), and the symbolism of the church<sup>440</sup> all signify and assist edification, the inner building or evolving of the soul.

Additionally, Bishop Herbert's admonishments can be seen as guiding his recipients in the monastic life. The Benedictine monks at Norwich would have been co-ordinating and fund-raising for the completion of the Cathedral and the monastic complex. Although monks would not generally have been practicing masons, they were often practitioners of other crafts needed for the adornment of the church. In either case, Herbert's advice and the monks' building duties can be seen as an extension of the central guidelines for Western monasticism, *The Rule of St. Benedict (Regula S. Benedicti)*. Monks are to do manual labour to avoid sloth and tedium, and to provide for the community's material needs (Benedict, 1975, XLVIII). Monks who are artisans may in humility practice their crafts, and, if any items are sold, it should be for less than the current secular rate, "Thus God will be glorified in all things" (Benedict, 1975, LVII, trans. Meisel & del Mastro). For monks, and lay persons alike, crafts and manual labour

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<sup>440</sup>Hugh of Saint Victor, *Mystical Mirrour of the Church*, I, 1843/1973, pp.198-199.

in general, were seen in medieval theology as necessary, dignified, and "a positive means to salvation"<sup>441</sup>. Bishop Herbert framed the building enterprise as a devotion to God with serious consequences for the spiritual welfare of the builders.

## 5.6 The Craft Guilds and the Value of the Crafts

Another aspect where Christian precepts informed the building process was through the craft guilds, and the purpose and value of the crafts. In complement with Bishop Herbert's building admonishments, Christianity and theology did accord dignity to the crafts. The New Testament had the outstanding precedents of Jesus, St. Joseph and St. Paul as craftspersons<sup>442</sup>. St. Paul indicated that humble jobs were elevated in the eyes of God (Black, 1984, p.15). Aristotle and St. Thomas Aquinas viewed craft work as

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<sup>441</sup>Black, p.15. Canterbury Cathedral's portable sundial (c.1000) has inscriptions requesting peace for its owner, and notably, the stronger condition, salvation, for its maker: "[SA]LVVS FACTORI / [PA]X POSSESSOR[II]" (Mills, pp.40 fig.3-4, 41; Dodwell, 1982, pp.47, 258 n.31; Okasha, 1971, No.20).

The Anglo-Saxon Archbishop Wulfstan gave advice to the secular clergy that they should develop a manual skill for the well-being of their bodies and souls (Dodwell, 1982, pp.47, 244 n.84). There is some indication that the gifts of the hands and the head were viewed with equal honour as God-given talents. Examples of this appear in "The Endowment of Men" poem from the *Exeter Book*, and elsewhere. However, overall this view is recognized as in need of being tempered, because Anglo-Saxon writing about the crafts is mainly incidental, such as chronicling the lives of clergy and saints, and noting in the process that they were wonderfully skilled in certain crafts (Dodwell, 1982, pp.47-48).

On a related note, Byrhtferth's *Manual* considers the building of a house a befitting and worthy analogy to the process of learning and careful exposition (of the calendar, and the somewhat involved calculation of the date of Easter): "We first of all survey the site of the house, ... " (Byrhtferth, 1929/1966, pp.142-143).

<sup>442</sup>Joseph and Jesus are referred to as carpenters in Matthew 13:55, and Mark 6:3, respectively. St. Joseph the 'Workman' is the patron saint of carpenters, with his Feast Day on May 1. Paul was said to be a tent-maker (Acts 18:3). There are also biblical precedents for the 'misapplication' of the crafts. Examples are the Tower of Babel [Fig.18], and the making of 'graven' images, such as the golden calf made by the Children of Israel while Moses was on the mount communing with God.



necessary (Black, 1984, p.15). Indeed, manual work was a definite means to salvation (Black, 1984, p.15). Craftspersons were associated with God<sup>443</sup> and nature through their skill in the imitation of Creation<sup>444</sup>. The Church Fathers, particularly St. Augustine, compared the work of the human artist with that of the divine artist. This doctrine was developed by the school of Chartres, and it was later generally adopted in Scholastic philosophies (Bruyne, 1969, p.34). Abbot Suger, in his elaborate praise of the new work at the Abbey Church of St. Denis, reiterated Ovid in a relatively common medieval remark on fine craft work: "The workmanship surpassed the materials"<sup>445</sup>. Skill in the crafts and building trades could be moral, godly and respected.

Christian precepts also informed the building process through the craft guilds themselves. Cathedrals required elaborate planning and organization. Extensive forethought was required, as shown for example in the building of the piers of Durham Cathedral with their inscribed designs (Bony). This would also apply to Norwich Cathedral and Castle Keep. Masons would have had to been working in a highly coordinated fashion on the large Anglo-Norman building projects. Most of the technical details of building would have been beyond the training and knowledge of the large

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<sup>443</sup>The depictions of God the Creator holding a large masonic-type compass must have ascribed some dignity to the mirrored human creator here, the mason [Fig.3].

<sup>444</sup>Black, p.15; Theophilus, Prologue to "The First Book: The Art of the Painter," *On Divers Arts*, trans. Hawthorne et al., p.11; Hugh of St. Victor, 1961, I.8, 9; the poem "Christ," in the *Exeter Book*, particularly line 12, ed. Gollancz and note Dodwell, 1982, pp.46, 257 n.23.

<sup>445</sup>"*Materiam superabat opus*" (Suger, trans. Panofsky et al., 1979, pp.62-63). The quote comes from Ovid's description of the wondrous palace of the Sun, including its elaborate entrance doors (*Metamorphoses*, II.5). Notably, "*operis mirare laborem*" (Suger, 1979, pp.46-47, 164) appears on the bronze doors of the Abbey Church of St. Denis. This phrase was applied in other medieval descriptions of craft work, particularly jewelry and metalwork. However, other architectural examples do occur. In 1244, Pope Innocent IV used "*opere superante materiam*" (Branner, 1968, p.8; Weiss, pp.308, 308 fn.5) in describing the work underway at the Ste.-Chapelle, Paris.

majority of patrons and ecclesiastics, and hence beyond their capacity to provide *detailed* supervision. This point also applies to the learning of the trades and practise of masonry and carpentry through on-site apprenticeship. These factors imply some form of organization<sup>446</sup> internal to the building crafts and independent of the patron, long before historical documentation to this effect in the later medieval period, and similar to the earlier Roman crafts *collegia*. The building of Norwich Cathedral and Castle Keep, and other Anglo-Norman buildings would likely have involved various craft organizations. In the later medieval period, craft guilds centred themselves and their rules on Christian precepts. Additionally, they emulated an exemplar patron saint, who was often said to have been skilled in the associated craft. In this manner, craft work was deemed a means towards salvation<sup>447</sup>. The earlier guilds, and more informal craft organizations, in Anglo-Norman England would likely have been similar in Christian spirit.

### 5.7 Liturgy and Norwich Cathedral

The emphasis on Christianity also figured, of course, in the necessary planning of Norwich Cathedral and its Benedictine monastery for liturgical and monastic uses, and worship. Herbert stated in a letter to Roger of Argences, Abbot of Fécamp (from 1107)<sup>448</sup> that the "uses and customs" (1878, I, pp.63-65, trans. Goulburn et al.) of the

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<sup>446</sup>There was very likely an organized group or branch within the Norman military of specialized engineers and crafts persons. These persons would have provided the supervision and skill for the building of Anglo-Norman castles, roads, bridges and siege machinery (Morillo, pp.81-82, 88). Such an organized group has been demonstrated for later castle-building during the Angevin period (1154-1216) in England (Brown, 1955, p.374).

<sup>447</sup>This subject is discussed further in Appendix 9.

<sup>448</sup>Goulbourn et al. in Herbert, 1878, I, pp.63-65.

monastery at Norwich Cathedral are patterned after those at Fécamp from his memory, and from questioning Lord Baldwin<sup>449</sup>. Herbert requested Roger's further assistance in this matter (1878, I, pp.63-65, 65 n.u). The liturgical lineage of Norwich Cathedral has indeed been shown to come from Fécamp<sup>450</sup>. Additionally, both are dedicated to the Holy Trinity. Further, both the Abbey of Fécamp and the Diocese of Norwich have arms consisting of three mitres<sup>451</sup>. The religious practices and symbols of Abbey of Fécamp were a key source for the same at Norwich.

The liturgical arrangements of Norwich Cathedral have largely been determined. The cathedral had at its east end an axial apsidal chapel, two flanking apsidal chapels, and an ambulatory. On the east side of the transepts, there was one apsidal chapel on each of the north and south sides [Fig.31]. The same arrangement applied immediately above on the second story or tribune level of the transepts and east end. Following Fécamp, the tribune was an essential part of liturgical observances<sup>452</sup>. The cathedra, or bishop's seat,

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<sup>449</sup>Lord Baldwin may be Baldrichus, the Archbishop of Dol (Goulbourn et al. in Herbert, 1878, I, pp.63-65), who, as noted earlier in Section 5.4, wrote on the plain and Abbey of Fécamp as resembling paradise and the Heavenly Jerusalem, respectively (trans. Goulbourn et al. in Herbert, 1878, I, p.57 n.q).

<sup>450</sup>Klukas, 1978, pp.306-307, 327 n.57-58, 493 diag.IX-C.

<sup>451</sup>Goulbourn et al. in Herbert, 1878, I, p.66. Bishop Herbert adopted this arms to indicate the three Suffragan Abbeys which came under his authority (Goulbourn et al. in Herbert, 1878, I, p.66).

<sup>452</sup>Klukas, 1978, p.433. Eric Fernie (1993, *Norwich Cathedral*, p.120) downplays the expression of liturgy in the architectural design of Norwich Cathedral, in part, by referring indirectly, or in effect, to Arnold Klukas's dissertation (1978, especially pp.357-359, 429, 486 Table VIII-A, 488 Table VIII-C):

Indeed a study of altars in upper chapels has led to the conclusion that liturgically speaking Norwich is most closely affiliated to the abbeys of Gloucester and Tewkesbury and the cathedral of Chichester, buildings which have almost nothing in common with it apart from the fact of being 'Norman.' (Fernie, 1993, *Norwich Cathedral*, p.120)

This contention is too strong. Arnold Klukas had found common formal architectural arrangements, as can be noted in his tables (1978, pp.486 Table VIII-A, 488 Table VIII-C), and, for example, remarked upon them as follows:

Norwich Cathedral stands in a distinctly different category from the West Country abbeys [sic -- abbeys] of Tewkesbury, Gloucester, Malmesbury and Pershore in its architectural style, but not in its formal arrangements or liturgical functions. (1978, p.357)

was in the easternmost part of the sanctuary to the immediate east of the high altar. A font was placed in the nave between the first pair of piers east of the west end<sup>453</sup>. These are specific examples of planning and arrangements that accommodated and focused the use of Norwich Cathedral on the liturgy and the worship of God.

### 5.8 Norwich Castle

Norwich Castle [Fig.29] was equally elaborate and monumental in its effect as the Cathedral. In England, Norman architecture has been described as, in effect, colonial architecture that was intended and designed to be overwhelming (Heslop, 1994, p.66). The Castle Keep was part of this intention (Heslop, 1994, p.66). The Tower of London and Colchester Castle keep (1070s) were under the patronage of William the Conqueror. In comparison with these earlier Anglo-Norman keeps, Norwich Castle keep shows a marked increase in architectural sophistication. This can be accounted for not only by the developments of the later time period (1090s), but also by the different personality of the patron, William Rufus (Heslop, 1994, p.4). Another elaborate contemporary secular building project under Rufus was the rebuilding of the Palace of Westminster<sup>454</sup>.

The same ornaments were used in both churches and secular buildings. Thus, there was no distinctively secular language of ornament. Churches were generally more

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<sup>453</sup>Klukas, 1978, p.488 Table VIII-C, 587, fig.94.

<sup>454</sup>Colvin et al., I, pp.43-7. During the 1090s, the Palace of Westminster was one of the major buildings in England. This great hall was inaugurated on Whitsuntide 1099 (Heslop, 1994, p.60).

lavish. Such lavishness<sup>455</sup> in a military and administrative setting<sup>456</sup>, rather than an ecclesiastical environment, would likely have been read as act of appropriation (Heslop, 1994, p.64).

There were three types of stone used in the keep's elaborate construction. There was local flint, shelly limestone likely from Barnack, and from Caen, Normandy, there was fine limestone (Heslop, 1994, p.15; cf. Alexander, 1995, p.115). To give a sense of the involved planning and execution of the keep, we note that there are approximately four thousand column sections, cut precisely for their specific locations, and supporting moulding arches that are even more complex. The keep was a lavish and grand display for a building of the highest status. Such elaborate articulation, unknown in Romanesque architecture of the mid 11th century, was used in buildings of the late 11th century that were of the highest status (Heslop, 1994 , p.59).

In terms befitting the castle overlooking Norwich, Benoit of Ste-Maure, in his mid-12th-century poem, *Roman de Troie*, describes a vision of Troy<sup>457</sup>, the ancient

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<sup>455</sup>The sculptural iconography is also noteworthy, such as Pegasus and other sculpture over the keep's main doorway (Heslop, 1994, p.35 fig.13).

<sup>456</sup>The keep included a chapel. There is evidence for an upper level triangular floor plan for the chapel. The sanctuary was at the apex in the south-east corner of the keep (Heslop, 1994, pp.45, 52).

<sup>457</sup>Anglo-Norman London actually received the appellation of the New Troy. According to Geoffrey of Monmouth (c.1100-1154 or 1155), London was founded by Brutus as the New Troy, Trinovantum (Geoffrey, I.17). This claim was recorded by Geoffrey in his *Historia Regum Britanniae* (History of the Kings of Britain), c.1130s (Clark, 1989, p.47), completed at least by 1138-9 (Jones in Geoffrey, p.vi). William fitz Stephen, in his account of London, also makes this claim (p.55). It appears to have been the invention of Geoffrey (Tatlock, p.278; Clark, 1989, p.47).

Troy was esteemed by the ancient Greeks as the origin of all that was best and finest in the world (Smith, p.218). Homer's celebrated account of Troy appears to be the impetus for London as the "New Troy," claimed to be founded c.1100 years before Christ (Jones in Geoffrey, p.vi). William fitz Stephen claimed that London was older than Rome (p.55). The British kings were thus said to descend from Brutus, according to Geoffrey who wished to provide a needed national history for the Welsh and Bretons.

citadel including its castle built by King Priam (Heslop, 1994, p.65). The remarkable nature of the Castle Keep has been succinctly expressed as, in its time:

architecturally the most ambitious secular building in western Europe, a tribute alike to the almost godlike vision of kingship of its patron [William Rufus] and to the potential which he saw in the new administrative centre of East Anglia, in Norwich. (Heslop, 1994, p.66).

Norwich Cathedral as the seat of one of Christ's anointed representative on earth, Bishop Herbert, and similarly its paired partner, the Castle as a stronghold of another anointed representative of Christ on earth, King William II, both presented 'exalted' and built expressions of the divine hierarchy [Figs.47-48].

## 5.9 Geometry and Measure

Key elements in the design, construction and impressive impact of the Castle Keep and Cathedral were the employment of geometry and measure. Norwich Cathedral involves considerable application of the geometric motif of the square's side and its diagonal in its design<sup>458</sup>. The equilateral triangle's side and its altitude and the regular pentagon's diagonal and its side may have also been applied in the Cathedral's design (Kidson, 1994, p.201). Extensive use of the square's side and its diagonal was also made in the elevations of Norwich Castle Keep<sup>459</sup>. In regard to the elaborate doorway to the

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Matthew Paris's vignette, a pilgrimage map starting from London, *Historia Anglorum*, c.1252, shows the city [Fig.50]:

its wall and gates, the Tower, St. Paul's, the river and bridge, and Westminster. It reminds the reader of the legend, 'Brutus, who first settled England, founded it and called it New Troy.'

(Clark, 1989, and trans., p.44; Harvey, 1991, pp.2-3 fig.1)

<sup>458</sup>Fernie, *Norwich Cathedral*, 1993, pp.92-100, 136-140, 205-206.

<sup>459</sup>Heslop, 1994, pp.20, 33. An analysis of ground plan and more horizontal measurements would be helpful.

keep it has been noted that: "The geometry of the whole ensemble is a tour de force" (Heslop, 1994, p.33).

Multiples of 5' 6" are also noted as significant dimensions in the elevations of Norwich Castle Keep (Heslop, 1994, pp.18-19, 68 n.17). This finds a parallel with 5 1/2' as an important module unit at Ely Cathedral, and at building "A4" at Yeavinger<sup>460</sup>, and the 16 1/2' English royal perch (3 x 5 1/2', 5 1/2 yards, 5.03m). Indeed, as noted earlier, the *Statutum de Admensuratione Terrae* (c.1300) defines the royal perch as five and a half elnes (yards)<sup>461</sup>. Multiples of the 16 1/2' perch and its third, 5 1/2', appear to have been commonly employed as the dimensions of ground plans of Romano-British and Anglo-Saxon stone-built churches (cf. Huggins et al., 1983, pp.52-61). Similarly, the 16 1/2' perch and its third seem commonly involved in setting the dimensions of Anglo-Saxon timber buildings<sup>462</sup>. Simple  $\sqrt{2}$  and doubling relations with the 16 1/2' perch also appear to have been employed in Anglo-Saxon timber buildings<sup>463</sup>. All of this needs more careful statistical checking. However, there is sufficient evidence of a 16 1/2' length, and closely related lengths, to suggest they were used to some extent in Anglo-Saxon and Anglo-Norman building projects including Norwich Castle Keep.

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<sup>460</sup>Fernie, 1979, pp. 1-4 & 1985, p. 250; Huggins, 1981, p. 151.

<sup>461</sup>Grierson, 1972, pp.13-14, 13 fn.55., 14 fn.61; Kidson, 1990, p.74. This 16 1/2' perch is the same unit as the Roman pertica (17 Roman Pes Monetalis of 0.2957m each) (Kidson, 1990, p.75; Fernie, 1991, p.4).

<sup>462</sup>Cf. Huggins et al., 1983, pp.27-39, 60; Huggins, 1991; Fernie, 1991, p.2. It has also been suggested that even sixths of this 16 1/2' perch were commonly employed in Anglo-Saxon timber buildings (Huggins, 1981, p.151 & 1991).

<sup>463</sup>Eric Fernie has noted the preference in lengths, close to 3.5m (c.16 1/2' perch divided by  $\sqrt{2}$ ), 5m (c.5.03m, the 16 1/2' perch), 7m (2 x 3.5; c.16 1/2' perch times  $\sqrt{2}$ ), 10m (2 x 5) and 20m (2 x 10) in the dimensions of early and middle Anglo-Saxon building ground plans (1991, pp.2-3; Marshall et al., pp.37, 37 fig.4, 39 fig.6, 42). A statistical test could be performed specifically on this matter, with the data set involved, compiled by Anne Marshall et al..  $\sqrt{2}$  is, of course, modern mathematical and numerical terminology associated the geometry of the square's side and its diagonal.

A general comparison between Norwich Castle Keep and the Roman architectural text of Vitruvius, *De Architectura* (I.II.2), noted the same stress on symmetry, proportion, and measurement units (Heslop, 1994, p.37). T. A. Heslop noted that

one way of interpreting the variation between the three different sets of arch mouldings used on the exterior is as a response to the classical orders, Doric, Ionic and Corinthian, described by Vitruvius [(IV)] and visible in impressive remains such as those of the Colosseum in Rome. (1994, p.37)

Vitruvius's text<sup>464</sup> seems mainly, though not entirely, an indirect architectural influence (McCague, 1993, pp.115-122). *De Architectura* would have been a general reinforcement for Latin-reading patrons on the importance of architecture. The joint design process involving patron and master mason would have been an occasion for

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<sup>464</sup>The earliest extant copy of Vitruvius's *De Architectura* is in the British Library, MS. Harleian 2767. It is a Carolingian manuscript written in beautiful calligraphy c.800 "on the border of east and west Francia" (Reynolds et al., p.441). Notably, during 801-804, Alcuin wrote a letter to Charlemagne that shows knowledge of Vitruvius's text. MS. Harleian 2767 itself may have been made at Charlemagne's palace scriptorium. Also, we know from the correspondence of Einhard between 823 and 840 that there was a copy, possibly MS. Harleian 2767, at Fulda near this time (Oakeshott, p.56; Reynolds et al., pp.441, 441 fn.6). This earliest extant copy and apparently the entire tradition of extant Vitruvius manuscripts show "signs of a derivation from an archetype in Anglo-Saxon script" (Reynolds et al., p.441). From MS. Harleian 2767, the great majority of the, at least, eighty extant manuscripts descend. Before the 12th century, copies "had spread over a wide area ranging from north-west Germany through the Low Countries and France to England" (Reynolds et al., p.441).

The text was likely in England by the 10th century (Reynolds et al., p.443) and quite possibly earlier (cf. Reynolds et al., pp.441, 441 fn.7-8). N. R. Ker holds that the Benedictine Abbey of St. Augustine (originally of St. Peter and St. Paul), Canterbury, had a copy or copies of Vitruvius in the 11th century (Ker, 1964, pp.40, 43; James, 1903, p.320). One such extant copy is British Library, Cotton Cleopatra D.i (Ker, 1964, p.43). This may need to be qualified somewhat because Reynolds et al. consider Cotton Cleopatra D.i to have been in England by the 12th century and that it may be of English origin (p.443). Many copies descended from this one, including a 12th-century copy in the British Library, Add.38818 fols.49-109 from northern England, and likely Durham (Reynolds et al., p.443; Krinsky, 1967, p.49; Harvey, 1972, p.21). Extracts were made from one of these Canterbury texts by William of Malmesbury c.1130 in his *Polyhistor* (British Library, MS. Harleian 3969 starting from fol.8v) (Granger in Vitruvius, vol. II, p.xli; Reynolds et al., p.443). A copy of Vitruvius at Bury St. Edmunds (Thomson, 1972, pp.639) is on a library list c.1150-1175 for this Abbey, and was obtained during this period (Thomson, 1972, p.618).

Additionally, St. Isidore's widespread standard encyclopaedia, the *Etymologiae*, has sections dealing with architecture (XV.II-XII; XIX.VIII-XIX). The degree to which some Vitruvian material is transmitted here could be checked (cf. Brehaut, p.248 fn.1).



some gleanings from Vitruvius to be applied or discussed and passed into masonic tradition<sup>465</sup>. Additionally, the text can be seen as suggestive of the larger oral building tradition passing from the ancient Greek and Roman worlds to the Middle Ages (McCague, 1993, pp.115-122), and well exemplified at Norwich Castle Keep and the Cathedral.

Part of this transmission of building tradition seems to have been the view that the methods of the crafts, including those involving geometry and measure, were of divine origin. Similar to the divine origin and guidance ascribed to the methods of the medieval crafts, as noted in Chapter 2, Vitruvius described architectural knowledge as divinely guided. He praised the wisdom of the discoverers of practical knowledge for architecture and engineering. He proposed that they should be "judged worthy of being consecrated in the dwellings of the gods"<sup>466</sup> and described one discoverer as guided by the divine Muses<sup>467</sup>. This concurs with the *Libri Eraclii de artibus romanorum* crafts text, mentioned in Chapter 2, and its homage to the brilliant minds of the Roman artificers whose methods only Christ can now fully fathom and reveal (Eraclius, I, "Introduction," 1849/1967, p.182). In probable complement with building tradition, medieval texts on the crafts, St. Isidore's *Etymologiae*, and even Vitruvius's *De Architectura* imply that the craft methods of geometry and measure were divinely given. This attribution and entailed efficacy seems to have complemented and helped express in

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<sup>465</sup>Shelby, 1970, pp.16-18, 26 & 1972, p.413.

<sup>466</sup>Vitruvius, IX.Preface.3, trans. Morgan.

<sup>467</sup>Vitruvius, IX.Preface.6-8; also 3, 16 and the entire Preface.

Norwich's Castle Keep and Cathedral "the almost godlike vision of kingship"<sup>468</sup> and Church, respectively.

### 5.10 Harmony and Symmetry

Vitruvius outlines the fundamental principles of architecture, including Order, Arrangement, Eurythmy, Symmetry, Propriety and Economy (I.II.1-4; VI.II.1). The first four principles have a particularly mathematical basis in dealing with harmonious relationships in architecture<sup>469</sup>. We see these notions essentially appearing in descriptions of churches throughout the Middle Ages. Medieval passages praising churches often note the harmony of their dimensions, or the importance of their individual parts being in proper proportion to the whole<sup>470</sup>. Part of the harmony in the designs of Norwich Cathedral and the Castle Keep derives from the repetitive and unifying employment of the square's side and its diagonal.

We see the concern for proportion and for the agreement of the parts and the whole in architecture from the ancient Greek and Roman periods through the Middle

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<sup>468</sup>Heslop, 1994, p.66.

<sup>469</sup>Vincent of Beauvais largely repeats these concepts in his discussion of architecture in *Speculum Doctrinale* (XI.12.14; noted in Eco, pp.39, 39 n.33).

<sup>470</sup>Such examples occur in:(i) Bishop Avitus writing in Gaul, c.490-c.518, on a church about to be dedicated (ep 50 in Wood, p.74), (ii) Procopius of Caesarea's description of the Hagia Sophia (*Buildings*, I.I.28-29), c.560, (iii) Abbot Suger's discussion of the abbey church of St. Denis Suger, (*De Consecratione*, 1979, pp.82 [I.1-5], 83, 90 [II.15-16], 91, 100 [IV.13-21], 101),(iv) Theodore Metochites, in his encomion of the city of Nicaea (Saradi, pp.45-46),(v) the report from a Consultative committee of five persons that was formed to inspect the erection of the dome of Siena Cathedral in 1321 (Stirling, p.185; Stirling cited John Sidney Hawkins, *An History of the Origin and Establishment of Gothic Architecture* (London, 1813), p.183; Hawkins referenced a document dated 1321, published by Della Valle, *Lettere Senese*, vol.ii, p.60), and (vi) the third question for the "Junta of Twelve Architects," a consultative committee, 1417, appointed at Gerona Cathedral, Spain (Street, pp.501-502).

Ages (and indeed later). Vitruvius's outline of these fundamental principles was a description of a traditional way of seeing architecture. Vitruvius's work would have been a key written expression that those learned in Latin would have read and absorbed to help perpetuate this practice.

These principles are in accord with the way the Creator was said to have formed or built the universe<sup>471</sup>. Additionally, as discussed earlier, the microcosmic church corresponded to the macrocosm. Ideally, craft work was to mirror a divine archetype. This correspondence or mirroring constitutes a form of symmetry. This symmetry, as just noted, is found in the design and significance of temples, and indeed in the human as a microcosm of the macrocosm. Thus, the (i) correspondence of the microcosm and the macrocosm and (ii) symmetry are profoundly linked laws deemed to inform all design. Craftspersons, by applying the elements of harmony and symmetry in their designs, were following and in harmony with, the grand architect of the universe, God.

### 5.11 Craft Work as a Type of Music

Additionally, harmony and rhythm link directly to music. Indeed, in considering the rationale for the use of proportional design and implementation methods in medieval architecture, and town planning, treatises on music offer helpful insights. Traditionally,

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<sup>471</sup>For example, Vincent of Beauvais states, again, in his *Speculum Naturale*: Verily how great is even the humblest beauty of this world, and how pleasing to the eye of reason diligently considering ... the modes and numbers and orders of things, so decorously appointed throughout the universe, ... . (Trans. in Taylor, 1911, II, p.318)

music was an expansive concept. It included not only instrumental music<sup>472</sup> (*Musica instrumentalis*), but also the harmonious and healthful relations of the elements of the human's body and soul (*Musica humana*), and the dynamic order of the heavenly bodies and seasons (*Musica mundana*)<sup>473</sup>. In St. Augustine's *De Musica*, six books on rhythm<sup>474</sup>, number is of key importance and is emphasized throughout. He explicitly linked through number the impact of the the visual products of the crafts to auditory music:

These beautiful things, then, please by number, where we have shown equality is sought. For this is found not only in that beauty belonging to the ears or in motion of bodies, but also in the very visible<sup>475</sup> forms where beauty is more usually said to be. (*De Musica*, VI.13, trans. Taliaferro, 1947, p.363)

In regard to architecture and beauty, he referred to a building as being "most spacious and beautiful" (*De Musica*, VI.11, trans. Taliaferro, 1947, p.356), and to our capacity to "perceive the beauty of the building" (*De Musica*, VI.11; trans. Taliaferro, 1947, p.356).

Augustine showed the analogous nature of number and measured "time-spans" (*De*

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<sup>472</sup>Music was, of course, profoundly important to all church ritual. I have heard arguments both for and against the use of proportional design methods creating in churches purportedly wonderful 'acoustic spaces' for plain and Gregorian chant. This would be a helpful area to critically review. Vitruvius stressed the importance of the knowledge of music for the architect, particularly for projectile devices, and theatre design (I.I.8-9, V.III-VIII). The importance of music, in proportional and geometric architectural design in general, is arguably implied or underlying (I.I.8; V.VI.1).

<sup>473</sup>This terminology is found in Boethius's *De institutione musica* (I.2). However, these ideas are found in earlier important treatises on music: *On Music* by Aristides Quintilianus, and *De Musica* by St. Augustine. Boethius's *Consolatio* implies a fourth type of music which is the ultimate source of the three types of music named in his *De institutione musica*. This fourth type of music can be called *divina musica* or divine music which exists most closely in God (Chamberlain, pp.95-97). Byrhtferth's diagram of "The Physical and Physiological Fours" [cf. Fig.43] can be reasonably considered to have expressed the unity and harmony of the *Musica humana* and the *Musica mundana*.

<sup>474</sup>*De Musica* is one of Augustine's early writings, begun before his baptism in Milan, A.D. 387, but finished after 391 (Taliaferro in Augustine, *De Musica*, 1947, p.153). In result, Christianity is stressed in the text.

<sup>475</sup>Augustine also expanded this to include not only things heard and seen, but also the senses of smell, taste, and touch (*De Musica*, VI.13).

*Musica*, VI.17, trans. Taliaferro, 1947) between sounds in music, to "place-spans" (*De Musica*, VI.17, trans. Taliaferro, 1947) of measured and numbered materials<sup>476</sup>. He gave the measured wood of an artisan as an example (*De Musica*, VI.17). This mirrors, and is in the context of "*Deus creator omnia*" ("God the Creator") (VI.17; trans. Taliaferro, 1947), and "God the builder of the animal, properly believed to be the author of all fittingness and agreement" (*De Musica*, VI.8, trans. Taliaferro, 1947)<sup>477</sup>. Augustine stated that length, breadth and, height of materials come "from the highest and eternal rule of numbers, likeness, equality, and order"<sup>478</sup>. He further related that without these latter elements the earth is nothing, and they are how God creates (*De Musica*, VI.17). The underlying purpose of Augustine's treatise is to show that these elements can draw the human to God, the ultimate purpose of life<sup>479</sup>.

Augustine's *De musica* was fairly well known throughout the Middle Ages as evidenced by its use in the writings of others and its presence in the monastic libraries of Europe<sup>480</sup>. Proportional relations in medieval architecture are consistent with the

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<sup>476</sup>Augustine described the soul's perception of 'place-spans':

Then as the diffusion of rays shining out into the open from tiny pupils of the eye, and belonging therefore to our body, in such a way that, although the things we see are placed at a distance, they are quickened by the soul, so, just as we are helped by their effusion in comprehending place-spans, ... . (*De musica*, VI.8, trans. Taliaferro, 1947, p.346)

<sup>477</sup>Notably, the terms "fittingness and agreement" were aesthetic ideals evidenced in descriptions of the sculptural Canon of Polykleitos (texts in Leftwich, 1988) and the exposition of architecture and sculpture by Vitruvius (I.II; III.I).

<sup>478</sup>VI.17; trans. Taliaferro, 1947, p.377. This quote is akin to the law of Wisdom 11:21 which we discussed earlier in its application by Theophilus and Abbot Suger to artistic and architectural design. Similarly, medieval music theorists often cited this biblical passage to explain numerical proportion and composition in music (Bukofzer, 1942, p.180).

<sup>479</sup>In close keeping with this purpose, Augustine quotes from Ecclesiastes 7:25-26: "So it is truly said in Holy Scriptures, 'I have gone the rounds, to know and consider and seek wisdom and number'" (*De Musica*, VI.4, trans. Taliaferro, 1947, p.333).

<sup>480</sup>Waite, 1954, pp.35-37; Bowen, 1988, pp.29, 31-32, 36, 38-42, 50 n.47. In England, Bishop Aldhelm of Sherborne (c.640-709) refers to it in his *De metris et enigmatibus ac pedum regulis*. Robert

descriptions and theory of Augustine's *De musica*<sup>481</sup>. This includes the principle of equality (underlying structure) and its effects: unity, order and likeness (Augustine, *De musica*, VI.13, 17; trans. Taliaferro, 1947). The simple practical-geometric manoeuvres would be in keeping with Augustine's descriptions<sup>482</sup>, including his notion of "numbers, likeness, equality, and order" (*De musica*, VI.17, trans. Taliaferro, 1947, p.377).

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Grosseteste (1175-1253), bishop of Lincoln, applied Book VI in his theory of pleasure (Waite, 1954, p.36).

Before Augustine, Aristides Quintilianus wrote *On Music*. This author wrote in Greek, likely in the "late third century or early fourth century A.D." (Mathiesen in Aristides, p.14), though earlier dates have been suggested (Mathiesen in Aristides, pp.10-13). It is "the only complete treatise on music to come down to us from the Greeks or Romans" (Taliaferro in Augustine, *De Musica*, 1947, p.155). In this treatise on music, there is a fair range of both arithmetic and geometry, including the Platonic solids and zodiacal diagrams. For Aristides, "music is an initiation into the Mysteries ... a foretaste of things brought to perfection in philosophy; and music transmits the beginnings of every kind of learning, philosophy the extremes" (III.27, pp.205-206). (This book is associated with the gnosis and initiations of the ancient mystery or wisdom schools (Aristides, III.20, 21, 27, pp.189, 190, 205; Mathiesen in Aristides, pp.56, 56 n.243, 189 n.314)). He addresses the relationship of music, medicine and the arts to number, soul and the cosmos (II.1, III.8, 10, pp.115, 172, 175). He essentially makes the link that Augustine made between the visual arts and music. The link between the harmonies of sound, soul, and those of art and craft work is also made in Plato's writings. This connection is seen, for example, in *Phaedo* (86 b-c) as enunciated by a student of the Pythagorean Philolaos, Simmias (Leftwich, p.68).

<sup>481</sup>On a related note, Peter Abelard (1079-1142) relates the dimensions of Solomon's Temple to the perfect (musical) consonances and the divine harmony of the universe (*Theologia Christiana*, V, in Abelard, II, p.384; Simson, pp.37-38).

<sup>482</sup>Two dramatic examples of this, particularly relevant to this study, are found at Norwich: the Cathedral (Ferne, Norwich Cathedral, 1993) and the Castle Keep (Heslop, 1994). The  $\sqrt{2}$ :1 ratio, or geometric motif, of the square's side to its diagonal permeates the design of these two renowned Anglo-Norman buildings. Also, whole numbers could be involved through simple approximations for  $\sqrt{2}$ , such as 7/5, 10/7 and 17/12, that may have been applied in medieval architecture (Kidson, 1956, 1975, pp.32-35 & cf. 1990, pp.76-80, 82, 84, 90-91, 95, 97).  $\sqrt{2}$  does figure in instrumental music.  $1:\sqrt{2}$  is the tempered fourth, and it is approximated by the augmented fourth, 7:5. For example, in the tempered scale of C major, the ratio of frequencies for F# to high C is equal to  $1:\sqrt{2}$  for the tempered scale, and 7:5 for an 'augmented' scale (Steinhaus, pp.29-30). It was the latter type of scale only, involving whole number ratios exclusively, that was employed during antiquity, the Middle Ages, and the Renaissance. Additionally, by simple extension of Augustine, the diagonal of a square relates to 1:1 (the diagonal divides the square into two equal halves) and 1:2 (the diagonal divides the square in half, and the square on the diagonal has double the area of the original square). Further, if a square has sides of 1 unit, the inscribed square will have sides of  $1/\sqrt{2}$ . The ratio of the areas of the larger square to the smaller inscribed square is 1:2. (The inscribed square is rotated half a right angle, or 45°; compared to the larger original square. This practical-geometric motif was applied for architectural design by Villard de Honnecourt, Hans Schuttermayer and Matthias Roriczer (texts in Shelby, 1977)). The whole number

Also, during the Middle Ages, *De institutione musica* by Boethius (480-524) was an important text on music. After discussing musical consonances, he notes how they can be seen in proportionate increases or decreases of a line segment (e.g. doubling the length of a line segment) or contemplated intellectually in number (e.g. doubling a number mentally): "For as the ear is affected by sound or the eye by visible form, in the same way the judgment of the mind is affected by numbers or continuous quantity" (I.32, trans. Calvin M. Bower, 1989). Augustine may have been his main source. This musical text by Boethius was well known from the 9th-century Carolingian revival of learning onwards (Bower in Boethius, 1989, pp.xx, xx n.4).

This does not mean that the masons were *directly* applying treatises on music. However these essentials, noted to apply to creations of the building crafts, were certainly a part of the understanding of learned ecclesiastical patrons such as Bishop Herbert<sup>483</sup> i.e. ecclesiastical patrons, learned in Latin and in the music of the standard quadrivium studies, would have considerable knowledge of these matters. In this way, these principles would have been tacitly applied in the collaborative building design process, and in the masonic tradition, by way of the consultative contacts between patrons and master masons, in the manner elucidated by Lon Shelby (1970, pp.16-18, 26; 1972, p.413). Additionally, the musical theory applied here *is* an *ancient* and *medieval explanation* of the 'higher' and most significant purpose for the employment of

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ratios involved here are unison (1:1), and the octave (1:2).  $\sqrt{3}$  and 'golden section' relations also have whole number approximations that may be of architectural note (Kidson, 1975, pp.32-35; 1990). Again, these ratios relate to areas in whole number ratios, but they are not as simple nor as readily apparent as in the case of  $\sqrt{2}$ .

<sup>483</sup>Herbert, as noted earlier in Section 5.5, was a trained scholar who had read widely patristic and Roman classical authors (Dodwell, 1957, p.3).

metrological, numeric, and geometric methods in the crafts, and more particularly in architecture<sup>484</sup> such as Norwich Cathedral and Castle Keep.

### 5.12 The *Laudes regiae*

Another area where music and symmetry was applied was in the liturgical acclamation of kingship, the *Laudes regiae*, that gives a significant insight into medieval<sup>485</sup> and Anglo-Norman culture and artistic expression. *Laudes regiae*

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<sup>484</sup>In regard to architectural design based on mathematical systems with religious and metaphysical reasons, two modern mathematicians decry:

It's not that people don't design good buildings by these methods; it's that their design sense plays by far the greatest role, and the mystical framework is so flexible that any reasonable design can be incorporated into it. (Stewart and Golubitsky, p.249).

During antiquity and the medieval period, this argument would have been considered essentially circular. Good "design sense" and "reasonable design" would have no existence apart from the design methods given to the human and employed by God, which were mathematical. The quality of flexibility would have been positively seen as akin to the unity underlying the apparent and astonishing diversity of Creation, as well as the variety espoused in the craft manual of Theophilus (Prologue to the "Third Book: The Art of the Metalworker," trans. Hawthorne et al., pp.78-79). However, the quoted statement is not surprising considering how in the modern period, art, science and religion have often been seen as separate.

An unified approach is required to fully deal with this matter because it inherently and inseparably involves art, science, and religion. However, as far as modern science goes, claims of "design sense" being independent or dependent on mathematical systems require scientific evidence. John Benjafield et al.'s psychological studies of the "Golden Section" and other ratios (1978; 1980), and the critique of Roger Fischler (1981) may suggest avenues for sober investigation.

<sup>485</sup>*Laudes regiae* were well developed in the Byzantine East by the 5th century. After the anointment of Pepin, *Laudes regiae* began to be practiced and developed in the West (Kantorowicz, p.62). Charles the Great, Charlemagne, was compelled to change from the Gallo-Frankish role of biblical king (Davidic priest-kingship) associated with Jerusalem to the Franco-Roman role of emperor associated with Rome (Kantorowicz, p.63). However, "But ever since 800, the older and more powerful image of Christus imperator interfered with the Frankish conception of a Davidic priest-king" (Kantorowicz, p.63). From Otto I onward these practices were carried out in the Ottonian Empire in Germany (Kantorowicz, pp.25 fn.32, 73 fn.28, 77 fn.38, 92 fn.89, 95, 95 fn.99, 99 fn.120; Cowdrey, pp.58, 60), and they are traceable in France to Hugh Capet (Kantorowicz, p.95).



described and affirmed a hierarchical-theocratic structure of society and heaven. Secular and ecclesiastical dignitaries, and celestial intercessors mirror, and join to, each other<sup>486</sup>. In one common structure, the king, *christus Domini*, corresponded to the group of angelic and superangelic intercessors. The pope was linked to the apostles. The queen corresponded to the choir of virgins. The bishop was linked to the confessors. The army mirrored the martyrs [cf. Fig.47]. In this manner, *Laudes regiae* attempted to establish in the secular-political and ecclesiastical spheres a similitude of the City of God (Kantorowicz, 1958, pp.61-62).

The king's rule was identified with the kingship of Christ (Kantorowicz, 1958, p.92). One of the ways this identification was signified was by the wearing of the crown by the king on Christmas, Easter, and Pentecost (Kantorowicz, 1958, p.93)<sup>487</sup>. In England, the custom of wearing the crown goes back at least to William I<sup>488</sup>. William the Conqueror wore the royal crown three times a year when in England. The intended schedule was Christmas at Gloucester, Easter at Winchester, and Whitsuntide at Westminster<sup>489</sup>. Herbert Cowdrey argues that William I introduced the *Laudes regiae* of 1068 to England in a special form that, in effect, perfectly expressed the political ideology of the Norman Conquest (1981, p.53). William the Conqueror affirmed and

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<sup>486</sup>A similar hierarchical structure of *regnum et sacerdotium*, church and state, as parallel reflections of Heaven was described in the later *Liber de Universo* (1230- 1236) by William of Auvergne. A diagrammatic interpretation of this structure in the *Liber de Universo* appears in [Fig.47] (Horn et al., I, p.232 fig.187 & cf. pp.231-232).

<sup>487</sup>The wearing of the crown was moved to the sacramental level above the profane (Kantorowicz, p.94). Repeated coronations may have been modelled after the Old Testament: I Chronicles 29:22 (Kantorowicz, p.93 n.93): "And they made Solomon the son of David king the second time, and anointed him unto the Lord to be the chief governor ... ."

<sup>488</sup>There have been arguments for and against its employment by earlier Anglo-Saxon kings (Klukas, 1983, p.151 n.62; Cowdrey, p.67).

<sup>489</sup>Anglo-Saxon Chronicle, E1086 [1087], p.219; similarly, E1085 [1086], pp.216-217.

showed to his subjects his ordained place in the divine order of heaven and earth (Cowdrey, 1981, pp.53-54, 67). This liturgy was continued during the reigns of his successors (Cowdrey, 1981, p.51). It was performed at various Anglo-Norman cathedral and abbey churches, likely including Norwich Cathedral<sup>490</sup>.

The hierarchical-theocratic structure that informed the *Laudes regiae* also found plastic expression in Anglo-Norman architecture and town planning. The *Laudes regiae* found a fitting spatial counterpart in the place of their performance, the great Anglo-Norman churches and their surrounding towns. The parallelism of Church and state expressed in the *Laudes regiae* also found dramatic expression in the architecture and townscape of Norwich [Fig.48]. The grand and imposing Cathedral/monastic and Castle complexes at Norwich were conceived as a 'pair.' Indeed, there are about 125 examples in Anglo-Norman England of similar associated foundations of nearby monasteries and castles (Heslop, 1994, p.7; Thompson, 1986). At Norwich, the Anglo-Norman walled Cathedral and monastic complex<sup>491</sup>, and the walled castle complex as a planned pair, and the 'new [Norman] borough,' to the west of the castle, made a dramatic transformation in

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<sup>490</sup>Fécamp, Canterbury, and Winchester were centres for the production of manuscripts containing *Laudes regiae*. Given Norwich's continuance of Fécamp's liturgical practices, and the use of acclamations by William II (Cowdrey), Bishop Herbert and the monks must have been aware of these matters. A small gradual produced at Christ Church Canterbury (Durham University Library, MS. Cosin V.V.6, fol.19v-21) includes a *Laudes regiae*. It dates from c.1075-1096, and probably c.1080. It was most likely sent to Durham c.1083 along with Lanfranc's *Decreta* to maintain musical and liturgical uniformity with Canterbury (Hartwell, pp.139-141; Cowdrey, pp.41, 72-73). The Bury Psalter (Vatican Library, MS. Reg. lat. 12, fol.159-160v) contains a copy of the *Laudes regiae* of 1068 (Cowdrey, p.56).

The *Laudes regiae* were performed on festal occasions, such as Christmas, Easter, and Pentecost. They were associated with the king's crown-wearing on these latter three occasions. Additionally, however, their performance did not require the king's presence (Cowdrey, pp.46-47).

<sup>491</sup>Some ruins of the Norman gateways and walls still remain of the larger monastic and cathedral precinct, e.g. remains of the Ethelbert Gate, south-west of the cathedral, remain visible, and under the later gate and wall (Ayers, 1994, p.57).

the topography of Norwich (Ferne, *Norwich Cathedral*, 1993, pp.5-7): "There could hardly be a more direct statement, as physical and literal as it is symbolic, of the imposition of one culture upon another" (Ferne, *Norwich Cathedral*, 1993, p.7) [Fig.27]. One could also add that the urban transformation was a conformation to the Norman ideal of the Christian kingdom under bishop, king and God. Just as the *Laudes regiae* liturgy<sup>492</sup> attempted to establish in the secular-political and ecclesiastical spheres a similitude of the City of God (Kantorowicz, 1958, p.62), so too this hierarchical-theocratic tendency was powerfully expressed in architecture and town planning in the great Anglo-Norman centres, such as the capital at Winchester, Durham, and Norwich [Figs.47-49]. In the next and final chapter, this and all the other themes discussed will be drawn into a larger concluding comparison and synthesis.

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<sup>492</sup>The general expression, continuing from Gallo-Frankish practice, was that:

They were addressed solely and triumphantly to the victorious Christ in his divinity as the eternal king of heaven and earth, and the exemplar and guarantor of power and prosperity to all *potentes* who upheld the fabric of a unitary Christian society -- pope, king, royal family, clergy, lay magnates, and warriors. (Cowdrey, p.44)

The *Laudes regiae* was used for festal occasions (such as Christmas, and especially Easter) and sometimes coronations (Cowdrey, 1981, pp.43, 67). The texts follow a well-ordered phrasing and portray a symmetry in the secular and non-secular hierarchies (cf. Cowdrey, 1981, pp.44-45, 53).

## Chapter 6: Conclusion

### 6.1 Anglo-Norman Durham, Bury St. Edmunds and Norwich

I have examined the degree to which medieval-building projects were portrayed as directed by and toward God. Part of this investigation involved three case studies of architectural design and town planning, at Durham, Bury St. Edmunds and Norwich during the Anglo-Norman period. The first town, Durham, was as a holy fortified citadel and bishop's see atop a peninsular acropolis overlooking its palatine state [Fig.46]. The site was described as revealed by God through the pervading guide and protector of Durham, St. Cuthbert. The borough of Bury St. Edmunds has been described as "a Monastic Town" (Lobel, 1935, title), exempt from episcopal control [Figs.23, 26]. This designation is apt because the monastic presence, control, and inspiration would have permeated this walled town during the Middle Ages. The new approximate grid plan of the Anglo-Norman town adjoined and aligned with the huge and orderly monastic complex. Indeed, the town was planned to support the monastic vocation which centred on the pursuit of God. Like St. Cuthbert at Durham, St. Edmund oversaw and protected his town as a divine emissary. Norwich was not so centred on saints. Neither was Norwich a monastic town like Bury St. Edmunds, but much closer to an episcopal city (Campbell, 1975, pp.8-9) like Durham. Indeed, Bishop Herbert of Losinga acquired extensive land in and surrounding Norwich so that "The Norman period saw Norwich well and truly folded into the bosom of the church" (Campbell, 1975, p.9). Additionally, the coordinated architecture and town planning at Durham and Norwich [Figs.48-49]

formed a visual counterpart to the *Laudes regiae* liturgy that expressed the hierarchy of the City of God in heaven and was mirrored on earth under Norman rule. In this fashion, these towns and churches acted as metaphors of cultural assimilation and change (cf. Crossley, 1988, p.116) in the wake of the Norman Conquest of England, and were codes for more universal Christian archetypes and ideals centred on God.

The town planning at Durham, Bury St. Edmunds and Norwich can also be placed in the context of a tradition of relatively sophisticated town planning in medieval England. Not only were remains of Roman planning to be seen in many locations throughout England, there were also the models of the Danish and Anglo-Saxon *burh* towns of the 9th and 10th centuries (Slater, 1987, pp.197, 201; cf. Fernie, 1983, pp.23-29). The towns founded under Alfred the Great, King of Wessex (reign 871-899), are important examples (Biddle & Hill, 1971). Norman town plans in France, starting with Rouen in the early 10th century, were probably also important precedents for the planning of Anglo-Norman Bury St. Edmunds (Gauthiez, 1998). The continuation of the town planning tradition in the 13th and 14th centuries was not necessarily more sophisticated than the Anglo-Norman and 12th-century precursors (Slater, 1987, p.201). Highly notable examples of the former were the towns founded by King Edward I (reign 1272-1307) in England, Wales and Gascony (Beresford, 1967; Shillaber, 1947; Chambers, 1937; Homan, 1949). In addition to royalty, bishops and monastic orders, particularly the Benedictines, were active in the development, planning and founding of English towns from the 6th to 16th centuries (Slater, 1998, especially p.155, 1987, 1996). Further, town planning aimed at political and socio-economic ends such as fortification, feudal subjection, market commerce and rent collection. Plans were considerably

ordered and measured, particularly through adapted rectilinear geometry and the royal statute perch and acre (Slater, 1981, especially pp.212, 215 & 1988, p.97). Overall, town planning was an expression of the divinely-ordained hierarchy and order guiding and controlling medieval society.

In a larger comparative context, Bury St. Edmunds can be reasonably argued to have been both a "cosmic" or "cosmocized sacred" city, and a "holy" city (Meyer, 1991, pp.147-165). The former ideal city type places this town in such company as Rome, Babylon and Peking. The latter type groups it with such cities as Mecca, Banaras, Jerusalem, and indeed Rome again. In an historic context, the association with Rome and Jerusalem is, of course, particularly significant: (i) Rome as the exemplary seat of Western Christian authority centred on Old St. Peter's and this Apostle's shrine and (ii) Jerusalem as the key city of biblical history and events, Christendom's world centre, and suggestive of the Heavenly Jerusalem. Durham, and to a lesser extent, Norwich can also be argued to have partaken of the elements of these ideal city types. The grand conception of the planning and the immensity of the central churches at Durham, Norwich and Bury St. Edmunds indicate an ambition and intent for Anglo-Norman centres to be likened to a great "holy" and "cosmic" city of the world, Rome. The designation for a city of "holy" indicates a divine presence and intervention. The descriptor "cosmic" indicates an intention to harmonise with, and direct the city towards, the cosmos and the divine. When these concepts are combined in an urban construct, as at Bury St. Edmunds, the town was built with and for, and directed towards, God.

Further, the entire town of Bury St. Edmunds was like an immense 'shrine' for St. Edmund (Gauthiez, 1998, p.94). This view is similar to the notions we considered for

Durham and the shrine of St. Cuthbert. For Durham, we noted (i) the spectacular linking on successive corresponding levels of St. Cuthbert's coffin, the cathedral, the town of Durham, and the City of God by the Old English poem "Durham" (Kendall, 1988, pp.516-517, 519-520), and (ii) the entire Cathedral at Durham as a great architectural shrine for St. Cuthbert (Thurlby, 1994, p.165; Fernie, "Durham Cathedral", 1993, p.155). In both cases, Durham and Bury St. Edmund, the saints' shrines, the sanctums of God's agents, extend out to encompass, enclose and tacitly sanctify their respective operative realm and city. In this manner, these towns appear to have been dramatically directed and built for God through saintly intermediaries.

The Normans appear to have decreased in some ways and in other ways increased the God-centred approach to building projects in England. Arguably, the brutality of the Conquest and the conquerors' oppressive use of architecture signaled a decrease. Examples of such use of buildings was the extensive system of castles, fortifications, and even the huge churches (cf. Heslop, 1994, p.66). At Durham, Bury St. Edmunds, Norwich and elsewhere, the Normans certainly made huge and powerful displays of their divine right and intentions. Also, the Normans maintained and created conditions conducive to the emphasis on God through strong support and encouragement of the Church, its arts and places of worship, and monasticism and Latin learning. The synthesis of the Anglo-Saxon and Norman cultures during the Anglo-Norman period maintained the importance of a God-centred approach to building and displayed it even more.

## 6.2 Laws of Correspondence and Music, and Key Principles of Organization

Certain laws and principles assisted the divine nature of building. The law of correspondence was particularly important. For example, the extension of the saint's shrine to the church and the town, as noted at Durham and Bury St. Edmunds, is akin to the spectacular extensions of the concept of the temple or Christian church. The temple, including the Tabernacle of Moses and the Temple of Solomon, commonly signified the body, church edifice, the Church or Christian community, the universe, the Heavenly Jerusalem and City of God, and Christ and God (Josephus, *The Jewish War*, V.212 & *The Antiquities of the Jews*, III.123, 180-187; Gregory of Nyssa, 1978, 170-188, pp.97-103; Malherbe et al. in Gregory of Nyssa, 1978, pp.179 n.212, 179-180 n.219; Bede, 1994, 1.3, p.10; Holder in Bede, 1994, pp.xv-xvi, xix, xxiii; Hough et al., 1957, p.533; Snodgrass, 1990, pp.297-300, 306). The law of correspondence of the microcosm and macrocosm was applied. Thus, the identifications of temple or church were not unrelated; rather they corresponded meaningfully to each other at multiple scales and levels of existence ultimately directed toward, and residing in, God.

In complement with the law of correspondence of the microcosm and macrocosm, key organizing principles for the temple or church are the body, the cross, numerical and geometrical principles, and measurement units. Indeed, important features of the temple or church are their identification with the body and the cross. The concept of the body, be it the human body or the body of Christ, constituted an important organizing principle. A central feature of a great church, such as Durham Cathedral or Bury St. Edmunds Abbey church, was the east-end shrine which contained the titular



saint's body. The site of the town could be specially ordained for the resting place of this body, such as St. Cuthbert's at Durham. The other central feature of the church was as a space for Christian worship's central liturgical act: the Eucharist, Mass, Holy Communion or the Lord's Supper. Here the consecrated elements of the bread and wine signified, even were deemed to become through transubstantiation, the Body and Blood of Christ respectively. Again, the concept of body figures prominently. The Body of Christ was also the Christian community and the new temple of God. The Christian was to undertake the spiritual process of forming himself or herself as the body-temple of God. The ground plan of the material temple, the church, was also likened to the body and its parts. In further extension, the city-state and cosmos were likened in their threefold structure to the human being and human body. In the "Durham" poem, as noted above, the coffin of the body of St. Cuthbert appears to mirror the cathedral, the town of Durham and the City of God. Units of measure, applied in architecture and church building, were often derived from the human body. The *symmetria* of the human body was akin to, and exemplary for, that needed for architecture and churches. The expansive concept of music linked not only instrumental music (*Musica instrumentalis*) to the visual work of the crafts (Augustine, *De Musica*, VI.13; Boethius, *De institutione musica*, I.32), but also the harmonious and healthful relations of the elements of the human's physical body and soul (*Musica humana*), and the dynamic order of the heavenly bodies and seasons (*Musica mundana*). The above observations on the body are not necessarily instances of anthropomorphism, the projection of human characteristics onto the built and natural environment. The underlying structure of the human being and body was viewed as a fundamental pattern formed by God, in the

image of God, and applied, and therefore apparent, throughout Creation. The body as an element in design was thought to be derived from and directed to God<sup>493</sup>.

Another key organizing principle, or design element of God the Creator, was the cross. Not only was the cross inextricably identified with the central Christian symbol associated with the Crucifixion and Resurrection of Christ, this holy symbol was deemed imprinted throughout Creation and in human tools, technology and the built environment (Didron, 1851/1968, I, p.373; Ladner, 1995, pp.99-100). The cross was associated with the four cardinal directions, the oriented church and its worship, the boundary crosses and right of sanctuary of a town, and beyond to the four quarters of the world. Orientation and the cardinal directions, in turn, associate the cross, the oriented church and the cardinally aligned town with the movement of the sun, which is part of the world music (*Musica mundana*). Further, these outer expressions of the cross in the built and natural environment demonstrate the Creator's handiwork and draw the soul to God. This concurs with the common medieval understanding of symbolism expressed, for example, by Hugh of St. Victor: "A symbol is a collecting of visible forms for the demonstration of invisible things" (Trans. in Ladner, 1979, p.225)<sup>494</sup>. The application of the cross in design was following the exemplary handiwork of the Creator and directed to God through the symbolism of the cruciform pattern. Overall, the temple, the cross and the body were interrelated concepts that mirrored at multiple scales the forms of the

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<sup>493</sup>Linda Elaine Neagley, in her essay "Architecture and the Body of Christ" (1997), makes some of the points in this paragraph and some others.

<sup>494</sup>"Collecting" is a translation from the Latin *collatio*, which is a near-literal translation of the Greek *symbollein*. The associated Greek noun *symbolon*, a "drawing together" (Ladner, 1979, p.223), appears to be part of the etymological derivation of the word 'symbol' (Ladner, 1979, pp.223-225).

built environment and the universe. These concepts as elements of design were considered divinely ordained and directed to God.

In addition to the cross, numerical and geometrical principles and measurement units were involved in the creation of sacred and habitable space. These principles were identified with those involved in the forming of Creation and time by God the Creator, and the building of biblical edifices and cities. Anglo-Saxon and Anglo-Norman building projects applied such mathematical methods. This was the case in the design and implementation of Norwich Cathedral and Castle Keep, Bury St. Edmunds Abbey Church, and Durham Cathedral, particularly in regard to the use of the geometric motifs of the square's side and its diagonal, the equilateral triangle and its altitude and possibly the regular pentagon's side and its diagonal. Working in a complementary fashion with this geometry was some early employment of the English royal foot and perch (or pole). These geometric motifs and their associated 'architectural ratios' were fundamental elements of design strictly analogous to the respected and inventive use of ratios in music (Kidson, 1990, p.97)<sup>495</sup>. This again underlines the extension of instrumental music (*Musica instrumentalis*) to a music of the visual work of the crafts. Additionally, the role here of the geometry and order of the Creator was half-fulfilled in designing and constructing architecture and craft work. The crucial second half of its role was to then draw the minds of the patron, artisan and faithful inward to the heavenly order and thus complete the process or 'loop' back to the source of geometry and order, God.

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<sup>495</sup>Also, strikingly, the derivation of some standard units of measure had 'built-in' relationships involving these geometric motifs and 'architectural ratios' (Kidson, 1990, pp.76ff, 96-97).

One way these underlying mathematical principles were described was as the numerical proportional laws of music. Auditory instrumental and vocal music (*Musica instrumentalis*), and the visual 'music' of craft work, that we noted described by St. Augustine and Boethius, were to increase the harmonious and healthful relations of the elements of the human's physical body and soul, the human music (*Musica humana*). In turn, human music leads the soul to the exemplary or archetypal divine music (*divina musica*) residing in God (Chamberlain, 1970, p.97). This process of drawing the human soul back to its source, God, is essentially the process of edification. Further, world music (*Musica mundana*), the dynamic order of the heavenly bodies and seasons, is a spectacular visible pattern of the divine music, and the exemplar for human music, instrumental music (Chamberlain, 1970, pp.81, 97), and the visual 'music' of the crafts. Thus, the concepts of edification and the divine archetype or exemplar are astonishingly connected through the successive types of music, including the building crafts. Building with God can be viewed as a musical process.

The above paragraphs may suggest that a marked degree of intellectual and theoretical development would have been required to grasp the argued meaning of medieval architecture and craft work. It may be granted that an ecclesiastical patron would have understood and held such viewpoints, but would a craftsperson? Within medieval hierarchical societies, this question would not have been particularly relevant or significant. The viewpoints of craftspersons, unless they were also church officials or nobility, were not deemed particularly important. The main constructors of 'meaning' were those in the upper hierarchy, and those below would have been channeled into, and obliged to accept, those 'meanings.' However, even given these sobering observations, the

question of the craftsperson's understanding is still valuable for us to examine today. One approach is to note that intellectuality is not to be equated with religiosity. A person may be quite developed in one and not in the other. Abbesses, abbots and bishops tended to be quite developed in both areas – plainly speaking, it was their job to be so. However, craftspersons who were not also ecclesiastics may not have been well versed in any intellectual theories, but they could nevertheless have been religious in all that they did. The consultative contacts between ecclesiastic patrons and master masons and craftspersons would have afforded some exchanges on the "why," the purpose and meanings of the project, in order that the "how" could be carried out properly (Shelby, 1970, pp.16-18, 26 & 1972, p.413) . Further, Theophilus Presbyter was adept in theology and possibly in the crafts themselves. The cogent theology he set forth for the crafts was based on biblical stories, and could basically be grasped by a child. Additionally, he spoke of the inspiration of artisans, co-creators with God, and much of his message could be grasped by craftspersons at that experiential level, and with their own cleverness.

### 6.3 Church and Town: Divine Guidance, Theology, Liturgy and Ritual

A church can be viewed as a place of worship and ritual, and as an expression of theology and spirituality, not only in its services and ritual, but also in its crafted form and fabric. The acts of designing and building a medieval church correspond with, and participate in, the liturgy and, more generally, ritual. The impetus to build, the selection of the site, and the design were often reported as being of divine origin, revealed through

visions or dreams. This heavenly guidance was reinforced, at least implicitly, by the church dedication and consecration liturgy, which references the earlier biblical precedents of divine direction in building projects. The latter include Jacob's dream for God's house, the divine guidance of Moses for the Tabernacle and of David and Solomon for the Temple, and St. John of Patmos's vision of the Heavenly Jerusalem. The dream or vision was a medium by which it was held that a divine intermediary, such as a saint or the Virgin Mary, indicated God's direction for, and participation in, the building project.

Certain rituals were performed to commence the church and monastic building project. This could include days of prayer and fasting by monks at the chosen monastic site, followed by prayers before the breaking of the soil and the digging of the foundation trenches. The ceremonial laying of the foundation stone followed, and was documented, for example, at Bishop Herbert of Losinga's Norwich Cathedral and Bishop William of St. Calais's Durham Cathedral. These opening rituals for the building process attempted to purify the site with God's presence, evoke a divine blessing for the project and align its purpose to that of God and the Heavenly City.

The culminating ritual for the church-building process was the dedication and consecration liturgy for the church and its altars. This ritual was a key event in the history of a church, and it was commemorated annually in an anniversary ceremony. The dedication and consecration liturgy appears, in part, to derive from the rites of:

(1) the Roman augurs for the creation of a sacred precinct, the *templum*, for the site of a temple and for the founding of a town, and (2) the Roman *collegium pontificum* for the dedication and consecration of a temple. The closing ritual sought to validate and fulfil

the building project by granting and recognising the church's full theological significance and by making the edifice spiritually complete for service to God and the community.

The day-to-day church-building process was not, of course, part of the liturgy, nor *explicitly* a religious ritualistic act. However, in an *implicit* sense it was, because (i) the preparation of the site, (ii) the ceremonial laying of the foundation stone, and (iii) the dedication and consecration liturgy, and its anniversary ceremony, involved the religious ritualistic enactment of the building process. For example, in the ceremonial laying of the foundation stone, ashlar or squared stones were laid for the church. Additionally, in each ceremony, the building process was affirmed, and the site was being *acted* upon, so that the process and site were sacred, purified, auspicious, and suitable for a church and monastery. In a broad sense, these acts were part of the building process and focused the latter toward God and the Heavenly City.

Both *implementation*, or the building process, and *ritual* can be viewed as *actions designed* to outwardly express, and inwardly lead one to, the *sacred*. Divine guidance was also to have been received, without the explicit medium of ritual, in (i) dreams and visions where designs and implementations were revealed, (ii) admonishments in crafts manuals where receptivity to God would lead the worker to follow a divine pattern, like Moses for the building of the Tabernacle and (iii) the spirit of the craft guilds in following the *way* of their patron saints. The explicit degree to which these principles were active would vary, but they would have been at work at least implicitly. This point applies to both secular and non-secular projects which shared the

*same* craft and building traditions, often the same patrons and master masons<sup>496</sup>, and essentially the same Christian way of life. (i) to (iii) were a part of the integration of Christianity and a God-oriented approach to life into the building enterprise.

A general sequence that relates implementation, design, ritual and the sacred is given below:

- (i) *idea and impetus* to build,
- (ii) *site selection*,
- (iii) *site preparation and purification* (for a new Christian site) including fasting and prayer at the site,
- (iv) *design and planning*, including the liturgical, musical, and pastoral environments and iconographic elements and programmes,
- (v) *laying out* the plan on the ground at the prepared site,
- (vi) *breaking the soil and digging the foundation trenches*, commenced with prayer,
- (vii) ceremonial *laying of the foundation stones*,
- (viii) *implementation* or construction, sometimes miraculously assisted,
- (ix) *consecration and dedication* of a church and its altars, and
- (x) *on-going use, building, maintenance, and repair*, including observance of the anniversary of the church dedication.

The first two items may be guided by the sacred commemoration of an event. Further, the first four items were recorded in some cases as having a divine origin through visions

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<sup>496</sup>Medieval English master masons sometimes even carried out concurrent assignments at more than one type of site (e.g. church, castle and town wharf) (Shelby, 1964, p.403).



and dreams. Apart from possibly (iii) and the prayers accompanying (vi), the items listed above were standard. Whether or not there are extant records of claimed dreams or visions involved can vary. In principle, all stages were to be divinely guided.

Towns could also follow, at least, some of these stages. A town could have (i) and (ii) associated with it through its founding church. St. Albans, Durham, and Battle are examples. The orderly disposition of burgage plot-sizes, often configured with a triangular market place or approximate rectangular grid street system, are indications of (iv) and (v). This imposition of order signalled the ecclesiastical or feudal lord's divinely ordained and royally conferred control and authority in the town (cf. Randolph, 1995, pp.306-307). (vi) and (vii) were paralleled in the town foundation ceremonies under Edward II and Frederick II<sup>497</sup>. (ix) and (x) have some parallel in the feast days celebrated for the dedication of town walls, towers, and moats. Additionally, the *Laudes regiae* liturgy mirrored the powerful expression in architecture and town planning in the great Anglo-Norman centres, to establish in the secular-political and ecclesiastical spheres a similitude of the City of God (Kantorowicz, 1958, p.62). Urban processions for Rogation Days and Palm Sunday sanctified the town and its surrounding lands, and made a tacit identification of the town with the New Jerusalem. Further, and in regard to item (iv) and (v) above, new streets were often aligned with the main gate of a monastery, providing an impressive processional route leading into the cathedral or abbey church such as at Bury St. Edmunds and Peterborough. This street alignment could also include monastic gateways situated at bases of the central triangular market-places in

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<sup>497</sup>These ceremonies for the foundation of towns are discussed in Appendix 7.

other Benedictine monastic towns such as Battle, Evesham, Burton-on-Trent and Coventry (Slater, 1998, pp.158-159, 174 fn.21). Additionally, an annual fair centred on a Feast Day associated with the town's titular saint or another saint. Durham, Bury St. Edmunds and other medieval towns, through such fairs, accommodated and fulfilled their heavenly purpose of Christian community under a saint's direction . The town became the sacred space for religious processions and dramas such as Passion plays, with the community's and guilds' participation. In addition to the fairs, Bury St. Edmunds and Durham were pilgrimage sites in their own right, and these towns were like immense shrines that functioned as "holy" cities. Further, King Alfred, a great builder and restorer of towns (Biddle and Hill, 1971, pp.82-85), remarked that the materials and crafts for building houses and towns were God-given and directed towards realising the eternal home (Alfred, 1852, III, pp.83-84; Alfred quoted in Woodruff, 1974, p.163; Woodruff, 1974, p.163)<sup>498</sup>, the Heavenly City. Towns were ideally planned and directed toward God. This divine function was expressed by the town as a sacred space for (a) processions and the liturgy, (b) religious dramas, (c) the placement of market crosses, boundary crosses and churches, and (d) the right of sanctuary. Additionally, towns were the sites of annual fairs centred on a Feast Day and Christian community, a pilgrimage destination, a great 'shrine' or holder of a saintly shrine, and a reminder of the Heavenly City.

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<sup>498</sup>This passage of King Alfred is described further later in this Conclusion.

#### 6.4 The Heavenly City and Divine Archetype

The desire to simulate the Heavenly City was also featured in the ideal of the medieval kingdom and Christendom. The divine nature and pattern of the church and town extended to the entire kingdom and all the kingdoms of Christendom. Edgar, King of the Saxons, was said to have observed that the world and its kingdoms were called to be a reflection of the Heavenly City under God's rule and perfection:

I have often times and many ways looked into the state of earthly kingdomes, generally the whole world over (as farre as it be yet known to Christian men commonly) being a studie of no great difficultie, but rather a purpose somewhat answerable to a perfect Cosmographer, to find himselfe Cosmolites, a citizen and member of the whole and onely one mysticall citie universall, and so consequently to meditate on the Cosmopoliticall government thereof, under the King almightie. (c.973, quoted in Cowan, 1996, p.v)

Similarly, the Normans, in their devotion to Christianity and strong support for the Church, undertook such a great project commencing with King William I's reign in 1066. They began to build a Norman empire as a Christian kingdom, a hierarchy with God at its head (Brown, 1984, p.48 & chapt.4) [cf. Fig.47], and a semblance of the Heavenly City.

The apprehension of the Heavenly City, an archetype, and its many expressions on earth was a key in Christian living. Things can be said to be made twice -- first in the mind, and then in earthly materials. In the mind, of course, the ideal is more easily realized. More pragmatic considerations come into play when the entity is to be made in physical materials. However, adjustments to 'natural' topography, for example, still follow God's Creation, and aim at a more ideal function. The ideal conception, or divine pattern, was an eternal given. Human consciousness had to be raised to unite with this

pattern of the Creator, in order to conform material reality to it through craft working with technology. The greater the skills, resources, and resolve of the builders, the closer the two creations correspond. In a masterful execution, they form a unity<sup>499</sup>, and the artisans and builders fulfil their purpose as co-creators with God.

Further, a cosmic pattern was translated through the medium of number, geometry, and materials of the earth to create the church, monastery, and to a degree the town, and architecture generally. The church edifice, its design and implementation, and its ritual followed an ancient principle by forming a microcosm that reflected the divine archetype and mathematical order in the macrocosm (i.e. God and Creation). Many elements of the Ancient Egyptian, Etruscan, Roman and Judaic foundation and dedication ceremonies for towns and temples continued during the Middle Ages. However, such medieval ceremonies were largely concentrated on the church and monastery as having the sacred qualities of *the city*, the Heavenly Jerusalem, even more than the medieval towns themselves. The asserted compliance to a divine archetype in design again positioned the builders as co-creators with God.

A divine image was to be followed not only in its re-creation in the church edifice, but also within the builder through the process of the building arts. We have noted the latter in Hugh of St. Victor's *Didascalicon* and Theophilus Presbyter's *De Diversis Artibus*, and in the writings of earlier theologians. Also, the dedication liturgy of the

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<sup>499</sup>The practical and the spiritual need not be separate. Indeed, by a Christian principle in the Lord's Prayer, "Thy will be done on earth, as it is done in heaven" (Matthew 6:10; Luke 11:2), they are to mirror each other. When the inner image is outwardly expressed, it becomes better understood, and hence its capacity for future expression is increased. A mutually reinforcing circle can then be formed between continual expression and increasing comprehension.

church was to assist the celebrants' souls in conforming to its ideal divine pattern, as we have noted, according to Bishop Eusebius, St. Augustine, and Hugh of St. Victor in his *Mystical Mirrour of the Church*. Even pastoral care can follow the divine pattern of the architecture of the Tabernacle of Moses and the Temple of Solomon, as given in the Venerable Bede's *On the Tabernacle* and *On the Temple*, respectively (O'Reilly in Bede, 1995, pp.xxi, xxiii, xxvii, xxxii-li)<sup>500</sup>. The conformation to a divine archetype is an important unifying principle for the church edifice, and its construction, symbolism, dedication and associated pastoral care. The archetype also guided these aspects of the building process so as to conform to God's wisdom and pattern of perfection.

This accordance with an archetype was an application of an important doctrine in both Western and Eastern traditions, the notion of the correspondence of the microcosm and macrocosm (Snodgrass, 1990, pp.40-43, 54-62 & 1988, p.317; Allers, 1942; Thunberg, 1995, pp.133-136). The human is mirrored in the cosmos or universe. Additionally, these two are both mirrored in the city-state, and temple or church. The correspondence is in substance, structure and function, with the same underlying laws operating throughout. Thus, for example, the human, the temple, and the city-state are like holograms of the cosmos. This law indicates that there are the same fundamental organizing principles underlying all creations. It seems that the artisan and builder were behooved to recognize and apply these principles in order to harmonise with the only laws that are immutable and thoroughly reliable, God's laws of Creation, and thereby avoid frustration and futility.

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<sup>500</sup>These two texts by Bede were widely available and read during the Middle Ages (Holder in Bede, 1994, pp.xxi-xxv).

## 6.5 The Crafts, Christian Precepts and the Attainment of Wisdom

During the medieval period, the building crafts were commonly included as part of the liberal arts, or as part of the mechanical arts, and as such helped direct the human to Wisdom (Whitney, 1990). The crafts participated in a threefold progression fulfilling the ascribed divine purpose of life. The crafts involved *cogitatio* that interfaced with and assisted *meditatio* and ultimately *contemplatio*:

The three main divisions in the march towards union with the divine, were Thought (*cogitatio*) during which the mind was busy with the investigation of the material universe; Meditation (*meditatio*) in which the soul, turned inward on itself, seeks God through a discursive process; and Contemplation (*contemplatio*) in which the soul is united with God in mystical contemplation or ecstasy. (Healy, 1932, p.214)

This quoted passage remarked on the teachings of the School of St. Victor and, most outstandingly, Hugh of St. Victor (fl.1115-1141). However, the passage also concurs with the views of the ultimate purpose of the crafts held by other formative and influential theologians, such as John the Scot (b. c.810) and, during the Anglo-Norman period, Honorius Augustodunensis (fl. c.1095-c.1135)<sup>501</sup> (Whitney, 1990, especially pp.61, 69, 71-73; Crouse, 1969; Honorius, *de artibus*, 1855-1865 & 1973). The building crafts

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<sup>501</sup>Honorius Augustodunensis spent part of his early career in England. His works show a dependence on the works of Anselm, Archbishop of Canterbury (Flint, "The Chronology," 1972, pp.75, 86 & "The Works," 1972, pp.241-242). His *De animae exilio et patria: alias, de artibus*, c. after 1111 (Flint, "The Works," 1972, pp.232-233), discusses the divine purpose of the crafts (Honorius, 1973; Crouse, 1969, especially pp.537-539). Particularly noteworthy are Chapter X on the mechanical arts and Chapters XII-XIV describing the resulting development of wisdom and the vision of, and union with, God.

were part of a process by which humans were restored in the image of, and reunited in realization with, God.

Christians are to follow the examples and divine laws discerned in the Bible, and their work on building projects during the Middle Ages appears to have been no exception. This practice is, of course, what the religious are supposed to do in their lives generally, i.e. apply and adhere to the guidelines and ethos of their sacred text. The capacity to work and have skills in the crafts was deemed a divine gift. The building project and its design were ideally indicated and guided by God. Further, the design was to mirror a divine archetype. These principles were applied to increase humans in wisdom and to prepare their place with God in Paradise, as noted, for example in a standard Anglo-Saxon school-text translated under King Alfred, a compilation of St. Augustine's *Soliloquies* and extracts from *The City of God*, and certain other works. In the Preface, King Alfred described, as noted earlier in this Conclusion, the materials and skilled building process for houses and towns as given and directed by God, and a preparation for, and directive towards realising, the eternal home (Alfred, 1852, III, pp.83-84; Alfred quoted in Woodruff, 1974, p.163; Woodruff, 1974, p.163)<sup>502</sup>. Building projects were also ideally an expression of piety towards one's own Maker as indicated, for example, by William of Malmesbury. This historian gave the words of the psalmist to a great building patron of the Anglo-Norman period, Roger (c.1065-1139), Bishop of

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<sup>502</sup>King Alfred's description of building was employed as a metaphor for carefully reading and applying the wisdom of the subsequent text. However, the metaphor is an analogy that applies literally to the building crafts.

Salisbury<sup>503</sup>: "Lord, I have loved the glory of thy house" (Psalm 26:8; William of Malmesbury, *Chronicle of the Kings of England*, trans. Giles, 1847/1968, p.442; Brown, 1984, pp.76-77, 177 "Chapter IV" n.134)<sup>504</sup>. These facets of the crafts and building, that is patronage, design and skill, were applied within Christianity. Additionally, these building projects coordinated in towns were to be protected by God, often through the intermediary of a saint. Therefore, these projects were ideally God-centred, not human-centred, as odd or as unfamiliar as this conception may seem to some today. This focus was well expressed in another passage from Psalms, 127[Vulgate 126]:1, associated with Solomon and the building of the Temple and illustrated in an Anglo-Saxon copy (London, British Library, MS Harley 603, fol.66v)<sup>505</sup> of the Carolingian Utrecht Psalter:

Except the Lord build the house, they labour in vain that build it: except the Lord keep the city, the watchman waketh *but* in vain [Fig.52].

In other words, and in keeping with the references to the medieval crafts in Chapter 2, the artisans and builders were held to be working with God, for God, as His instruments. In this manner only would the work be well advised and of substantial and lasting value.

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<sup>503</sup>Roger of Salisbury was also the viceroy of England under Henry I (William of Malmesbury, *Chronicle of the Kings of England*, 1847/1968, p.442).

<sup>504</sup>In this context, William of Malmesbury praises Roger of Salisbury for his part in the design process and the high quality of the buildings made under his patronage:

He was a prelate of great mind, and spared no expense towards completing his designs, especially in buildings, which may be seen in other places, but more particularly at Salisbury and Malmesbury. For there he erected extensive edifices, at vast cost, and with surpassing beauty; the courses of stone being so correctly laid that joint deceives the eye, and leads it to imagine that the whole wall is composed of a single block. He built anew the church of Salisbury, and beautified it in such a manner that it yields to none in England, but surpasses many, so that he had just cause to say, "Lord, I have loved the glory of thy house." (*Chronicle of the Kings of England*, trans. Giles, p.442)

<sup>505</sup>This psalter was produced at Christ Church, Canterbury, in the early 11th century with later additions. It is a copy (Temple, 1976, ill.207, pp.81-82 Cat.64) of the Utrecht Psalter, c.820.



The great building projects of the Bible were said to be divinely inspired. So too were their later counterparts, the churches and towns of the Middle Ages as noted in medieval theology, liturgy, poetry, chronicles and craft manuals. Medieval-building projects, from start to finish, from their opening to closing rituals, were ideally ordained by God, guided by God, patterned after God's handiwork of Creation, protected by God, undertaken for God by human builders who in the process were being restored in the image of God, and for the faithful's return to God. In other words, it seems that patrons and artisans were, in every conceivable way, building with God.

## Appendix 1:

### The Encampment of the Israelites in the Wilderness, Ezekiel's Vision of Jerusalem, the Heavenly Jerusalem, and Other Twelve-fold Cities

Descriptions of, and ideal prescriptions for, the twelve-fold division of cities, their surrounding country, states, and other realms seem fairly common<sup>506</sup>. In the West, an important example is Plato's ideal city and theocratic state (Bury in Plato, *Laws*, 1961, I, p.xiv), described in his *Laws*. This city-state was divided into twelve parts corresponding to twelve tribes and twelve gods<sup>507</sup>. The latter designation may have identified the city with the cosmos because Plato described the twelve gods of the constellations rotating about the universe's centre, Hestia (*Phaedrus*, 246-247). The city proper and the surrounding countryside were each divided into twelve parts. The size of each part depended on the quality of the land (*Laws*, V, 745c). A twelve-fold structure was to be the basis for all organizations and administrative units in the society, and even for the systems of coinage, weights, and measures (*Laws*, V, 746d, 758). Twelve appears to have been a key structural element in unifying the city-state and harmonizing it with the cosmos.

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<sup>506</sup>A square city plan with twelve gates, three in each of the four cardinal directions, was common throughout Asia. The Indian *Sastras* prescribe such a plan, e.g. *Arthashastra* II.4 (Snodgrass, 1988, pp.74, 74 fn.30). In the Islamic world, Sassanian Firuzabad was a circular city subdivided into twelve sectors named after the zodiacal signs and its main crossroads aligned to the four cardinal points (Yi-Fu, p.156). The king and the kingdom centred there were to reflect the reign of the sun in the heavens (Meyer, 1991, p.153).

<sup>507</sup>*Laws*, V, 745; VI, 758e, 760b-c, 771a-b. However, the apparently ideal city-state of Atlantis was described by Plato as based on ten portions allotted to five pairs of twin sons of the god Poseidon and the mortal Cleito (*Critias*, 113). This ten-fold patterning may have been associated, in part, with the philosophical meaning and all-encompassing nature of the number 10, the decad, promoted by the Pythagoreans and known to Plato.

In biblical and Christian tradition, a twelve-fold structure appears as a divine archetypal pattern given by God for the description and construction of cities. The Camp of the Israelites around the Tabernacle in the wilderness, Ezekiel's vision of the Temple and Jerusalem, both match the Heavenly Jerusalem in some important elements. One of these elements is a twelve-fold division that is important for a correspondence with the twelve tribes of Israel. The coordinated plan of the encampment of the twelve tribes of Israel around the Tabernacle in the wilderness is an example (Numbers 1:50-54; 2). Additionally, in one of Ezekiel's visions we find the twelve gates of Jerusalem named after the tribes of Israel (Ezekiel 48:31-34), and the surrounding land and country of Jerusalem systematically apportioned to the twelve tribes (Ezekiel 45, 47-48). For the Heavenly Jerusalem, we note its twelve foundations (that were explicitly associated with the twelve apostles and twelve precious stones), and the twelve gates (that were explicitly associated with twelve angels and the twelve tribes of Israel) (Revelation 21:12-21). Additionally, the dimensions are also simply related to twelve (Revelation 21:16-17). This consistency is fitting, for the New Testament is considered a culmination of the Old Testament in Christian tradition.

The twelve-fold structure of the Heavenly Jerusalem was part of one of its interpretations as a model of the cosmos. The apostles, the tribes of Israel, the hours of the day, the months of the year, and the signs of the zodiac are all twelve in number and are assimilated in the Heavenly City<sup>508</sup>.

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<sup>508</sup>Snodgrass, 1990, pp.310-311; Hough et al., p.537. An earlier influence or parallel is found in the ancient Egyptian ritual text, *The Book of What is in the Dwat* (Nineteenth Dynasty, c.1300 B.C.). It describes the nightly celestial journey of Re, the Great God, on a solar barque through the realm of the

Some medieval cities and their depictions appear to have applied the twelve-fold structure of the Heavenly City. Brescia, in Lombardy in northern Italy, had civic planning programmes based, in part, on the descriptions of the Heavenly Jerusalem and its twelve gates (Russell, 1994). Civic building programmes, including new city walls with twelve new city gates, a communal palace, fountains, and paving of streets, were carried out during various periods from 1186 to 1254 (Russell, 1994, pp. 152-156). Circumstantial evidence suggests some adaptation of the description of the Heavenly Jerusalem in Revelation 21:

- (i) a square communal palace in a square-walled city,
- (ii) 12 new gates are added also in the 13th century,
- (iii) civic fountains are constructed, including one in the courtyard of the communal palace (*fons vitae*), the fountain of life was equated with the heavenly river), and a river flowed through the city immediately to the west of the communal palace -- city streets were paved (though of course not with gold) as in Revelation (21:21) (Russell, 1994, pp.156-157).

Additionally, there is documentary evidence from 1313. A civic statute of 1251, prohibiting the destruction of houses so that the city would not be disfigured or marred by ruins, was renewed with this explanation included: ... *ne civitas deformeretur ruinis ... cum dicatur quod civitates facte sunt ad similitudinem Paradisi* (since it is said that cities have been made in the likeness of Paradise)<sup>509</sup>. Thus, the city was being modelled

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night's twelve hours, the Dwat. A name, a gate, a guardian and a guide are assigned to each hour (Lamy, p.29; also pp.58, 88-89).

<sup>509</sup>Brescia, Archivio di Stato, MS. Bibliotheca Queriniana, Arch. Civ. 1043 1/2, fol.63<sup>v</sup>, quoted in Russell, 1994, p.157

after the Heavenly City. The modelling was partial, and compromises were made to accommodate the integration of the new building programme with the already existing city (Russell, 1994, pp.157, 161 n.26). This imitation of the Heavenly Jerusalem is akin to the contention that a medieval "copy" can mean the selective recombination of the original building's elements in the new "copy" building (Krautheimer, 1942/1969, pp.125, 140). Here, of course, the notion could be expanded to include cities and the Heavenly City.

Depictions and descriptions of medieval cities having 12 gates or chapels, even when they literally had more or fewer gates, may have been a reference to the Heavenly Jerusalem. For Florence, statutes of 1339 state that the city has 12 gates, as opposed to its actual 15. For Imola, in a statute of 1334, there is a description stating that the city has 12 chapels, and each city quarter has three chapels (Frugoni, *Distant City*, 1991, p.27). London is depicted as a roughly circular, spired and towered city with 12 gates, in Matthew Paris's vignette, a pilgrimage map starting from London, c.1252<sup>510</sup> [Fig.5]. This may not be a reference to the Heavenly Jerusalem, though this simplified way of picturing cities is somewhat similar to depictions of the New Jerusalem<sup>511</sup>. The description and formation of a twelve-fold pattern in cities was deemed a God-given design and served to recall the Heavenly City.

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<sup>510</sup>Clark, 1989, p.44; Harvey, 1991, pp.2-3 fig.1.

<sup>511</sup>Frugoni, *Distant City*, 1991, pp.22, 26, fig.16&25; Gousset, pp.51 fig.4&6, 53 fig.7&9.

## Appendix 2:

### The "Cosmic" and Archetypal City

Further to the discussion and heuristic definitions of "cosmic" and "holy" cities in the chapter on Bury St. Edmunds, the Heavenly Jerusalem itself is a "cosmic" city in an *expanded* sense. The Heavenly Jerusalem has roots in the view that

there was a perfect heavenly model for everything on earth, including cities and temples. Thus there was a heavenly Babylon; also a heavenly temple of Marduk, which came to be identified with the city. (Hough et al., 1957, p.533)

The heavenly city 'descended' to earth as described in Revelation 3:12, 21:2-22:5 (and was emphasized in church dedications). Earlier descriptions appear in Hebraic tradition in 4 Ezra 7:26, 10:25-54, 13:36. Other Jewish and Christian writings note that the just will ascend to the Heavenly Jerusalem<sup>512</sup>. Strikingly, the form and imagery that St. John's vision was clothed in may have been also informed by the practice of Roman augury (Rykert, 1976, p.199). The augur would inwardly see the *templum* descend from the sky and heavens to form and make sacred and habitable the space for the city which could then be land-surveyed (Rykert, 1976, pp.45ff).

Another aspect of the "cosmic" city appears in medieval maps of Jerusalem and in world maps. *Mappae mundi* [Fig.38] are expressions, some highly comprehensive, of the medieval world view. They show the manifestation of the divine pattern in the biblical and physical geography of the world. For example, the world was generally depicted as a great circle oriented to the four cardinal points. Jerusalem was usually

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<sup>512</sup>2 Baruch 4:1-7, 4 Ezra 8:52, 4 Baruch 5:35, Hebrews 12:22, and Gal. 4:24-26; King, p.765.

placed at the centre. This followed from Ezekiel 5:5: "Thus saith the Lord; This is Jerusalem: I have set it in the midst of the nations and countries that are round about her." This city was depicted in most medieval plans as an idealized circular-walled city (Harvey, 1991, p.90 fig.71) [Fig.39]. However, physically, Jerusalem had an increasingly complex walled outline from the time of David to the time of Jesus (Black et al., 1963, maps 11-14), and to the Middle Ages. Also, Jerusalem was known as the navel of the world. In Christian symbolism, Mount Golgotha in Jerusalem was the very centre of the world, the place of the creation and burial of Adam. It was said to have been redeemed by the blood of Jesus the Christ falling into the earth there (Meyer, 1991, p.162). We note that Jerusalem is not only a "holy" city, but was also conceptualized as a "cosmic" city.

Related to the interpretation of the city of Jerusalem was the fact that the word 'Jerusalem' had various meanings during the Middle Ages. There were up to four senses of meaning in Scriptural exegesis – literal or historical, tropological (moral), allegorical, and anagogical (contemplative, mystical)<sup>513</sup>. Thus, Jerusalem, in the literal sense meant the earthly city and its historical associations, in the tropological sense it meant the faithful soul aspiring to the vision of peace eternal, in the allegorical sense it represents the Holy Church, and in the anagogical sense it meant the mystical experience of God and the life of the citizens of the Celestial City (Caplan, 1929, pp.282-283; Smalley, 1931, p.60). In biblical interpretation, Jerusalem and Zion have moral and spiritual

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<sup>513</sup>Caplan, pp.282-283; Smalley, p.60; Bede, 1994, 1.6, pp.25-26; Holder in Bede, 1994, pp.xviii, 25 fn.5. Anagogy refers to spiritual contemplation and the mystical union with God.

opposites in Babylon and in Sodom and Gomorrah. It is the anagogical sense here that, of course, relates directly to the Heavenly Jerusalem.

These points are essentially seen earlier in Plato's *Republic*:

The city of which we are founders ... exists in idea only: for I do not believe that there is such an one anywhere on earth. In Heaven there is laid up a pattern of it, which he who desires may behold, and beholding, may set his soul in order in the likeness of a Perfect City. But whether such a one exists, or ever will exist in fact, is no matter. For he will live after the manner of that City. (592A-B trans. in Mazzolani, 1970, p.276)

This quote is one of the most renowned passages in Plato. For the Stoics and Christians, this expression of a "Perfect City" was a source for the "City of God" concept<sup>514</sup>. The heuristic terms of the "cosmic" city and the "holy" city are relevant to understanding Christian cities and their ultimate counterpart, the City of God and Heavenly Jerusalem. This counterpart gave divine direction for the building and description of medieval churches and towns, examples of "cosmic" and "holy" 'cities'.

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<sup>514</sup>Shorey in Plato, *The Republic*, p.414 n.b. Notably, Plato's *Republic*, Cicero's *De Republica*, and St. Augustine's *City of God (Civitas Dei)* sprung from, and are great lessons from, the crises of the Athenian Empire, the Roman Republic and the Roman Empire, respectively (D. Pesce, *Città terrena e città celeste nel pensiero antico*, Florence, p.169, quoted in Mazzolani, pp.252, 277).



### Appendix 3:

#### *Encomium urbis*: In Praise of a City

This appendix describes further the nature and medieval examples of *encomium urbis*, of which the "Durham" poem is an example. *Encomium urbis* is a classical literary prescription for the praise of a city. This traditional form can be traced to the rhetorical schools of ancient Greece and Rome (Schlauch, 1941), and was also continued in Byzantine literature (Saradi, 1995). To the Greeks, city laudation was part of eulogy (Schlauch, 1941, p.24). The Greek writer Dionysius of Halicarnassus (1st century A.D.), in his *Ars Rhetorica*, gave the first systematic exposition of the techniques of city laudation. The delineated elements for praise consist of:

- (1) location of the city,
- (2) origin (with special attention on the founder, whether hero or a god),
- (3) deeds of the inhabitants (during peace times and at war),
- (4) size, beauty,
- (5) buildings, and
- (6) neighbouring river (emphasizing the benefits to the inhabitants by its purity, size, and fertility) (Schlauch, 1941, p.24).

Dionysius actually draws an elucidating analogy between building and literary composition (*Ars Rhetorica*, 1985, 2, pp.22-23 & 6, pp.54-57), and how both work to achieve a harmonious whole and a beautiful effect (*Ars Rhetorica*, 1985, 6, p.55).

Meander the Rhetorician, 3rd century A.D., elaborated the six sub-topics for *encomia* as literary exercises in Greek (Schlauch, 1941, p.24). The *Exercises* of Hermogenes,

translated into Latin from the Greek by Priscian, gave the *encomia* doctrine and illustrative exercises, that would have assisted the transmission of this literary form to the Middle Ages (Schlauch, 1941, pp.23-28)

The sacred can be infused or introduced in (1) through (6) above. The people mentioned in (2) and (3) tend to become saints and martyrs in the Christian period (Schlauch, 1941, p.28).

This literary form was followed in medieval Europe, and in England at York, Durham, London, and Chester. The Durham *encomium urbis* is discussed in the chapter on that town. The *Liber Luciani de Laude Cestrie* was a medieval description of Chester written during the reign of Richard I (1189-1199) by a monk of St. Werburgh's Abbey in Chester. It resembles William fitz Stephen's description of London under Henry II, but the description of Chester includes allegory (Stenton in William fitz Stephen, 1990, pp.32, 45 n.90). St. Gregory of Tours's (c.540-594) description of Dijon mentioned its surrounding fertile land, streams, springs and abundant fish and

It is a fortress girded round with mighty walls and set in the centre of a pleasant plain. ... The four entrances to the town are placed at the four quarters of the compass, and the thirty-three towers adorn the circuit of the walls ... . (*Historiae Francorum*, III.19, trans. Thorpe, 1974, pp.182-183; Parsons, 1987, pp.11, 39)

Similar are Alcuin's (b. c.730-735-d.804) much longer Latin poem on York, and the poem on Milan written during Langobard Luitprand's reign (712-744 A.D.) (Schlauch, 1941, pp.17-19). The latter poem concludes with a prayer that the eternal city may be entered by all Christians "*in qua sancti per eterna gratulantur saecula*" (Quoted in Schlauch, 1941, p.18). Three 12th-century French examples include: (i) Oderic Vitalis writing on Rouen in *Historia ecclesiastica* (V.6), c.1148, (ii) Guillaume le Breton on

Caen in *Phillipidos*, and (iii) Reims in *Vita Adalberti*. Also, Radbod lauds Noyon in *Vita S. Medardi* (late 11th century, before 1098) (Guillerme, 1983/1988, pp.76-77, 243 n.28-31). In general, laudations of how cities were God-favoured were fairly common during the Middle Ages. The poems suggest that the choice of the site and the building of the lauded cities was wisely and nobly directed through Providence.

#### Appendix 4:

#### The New and Second Rome

Various cities were known, or referred to, as the New or Second Rome.

Constantinople was seen as the New Rome founded by the Roman Emperor Constantine (Eusebius, *Life of Constantine the Great*, IV.5). Socrates recounts that this title was decreed by law, and that an engraved pillar in the city designated Constantinople as the "New Rome" (*The Ecclesiastical History of Socrates*, I.16, trans., 1904). There were various points of identification of Constantinople<sup>515</sup> with Rome. Both were, of course, imperial centres of the Roman empire. Each was known as a 'city of seven hills,' divided into fourteen districts (Sherrard, 1965, p.39). Constantinople was the outstanding example of the new Rome during the Early Christian period.

Examples of cities identifying themselves with Rome multiply during the Middle Ages. Aachen was the New Rome (*Roma nova*) and Second Rome (*Roma secunda*) under the Holy Roman Emperor Charlemagne (Kantorowicz, 1958, p.63; Hammer, 1944, p.56). Trier was a Second Rome, as mentioned by chroniclers from c.900 to the end of the 13th century (Hammer, 1944, pp.57-60). Additionally, Milan, Pavia, Tournai (Belgium), Rheims, and implicitly Pisa, were referred to as the Second Rome (Hammer, 1944, pp.60-62). Further, the centre of the Cluniac monastic 'empire,' Cluny with its huge abbey church Cluny III, was apparently commonly referred to as a second Rome

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<sup>515</sup>Constantinople was, in its own right, also emulated. Caernarvon, Wales, and its castle have several historical and iconographic identifications with Constantinople (Brown, 1989, p.66; Taylor, *Caernarvon*).

(Hubert, 1963, p.270). The Norman capital of Rouen was likened to Rome in a poem c.1148<sup>516</sup>.

This does not appear to be an appellation for any English medieval towns directly. However, as noted earlier, the lengths of the large post-Conquest churches are quite comparable with those of the early Christian basilicas of Constantinian Rome and Ambrosian Milan, such as Old St. Peter's in Rome (Ferne, *Norwich Cathedral*, 1993, pp.135-136, 137 fig.51, 138 table 1). In a manner analogous to Cluny as a second Rome, with its large abbey church Cluny III easily comparable in size and in other respects with Old St. Peter's<sup>517</sup>, we can likewise consider contemporary Anglo-Norman centres. As argued earlier, English towns, such as Durham, Winchester, and Bury St. Edmunds, were intended to be seen as great centres of Christianity like Rome<sup>518</sup>. Thus, there was an identification of these towns to a fair degree with some great centres of Christendom, Rome and Milan.

Notably, William fitz Stephen, writing before 1183, during the reign of Henry II, wrote a description of London as part of his *The Life of Saint Thomas, Archbishop and Martyr*. He states that London was patterned after Rome in regard to wards, governance, water sanitation, and judicial matters because of the claimed similar origin with Rome (William fitz Stephen, 1990, p.55). Rome, as a great centre of antiquity and Christendom and the seat of ecclesiastical authority, was deemed a providential exemplar for the description and building of Constantinople and various medieval towns and cities.

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<sup>516</sup>Le Patrouel, pp.353, 353 fn.1; Haskins, p.144; poem quoted in Haskins, p.144 fn.72.

<sup>517</sup>Hubert, p.270; cf. Fernie, *Norwich Cathedral*, 1993, p.138 Table 1.

<sup>518</sup>Thurlby, 1994, pp.162 fig.4, 163-166; McCague, 1993, pp.13-18, 222 fig.3.

## Appendix 5:

### Spiritual Guardians of Towns and Cities

Saints such as St. Cuthbert at Durham and St. Edmund at Bury St. Edmunds, as spiritual guardians of a city and its building projects, had pre-Christian forerunners. In this regard, the Greek goddess of Fortune, Tyche, was associated with newly formed towns such as Alexandria and Antioch. The Tyche of Antioch is depicted in sculpture, in a marble copy of the bronze original by Eutychides of Sycion, now in the Vatican Museum. It has the typical symbolism of a circular-walled city as crown, a sheaf of corn in the right hand, and the river god Orontes at her feet. She ensured protection, enclosure, and prosperity (Rosenau, 1983, pp.12-13).

Constantinople is an example of a city which claimed both Christian and non-Christian guardians or protectresses. Constantine saw the city of Constantinople in a dream, as a beautiful Tyche-like maiden, at the time of the city's founding. There was a Temple to the Tyche of the city in Constantinople, though likely no sacrificial cult was allowed (Smith, 1971, p.224). A statue of the Roman Tyche was set in the forum. Copies of the statue on silver medallions were produced at the city's mint in honour of the consecration of the city<sup>519</sup>.

A palladium was thought to safeguard a city – a role that was later transferred to the relics of saints. The most renowned palladium was in the citadel of Troy. It was an image of the goddess, Pallas Athene. The palladium of Troy was within a box, said to

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<sup>519</sup>A portrait of the Emperor appeared on the other side of the medallion (Sherrard, pp.8, 9 fig., 39-40).

have descended from the sky (Sherrard, 1965, p.40), or delivered down from Olympus by Zeus. The box would have protected the palladium, and possibly protected from profane view the image within of the goddess. However, one wonders about further significance of the box itself. The palladium from Troy was taken under divine assistance by its founder Aeneas during the city's sacking. It was said to have been buried under the column of Constantine's statue as an auspicious foundation-offering, a *telesma* (Smith, 1971, pp.217-218, 226). (The palladium from Troy was also reputed to have been earlier taken to Rome.) Constantine's statue in the city shows both Christian and non-Christian elements in its extensive iconography (Smith, 1971, p.226). Further, in the 5th century, the Virgin's robe was miraculously found in Galilee. It was brought to Constantinople, and became its 'palladium' (Baynes, "Virgin's Robe," 1949/1960, p.240 & "Supernatural Defenders," 1949/1960, p.257). This Christian relic served the purpose of the palladium. The Virgin and various saints, through their relics, helped defend Constantinople (Baynes, "Supernatural Defenders," 1949/1960). Like the earlier Tyche and palladium, patron saints of a city and saintly relics in urban churches were thought to protect the city, or guarantee divine forgiveness in the aftermath of siege and attack (Frugoni, *Distant City*, 1991, p.31).

We see this in operation at various medieval English towns. St. Cuthbert was the patron saint and protector of Durham, and similarly for St. Edmund at Bury St. Edmunds. Saints Paul and Thomas were patron saints of London. They appear majestically over the spired and fortified city in the Common Seal of London mentioned earlier (Clark, 1989, pp.39, 44) [Figs.34-35]. The Seal, on the outer ring on the side with the image of St. Thomas, has a short prayer in Latin verse:

ME QUE TE PEPERI  
NE CESSES THOMA TUERI

May you not cease, Thomas, to protect me (the city) that bore you. (Trans. in Clark, 1989, p.44)

The sanctity and protection of the saint allowed for the honour of burial within the church itself, the sacred space. It has been stated as a burial rule, with few exceptions, for Roman settlements that "Each settlement required to be stabilised by the relics of its founder and safeguarded by unfailing worship at his tomb; but no lesser and later mortal might claim the right of burial within its walls" (Allcroft, 1920, p.293). This changed with cemeteries in Christian churchyards (Allcroft, 1920, p.293). However, we note that the relics of the saints/"founders" are in the church (as the 'city' identified with the Heavenly City). We also note this quote applies to:

- (1) Durham: St. Cuthbert, and to a lesser extent St. and King, Oswald, and the Venerable (St.) Bede -- first part of quote for Durham city, and the second part of the quote for the Cathedral,
- (2) Anglo-Norman Bury St. Edmunds: Saint and King, Edmund -- first part for the city, and the second part for the Abbey church, and
- (3) Anglo-Norman Norwich: to some extent for Bishop Herbert, founder of the see, the cathedral and its complex, and buried in a tomb before the high altar (Ferne, *Norwich Cathedral*, 1993, p.11).

An intriguing adjunct to a saint's protection was a special model made of the city of Parma. In a chronicle of Frederick II's siege of Parma, Salimbene de Adam strikingly describes seeing a silver miniature of the city being made, the "*mater misericordiae*" (Salimbene in Frugoni, "New Saints," 1991, p.85). It was commissioned by the wealthy



women of Parma, to add to the efficacy of the prayers for Christ's and the Virgin's protection of the Madonna's city. Parma was victorious in 1247 (Frugoni, "New Saints," 1991, p.85).

Patron saints were sometimes visually depicted as spectacularly towering over or holding, and thereby protecting their cities. This portrayal was the case for the Common Seal of London mentioned earlier which has Saints Paul and Thomas raised above the spired and fortified city (Clark, 1989, pp.39, 44) [Figs.34-35]. Some other dramatic examples appear in Italy c.1360-1402 (Frugoni, "New' Saints," 1991, pp.85-88, 89-91 fig.1-2, 4). The centre of a large altarpiece by Taddeo di Bartolo, painted 1393, shows the bishop, St. Gimignano, giving a benediction while holding the city of San Gimignano in his lap<sup>520</sup>. Another painting from 1401 by Taddeo di Bartolo shows Saint Antilla offering the city of Montepulciano to the Virgin<sup>521</sup>. A wooden panel, painted by Lorenzo di Niccolò Gerini in 1402, in a series on the life of St. Fina, shows her protectively holding, partially under her cloak, the city of San Gimignano<sup>522</sup>. A fresco by Tomaso of Modena, painted between 1360 and 1370, shows Saint Catharine of Alexandria holding the city of Treviso, while announcing "*haec est civitas mea Tarvisina pro quam Deum meum rogo*"<sup>523</sup>. These are dramatic visual displays of the city as an entity that was built and maintained under the care of, and inextricably identified with, a saint.

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<sup>520</sup>This altarpiece, dealing with San Gimignano and scenes from his life, is now in the Museo civico, San Gimignano (Frugoni, "New' Saints," p.89 fig.1).

<sup>521</sup>The painting is in the cathedral of Montepulciano (Frugoni, "New' Saints," p.88 fn.48).

<sup>522</sup>The panel is in the Museo civico, San Gimignano (Frugoni, "New' Saints," pp.86 fn.45, 90 fig.2-3).

<sup>523</sup>Quoted in Frugoni, "New' Saints," pp.88. The fresco is in the Church of the Servants of Mary in Treviso (Frugoni, "New' Saints," pp.88, 91 fig.4).

## Appendix 6:

### Astrology and the Foundation Dates for Buildings and Cities

Astrology was an art based on the deemed divinely-ordained movements of the heavens and found wide-ranging applications . It was applied in the founding of some towns and cities<sup>524</sup>. Plutarch (A.D. c.46-c.120) mentioned different astrological theories claiming to have *retrospectively* determined the exact foundation day of Rome by Romulus. Additionally, he noted that "for it is thought that a city's fortune, as well as that of a man, has a decisive time, which may be known by the position of the stars at its very origin" (*Romulus*, XII, trans. Perrin, 1914). This statement is suggestive of applying astrology *beforehand* to select an auspicious day to hold the foundation ceremony for a city. Plutarch relates that the Romans took April 22 as this foundation day, and as then the birthday of their country. On this foundation "day there was a conjunction of the sun and moon, with an eclipse" (Plutarch, *Romulus*, XII, trans. Perrin, 1914). March 25, a Roman date for the vernal equinox in the Julian Calendar, and the commencement of nature's renewal in spring, was also given as the foundation day<sup>525</sup>.

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<sup>524</sup>On the matter of astronomy and town planning more broadly, in the Islamic world, Sassanian Firuzabad was a round city "where the main cross-roads were oriented to the compass points and the twelve sectors were named after the signs of the Zodiac" (Yi-Fu, p.156). The king and the kingdom centred there "mirrored the rule of the sun in the heavens" (Meyer, 1991, p.153). This, of course, applies astronomy to town planning through the law of the microcosm corresponding to the macrocosm. The city was thought to achieve greater harmony through its terrestrial order matching the celestial order (cf. Meyer, 1991, p.154). Astrology may have been involved through the meaning associated with the zodiacal sectors of the city. Additionally, there may have been a deemed efficacy for the propitious influence of celestial bodies on the city and its populace through the urban plan's harmonious arrangement with the heavens.

<sup>525</sup>Ovid, *Fasti*, 3.11.78; Muir, 1981, pp.71, 71 fn.18. Plutarch's writings also give 9 Pharmuthi (*Romulus*, XII), equivalent to October 8, and April 22 as two other foundation dates for Rome (*Numa*, III.4-5; Jacks, pp.141, 320 n.73-74).

Astrology was applied to determine auspicious times for the conducting of the founding ceremonies for the New Rome, Constantinople. The new *consecratio* was in the autumn, of 326 or 328. One account gives the date as November 4, 328, "in the first year of the 276th Olympiad, when the sun was in the constellation of the Bowman and at an hour dominated by the Crab" (Quoted in Smith, 1971, p.224). The neo-Platonist and astrologer Sopater<sup>526</sup> divined a propitious date for the foundation ceremony. It was when the Sun entered Sagittarius, with Cancer for horoscope, then the heavenly bodies' conjunction foretold of happiness and permanence for the new Imperial capital<sup>527</sup>.

Court astrologers of Frederick II determined the proper day and hour<sup>528</sup> for the foundation ceremony of Vittoria during 1247-1248. This ceremony revived the ancient ploughing ceremony [Fig.19], centrally associated with, again, the founding of Rome by Romulus. According to Villani, the foundation date of Firenzuola in 1306 was determined by astrologers (Friedman, 1988, pp.41, 139).

One of the medieval legends promoting the noble origins of Venice tells of an auspicious foundation date. The standard version was given by Jacopo Dondi, a Paduan

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<sup>526</sup>Sopater, the astrologer, was not a Christian. Christian chroniclers portray the city being founded as Christian (Smith, 1971, p.224). However it partook of other foundation rites as well.

<sup>527</sup>Sherrard, p.39. An Islamic parallel: the foundations of Baghdad were laid at a propitious time in A.D. 762. It was set by Nawbakht, the official astrologer to the second Abbasid caliph, al-Mansur. Also, a horoscope was determined for the course of the city's history (Khatib al-Baghdadi in Lassner, trans., pp.45-46; Lassner, pp. 232 n.7, 237 n.11; Meyer, 1991, p.154). The Caliph was said to have laid the first brick, as he recited a befitting verse from the Qur'an (7:125) (Lassner, p.232 n.7).

In A.D. 581-583, the Chinese Sui Dynasty Emperor Wen and his advisers wished to build a new capital, the 'City of the Great Ascendancy' (Ta-hsing Ch'eng) later named Changan. The founders applied a range of divinatory methods, including observations of the stars and the sun, in determining an auspicious date to commence building (Wright, 1964-1965, pp.667-669).

<sup>528</sup>"Aries, the sign of bellicose Mars, was in ascendancy, whereas the sign of Venus, Libra, to whom the Parmesans tied their fate, passed through the opposite western hemisphere" (Jacks, p.23; based on Rolandus Patavinus, *Cronica Marchie Trivixane*, V, xxi, quoted in Jacks, p.278 n.67).

doctor, writing c.1328-c.1339. It claimed that three consuls from Padua founded Venice at noon<sup>529</sup> on March 25, A.D. 421. This day, the Feast of the Annunciation, commemorates the day when the archangel Gabriel told Mary of the coming birth of Jesus (Ammerman, p.40). Additionally, as I have just noted, March 25 was associated with the foundation day of Rome, and had been the designated day of the vernal equinox. By the time of the Council of Nicaea in A.D. 325, March 21 was assumed to be the fixed date of the vernal equinox for the calculation of the date of Easter (Moyer, 1982, p.106). In this Christian scheme, March 25 signifies the eighth day of Creation<sup>530</sup>:

That day was appointed in the providence of God: on that day the angels were created; on that day the archangel Gabriel was sent to St. Mary; on that day the Spirit of God came to mankind. It is the holy sabbath: when all (*other*) days fade away, then it will endure for ever [forever] in its character of festival. It is the joy of the angels and the eternal consolation of all the saints<sup>531</sup>.

The March 25, A.D. 421 date for the foundation of the city appeared at least as early as the 12th century<sup>532</sup>. The apparent vestiges of astrology here have been Christianized<sup>533</sup>.

The use of astrology in the founding of medieval towns or other building projects, in the Latin West, before the middle of the 12th century seems less likely,

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<sup>529</sup>Solar noon may have had liturgical significance here, in addition to the possible connotations of: (i) the time when sun reaches its highest altitude each day, and (ii) a metaphorical midway time of day, and journey point, between the Creation of the world, said to have commenced at midnight, and its ultimate dissolution at midnight (Byrhtferth, 1929/1966, pp.68-69; cf. Matthew 25:6).

<sup>530</sup>March 21, the designated vernal equinox date, is the befitting fourth day of Creation, when, following Genesis (1:14-19), the sun, moon and stars were formed. On this day, the sun was said to have risen for the first time, bright and early in the morning sky, "right in the eastern part of the heaven" (Byrhtferth, 1929/1966, pp.82-83).

<sup>531</sup>Byrhtferth, 1929/1966, pp.82-85; cf. Sabellico quoted in Muir, 1981, pp.71-72. The number eight, and the eighth day, are also associated with regeneration, after the seven days or phases of Creation, and "the resurrection of the Saviour" (Byrhtferth, 1929/1966, pp.214-215; also note Krautheimer, pp.122).

<sup>532</sup>Brown, "The Self-Definition of the Venetian Republic," 1991, p.514.

<sup>533</sup>However, by the mid-15th century, horoscopes began to appear with copies of the claimed foundation charter for Venice (Jacks, pp.135ff).

because it was generally ill-viewed by the Church, known as condemned by the early Fathers of the Church, and knowledge of it was generally rudimentary. Knowledge of its methods, and its image, improved with the introduction of Aristotle and Arabian science<sup>534</sup>. The attitude of Western medieval ecclesiastics towards astrology, from the late 12th century onwards tended to be that the heavenly bodies were signs<sup>535</sup> of the times, events, and physical processes, such as illnesses and the weather. However, any claims associated with the heavenly bodies that curtailed God's omnipotence or human freedom were deemed dangerous and superstitious (Tester, 1987, p.147). The former astrology was considered 'natural' whereas the latter was considered 'superstitious' (Tester, 1987, pp.143-144).

However, even before the middle of the 12th century, the matter is not clear-cut. The *need* to repeatedly condemn it over centuries implies that its practice was proving hard to stop. Astrological-type thinking can be widely applied, of course, not only for the prediction of auspicious times for commencing projects. We see the Anglo-Saxons and Anglo-Normans reading dramatic 'signs' in the sky such as comets<sup>536</sup>, and, in

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<sup>534</sup>Wedel, pp.46-47, 117, Barton, p.79; Laistner, 1941.

<sup>535</sup>This viewpoint is consistent with the description in Genesis (1:14). There, the lights in the firmament or heavenly bodies were created by God as signs. A dramatic example in the New Testament is, of course, the "star in the east" (Matthew 2:2), or 'Star' of Bethlehem, foretelling to the Magi the coming of the Messiah. However, a cautionary note appears in Jeremiah 10:2.

<sup>536</sup>The Bayeux Tapestry illustrates the appearance of a comet (later known as Halley's). This comet was described in William of Malmesbury, *Chronicle of the Kings of England*:

a star denoting, as they say, a change in kingdoms, appeared trailing its extended and fiery train along the sky. ... '... threatening to hurl destruction on this country.' (1847/1968, II.13, trans. Giles, pp.251-252)

Thus, it was deemed an ill omen for the English King Harold, on the 'eve' of the Norman Conquest (William of Malmesbury, 1847/1968, II.13, pp.251-252).

Earlier, the *History of the Church of Durham* by the Durham monk Symeon (d. c.1130) recounts that in 1018 "a comet appeared for thirty nights to the people of Northumbria, a terrible presage of the calamity by which that province was about to be desolated" (XL or III.5) in a conflict

general, applying celestial bodies to convey symbolic meaning. Additionally, there were Anglo-Saxon and Anglo-Norman astrological texts<sup>537</sup>. They appear to only give some descriptions of the astrological characteristics of the constellations.

Elements of astrology were adopted implicitly in many ways in Christianity itself (Laistner, 1941). Bede and Alcuin prohibit its use (Tester, 1987, p.112). However, this does not mean that the sun, moon, and stars, and their movements were without Christianized symbolic import. In the climatic lesson of Bede's *computus*, and followed in the textbooks of the Benedictine schools, Easter is described as the perfect feast when the moon receives its full light from the sun, and the two heavenly bodies are in perfect union (Jones, 1947, p.12). Bede portrays the sun as God's eternity, the giver of the True Light; the moon as the Church and human volatility; the stars as the saints<sup>538</sup>.

We see the zodiac in medieval *computus*, 'Book of Hours' manuscripts, and church stained glass and sculpture. The signs of the zodiac assisted in the telling of time

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with the Scots. Indeed a standard encyclopedia throughout the Middle Ages, St. Isidore's *Etymologiae* (Hillgarth, pp.565-566), states that a comet "indicates pestilence, famine, or war" (III.LXXI.16, trans. in Brehaut, p.152). Similarly, the Anglo-Saxon Byrhtferth's *Manual*, or *Enchiridion*, states that when a comet "appears, it betokens famine or pestilence or war or the destruction of the earth or fearful storms" (1929/1966, pp.132-133). The *Manual* by Byrhtferth is a commentary on the *computus* (Baker, 1982, p.124) and an encyclopaedic compendium of 1011, written for young priests. This compendium, mainly based on the work of Bede and Rabanus Maurus (c.784-856 and Archbishop of Mainz). It included "a learned exposition of the nature of the universe, the interpretation of Scripture, grammar, metre, the symbolism of numbers, etc." (Heimann, 1966, p.48).

<sup>537</sup>There are extant ones from Durham Cathedral (c.1100-1120; Durham Cathedral Library, MS Hunter 100), Peterborough Abbey (c.1122; British Library, MS Cotton, Tiberius C.1). There are two astrological treatises bound with the *Marvels of the East*, one c.1000 (British Library, MS Cotton, Tiberius B.V), and the other c.1120-1140 (Oxford, Bodleian Library, MS Bodley 614). These texts represent thinking before the large-scale introduction of Greek and Arabic science in the 12th century (Alexander et al., 1984, no.37-39, pp.105-106).

<sup>538</sup>Jones, 1947, pp.12-13; following Bede, 1943, VI p.191 lines 27-35, LXIV pp.287-288.

(of day and of year) from the stars. They signified that the Lord of time<sup>539</sup>, and of the year, is Christ, rather than the active presence of astrology in the Church (Tester, 1987, p.129). Similarly, after discussing the "heathen" mythology of the zodiacal constellations, St. Isidore notes in his *Etymologiae*:

But by whatever fashion of superstition these are named by men, they are nevertheless stars, which God made at the beginning of the universe and ordained to mark the seasons with regular motion. (III.LXXI.37, trans. in Brehaut, 1912/1967, p.153)

However, the fact that Christ was seen as the Lord of time, though, indicates that a degree of mythologizing of the heavenly movements continues. Christ is associated with the sun, and the four Evangelists each have a designated constellation<sup>540</sup>. The general tendency, and ecclesiastical rule, to build churches oriented eastward, from about the 5th century onwards, in part signifies Christ as the rising Sun of Justice and Righteousness.

Astrology was applied for smaller building projects<sup>541</sup>. At the Second Council of Braga, 572, the anathema was given against those using astrology before marrying, planting trees, or building houses (*Canons of the Apostles*, 2.56.72; Barton, 1994, p.79). It is thus implied, of course, that astrology had been employed for the determination of a propitious time to commence building a house. Also, consider for example again, in regard to the building of Anglo-Saxon St. Oswald's Church at Ramsey, the *Vita S. Oswaldi*, states "when the Swan [Cygnus] ascended into the [zodiacal] sign of Aries at

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<sup>539</sup>A possible forerunner of this may be the connection between days of the week, and individual gods. "It seems from names of the weekdays that the Anglo-Saxons had gods called Tiw, Woden, Thunor and Frigg (related to Scandinavian Tyr, Othin, Thór and Frigg)" (Lester, p.84).

<sup>540</sup>Snodgrass, 1990, pp.284-288, 300, 302-303.

<sup>541</sup>An extensive argument has been made regarding the large marble floor zodiac, c.1207, in the San Miniato al Monte Church in Florence (Gettings).

sunrise, he [St. Oswald] began to construct the foundations of the church"<sup>542</sup>. This astronomical arrangement indicated the start of spring (Davis-Weyer, 1971, p.111 fn.7), and it was indeed common to indicate the time of year not only by the Feast Days of the saints, but also by reference to the constellations (Eade, 1984, p.10). The commencement of the building of the church at Ramsey probably did not have *explicit* astrological import. However, considering the continued interest in astrology, and the Christianized symbolism of the heavenly bodies, their ordered movements and time, such statements have some vestiges of profundity and divine ordination.

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<sup>542</sup>Trans. in Davis-Weyer, 1971, p.111-112; Raine, I, pp.433-434.



## Appendix 7:

### Ritual and Town Foundations

In addition to the ceremonies for the founding of temples and churches under divine favour and direction, there were rituals with similar intention conducted for the founding and building of towns and cities. An early basic structure for the ritualistic founding of towns was given in the liturgical books of Etruria and Latina, the *disciplina Etruscana*. First, the site was selected (*inauguratio*) through augury. Next the site's boundaries were fixed (*limitatio*). The axes were laid out (*orientatio*) by observing the cast shadow from a vertical pole or gnomon set at the site's centre. Lastly, the consecration rite (*consecratio*) was performed to bring the city under the gods' protection (Snodgrass, 1990, p.238).

The founding of Rome by the brothers Romulus and Remus is the most renowned example. The Etruscan and Roman rituals were quite involved, and were rich in meaning; they included augury and a sacred ploughing ceremony [Fig.19] for the walls and gates of the new town<sup>543</sup>. The ceremonies identify the town with the central stationary Sun, the world and the cosmos (Snodgrass, 1990, pp.236-239).

Constantine's story appears to have partially followed the pattern of Romulus and the Roman ceremonies (Dougherty, 1980, p.58). The four quarters of the sky were marked by Romulus with his crozier. This pattern was then projected onto the earth to

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<sup>543</sup> Adrian Snodgrass gives a comprehensive description of the rites, culled from various ancient authors (1990, pp.235-239).

establish the future city's quadripartite configuration<sup>544</sup>. Additionally, some versions of augury mention a *lituus*, a rod, tracing the sky or the ground<sup>545</sup>, akin to some Christian versions of the Constantine story which refer to a spear<sup>546</sup> or imperial standard<sup>547</sup> tracing the ground. Anniversary ceremonies were then held each year in Rome (Plutarch, *Romulus*, XII) and Constantinople (Sherrard, 1965, p.11).

On a biblical note, Nehemiah was guided by God in the rebuilding the walls and gates of Jerusalem<sup>548</sup>. The rebuilt walls and gates were then purified and dedicated, and maintained as such<sup>549</sup>.

A sermon of Saint Eloi indicates that feast days were celebrated for the dedication of walls, towers, and moats in cities (Guillerme, 1983/1988, p.7). In building a city's walls, divine assistance was called upon. A 9th-century vita of St. Savinien describes this martyr as entering Sens and carving crosses on the walls of the city (Guillerme, 1983/1988, p.238 n.39).

The ploughing ritual, practised by the Etruscans and Romans [Fig.19], was performed by Frederick II during the siege of Parma in 1247-1248. The emperor had planned to replace Parma with the newly founded, and ill-fated, Vittoria. Frederick<sup>550</sup>

<sup>544</sup>Snodgrass, 1990, p.236; Frontinus in *Corpus Agrimensorum Romanorum*, XII.2-4.

<sup>545</sup>Godfrey et al., 1986, p.200; Rykert, 1976, pp.45,47, 50.

<sup>546</sup>Philostorgius, II.9; William of Malmesbury, *Chronicle of the Kings of England*, IV.2, pp.372-373.

<sup>547</sup>St. Aldhelm, Bishop of Sherborne, *De Virginitate*, XXV.

<sup>548</sup>Nehemiah 2:8&12&18, 6:16. This rebuilding was an important act for the restoration of not only Jerusalem, but also for the Children of Israel, to return to their God-ordained mission.

<sup>549</sup>Nehemiah 3:1, 12:27-47, 13:22.

<sup>550</sup>Two eye-witness accounts give slightly different stories. According to Rolandino da Piazzola's *Cronica Marchie Trivixane*, "Frederick himself laid out the new city" (Jacks, pp.23, 278 n.67).

"According to the later chronicler, Salimbene de Adam, the emperor instead delegated this task to his commander, Gregorio di Montenegro, who consulted a copy of Vegetius's *De re militari* on the logistics relating to the walls, moats, and other defenses" (Jacks, pp.23, 278 n.68).

plowed the site's perimeter following the ancient ceremony of cutting the *sulcus* (Friedman, 1988, p.83). This recorded ceremony is the only reference I know to the employment of this Etruscan and Roman ritual during the Middle Ages! It appears to have been part of Frederick II's attempt to revive the Roman Empire, and to emulate Romulus, the first king of Rome (Jacks, 1993, p.23), rather than the continuation of a common medieval practice.

There is evidence for town-founding ceremonies in France in the 12th to 14th centuries. Four crosses were erected at the four cardinal points to delineate the town's boundary. Next, the plan was marked on the ground for the future town. This included the regular street plan, the church, the town hall, and the market (Evans, 1969, pp.43-44). The religious significance of placing the Christian crosses would, at least implicitly, have been ritualistic. Additionally, their placement would, at least tacitly, have cosmological<sup>551</sup> significance for the town.

During Edward II's reign, formal town- or bastide-founding ceremonies were held in English<sup>552</sup> Gascony in southwestern France. The territorial lord's role in the provision of the site and the demonstration of the king-duke's approval and patronage were emphasized in the ceremony. A pole (in Gascon, *pal* [or *palum*] or *pau*) was erected at the centre of the site where streets and burgage plots had been surveyed and marked. The emblems of the founders flew from the pole's flag<sup>553</sup>.

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<sup>551</sup>This observation is contrary to the view of Tuan Yi-Fu (pp.157-158).

<sup>552</sup> Adrian Randolph raises some related points of note on these ceremonies, and the grid-plan of these bastides (p.300 & cf. pp.306-307).

<sup>553</sup> Maurice Beresford, 1967, p.101. At St. Sardos, a bastide was planned outside the priory's gate. The formal ceremony was set to be performed on October 16, 1323. The pole was set up the day before, flying the French flag. However, this occasion was during war between England and France. The symbolism of the event took a dramatic shift. Overnight, the French flag was removed from the pole,

At the foundation ceremony of Toulouzette in 1321, the king's seneschal, or representative, William of Toulouse, conducted the ceremony including: (i) dug the hole for the pole, and firmly erected it, (ii) announced that the same liberties as the Geaune en Tursan bastide would be received by those who wised to live and build houses here, and (iii) confirmed, in the name of God, the Holy Virgin and all the saints, the articles and privileges, and gave the letters of patent marked with the king-duke's and his seneschal's seal (Beresford, 1967, p.101; Gouron, 1935, no.1987-1988, pp.743-744). Some degree of divine assistance and direction was probably attributed to the building and maintaining of medieval towns through simple foundation ceremonies and the anniversaries of dedications of important constituent elements such as wall, gates and towers.

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and "the French king's officer was found hanging from it, and the priory buildings were burned and looted" (Beresford, 1967, pp.101-102, 238-239).

## Appendix 8:

### Rogation Days Processions

Rogation Days provide evidence for the perception of the layout of towns and parishes as following a divine pattern. These processions included the perambulation of parishes and their boundaries. Rogation Days were for better conditions in the town and parish (e.g. requesting rain or protection, or dealing with plague, famine, or other calamities)<sup>554</sup>.

These practices have earlier roots in the Roman Robigalia and Ambarvalia rituals. Rogation Days have, in part, early origin in supplanting the Robigalia held in Rome each year on April 25. Robigalia included a procession and certain offerings and prayers to the god Robigus. The Romans' objective was to safeguard the newly sprouting crops from blight caused by rust (*robigo*)<sup>555</sup>.

Rogation Days were held in England from the early Middle Ages onward. The missionary St. Augustine (d. c.604) and his followers first entered Canterbury in 597, in procession singing the following prayer based on Daniel (9:16) for Jerusalem, which was also employed in Rogation Days (Bazire et al., 1982, p.xv):

We beseech thee, O Lord, in thy great mercy, that thy wrath and anger may be turned away from this city and from thy holy house, for we have sinned.  
Alleluia. (Bede, *Ecclesiastical History*, I.XXV, trans. in Bazire et al., 1982, pp.xv, xxix n.1)

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<sup>554</sup>Miller; Bazire et al., pp.xxii-xxiii.

<sup>555</sup>Miller; Scullard, 1981, p.108; Bazire et al., pp.xxi-xxii, xxxii n.37.

Various Church councils, including the Council of Cloveshoe (747) in England, ordered all churches to have Rogations. The latter Council indicates that there were two such festivals each year; one, the *litania major*, was held on April 25, and the other was held three days before Ascension (Bazire et al., 1982, p.xvi)<sup>556</sup>. Further, Rogation Days were mentioned in laws under King Alfred in England. These days were known in England as Gang Days and Cross Week (Mershman, "Rogation Days," 1913, p.111)<sup>557</sup>.

Commonly, this procession around the parish and its boundaries<sup>558</sup> included stations in the four cardinal directions. At each of the four stations the beginning text of one of the four Gospels was read and prayers were recited (Thurston, "Processions," 1913, p.448). As noted earlier in discussing church orientation, an Evangelist was traditionally associated with each cardinal direction. The meaning of four included the four directions, and the four gospels of the four Evangelists, in the exposition on sacred numbers in Byrhtferth's *Manual* for Anglo-Saxon priests<sup>559</sup>. Likely these processions

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<sup>556</sup>Byrhtferth's *Manual* includes instruction on the calculation of when Rogationtide occurs each year (1929/1966, pp.144-147, 164-169).

<sup>557</sup>On a parallel note, in a discussion dealing with England during the 12th to 15th centuries, we read:  
In towns and villages alike we find the eucharist brought out at moments of crisis and misfortune: during a visitation of plague, or war, to ward off crop failure, storms or drought, the eucharist was used as a focus for supplication, as protection against evil. (Rubin, p.13)  
This practice was an attempt to deal with immediate crises, whereas Rogation Days were regularly scheduled in the liturgical calendar and were intended to be more preventive. However, the purpose seems largely the same as that of the Rogation Days.

<sup>558</sup>Another procession associated with boundaries, claimed to be of Saxon origin, is the Beating of the Bounds. This custom, once widespread in Britain, helped protect land ownership and boundary rights. It is still conducted in London on Ascension Day every three years for the Tower, and about every five years for the Manor of Savoy. For the Tower, there is first held in the Chapel Royal of St. Peter ad Vincula a brief service. Choirboys are then issued long willow wands. The bounds are beat with the wands at each boundary stone en route. The presiding Chaplain proclaims immediately before each successive beating: "Cursed is he who removeth his neighbours' landmark" (Brentnall, fig.4, pp.79, 81-84).

<sup>559</sup>Byrhtferth, 1929/1966, pp.200-203; cf. Woodward, p.336 table 18.6.

made precisely these connections. Thus, Rogation Days served to recognize towns and parishes as sanctified spaces under a divine and cosmic fourfold ordering.

## Appendix 9:

### Craft Guilds: Craft Work as a Means of Salvation

The religious nature of the craft guilds provides one avenue for evidence of the God-centred approach to artisans' work and building projects. As background, craft<sup>560</sup> guilds and fraternities were generally widespread and active in Europe and Britain, starting from, at least, the 10th century, and became increasingly well organized and politically influential<sup>561</sup>. They were active in England during the 10th to 12th centuries (Clark, 1989, p.43), and indeed later. The earliest record in England of a medieval guild, though not necessarily a craft guild, appears to be in the 9th century<sup>562</sup>, at Canterbury. In Old English, guild is *cniht*, and guild members were *cnihtas*<sup>563</sup>. The more detailed information on craft guilds is from the late Middle Ages and later. Masonic guilds appear to have been relatively late in becoming highly organized in terms of administration, regulation, training, and legal recognition through charters – from the

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<sup>560</sup>Building projects required, of course, work from wide-ranging crafts, not only masons/stone-sculptors and carpenters, but also often glass-painters, tilers, painters, goldsmiths, embroiderers, and others.

<sup>561</sup>The ancient Romans had well organized craft guilds or *collegia*, that had explicitly religious aspects (Burford, pp.172-175). Plutarch remarks the following on Numa's administration of Rome:

But of all his measures, the one most admired was his distribution of the people into groups according to their trades or arts. ... He distributed them, accordingly, by arts and trades, into musicians, goldsmiths, carpenters, dyers, leather-workers, curriers, braziers, and potters. The remaining trades he grouped together, and made one of all who belonged to them. He also appointed social gatherings and public assemblies and *rites of worship befitting each body*. (Numa, XVII; emphasis mine).

The guilds of Rome essentially continued in the Byzantine Empire (Freshfield; Battisti, p.145). The degree of continuation of these guilds into the Middle Ages in Europe (Battisti) could be explored.

<sup>562</sup>Earlier records exist in continental Europe from the early Middle Ages of craft associations or guilds (Battisti).

<sup>563</sup>Details of this guild are not known (Stenton, 1971, p.527; 515, *Cartularium Saxonicum*, ed. W. de G. Birch). It is discussed further by F. M. Stenton (1961, pp.132-136).



14th century onwards, in London and other large centres. Various arguments have been made to explain this late development, including the fact that masons often had to travel to building projects, urban or rural, rather than being solely based in a particular town<sup>564</sup>. Nevertheless, the masonic working and meeting lodges erected beside building projects, often active for decades, would have provided opportunities for some organizing, and the formation and transmission of lore within the craft, in addition to the organization and control imposed by the patron-employer.

Evidence from the late medieval period shows how guilds looked to God, and the Church, for their inspiration and guidelines. The English Masonic Constitution of c.1400 (British Library, Cooke MS., Add.23198), thought to be largely based on an earlier (mid-14th-century) Constitution (Harvey, 1972, pp.191-202), gives as its very first "Point" or directive in masonry the following Christian injunction:

The counsel is made by divers lords and masters of divers provinces and divers congregations of masonry. And it is to wit that who that coveteth for to come to the state of the foresaid art it behoveth him *first principally to love God and Holy Church and All Hallows*, and his master and his fellow brethren. (Text in Harvey, 1972, p.201; emphasis mine)<sup>565</sup>

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<sup>564</sup>Jones and Knoop, 1949, pp.159-160; Shelby, 1976, p.202; Coldstream, pp.10-15. The earliest extant masonic traditional histories (c.1350-c.1400) claim that England's proto-martyr, Saint Alban (d.209), and King Athelstan (reign 924-939) organized the craft of masonry in England (texts in Harvey, 1972, pp.198, 199, 207). Some see these manuscripts as the earliest documented constitutions connected to, or associable with, Freemasonry, and even indicative of its great antiquity (Knight et al., pp.13-16, 30; Stevenson, 1988, pp.5-6). In regard to modern Freemasonry, the tendency of recent scholarship, including research done by Freemasons themselves, appears to place its history starting c.1600 (Stevenson, 1988, pp.5-6), or later in the 17th and 18th century, with "the adoption ... of certain masonic attributes [i.e. from stonemasons] for rituals" (Coldstream, p.5; also note Knight et al., p.13). However, the matter is not clear-cut, when one considers a *traditional* history that allows for the continuation of a movement in *spirit* of intent, rather than a formal documentation of transmission of an organization, its rituals and initiations.

<sup>565</sup>The very similar English masonic document, the Regius Poem, c.1390, (British Library, Reg. 17 A1, fol.11<sup>v</sup>) applies almost the same wording (text in Jones et al., eds., pp.120, 179).

Additionally, the Sienese guild of painters proclaims, in the preamble to its statute dated 1355:

We are those who by the *grace of God reveal* to dullards who know no letters the wonderful things *done by and in virtue of our Holy Faith*. (quoted in Battisti, 1963, p.144; emphasis mine)

Guilds provided mutual support to their members. Some were based on the connection of sharing the same trade (Clark, 1989, p.43). These organizations had rules for fraternal relations, proper conduct, and the maintenance of their members' good name (Renard, 1918, p.44). Guilds were

... sworn associations of individuals with common interests. In return for a regular subscription (the word *gild* simply means 'payment') they provided their members with support in time of trouble, collective religious ceremonies and, perhaps most attractive, regular feasts (Clark, 1989, p.43).

Guilds were also noted for their drinking parties. This suggests well the two polarities active in craftspersons; namely, the sacred and the profane.

Fraternities and guilds were under a saint's tutelage<sup>566</sup>. A craft guild had an appointed church, and a chapel dedicated to its patron saint. An annual festival was celebrated on the Feast Day of the patron saint. Additionally, the guild participated in processions, and the election of church wardens (Renard, 1918, p.44), and was involved with the work of the Church in various other ways (Brentano, 1870/1969, p.cxxxiii).

The guild was frequently named after its patron saint. The saint was chosen, where possible, to have had some relation to the particular craft (Brentano, 1870/1969, p.cxxxiii; Mâle, 1913/1972, pp.292-293). Saints Blaise (Renard, 1918, p.44), Thomas

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<sup>566</sup>As noted earlier, in ancient Egypt, Ptah, the Creator-god of Memphis, created the skills of design and sculpture. Ptah was seen as the patron and chief god of all craftspersons (Budge, I, pp.500-503; Hart, pp.172-177). Athena, the guardian of Athens, was also the patron of the crafts there (Burford, p.168).

Apostle<sup>567</sup> (Cherry, 1993, p.48), and the Apostle Peter<sup>568</sup> (Jobes, 1962, p.1379) were the patron saints and protectors of masons. St. Thomas distinguished himself to masons by virtue of his skill as a mason and carpenter, and his planning of a palace for King Gundaphorus in India<sup>569</sup>. Another example of a patron saint was Dunstan (Benedictine monk, and Archbishop of Canterbury during 960-988) for English goldsmiths<sup>570</sup>. St. Eligius<sup>571</sup> (or Eloi, and Bishop of Noyon and Tournai during 641-660) was the patron saint for other European goldsmiths. Both Dunstan and Eligius were said to have been skilful metalworkers (Cherry, 1992, p.52). The association of a saint and his or her activities with a particular form of handiwork ascribed a degree of sanctity to the craft.

Additionally, the healthy pride and dignity that can be derived from creating by hand a finely made and useful product, is noted in many craftspersons of long-standing today<sup>572</sup>. Plausibly, or arguably, this strong sentiment was present in, and indeed has

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<sup>567</sup>St. Blaise and St. Thomas Apostle have Feast Days on February 3rd and December 21st, respectively (Cherry, 1993, p.24). St. Blaise of Sebaste, Armenia was a bishop and martyr (d.316). He was the patron saint of various trades. Until the 11th century, his Feast Day was set at February 15th in the Latin West (Costelloe).

<sup>568</sup>Simon (d.64 or 67), son of Jonas, was given the name "Kephas" by Jesus (Matthew 16:18). In Aramaic, *kephas* means stone or rock, which translated into the Greek is *petros*, hence "Peter." He was the rock upon which Jesus would build his Church according to Matthew 16:18, and thus the apt masonic connection. His Feast Day is June 29.

<sup>569</sup>*Acts of the Holy Apostle Thomas* in James, 1924, pp.365-366, 371-372; text also in Harvey, 1972, pp.189-191. St. Thomas gave the money and provisions supplied by the King to the afflicted and poor. The palace was only to be seen by the King after departure from this life. This Apostle's Feast day is December 21. At some French Gothic churches, there are stone statues and stained glass windows, dating from the 13th and 14th centuries, that depict St. Thomas with a mason's square, and possibly a graduated rule (Mâle, pp.309-311, 310 fn.1).

<sup>570</sup>The church of St. Dunstan in East Acton in Middlesex "was built and endowed by the Goldsmiths' Company" and "it is customary for representatives of the Company to attend this church annually on the Sunday nearest to S. Dunstan's Day" (Arnold-Forster, I, p.337). St. Dunstan's Day is May 19th, the day of his death (Arnold-Forster, I, p.336).

<sup>571</sup>The Feast Day of St. Eligius is December 1st (Cherry, 1993, p.48).

<sup>572</sup>An example is provide by Peter "Billy" Cleland, a cathedral builder for over thirty years. He was a Master Mason for the Washington National Cathedral, built during 1907-1990. Power tools were often

roots in, the medieval craft guild culture. Such pride and dignity can be complementary to, or indeed part of, the sanctity of the crafts.

Medieval craftspersons were assigned wide-ranging status in society<sup>573</sup>. The crafts were respected enough to be participated in by all social classes. There were

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used, of course, but the work remains close to the 'hands.' This modern-day Master Mason strongly and religiously reflects on the building of this Cathedral:

Every winter we have to shut down because we use mortar, and you cannot use a mortar when it's below freezing, mortar would freeze up. So we used to terminate the men every winter, and to a man, they would say to me: 'Bill, when you get ready to start in the spring again, you give me a call, I will come back.' They would have to go out and get jobs, and they would quit jobs to come back here at the Cathedral. We've been fortunate enough to be able to use our skills, on what I consider the finest job in the world. If a craftsman were to make a prayer, he would say: 'Lord, judge the work of my hands, thought in my mind, and the love in my heart.' All of that, all of that, went into the building of the Cathedral. (*Washington National Cathedral*)

A lot of people ask that question: 'How much does it [the Cathedral] cost?' I like to respond in this manner: 'Do you know what one of our Stealth Bombers cost?' And you take one of our bombers in about twenty, thirty years, it's obsolete. We're building something here for [to last] two thousand years. And what is the purpose of this construction?: to the glory of God.

You can't spend your money better than that. (*Washington National Cathedral*)

Upon assisting in the placing of the last stone of the Cathedral, a pinnacle stone, at its dedication ceremony in 1990, Cleland again poignantly comments:

I've set up and seen, overseen, and set a lot myself, thousands of stones on this Cathedral, but this particular one was the momentous, the final stone; to me it was like putting the last jewel in the Lord's Crown. So many men that I worked with over the years, and all the thoughts come rushing back you know, and all the incidents we had together. And so those that are deceased I can visualize standing over there, and all of these people I know are with us today in spirit. (*Washington National Cathedral*)

The Master Carver Vincent Palumbo, and other workers interviewed, also expressed strong conviction as to the profound value of participating in the building of this Cathedral (*Washington National Cathedral*). Another example is Alan Bird, a third-generation craftsperson who apprenticed as a mason starting in 1967 at Wells Cathedral and then came in 1980 to the Cathedral of St. John the Divine in New York City. His position at the latter is Clerk of the Works. In discussing the craft of masonry, and the final phase of construction of this huge Cathedral (the building of the west towers), he conveys the respect involved, and the heartfelt nature of this craft (Bird, 1991).

Quite possibly, *building* a cathedral, tends to be a more powerful experience than *repairing* it. A broad interview study of stonemasons today could, of course, check these matters more substantially *for the modern age*.

<sup>573</sup>One sees elements both of respect and snobbery towards the crafts and manual labour in the ancient and medieval worlds. The potential for snobbery is seen in the following philosophical expression of Boethius:

Now one should bear in mind that every art and also every discipline considers reason inherently more honorable than a skill which is practiced by the hand and the labor of an

Anglo-Saxon men and women of 'noble' birth who were described as having a serious interest in the crafts, either in doing them or supervising them (Dodwell, 1982, pp.70,71,72)<sup>574</sup>. Apart from masonry, a large proportion of craftspersons was monks

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artisan. For it is much better and nobler to know about what someone else fashions than to execute that about which someone else knows; in fact, physical skill serves as a slave, while reason rules like a mistress. Unless the hand acts according to the will of reason, it acts in vain. (*De institutione musica*, I.34, trans. Bower, p.51)

This statement is fair enough, but it represents a powerful idea that when misinterpreted can obviously fuel snobbery in socio-economic classes. Boethius continues:

We see this, of course, in building of monuments and the waging of wars — that is, in the contrary ascription of titles; for the monuments are inscribed and triumphs are celebrated with the names of those by whose authority and reason they are ordained, not with the names of those whose labor and slavery they were completed. (*De institutione musica*, I.34, trans. Bower, p.52)

In its literal interpretation, the snobbery here is apparent. During the Middle Ages, the patron was the most predominantly recognized. Certainly patrons had the greatest "authority" to command and direct craftspersons. However, these patrons were, of course, quite arguably no more involved than the craftspersons in the application of "reason" in designing and making the "monuments."

<sup>574</sup>The participation of those of 'noble' birth in a craft suggest, of course, that the latter was not deemed beneath the 'dignity' of the former. St. Wilfrid, the ecclesiastic prince, was claimed to have been "personally responsible for the design of the church of his monastery of Hexham in the seventh century" (Dodwell, 1982, p.69; Stephanus, *The Life of Bishop Wilfrid*, p.46). Queen Edith encouraged the workers rebuilding her earlier place of education, the nunnery at Wilton, dedicated in 1065 (Barlow, *Vita Ædwardi*, p.47; Dodwell, 1982, pp.69, 267 n.191). On occasion, clergy and royalty are actually described as actively working on the physical survey and building of churches and abbeys. King Eadred planned and helped survey the monastery at Abingdon, according to Wulfstan and Ælfric (Winterbottom, pp.20, 41; Dodwell, 1982, pp.69-70, 267 n.190). The *Life of Athelwold* (d.984) by Wulfstan portrays King Eadred as nothing short of a master mason, directing and capable in the works:

... Abingdon, a place where of old a small monastery had been established, but which was now deserted. There, however, the king was desirous of founding a new monastery, which he and his mother richly endowed. 'And the king himself came on a certain day to this monastery to give orders and arrange the structure of the buildings; with his own hands he measured all the foundations, and himself commanded in what manner the walls should be made...' (Willis, p.7, and his citations from Wulfstan in Mabillon, ed., *Acta Sanctorum Ordinis S. Benedicti*, V, p.613)

Bishop Athelwold was described in similar terms, also in the *Life of Athelwold*:

'The holy Athelwold was a great builder of churches, and of various other works, both while abbot, and after he became bishop of Winchester,' and, like his friend and contemporary Dunstan [saint and Archbishop of Canterbury during 960-988], was himself a workman. 'Hence the malignity of the adversary endeavoured to compass his destruction; for on a certain day, when the holy man was working at construction, a great post fell upon him and knocked him into a pit, breaking nearly all his ribs on one side, so that, had it not been for the pit, he would have been crushed to pieces.' (Willis, p.8, and his citations from Wulfstan in Mabillon, ed., *Acta Sanctorum Ordinis S. Benedicti*, V, p.614)

and nuns who laboured in monastic workshops, particularly before the 13th century. Not surprisingly, experienced goldsmiths, working skillfully and intricately with the highly valued precious materials, gold, silver<sup>575</sup>, engraved gems, and rare stones<sup>576</sup>, were accorded much esteem and generally had the highest status of craftspersons (Cherry, 1992, p.5)<sup>577</sup>. Additionally, the mason, particularly the master mason or architect, had a relatively high status, at least by the 13th century<sup>578</sup>. The craft organizations helped improve this recognition of artisans and worked to set high standards for their membership.

The craft guilds centred themselves on Christian precepts in their quality work, in moral conduct, and in the interaction between their members. This way of life was ritualized in their meetings and processions:

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These passages are indeed part of chronicles intended to praise Eadred and Athelstan. However, *even if* one takes them as examples of medieval metaphor, and hyperbole, intended to convey a deemed higher truth, they still show that a king or bishop could be associated with the building crafts, and indeed that they could be portrayed as craftspersons.

Non-monastic Anglo-Saxon and Anglo-Norman craft work sometimes was prominently signed (Dodwell, 1982, p.47). Two examples from churches, that appear to be late Anglo-Saxon or Anglo-Norman, are: (i) a stone font in Little Billing parish church Northamptonshire, was made and signed by Wigberhtus (Okasha, 1971, No.85), and (ii) a stone memorial slab, probably a grave or tomb cover, at Stratfield Mortimer parish church, Berkshire, was written and signed by Toki (Okasha, 1971, No.111). The signing of a craft work suggests a more prominent recognition and status was allowed.

<sup>575</sup>A separate term for silversmith was not used during the Middle Ages (Cherry, 1992, p.5).

<sup>576</sup>These precious materials "were symbols of the divine" (Cherry, 1992, p.5).

The words of the Lord are unalloyed:

silver refined in a crucible,

gold purified seven times over. (Psalm 12:6; Cherry, 1992, p.5)

These precious materials figure significantly in the Bible, e.g. Aaron's breastplate as priest (Exodus 28:17ff), a vision of Ezekiel (28:13; Suger, 1979, pp.62-63), and St. John's vision of the Heavenly Jerusalem (Revelation 21:18-21). Theophilus Presbyter and Abbot Suger stress the religious function of these crafted materials in the church building and for liturgical accouterments (Cherry, 1992, pp.5-6; cf. Panofsky et al. in Suger, 1979, pp.188-189 n."62, 4-8," 191 n."62, 22").

<sup>577</sup>Edward the Confessor's goldsmith was Abbot Spearhafoc of Abingdon, who was commissioned to make the imperial crown in 1050 (Cowdrey, p.50 fn.46).

<sup>578</sup>Coldstream, pp.6, 15-17, 15 fig.14, 16 fig.15, 65 fig.73.

The very soul of the Craft-Gild was its meetings, which brought all the Gild-brothers together every week or quarter. These meetings were always held with certain ceremonies, for the sake of greater solemnity. (Brentano, 1870/1969, p.cxxv)

Besides being brotherhoods for the care of the temporal welfare of their members, the Craft-Gilds were, like the rest of the Gilds, at the same time religious fraternities. ... In this respect the Craft-Gilds of all countries are alike; and in reading their statutes, one might fancy sometimes that the old craftsmen cared only for the well-being of their souls<sup>579</sup>. (Brentano, 1870/1969, p.cxxxiii)

They saw their organization and *craft work as a means to salvation*, exemplified in a patron saint.

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<sup>579</sup>The earliest English Masonic constitutions and statutes (c.1350-c.1400) are consistent with this. Such texts are given by John Harvey (1972, pp.191-207) and Jones et al. (eds., 1938).

## Appendix 10:

## Medieval Architectural Design and the Platonic Solids

The notion that the Platonic solids were involved in the design of medieval architecture places such schema in a divinely-motivated and cosmological context. The term 'Platonic solids' is not from Plato, but refers to the five regular solids, or polyhedra, that he describes as fundamental to the creation and structure of the universe: the cube (earth), tetrahedron (fire), octahedron (air), icosahedron (water), and dodecahedron (cosmos) (*Timeaus*, 53-57)<sup>580</sup>. He gives geometric descriptions of the construction of the first four of these solids from simple planar shapes, but only briefly alludes to the dodecahedron.

Arguments have been made for the Platonic solids as underlying the geometric methods of medieval architectural design (Frankl, 1945, pp.58-59)<sup>581</sup>. One could extrapolate that these fundamental solids, employed in the creation of the universe, would be profoundly ideal for the creation of architecture, particularly temples and churches as models of the universe. However, these arguments in their strong or direct sense still require a *leap* from philosophy to building. To a thorough-going Platonist, the regular solids and planar shapes that constitute their construction represent 'inescapable' universal laws, analogous to, say, the law of gravity. Thus any appearance of these solids

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<sup>580</sup>Plato uses the term 'cubic' (κυβικόν, κυβικόν) for the form of the cube (*Timeaus*, 55C-D). Also, he uses the term 'pyramid' (πυραμίδος) for the tetrahedron (*Timeaus*, 56B). However, he gives no geometric terms for the three more involved regular polyhedra.

<sup>581</sup>In art more generally, archeological artifacts have been found in England with the dodecahedron shape. They are apparently Roman candlesticks or sceptre mounts with claimed religious function (Henig et al.). This could be explored further.



or the related planar shapes in building constitutes an application, whether the builders were aware of it or not. Alternatively, the matter can be salvaged if one is willing to weaken the claim<sup>582</sup>. The Demiurge in the *Timaeus* is the Architect of the Cosmos (29a), an artisan god who creates the universe with the regular solids. Plato says there also that the human artisan must elevate the mind to apprehend the archetype. With this archetypal model only, will their earthly creations be good and beautiful (28a-b). As the Demiurge creates, so the human artisan creates. In this sense, the proportions of the Platonic solids would be among the important proportions<sup>583</sup> that Plato alludes to, in general terms, for art and architecture (*Philebus*, 64e-65e; *Laws*, II.667c-669a). This would be part of the general valuing, that continued through the Middle Ages, of proportion in craft work and for the creation of the universe.

In the arguments that I have made in this dissertation, evidence has been gathered from where buildings or the crafts are actually being discussed or referred to in the context of liturgy or theology, so the connection is given to us, no leap from philosophy to building is required, as far as dealing generally with what ecclesiastics thought about

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<sup>582</sup>The application of the side and diagonal of a square is mentioned by Vitruvius (VI.III.3; IX.Preface.4-5). Vitruvius pays great homage to Plato for stating and showing that the square on the diagonal of another square has twice the area of the smaller square. This demonstration was given by Plato in *Meno* (82a7-85b). Others have, of course, attributed this result to Pythagoras or, more accurately, the Pythagoreans. Vitruvius emphasizes the great utility of this result. He notes that this "is inexplicable by arithmetic" (IX.Preface.5), but that it has a geometric solution — he alludes, of course, to the problem of incommensurables (i.e. here, the ratio of the length of the side to the length of the diagonal of a square cannot be exactly expressed as the ratio of two whole numbers; cf. Isidore, III.XI.3). This ascribes to the side of the square and its diagonal a special status through its connection to the profound principle of incommensurability. Its profundity, earlier association with Plato as noted by Vitruvius, and long-standing traditional use may have given a reverence and prestige to this geometric motif during the medieval period (Frankl, 1945, pp.57-58; Fernie, 1990, p.234).

<sup>583</sup>Additional proportions would include those derived from the musical ratios, and such ratios as 3:2, 4:3, and 9:8 employed in the Timaeian description of creation (36b ff).

their churches. What the masons thought would be, in part, influenced by ecclesiastical practice and thought, but evidence is generally less definite here, and it requires more involved argument to say much on this.

Peter Kidson argues that there is a relationship between the use of number and geometry in ancient Greek philosophy, art and architecture. He comments that philosophy before Plato borrowed the terminology and ideas of form, function and ratios from art and architecture. Additionally, the 'architectural ratios'<sup>584</sup> can all be derived from the regular solids<sup>585</sup> or vice versa. Kidson has argued, in regard to the regular solids and the 'key' practical-geometric ratios that

if we ask why architects should have been fascinated by such things at all it seems difficult to avoid the conclusion that they felt them inherently relevant to what they were doing. We know that high claims were made for the cosmic significance of the regular solids in Pythagorean circles; and if the gods in whose honour temples were built were taken at all seriously by the men who built them, what better way of matching the building to its purpose than to incorporate into its design the celestial mathematics of the gods themselves? (Kidson, "Architecture and City Planning," 1981, pp.387-388)

The contention in the quote is possible, but more evidence is needed to show that the regular polyhedra *and* their Pythagorean and Platonic meaning were intentionally applied in architectural practice.

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<sup>584</sup>The 'architectural ratios' refer to the following ratios:

- (i) the square's side to its diagonal (in modern terms  $1:\sqrt{2}$ ),
- (ii) the equilateral triangle's side to its 'half-side' (in modern terms  $1:\sqrt{3}$ ), and
- (iii) the regular pentagon's side to its diagonal or the 'golden section' expressed as a ratio (in modern terms  $\sqrt{5} - 1 : 2$ ).

<sup>585</sup>Kidson, "The Figural Arts," 1981, pp.413, 417 & "Architecture and City Planning," 1981, pp.387-389.

Additionally, sources for knowledge of the Platonic solids seem quite limited.

Medieval sources for the *Timaeus*,<sup>586</sup> up to the 12th century include:

- (i) the partial<sup>587</sup> Latin translation, and commentary, by Chalcidius,
- (ii) the partial and apparently little-known<sup>588</sup> Latin translation by Cicero (Gibson, 1969, pp.182, 182 fn.3; Rouse, 1983, p.128 fn.20),
- (iii) Macrobius's commentary on Cicero's *Dream of Scipio*, and
- (iv) fragments, glosses, and other commentaries, apparently largely based on (i) above<sup>589</sup>.

Additionally, some medieval texts mention, describe and illustrate some or all of the regular polyhedra (Esmeijer, 1978, pp.38, 187 fig.15ff), but they do not give much description of construction. For example, a standard encyclopedia of the Middle Ages, St. Isidore's *Etymologiae*, states: "Solid figures are those that are contained by length, breadth, and thickness, which are five in number, according to Plato" (III.XI.4, trans. in Brehaut, 1912/1967, p.133). Isidore also gives definitions of a cube and a pyramid (*Etymologiae*, III.XII.4&6) that only partially describe them. The looseness and incompleteness of the descriptions tend to indicate that the author has only a partial grasp of his subject (Krautheimer, 1969, p.120). In *The Marriage of Philology and Mercury's* discussion of the seven Liberal Arts, particularly Geometry, Martianus Capella

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<sup>586</sup>Some brief quotes and allusions are not included here, such as in St. Augustine's *City of God*, and quotes in John the Scot (Gibson, 1975, p.12).

<sup>587</sup>The translation by Chalcidius stops midway through the *Timaeus*, at 53C (Dutton, 1983, p.81).

<sup>588</sup>Cicero's translation covers most of *Timaeus* 27d to 47b. The remainder of the text may have been translated but later lost (Dutton, 1983, p.81 fn.11; Clark, 1918, pp.338-340). However, R. H. Rouse maintains that during the Middle Ages, it was fragmentary, and thus the somewhat larger partial translation by Chalcidius was preferred (p.128 fn.20).

<sup>589</sup>Gibson, 1969, 1975, p.12; Haren, 1992, pp.82,114; Beddie, 1967, p.13.

mentions various solids including the cube, a pyramid<sup>590</sup>, and the "'noble figures' ... the octahedron, the dodecahedron, and the icosahedron" (II, trans. Stahl, 1977, p.271 [722] & cf. p.291 [755]). However, he gives no *specific* description of these latter three solids, such as appears in one of his sources, Plato's *Timaeus* (53-55). Similarly, Chalcidius breaks off his translation of the *Timeaus* just before the detailed description of these solids. Medieval copies of Cicero's translation appear not to have included the relevant section either. Macrobius's commentary on the *Dream of Scipio* does not specifically mention the Platonic solids, rather indirect allusions appear<sup>591</sup>. Euclid's *Elements* (XIII) does give detailed instructions on the geometrical construction of these five regular solids. However, this must be tempered by the consideration that during the early Middle Ages, knowledge of only some of the propositions, axioms, postulates and definitions of Euclid, particularly from Books I-IV and without the proofs, were available in Latin translation<sup>592</sup>. Exposition of the regular solids does not appear to be in these translations. Additionally, the entire Latin translations from the Arabic and Greek were not available before about the 1130s<sup>593</sup>. The Platonic solids do not appear to have been well known to those learned ecclesiastics who were church-building patrons<sup>594</sup>, until at least the mid-12th century<sup>595</sup>.

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<sup>590</sup>At least one type of pyramid that Martianus refers to is the tetrahedron (II, p.271).

<sup>591</sup>Macrobius, pp.96-97 [I.V.5ff], 106-107 [I.VI.35ff], 190-191 [II.II.3ff].

<sup>592</sup>Stevens, p.422; Shelby, 1972, pp.399-400, 400 fn.14.

<sup>593</sup>Shelby, 1972, pp.399-400, 400 fn.14. Other ancient authors discuss the Platonic solids. They include Proclus, Hypsicles, Plutarch, and Alcinous (Heath in Euclid, pp.I.137, II.98-99, III.428-439). However, knowledge of the Platonic figures through these sources in the Latin West during the Middle Ages would tend to be late and not wide-spread.

<sup>594</sup>Also, Plato is not mentioned in the earliest extant traditional masonic histories and charges, the Regius MS. (British Library, Bibl. Reg. 17 A 1), and the Cooke MS. (British Library, Add. MS. 23198) (texts in Jones et al., eds., 1938). The former dates from c.1390, and the later from c.1400 (Harvey,

If the Platonic solids were being broadly applied in masonry, this would need to be part of the oral and working building tradition. Apart from the cube, these solids were not generally needed directly in design. Also, the proportions and planar shapes involved in their creation, in large part described in the *Timaeus*, are among the simplest geometric figures. This simplicity can make them readily usable and common, apart from a *recognized* connection with the Platonic solids. Thus, any assertion of the explicit and widespread<sup>596</sup> importance of the Platonic solids in medieval architectural iconology and design would need proof. However, in a more general sense, these solids and their constituent proportions were part of the medieval period's received heritage and valuing of proportion, in craft work and for the exemplary divine creation of the universe.

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1972, pp.191-192). However, Euclid is fantastically, but inspirationally, presented as an early founder and practitioner of 'The Art of Geometry' in masonry and surveying.

<sup>595</sup>Raymond Klibansky's *The Continuity of the Platonic Tradition during the Middle Ages* seems, in a general sense, to support this contention (1981, pp.21-29; cf. Hankins, 1987, p.700). Apparently, it was not until the 15th century when more than section 17a-53b of the *Timaeus* became available in Europe (Moran, 1998, p.432). Notably, the specific geometry of the Platonic solids was described immediately following this section in 53c-55c. Thus, this description appears not to have been available in Europe until at least the 15th century.

<sup>596</sup>A specific case has been argued for the importance of the Platonic solids, for the remarkable Cosmati *opus sectile* floor pavement, c.1268, in the sanctuary of Westminster Abbey (Foster, 1991). The Latin *opus sectile* literally means "cut work." It is an artistic medium similar to mosaic. Unlike mosaic which employs roughly square pieces (tesserae) of uniform size, *opus sectile* has pieces of varying size to fit the pattern. The preferred materials were purple and green porphyries and the (less available) marbles. The patterns made were entirely geometric (Foster, 1991, p.2). The Cosmati were a guild of artisans, centred in Rome, who worked in this medium during the 12th and 13th centuries.

## Appendix 11:

### Statistical Analyses of Building and Town Measurements (Archaeometry and Archaeoastronomy)

Statistics can be helpful in placing on a more solid foundation the analyses of building, town and manuscript measurements in attempts to recovery original design schemes, such as those noted in Chapter 2 for Durham Cathedral, the "Durham Poem" and the cross-carpet pages of Lindisfarne Gospels. Statistical models can be helpful (among other methods employed): (a) if the application is sufficiently mathematically tractable, and (b) if the statistical models are constructed, implemented, and assessed with a good working knowledge of statistics, and considerable knowledge of the area and context of application. I think these conditions can be satisfied in examining the measurements of buildings<sup>597</sup> and town plans, and other arts such as illuminated manuscripts and literary compositions.

Some statistical methods have been developed for the analysis of metrological units and modules. H. Nielsen and K. Nielsen have applied the uniform distribution (1978). The statistician D. G. Kendall applied circular data<sup>598</sup> analysis to examine the case for the 'megalithic yard' unit (1.66m) claimed by Alexander Thom to have been an important module in the laying out of English and Scottish stone circles and "eggs"

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<sup>597</sup>Fred Bettess provides some guidelines for the surveying of archaeological sites (1992), though he does not deal with building elevations. A camera-aided process called photogrammetry can be suitable for some building measurement applications (Crosby, 1981; Slama et al.).

<sup>598</sup>Circular data consist of measurements that can be meaningfully plotted on the circumference of a circle. The data are, or are transformed to become, angle measurements (in degrees or radians). N. I. Fisher's recent and general book on circular data analysis provides some helpful statistical background, but does not develop the necessary test statistics for these architectural measurement applications.

(Kendall, 1974). The archaeometrists Philippe Lanos and Guy Jumel have extended the methods involved<sup>599</sup>. Kendall examined a wide range of modules in his analyses.

However, in instances where there are good historical or other reasons to hypothesize certain module units, the analyses can be less computationally involved.

The design and implementation of building plans and elevations likely often involved both modules and practical-geometric motifs. Statistical methods for testing hypotheses of the presence of *both* modules *and* geometric proportions need to be developed. Such methods may be necessarily quite involved.

The problem of church orientation is well suited to circular data analysis<sup>600</sup>, because, of course, azimuth or directional readings are inherently circular. This subject matter can be considered part of archaeoastronomy<sup>601</sup>.

The methods employed for the statistical analysis of megalithic stone circles and configurations, for testing hypotheses of module units and significant astronomical alignments (solar, stellar, and lunar), can be adapted and expanded for medieval buildings and towns. One factor that can greatly assist an analysis, especially in comparison to stone circles, is having any historical documentation or established standard

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<sup>599</sup>The approaches by Kendall and Lanos et al. are statistically somewhat involved. Fred Bettess attempted to simplify the statistics in his analysis of the building measurements of the important Anglo-Saxon church of St. Paul's at Jarrow (1991), 681-c.685. He adapts well some of Kendall's ideas for a specific archaeological site. The simplification employs the common statistical quantity of the sum of squares. Unfortunately, there is no statistical test providing the crucial significance probabilities.

<sup>600</sup>C. L. N. Ruggles provides some helpful points and background on circular data analysis methods in his examination of the Nazca Lines, Peru. P. R. Freeman et al., on astronomical alignments and megalithic stone circles, and J. P. Parisot et al., on the orientation of Merovingian cemetery burials, provide earlier work dealing with archaeological sites and directional data. They do not apply circular data analysis, but they raise helpful points and issues.

<sup>601</sup>Peter Duffet-Smith provides helpful and detailed methods for any needed astronomical calculations (1988; 1990).

measurement units, independent from the measurements taken of the studied building or town plan.

In keeping with the medieval principle of Ockham's razor<sup>602</sup>, the simplest explanation is to be preferred. It is most convincing when one or very few geometric motifs and one module, simply related to an established measurement unit, are repeatedly applied in significant independent dimensions of the building or town plan. Proposed models need to be practical for a team of masons and surveyors to implement. Additionally, models that keep the method of the design the same or very close to the method of the laying out are to be preferred, again for their simplicity. Accurate measurements are required from the actual site, rather than from a plan, to insure that one is working, in effect, at full scale. The allowance of errors of three or four inches for many of a building's measurements is enough to allow a wide range of plausible models to be fitted. In cases where the original building tolerances were of this magnitude, it may not be possible to fit a convincing model.

In the statistical analysis of measurements there are two basic approaches: 1) model-based or 2) exploratory. The first puts forward a specific model and tests it. The second tests the plausibility of wide-ranging models and relationships. Both approaches have their strengths and weaknesses. The second approach has the possible advantage of being open to a variety of hypotheses or theories. However, the disadvantage is that, unless proper care is taken, one may find an apparent 'fit' by chance.

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<sup>602</sup>This principle of parsimony is named after William of Ockham (c.1285-1349). William often expressed it in such forms as "Plurality is not to be assumed without necessity" and "What can be done with fewer [assumptions] is done in vain with more" (Moody, p.307).



Additionally, one may reject the correct fit due to the decreased power of the statistical tests in this situation where a large number of such tests are being carried out. The employment of both approaches would be best for the analysis of the measurements of historical buildings, towns and manuscripts. These studies have a special significance for this dissertation because of the traditional association of the methods of artisans with the God-given mathematical schema for Creation and all creative works.

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Fig. 1. The Creation: God operates a compass and balance in His right hand. London, British Library, Cotton MS. Tiberius C.VI, fol.7<sup>v</sup>, psalter, c.1050, English (after Wormald, plate 3). (A diagram of a *horologium* on fol.7<sup>r</sup> shows through the leaf.)



Fig.2. God the Creator and Orderer, with Hezekiah, King of Judah, and the sundial of Ahaz (Isaiah 38.5-8; II Kings 20.6-11): marginal drawing for Psalms 61[Vulgate 60].6-7. Vatican City, Vatican Reg. Lat. 12, fol.68<sup>v</sup>, Bury Psalter, c.1025-c.1050 (after Oakeshott, plate 21b).



Fig.3.. God the Creator. Vienna, Österreichische Nationalbibliothek, 2554, fol.1 (frontispiece), *Bible Moralisée*, Reims, c.1250 (after Frederick Hartt, *Art: A History of Painting, Sculpture, Architecture*, 3rd edn. (New York: Harry N. Abrams, 1989), p.25 fig.12).



Fig 4. Anglo-Saxon sundial at St. John the Evangelist Church, Escomb. County Durham, Church at Escomb, exterior south wall of nave, sundial contemporary with the original church fabric, c.670-c.690. (Photograph by Malcolm Thurlby.)



Fig.5. Medieval sundial on the exterior south wall of the nave of the Church of St. Mary, North Stoke, Oxfordshire. (Photograph by the author.)

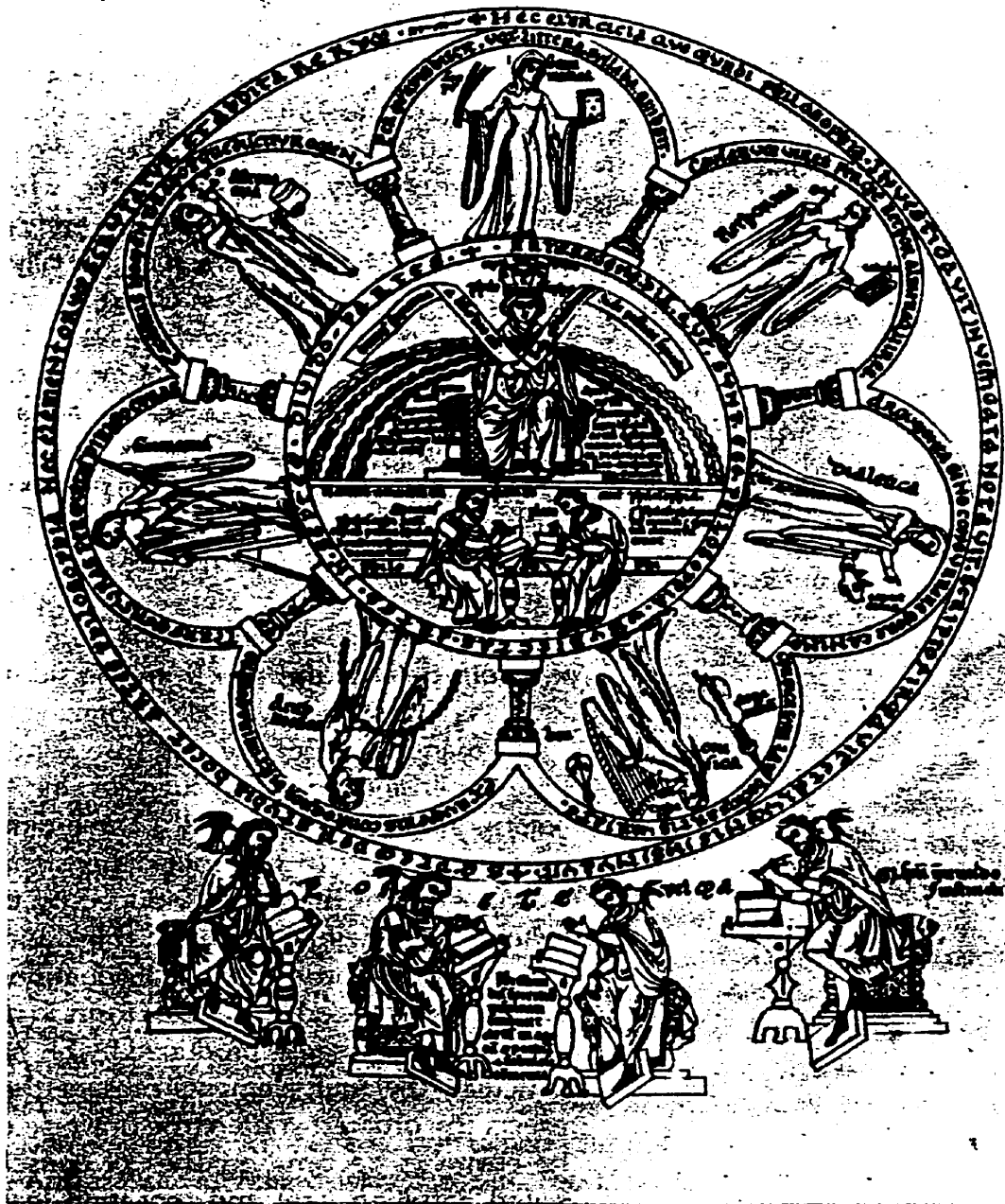


Fig.6. The seven Liberal Arts placed around Philosophy. Socrates (left) and Plato (right) work beneath Philosophy. Herrad of Landsberg (c.1130-1195), abbess of Hohenburg (1167-1195), *Hortus deliciarum*. 19th-century copy of destroyed original, fol.32, c.1180-1195 (after Painton Cowen, *Rose Windows*, Art and Imagination series (London: Thames and Hudson, 1979), p.83).



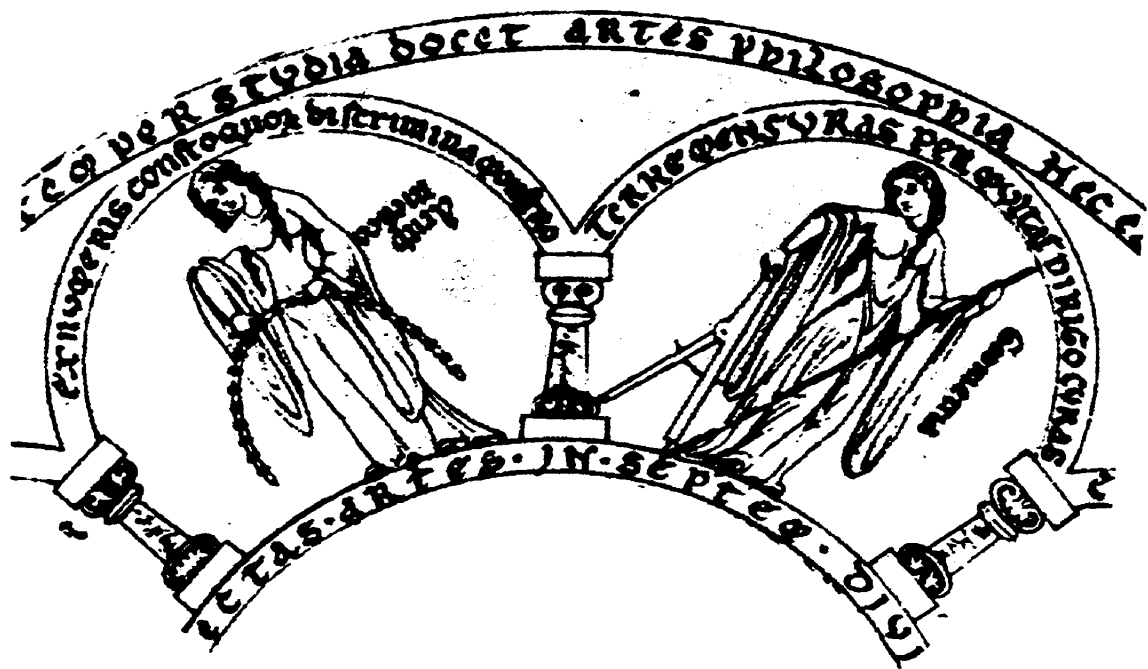


Fig.7. The Liberal Arts: detail of Arithmetic and Geometry. Herrad of Landsberg (c.1130-1195), abbess of Hohenburg (1167-1195), *Hortus deliciarum*. 19th-century copy of destroyed original, fol.32, c.1180-1195 (after Painton Cowen, *Rose Windows, Art and Imagination* series (London: Thames and Hudson, 1979), p.83).

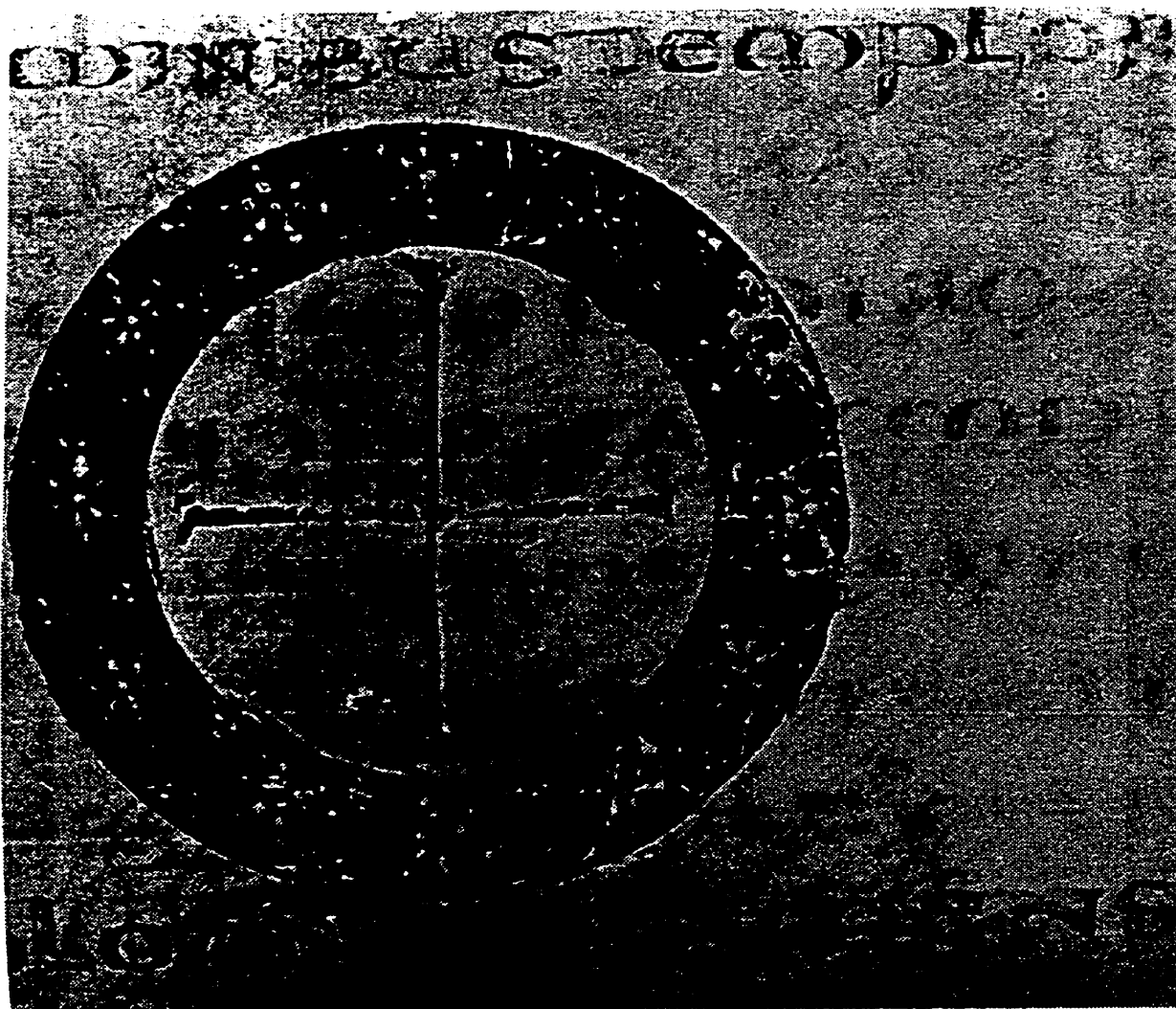


Fig.8. The Templum of the Sky. Wolfenbüttel, Herzog-August Bibliothek, *Corpus Agrimensorum Veterum*, Codex Arcerianus, Guelferb 2403, Aug. 2° 36. 23, fol.41<sup>r</sup>. An illustration for Hyginus Gromaticus's *Constitutio Limitum* (or *De limitibus constituendis*) in the earliest extant copy of the Roman *Corpus Agrimensorum*, early sixth century (after Rykert, p.48 fig.6).

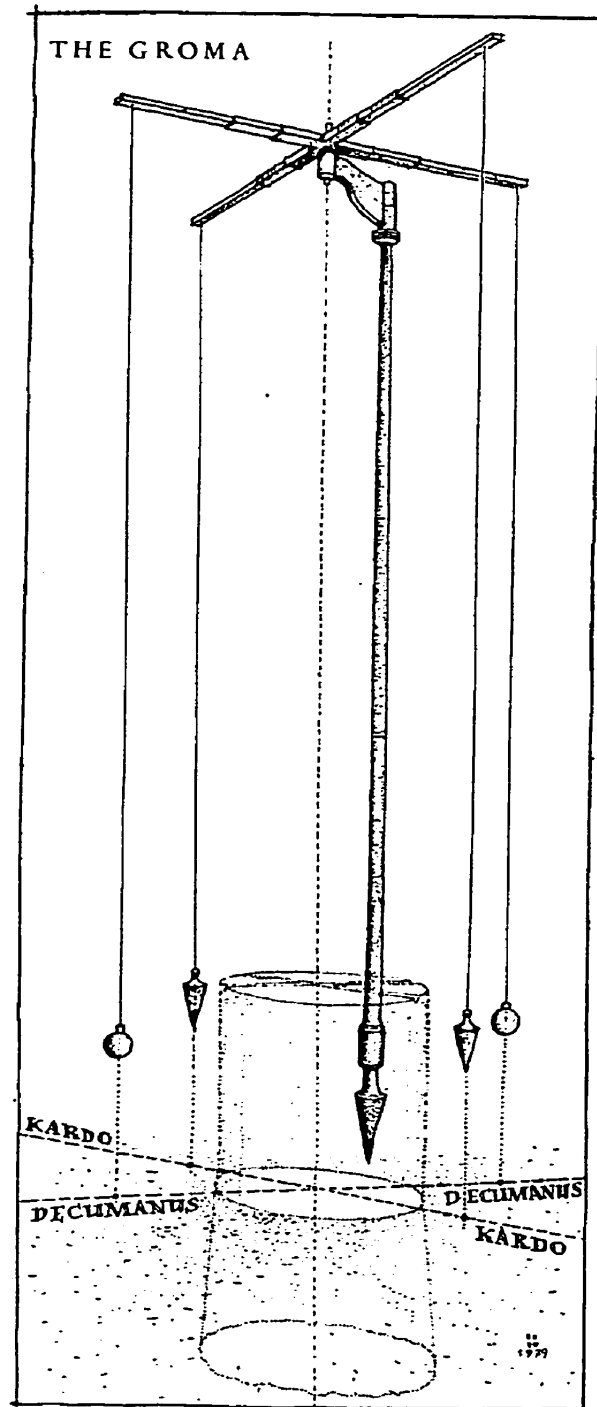


Fig.9. *Groma*. *Groma* based on Matteo Della Corte, 1922 (after Horn et al., III, p.140).

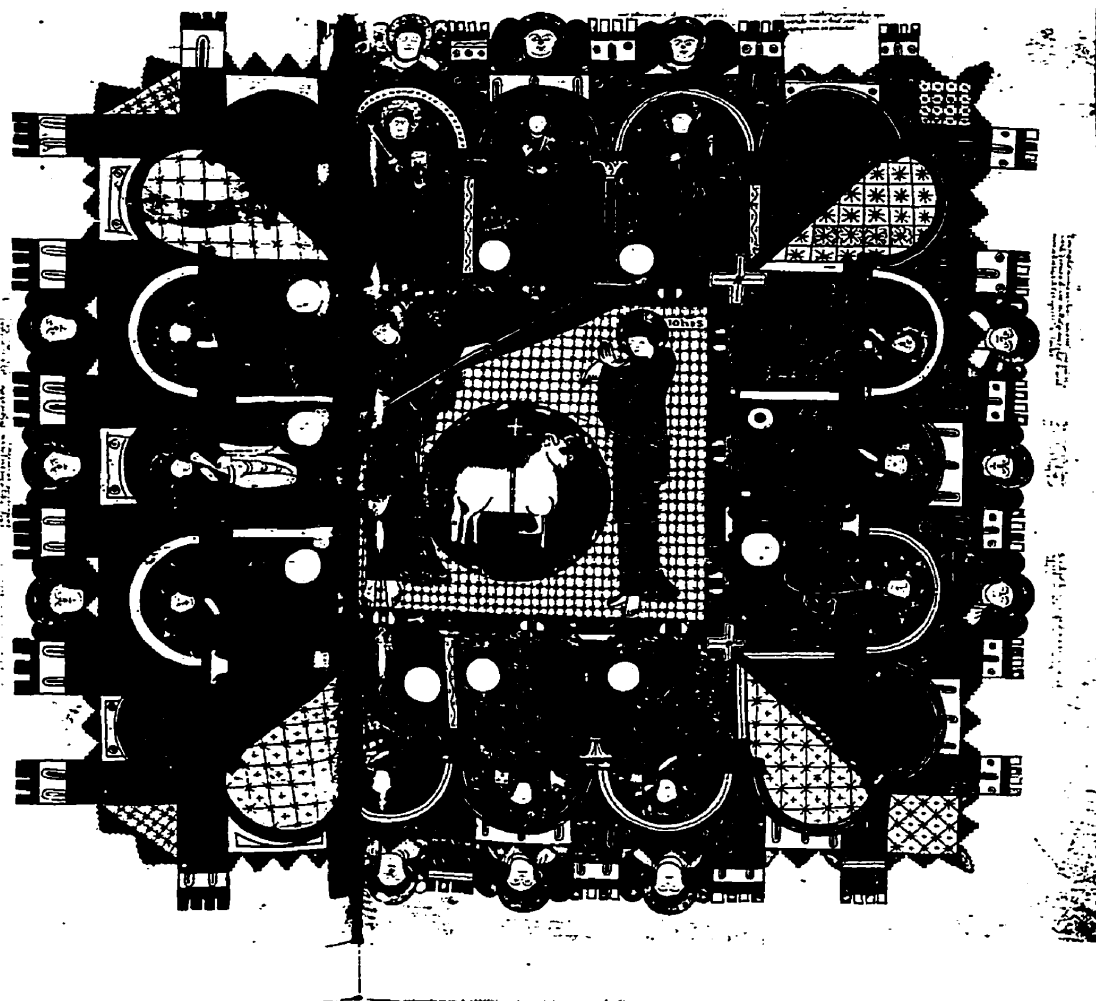


Fig.10. St. John and the angel, measuring with a golden reed the Heavenly Jerusalem: Revelation 21.15-17. Paris, Bibliothèque Nationale, MS. lat. 8878, St. Beatus (d.798), *Commentary on the Apocalypse*, eleventh-century copy (after Lundquist, pp.56-57).



Fig. II. St. John and the angel: a little book, and the measuring of the Temple of God with a reed: Revelation 10.2-11.2. Escorial, fol. 100, St. Beatus (d. 798), *Commentary on the Apocalypse*, late-tenth-century copy (after Guerne, p. 45).



Fig.12. Dream of St. Vincent Madelgarius. Leipzig, Universitätsbibliothek, Cod.774, fol.28<sup>v</sup>, psalter, Cloister of Soignies, 11th century (after Euw, p.349, fig.16).



Fig.13. Dream of St. Heribert and the building of an abbey in Deutz. Cologne; Diocesan Museum, bronze gilt and enamel plaque, roof detail (roundel diameter 17.3cm) of Heribert's reliquary shrine, c.1150-c.1160, from the abbey of Deutz (after Lasko, 1994, p.204 fig.277).



Fig.14. "The Miracle of the Founding of Santa Maria Maggiore." Polesden Lacey, Surrey, National Trust, painting (panel, 7 3/8 x 15 3/4", 18.7x40cm) attributed to Filippino Lippi, c.1482 (Sutton et al., pp.38-39) (after *ibid.*, fig.48).





**dehinc petrus. postquam ab  
ipso qui essent requiritur. &**

Fig.15. Gunzo's dream. Paris, Bibliothèque Nationale, MS. lat. 17716, fol.43, collection of Cluniac liturgical and historical documents, Paris, Saint-Martin-des-Champs, late 12th century (after Carty, 1988, p.115 fig.2).

abbati de sospes obtulit, re



feruntur ex ordine quocūq;  
monacho dicta fuerant ut

Fig.16. Gunzo telling his dream to Abbot Hugh and some monks. Paris, Bibliothèque Nationale, MS. lat. 17716, fol.43, collection of Cluniac liturgical and historical documents, Paris, Saint-Martin-des-Champs, late 12th century (after Carty, 1988, p.115 fig.3).



Fig.17. Standard measuring rod of King Henry VII and Queen Elizabeth I. Winchester, Winchester Museum Service, Westgate Museum, hexagonal bronze yard, stamped at its ends with a crown surmounted by a cross, and an "h" (c.1487), and the later "E" (c.1571) for the respective monarchs' names (after Connor, fig.46; Dugan, p.42).



Fig12. God witnessing the building of Babel. London, British Library, Cotton MS. Claudius B.IV, fol.19, from St. Augustine's Canterbury, second quarter of eleventh century (after Dodwell, 1982, p.71 fig.12).



Fig.19. Roman town foundation: the ploughing ceremony. Aquileia, Museo Archeologica, Roman relief (after Maria-Gabriele Wosien, *Sacred Dance: Encounter with the Gods*, Art and Imagination series (New York: Thames and Hudson, 1986), p.101 fig.11).



Fig. 20. The consecration and dedication of a church: bishop knocking with his staff three times at the west portal, after the circumambulation of the church's exterior. Rouen, Bibliothèque de la Ville, MS. A. 27, fol. 2<sup>v</sup>, *Lanalet Pontifical*, drawing in black and red line, c. 1030-c. 1050 (Rice, p. 205; Parsons, 1989, p. 10, plate III) (after Rice, plate 70a).



Fig21. Durham Cathedral viewed from the north side. (Photograph by Peter Coffman.)

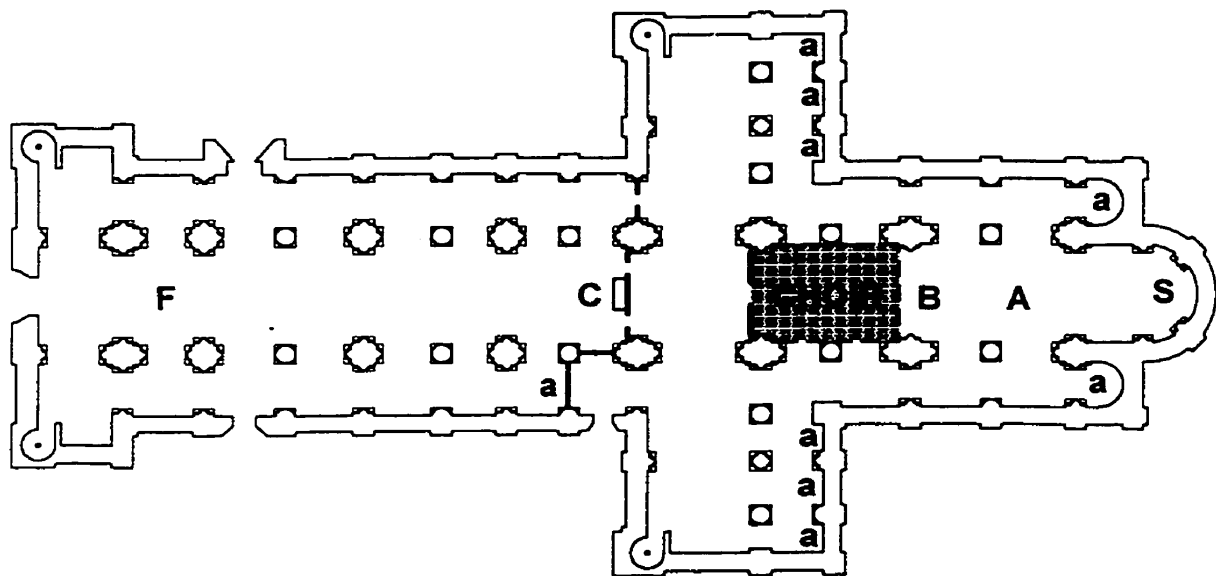


Fig 22. Reconstructed liturgical plan for Anglo-Norman Durham Cathedral. Key for liturgical furnishings: A -- High altar; a -- side altar; B -- Matutinal altar; C -- Rood altar; F -- font; S -- Shrine of St. Cuthbert (after Russo, 1994, p.260 fig.20 with additions, where appropriate, from Klukas, 1983, pp.164 fig.11, 168).



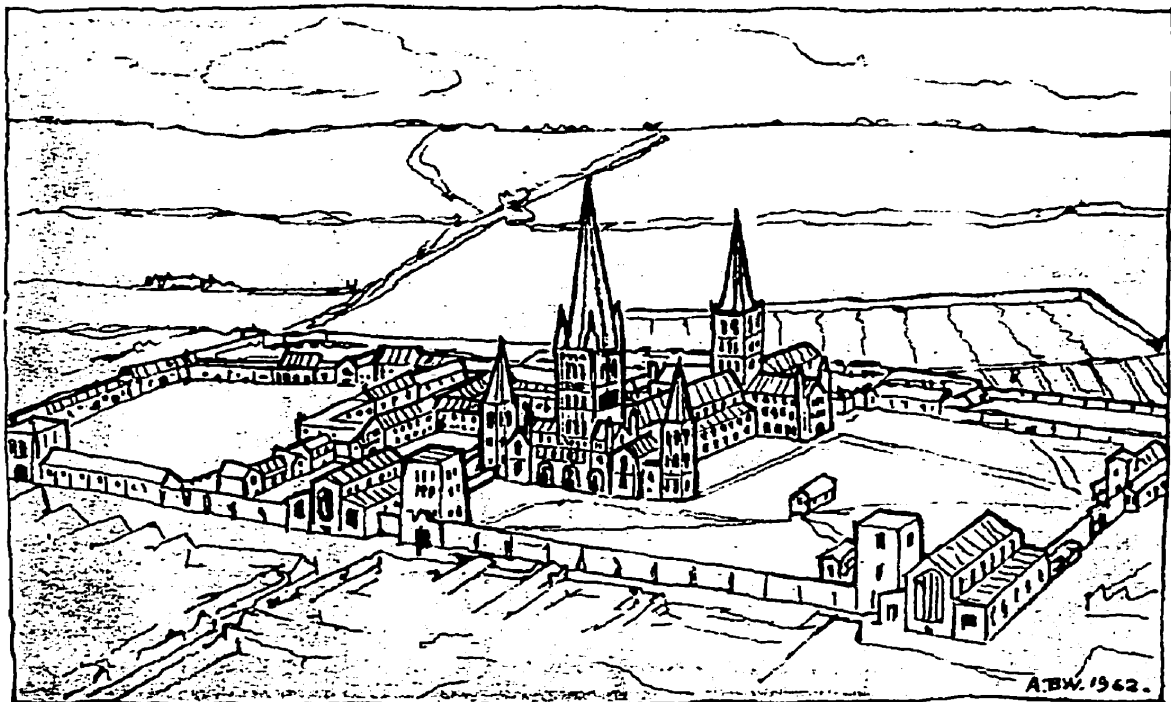


Fig23. Raised view of the medieval Abbey of Bury St. Edmunds from the south-west (after a reconstruction drawing by A. B. Whittingham {1962}, 1992, p.3).

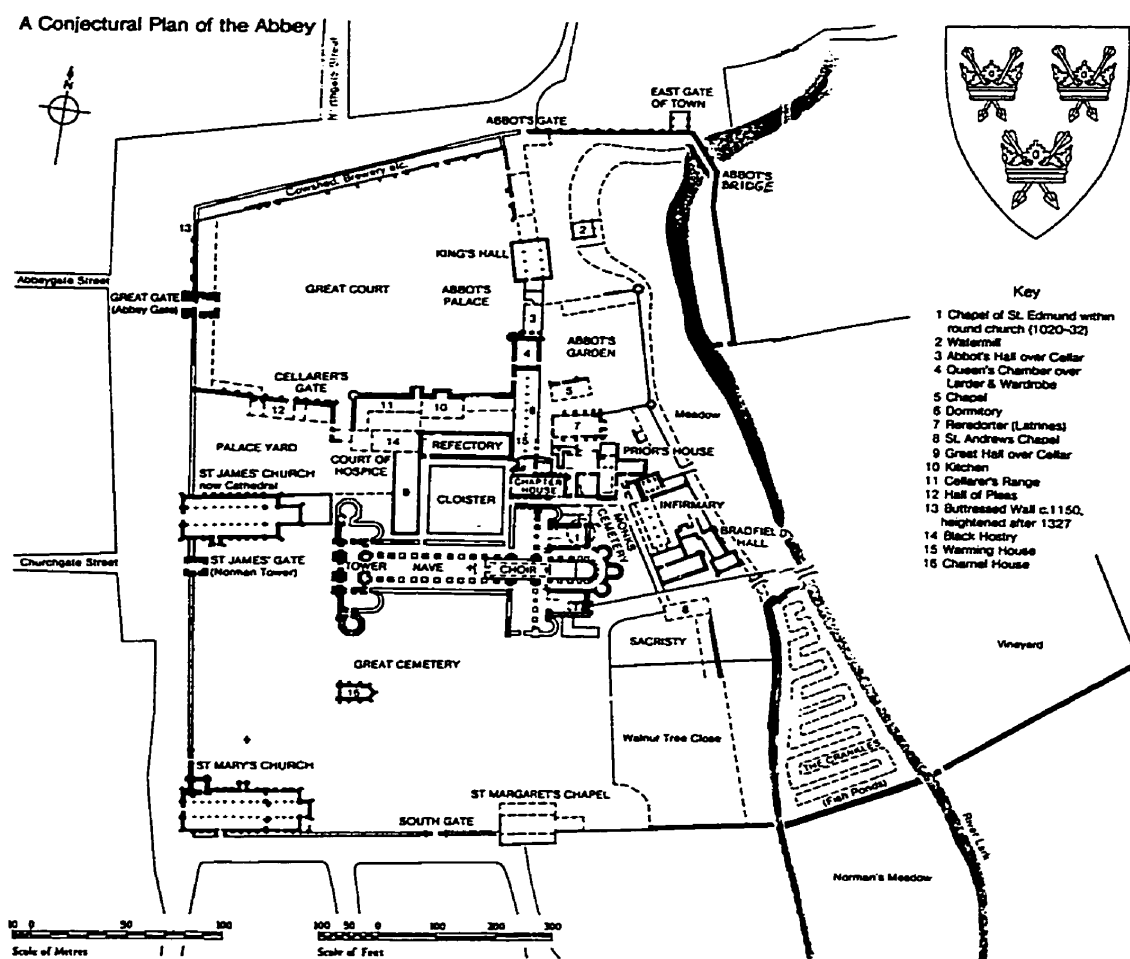


Fig. 24. A conjectural plan of the Abbey of Bury St. Edmunds (after Whittingham, 1992, p.4).

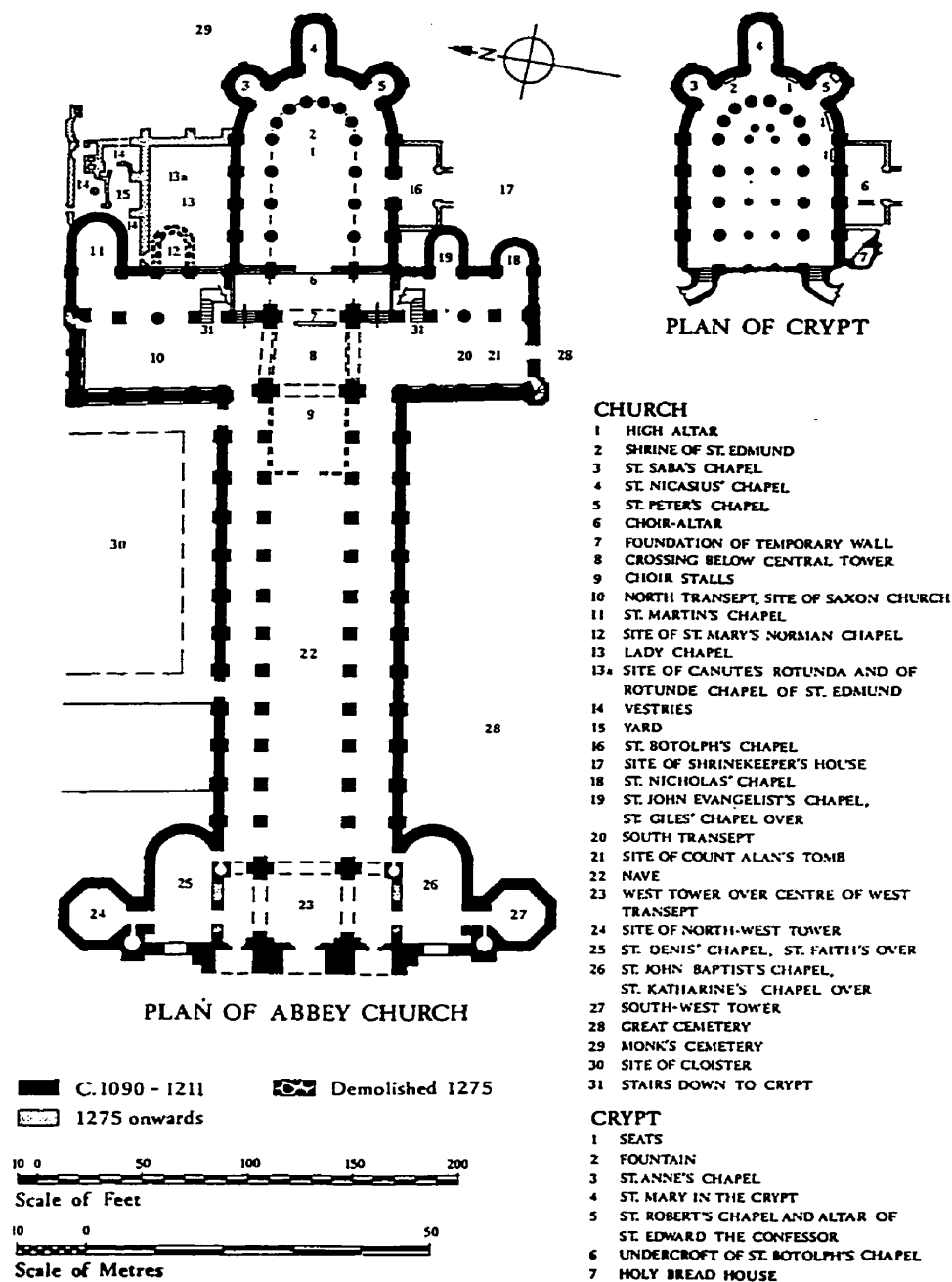


Fig.25. Plan and liturgical arrangements of the Abbey Church of Bury St. Edmunds (after Whittingham, 1992, p.12).



Fig.26. Unifying elements in the design of the Anglo-Norman abbey and town plan of Bury St. Edmunds, Suffolk: (i) the approximate rectangular grid of the town plan along the western side of the monastic enclosure and (ii) the alignment of Churchgate Street with St. James's tower and Church Gate, the central axis of the Abbey church, and the shrine of St. Edmund. (The E and W indicators on the figure are the liturgical directions established by the Abbey church plan, which only roughly approximate the corresponding geographic cardinal points.) (Aerial view after Aston, p.135 fig.89, from David Wilson and the Cambridge University Committee for Air Photography.)

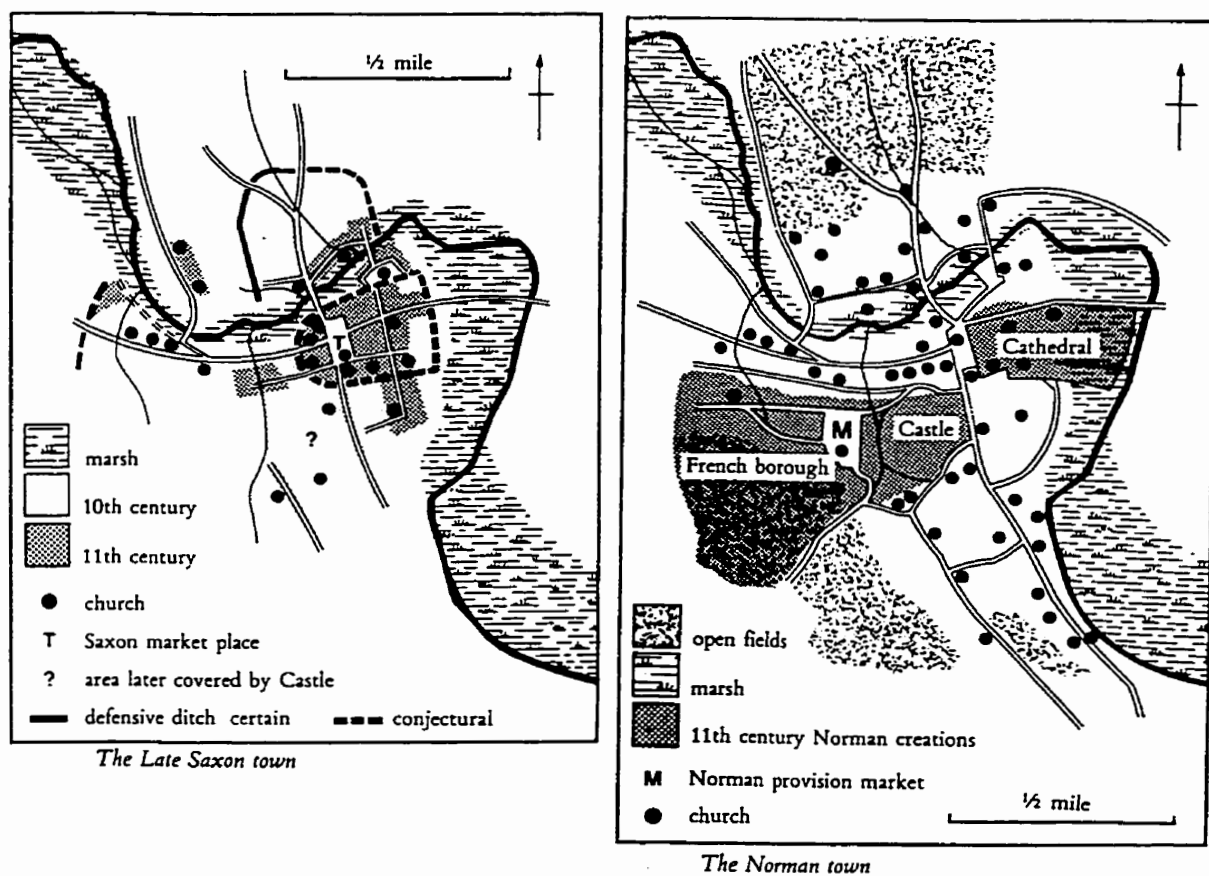


Fig 27. Maps of Late Anglo-Saxon (Anglo-Scandinavian), and Anglo-Norman Norwich. (After Green et al., pp.10 map 2, 13 map 3, from the Norwich Museums Service.)

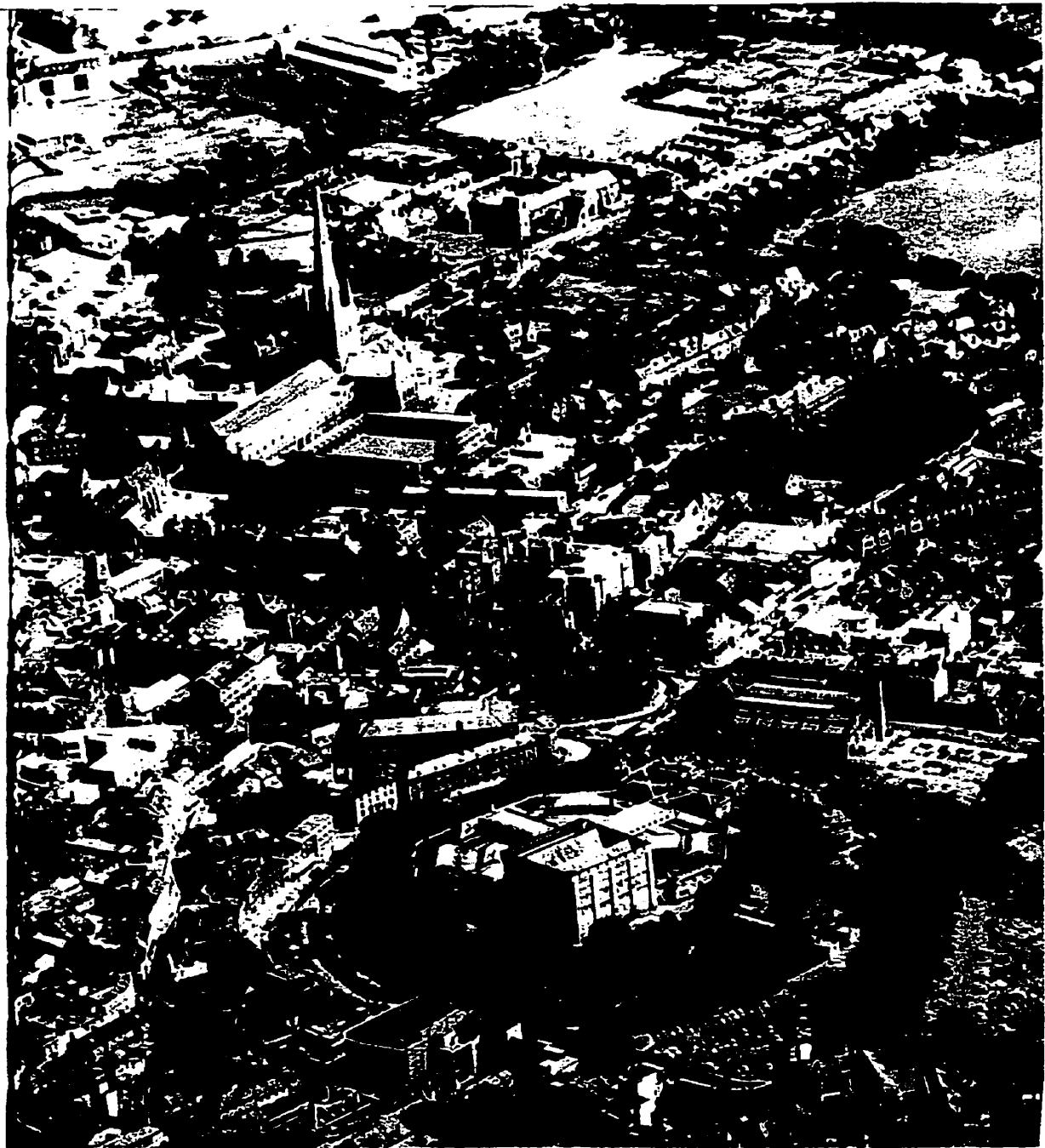


Fig.28. Aerial view of Norwich from the south-west, including the Castle and the Cathedral (after Brown, 1989, p.165).

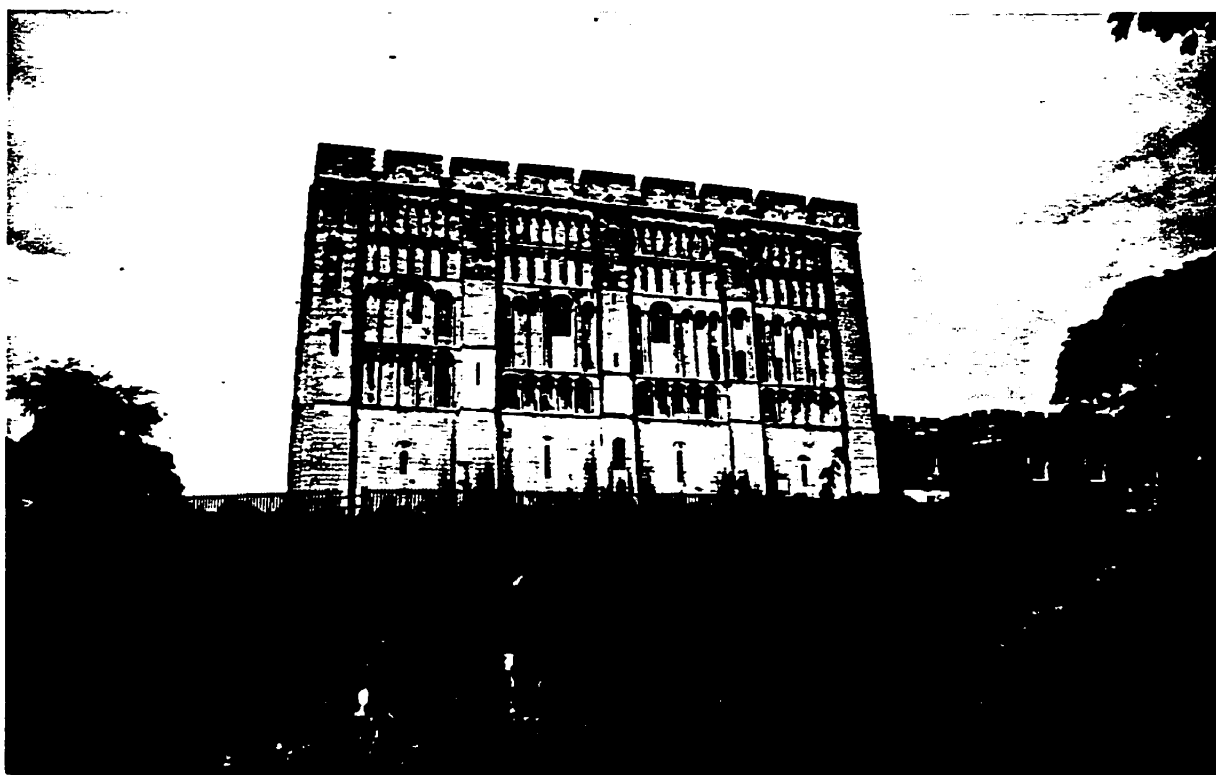


Fig. 29. Norwich Castle Keep and motte from the south. (Photograph by the author.)

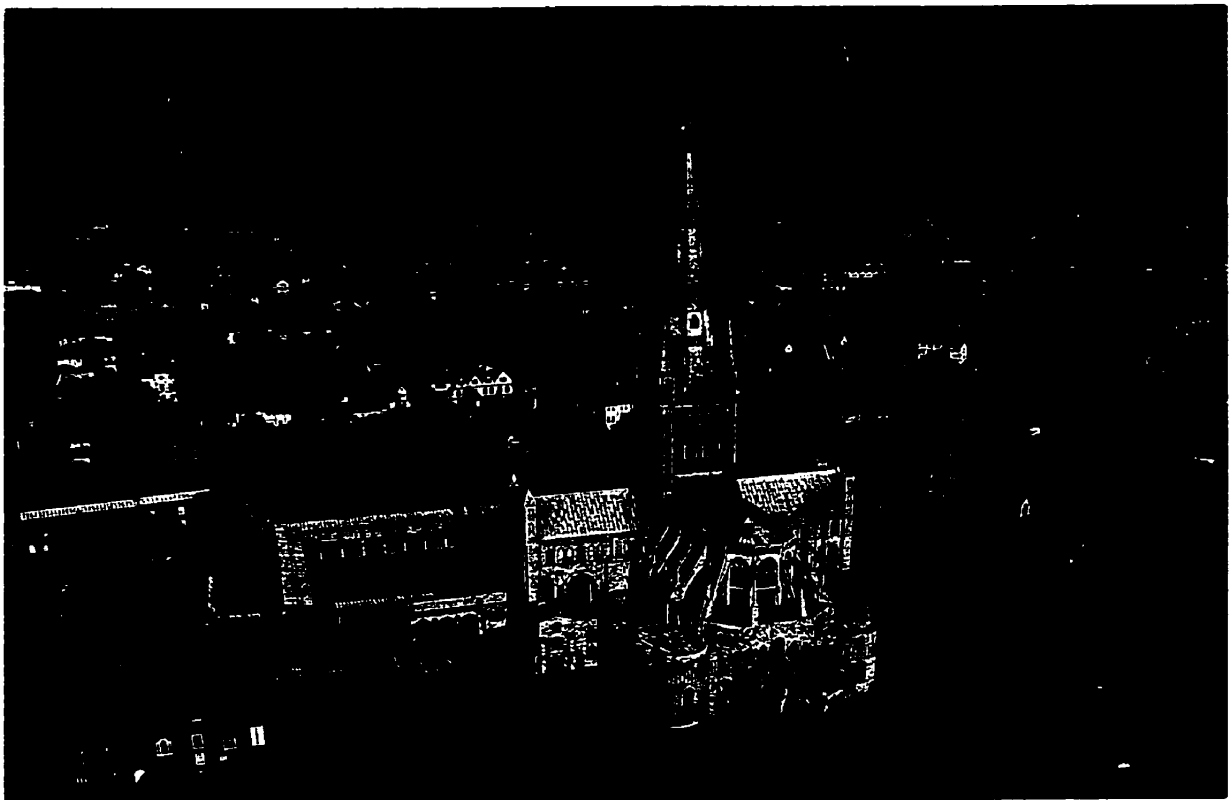


Fig30. Aerial view of Norwich Cathedral from the south-east. (Photograph by Skyscan Balloon Photography, Cheltenham.)







Fig.32. Silver penny of King Alfred with "LVNDONIA" monogram. London, Museum of London (after Clark, 1989, p.15, from photograph from the Museum of London).



Fig.33. Norwich sanctified by two crosses. A silver penny of King Athelstan with the "NORVIC" mint signature in the collection of the Norfolk Museums Service, Norwich. This coin was minted in Norwich during Athelstan's reign (924-939). It is the earliest known definite written record of the town's name (Green et al., p.10; Ayers, 1994, p.29). (Picture after Ayers, 1994, p.29 fig.16.; cf. *ibid.*, p.29; cf. Green et al., p.10.)



Fig.34. The Common Seal of London showing the city with the majestically enthroned patron Saint Thomas Becket above. London, Museum of London, first employed c.1219 (after Clark, 1989, p.39, photograph from the British Museum).



Fig.35. The Common Seal of London: patron Saint Paul towering above the city. London, Museum of London, first employed c.1219 (after Clark, 1989, p.39, from the Museum of London).

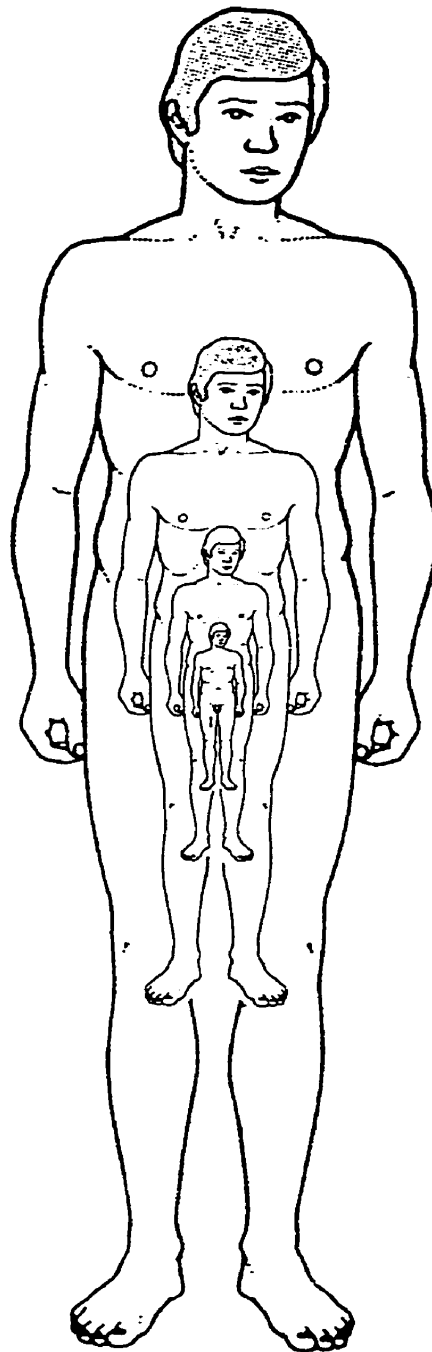


Fig.36. The successively contained and corresponding structures and conceptual bodies of (i) the human, (ii) the church building, (iii) the city-state and (iv) the cosmos. (Drawing of human body after Jeffrey R. M. Kunz et al., eds., *The American Medical Association Family Medical Guide* (New York: Random House, 1982), p.378.)

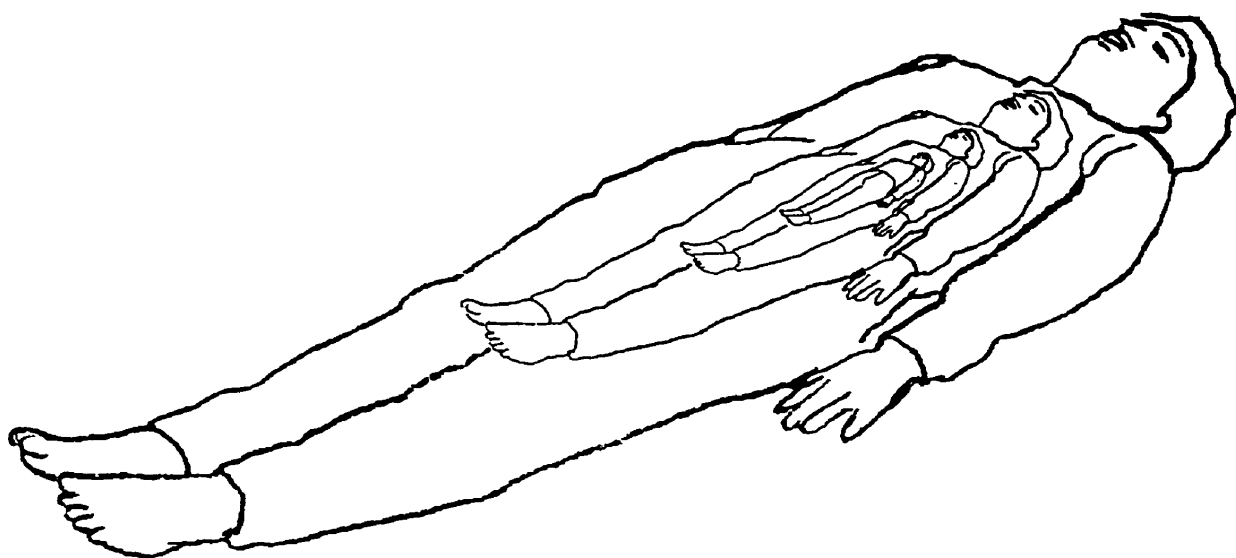


Fig.37. The successively contained and corresponding entities or 'bodies' of (i) St. Cuthbert and his coffin, (ii) Durham Cathedral, (iii) Durham, and (iv) the Heavenly Jerusalem, the City of God and the cosmos. (Drawing of human body after Jeffrey R. M. Kunz et al., eds., *The American Medical Association Family Medical Guide* (New York: Random House, 1982), p.19.)



Fig.38. Psalter world map. London, British Library, Additional MS. 28681, fol.9, thirteenth century, English (less than 10cm across) (after Harvey, 1991, p.27 fig.20).



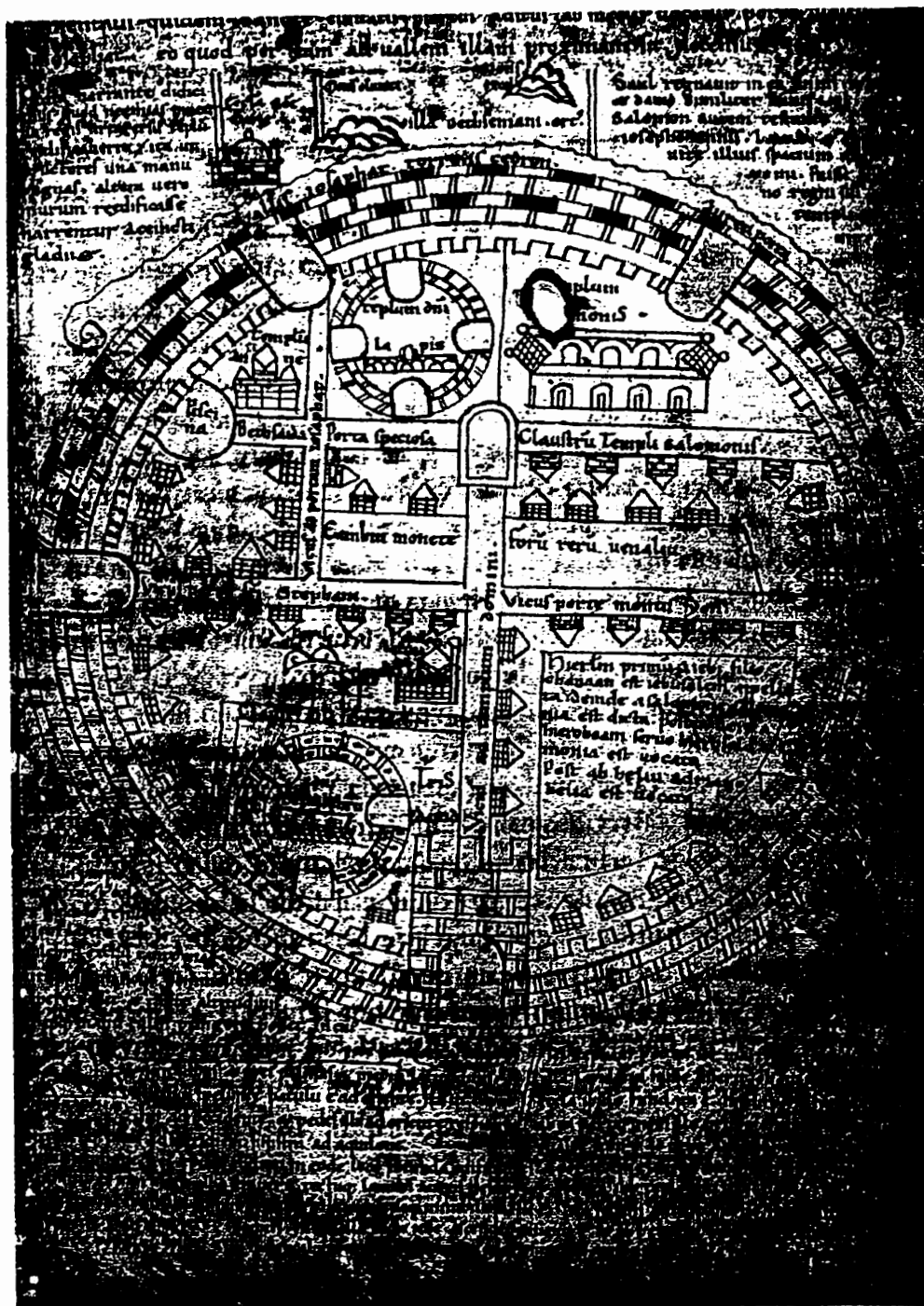


Fig.39. Jerusalem portrayed as having a circular plan. London, British Library, Additional MS. 32343, fol.15<sup>v</sup>, thirteenth century (after Harvey, 1991, p.90 fig.71).

at. Quapp̃ si in duas partes' orien

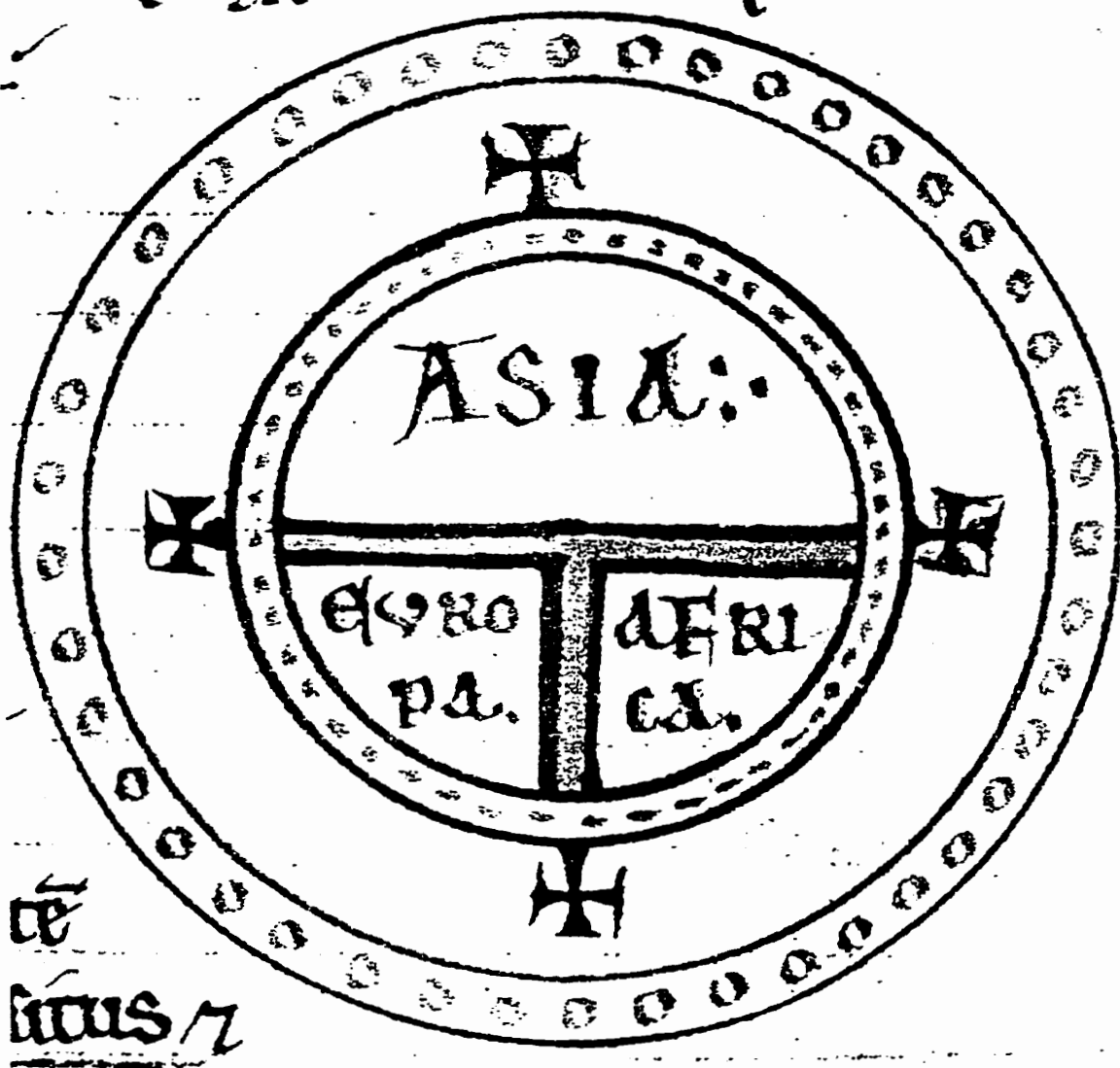


Fig40. T-O world map with crosses in the four cardinal directions within an outer annular ring. London, British Library, St. Isidore, *Etymologiae* (written in early 7th century), twelfth-century copy (after Hay, pp.332 plate 7, 354).



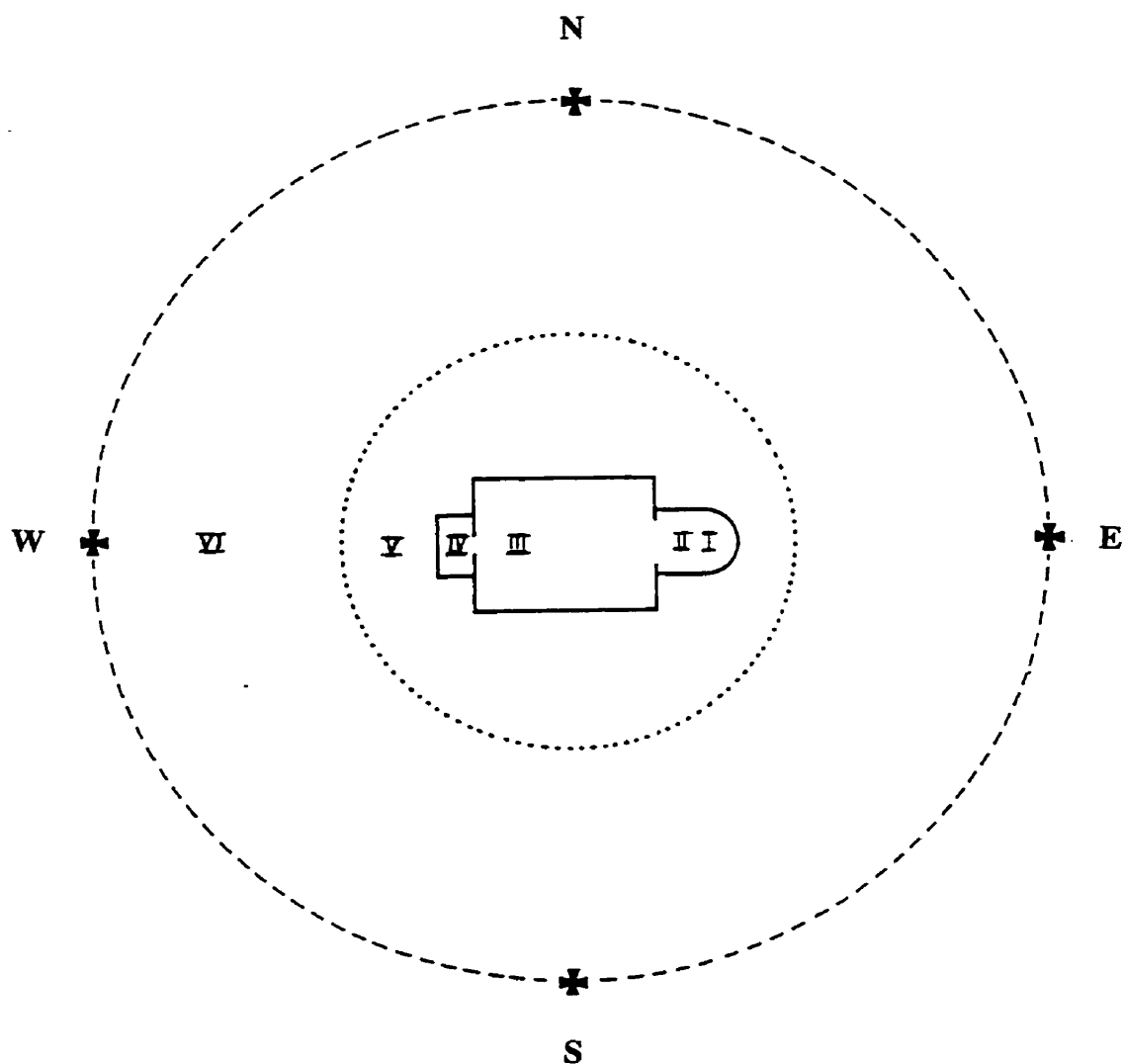


Fig.42. A conceptualized map for the right of sanctuary for Hexham based on the description of Richard of Hexham (fl.1141). He states escalating fines for breaches of sanctuary that are increasingly close to the bishop's seat and the shrine behind the altar: I -- deemed not emendable, II (within the choir) -- £144, III (within the church) -- £96, IV (within the church's porch or possibly the walls of the church's precinct) -- £48, V (within the town) -- £32, and VI (within the four boundary crosses, most likely associated with the four cardinal directions) -- £16 (Richard of Hexham, I, 61-62; quoted in Hall, pp.426, 427 fig.34) (after *ibid.*, p.427 fig.34).

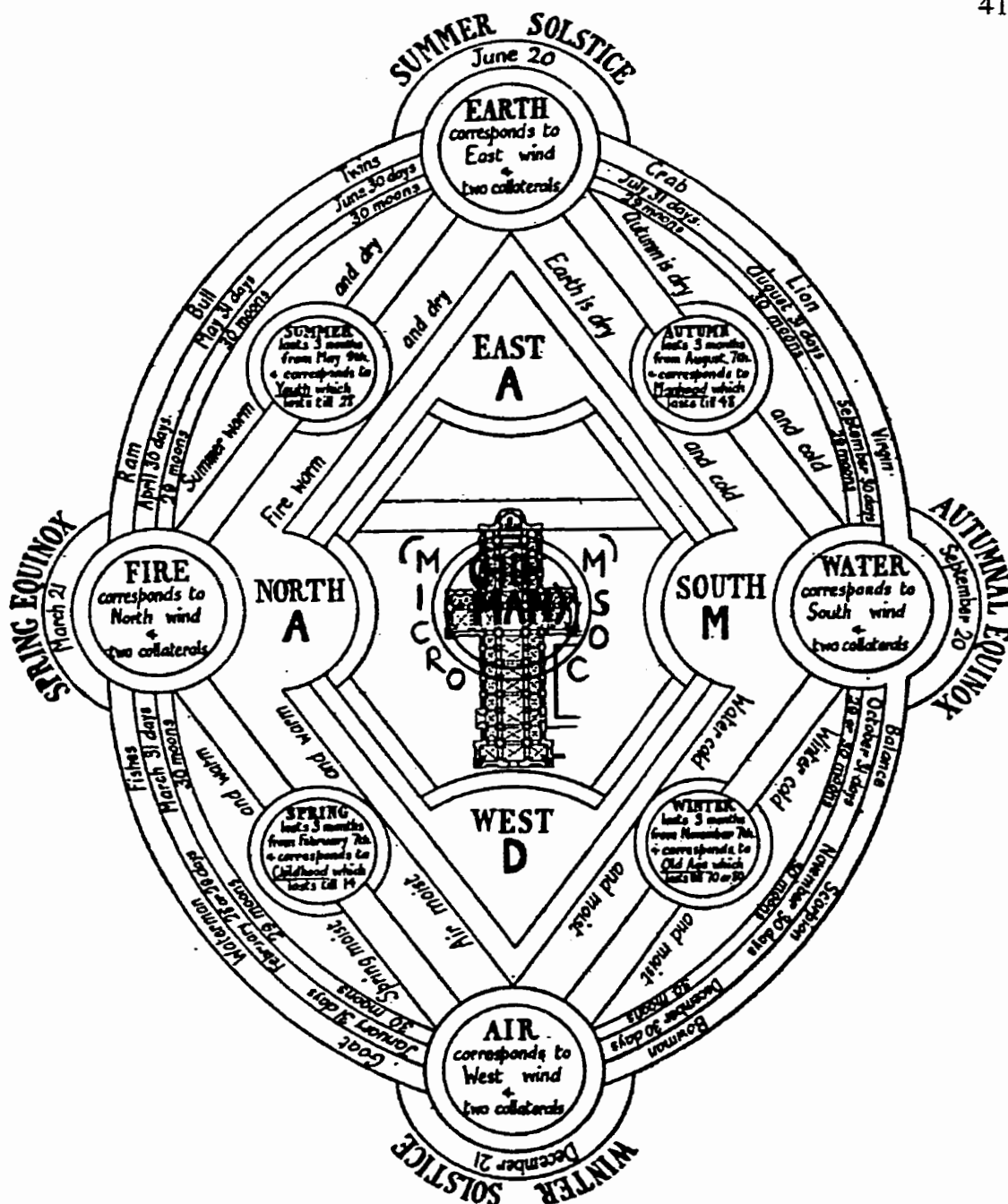


Fig43. The oriented church (Durham Cathedral) and the meaning of the number four in the microcosm and the macrocosm. Oriented church plan (of Durham Cathedral) overlaid on the centre of Byrhtferth's diagram of "The Physical and Physiological Fours" (translated from the Latin and adapted from the example, originally from Thorney Abbey, and now at Oxford, St. John's College, MS. 17, fol.7<sup>v</sup>, c.1110 after Singer et al., 1921, p.145 fig.4).

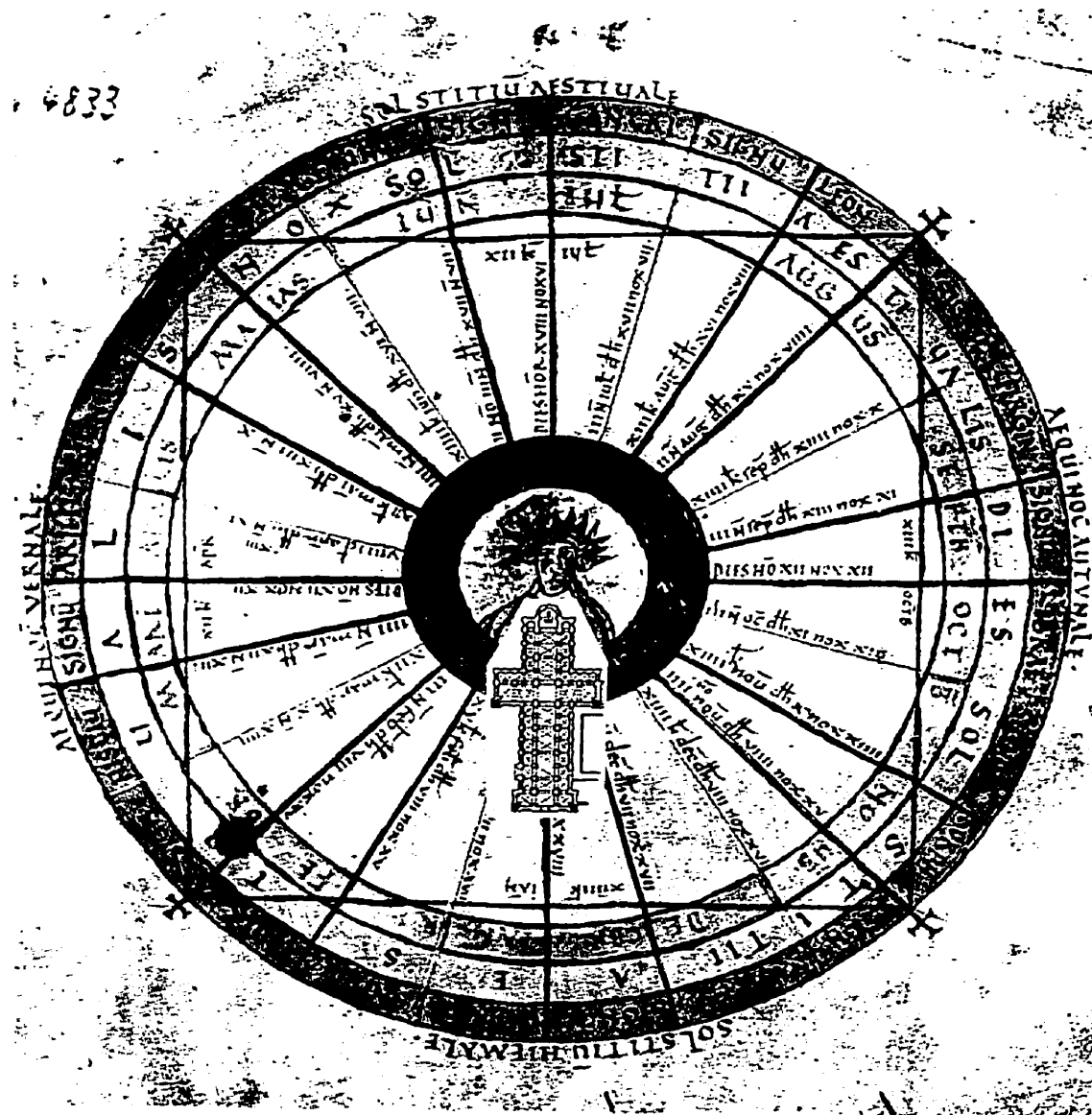


Fig44. The oriented church (Durham Cathedral) in configuration with the four Evangelists (each indicated by a cross, "+") and their tetramorphic zodiacal constellations (St. Matthew -- Aquarius, St. Mark -- Leo, St. Luke -- Taurus, St. John -- Scorpio [Eagle in the Hebrew zodiac]) forming a great cross in the sky and indicating the four quarters of the world (connected to form a square). Oriented church plan (of Durham Cathedral) overlaid on the centre of a Carolingian astronomical diagram, München, Bayerische Staatsbibliothek, Clm 210, fol.136<sup>v</sup> (after Euw, 1993, fig.14).

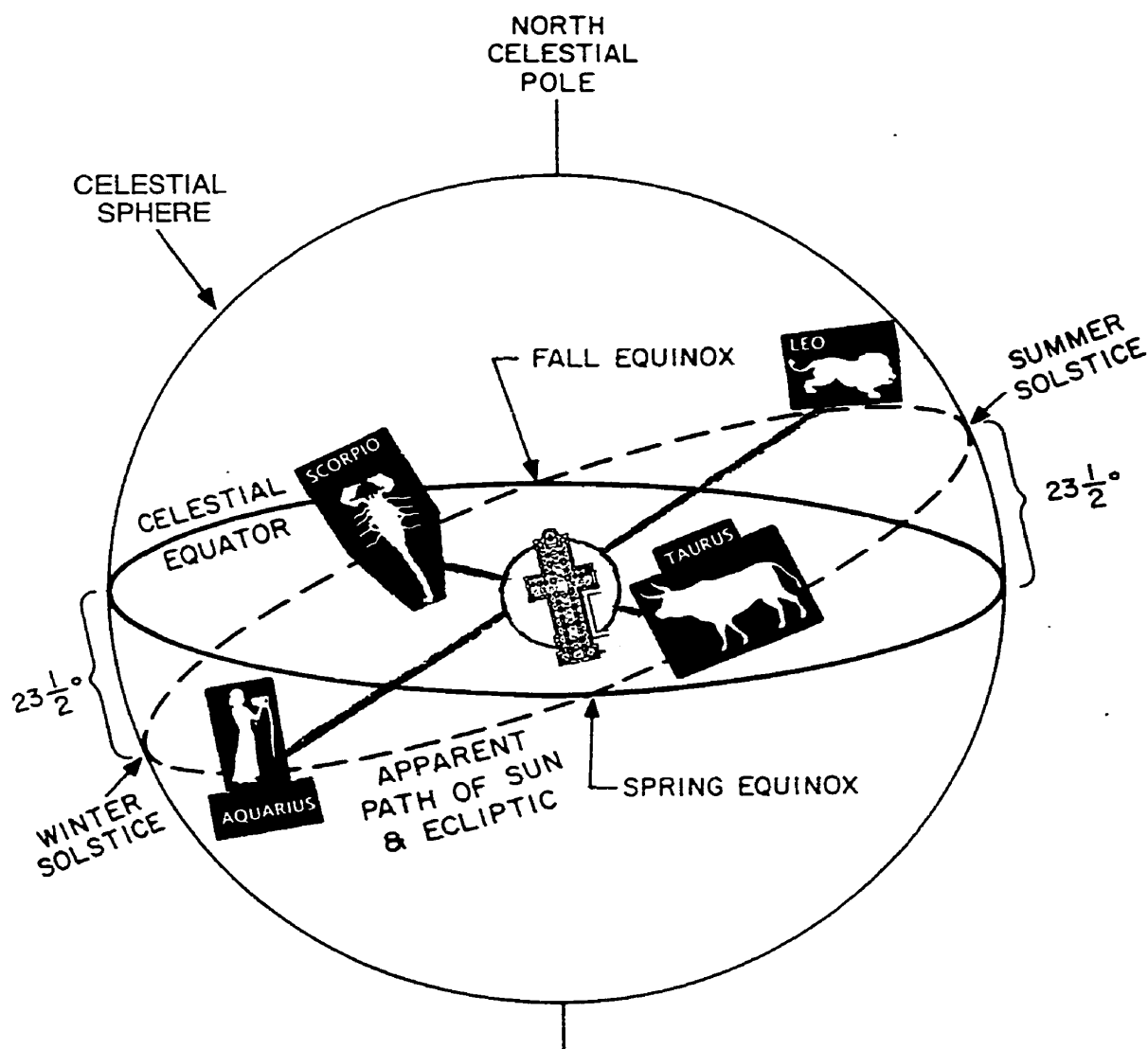


Fig.45. The oriented church (Durham Cathedral) in configuration with the tetramorphic zodiacal constellations of the four Evangelists (St. Matthew -- Aquarius, St. Mark -- Leo, St. Luke -- Taurus, St. John -- Scorpio [Eagle in the Hebrew zodiac]) forming a great cross in the heavens and indicating the four quarters of the world. Oriented church plan (of Durham Cathedral) overlaid on the Earth at the centre of the celestial sphere. (The positions of the constellations are approximate and adjusted for illustrative purposes.) (Celestial sphere diagram after Ulansey, *The Origins of the Mithraic Mysteries*, 1989, p.23 fig.2.4; constellation images after ibid., "The Mithraic Mysteries," 1989, p.134.)

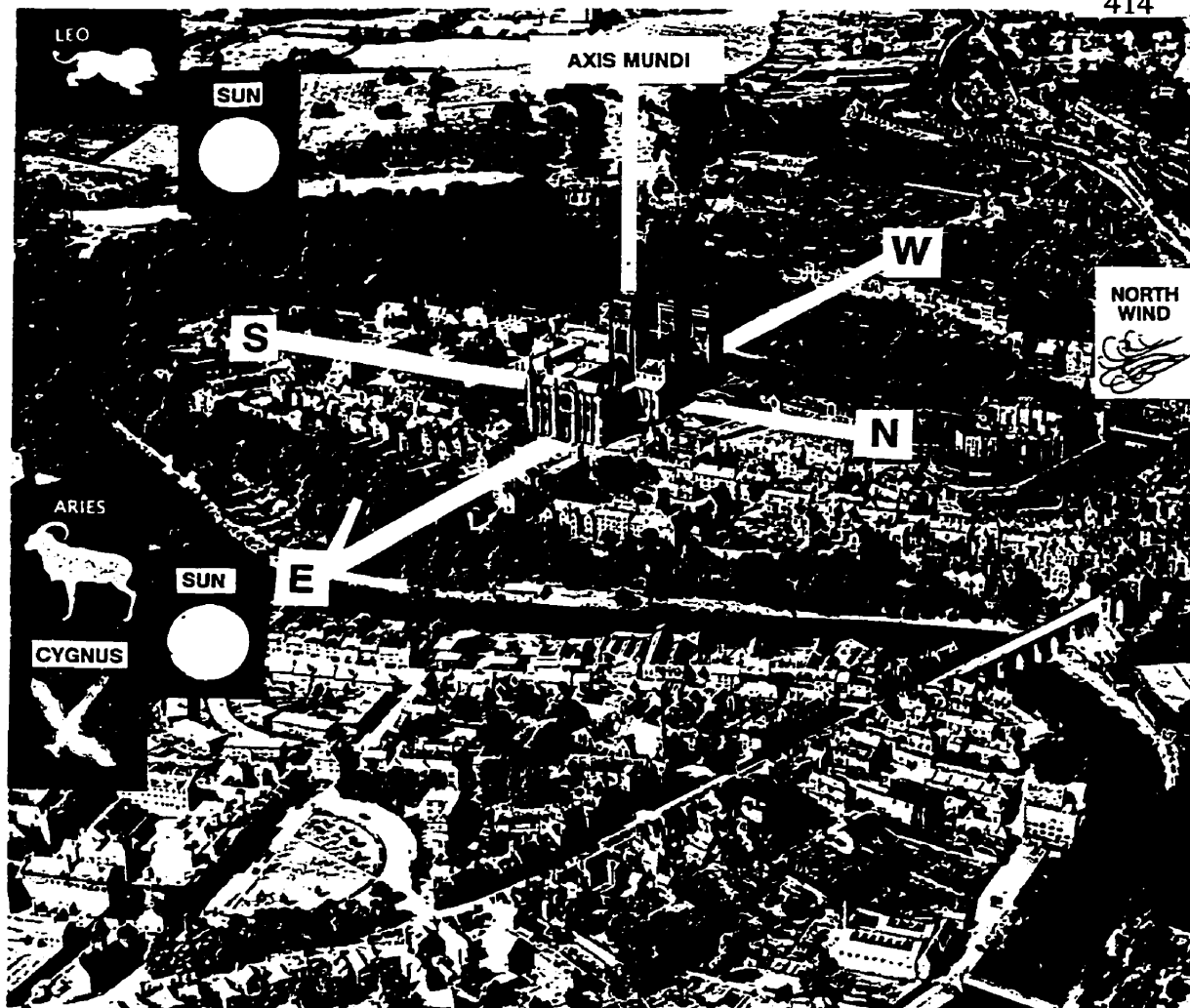


Fig.46. Composite diagram of stellar, solar and directional configurations, Durham Cathedral and the acropolis (shown), and Ramsey Abbey (not shown): (i) the cruciform church plan and the four cardinal directions, and eastern orientation, (ii) the church as the *axis mundi*, (iii) protection, from the sun's midday 'flames' and swift Leo's (the Lion's) solstitial heat, by Durham Cathedral, (iv) Cygnus (the Swan) ascended into the zodiacal sign of Aries (the Ram) at sunrise when St. Oswald began to have constructed the foundations of the church of Ramsey Abbey in the spring of 969 (illustrated with Durham Cathedral for the purposes of this composite diagram) and (v) Durham's acropolis and Ramsey Abbey withstood the cold blasts of the north wind. Aerial view of Durham from the north-east: the Cathedral and the Castle atop the peninsular acropolis largely surrounded by the River Wear. (The positions of the sun and the constellations are approximate and adjusted for illustrative purposes.) (References for Ramsey Abbey: *Vita Sancti Oswaldi*, c.995-1005, trans. in Davis-Weyer, 1971, pp.111-112; Raine, I, pp.433-434; for Durham: Laurence, c.1145, lines 441-449; trans. in Boyle, I, pp.149-150.) (Aerial view after Bowen-Jones, ed., p.1; images of Leo and Aries after Ulansey, "The Mithraic Mysteries," 1989, p.134.)



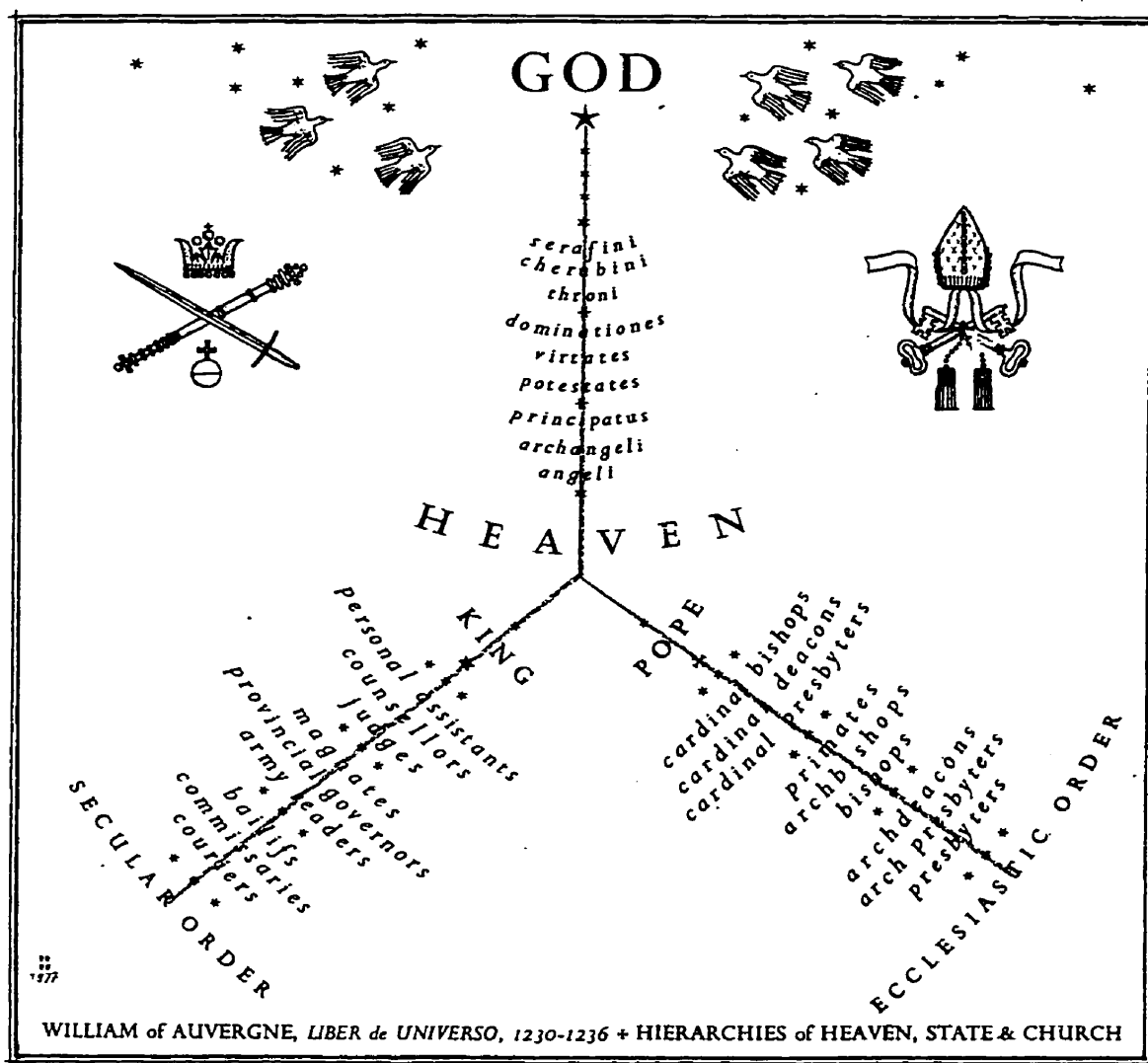


Fig. 47. The hierarchies of *regnum et sacerdotium*, state and church, as mirrored reflections of Heaven, and pictured in the form of an upside-down "Y" or pronged-fork symbol. The diagram is based on an interpretation of William of Auvergne's *Liber de Universo*, 1230-1236. The schema is similar to earlier medieval hierarchies of Heaven, Church and state, such as in the Anglo-Norman *Laudes regiae* liturgy. (Drawing adjusted from Horn et al., I, p.232 fig.187; cf. *ibid.*, pp.231-232.)

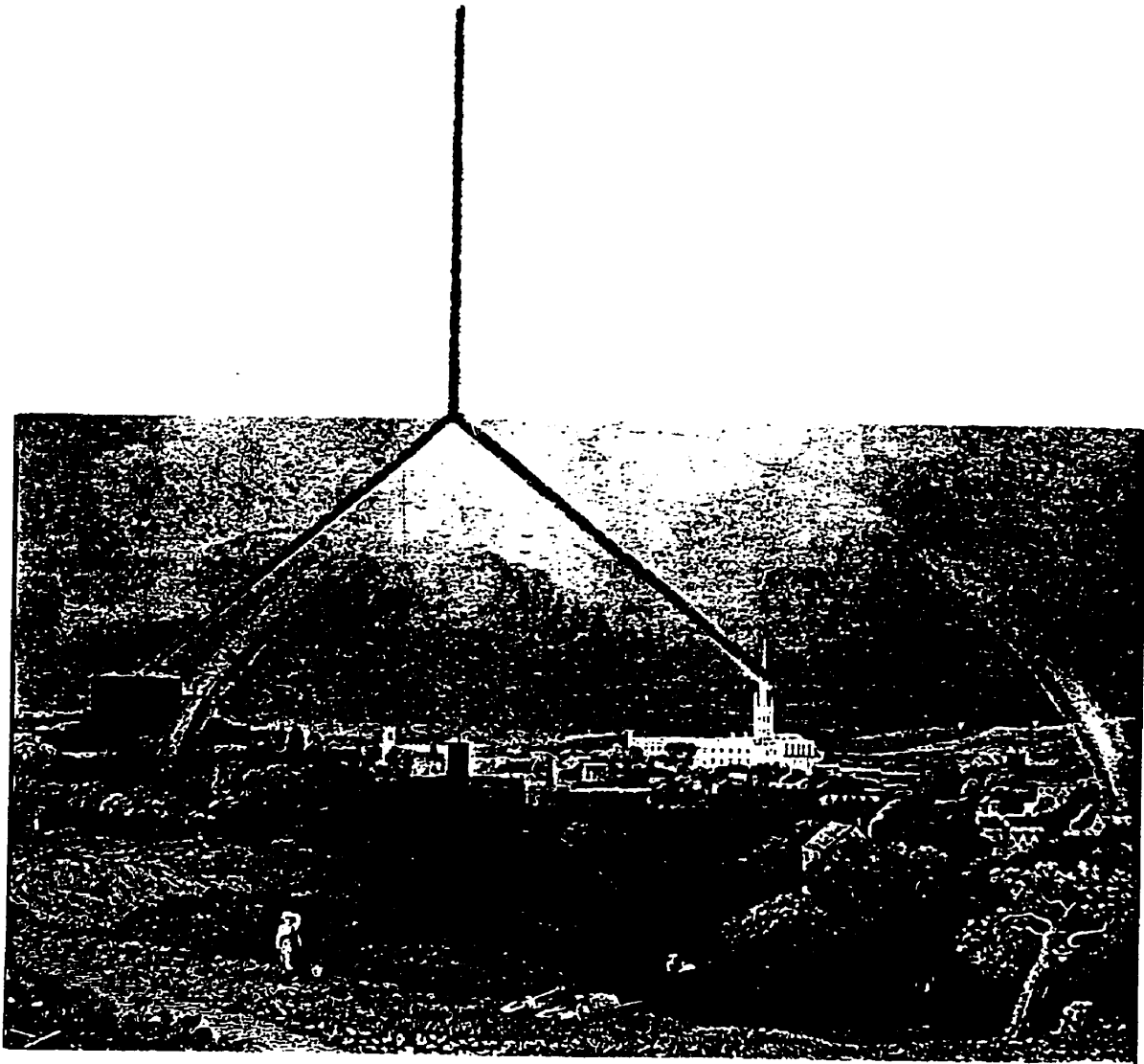


Fig.48. A profile of Norwich (from the south). The upside-down "Y" or pronged-fork symbolizes the hierarchies of *regnum et sacerdotium*, state and church, as mirrored reflections of Heaven, and as expressed in the *Laudes regiae* liturgy. (View of Norwich from a picture, 1849, reproduced in *Historic Norwich with City-Centre Map* (Norwich: Jarrold Publishing, 1985, 1990), "Norwich Cathedral" section.)

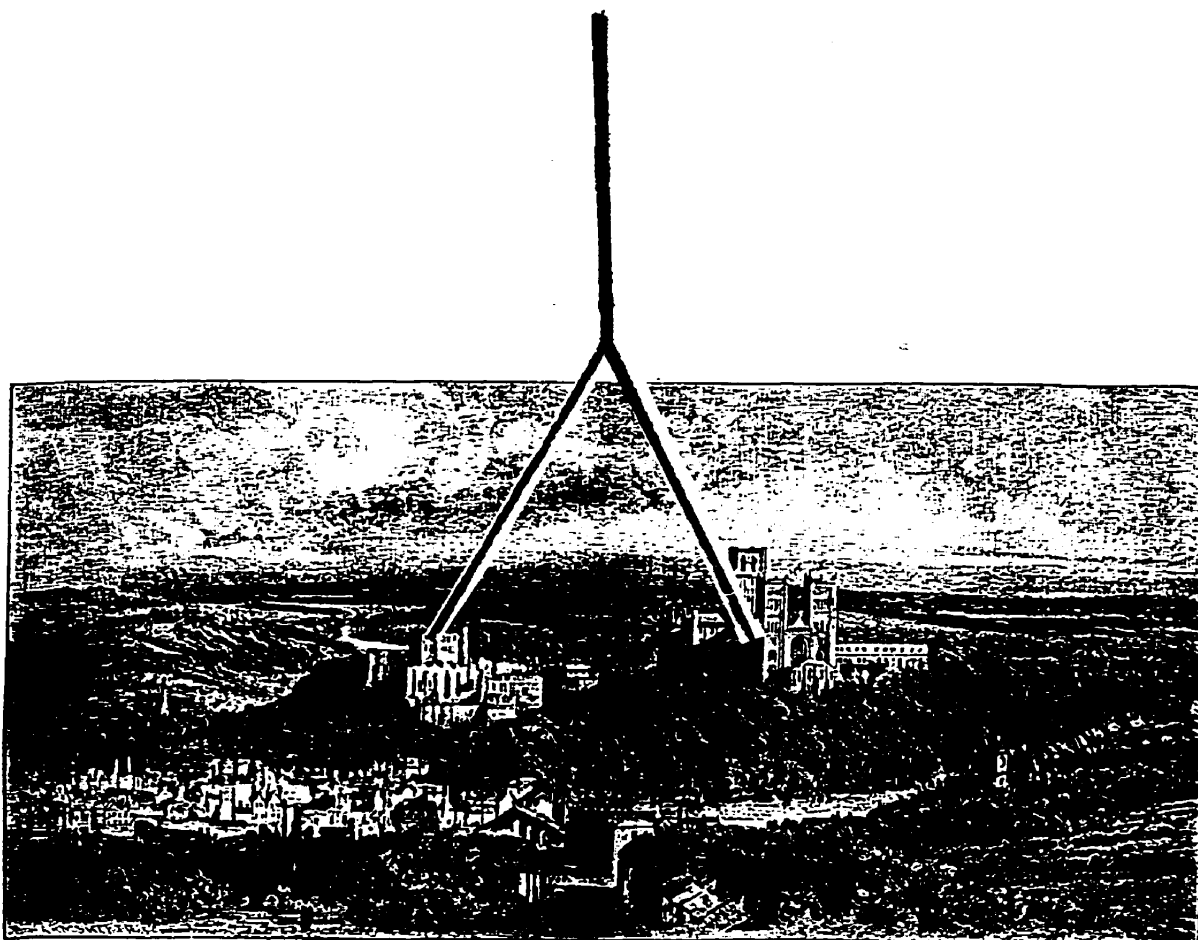


Fig49. A view of Durham (from the NW). The upside-down "Y" or pronged-fork symbolizes the hierarchies of *regnum et sacerdotium*, state and church, as mirrored reflections of Heaven and as expressed in the *Laudes regiae* liturgy. (Drawing from Boyle, 1892, I, plate between pp.160 and 161.)

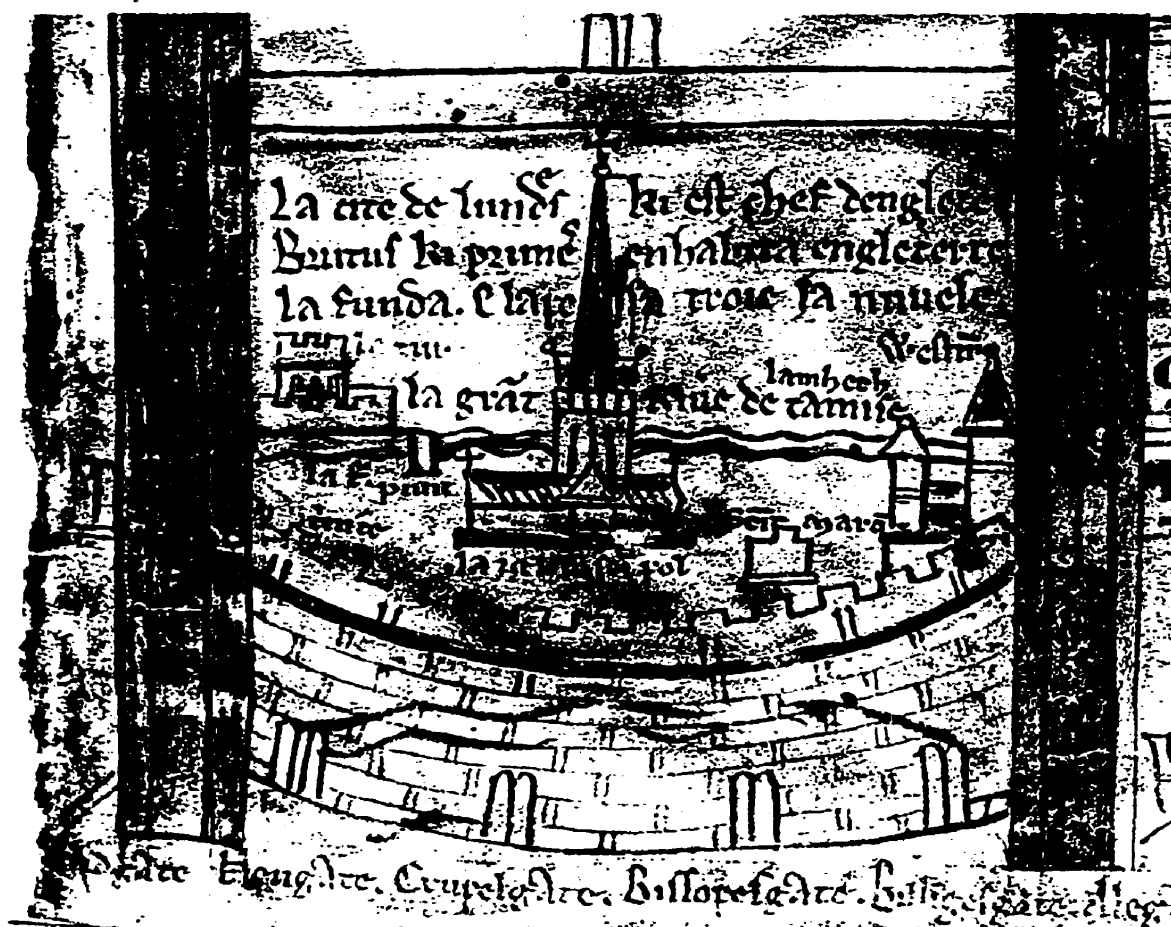


Fig.50. London, at the beginning of Matthew Paris's itinerary pilgrimage map to Jerusalem and the Holy Land. London, British Library, Royal MS. 14 C.VII, fol.2, *Historia Anglorum*, Matthew Paris, Benedictine monk at St. Albans, c.1252 (complete itinerary consists of 5 pages, each 35x25cm) (after Clark, 1989, p.44, from British Library).



Fig51. Durham's form and the pattern of the human body: outline of the human body overlaid on a map of Durham. (Map picture of Durham from the Friends of Durham Cathedral, card, Series XXXV, from T. A. Falcon's enlargement of an inset from a map by John Speed, 17th century.)

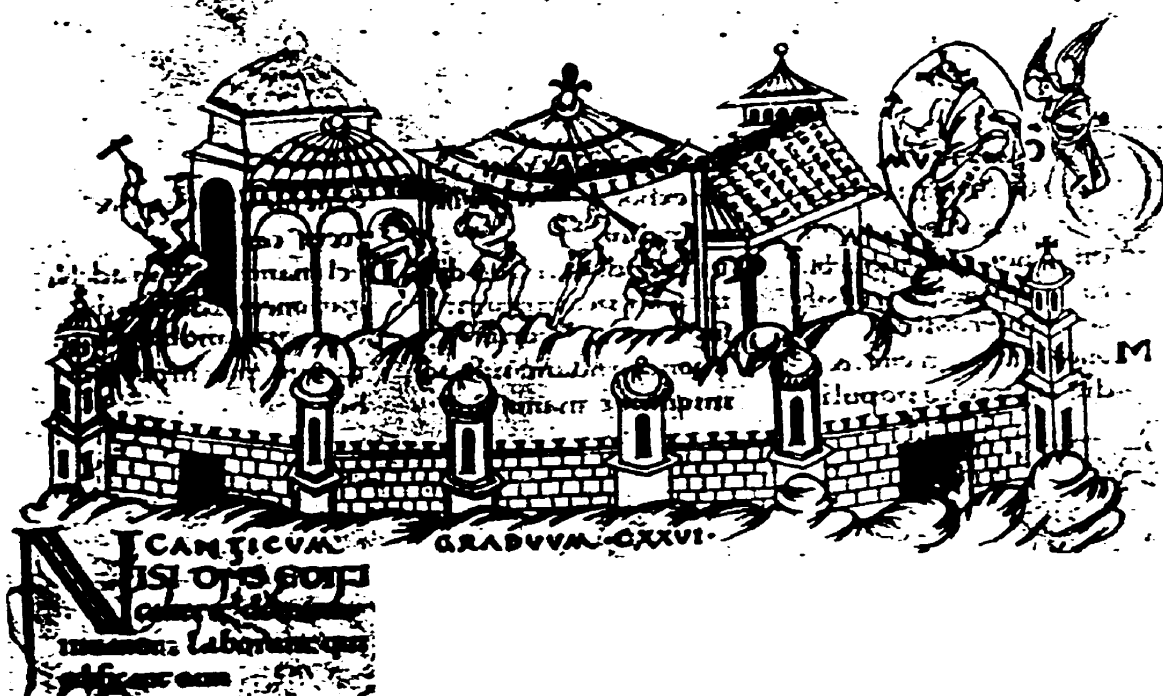


Fig.52. "Except the Lord build the house, they labour in vain that build it: except the Lord keep the city, the watchman waketh *but* in vain" (King James Version, Psalm 127:1). Latin text and drawing of Psalm 126 [Vulgate]:1 in an Anglo-Saxon Psalter, Canterbury, Christ Church, early 11th century with later additions (after Temple, 1976, ill.207, pp.81-82 Cat.64).