the art of early medieval number symbolism Tessa Morrison

Abstract

Christian number symbolism built upon the strong tradition of Platonic philosophy, Pythagorean lore and Babylonian astronomy. Numbers such as 1, 7, 8, 12, and 40 had magical and talismanic properties and were strongly represented in the Hebrew Scriptures and apocrypha. God was praised: 'you have ordered all things in measure, number and weight' (Wisdom 11:21). In the Christian Scriptures, when John the Divine was perplexed with the events happening around him, he was given a golden reed to measure the temple of God, the altar and those who worshipped within the temple (Revelation 11:1). Understanding would come from the process of measuring. Saint Augustine claimed that 'to ascend the path towards wisdom, we discover that numbers transcend our mind and remain unchangeable in their own'. Numbers had an ethereal existence. Augustine, Ambrose, Macrobius, Marcianus Capella, Isidore, Boethius, Thierry of Chartres, Abelard and many others praised the divine quality of particular numbers at length. Numbers were a model for theology and an analogy of creation. This paper examines the manifestation of this number symbolism in early medieval art, literature and architecture.

The Hebrew Scriptures make frequent references to numbers that were symbolic of ancient Babylonian astronomy, in particular the numbers 4, 7, 12, and 40. It is thought that Pythagoras studied in Egypt and travelled to Babylonia from Egypt, and his philosophy appears to have stemmed from ancient Babylonian beliefs in astronomy and geometry. To the Pythagoreans, numbers, geometry, astronomy and harmony were closely linked since numbers and astronomy could be expressed as geometric constructions and harmonies were expressed as the ratios of the distance between the planets: this distance created the harmonies of the spheres.

The Pythagoreans believed that numbers constituted the ultimate reality; numbers were pure, uncreated and unchanging, nonphysical and atemporal. Significantly, these were not numbers in the modern sense but rather numbers defined by an arrangement of points to form a geometric construction. Pythagoras's geometrical constructions revealed the structural and mystical qualities of numbers. A single point was one (monad). It was the ultimate unit of being, such as a soul, an atom, a man or even God. The monad was a principle of magnitude. Two points represented the number

³ Heninger, 78.

Iamblichus, On the Pythagorean Way of Life trans J Dillon and J Hershbell (Atlanta, 1991) 45.

S K Heninger, Touches of Sweet Harmony; Pythagorean Cosmology and Renaissance Poetics (San Marino, 1974) 71.

two (dyad). Although the Pythagoreans considered that two points have no dimension, they did define a line and represented the concept of extension.⁴ The Pythagoreans regarded the dyad as the cosmic opposite of the monad.⁵ Although the monad and dyad were the archetypes of odd and even numbers, to the Pythagoreans, they were not numbers in themselves. The monad had the potential of all numbers while the dvad that symbolised the concept of extension, represented the divisibility of the physical world.⁶ The first real number was three (triad). Three points defined a surface or plane. It was the sum of the *monad* and the *dvad*, which were the creators of numbers, yet not themselves numbers. Four points represented the number four (tetrad). Four points constitute the most minimal threedimensional structure, the pyramid (see figure 1) and as such the tetrad represented the extended universe, because it represented the three dimensions of the universe. The decad (ten) represented the ultimate limits of the universe because it was the sum of the tetrad, ie 1+2+3+4=10. The addition of all the numbers of the tetrad was sacred and their representation (see Figure 1b), which was called tetractvs, was the sacred symbol of the Pythagoreans. Plato carried on this tradition: Platonic number symbolism became very widespread and it became the basis for Christian number symbolism.

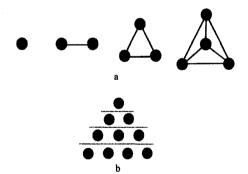


Figure 1: The Pythagorean constructions of (a) monad, dyad, triad and tetrad; (b) decad

The education system of the early medieval period reflected the importance of numbers in the curriculum of the seven liberal arts, which

⁴ Heninger, 79.

⁵ Peter Gorman, Pythagoras: a Life (London, 1979) 140.

Heninger, 87.
 Gorman, 136.

Plato, Timaeus trans R G Bury (London, 1952); Plato, Plato's Republic, trans G M A Grube (Indianapolis, 1994); V F Hopper, Medieval Number Symbolism (New York, 1969) 69-88.

stemmed from earlier Greek models⁹. This curriculum consisted of seven subjects divided into two parts: the *trivium*: grammar, rhetoric, and logic; and the *quadrivium*: arithmetic, music, geometry, and astronomy. The *trivium* was considered the basis of the ideal education for the orator while philosophers included the *quadrivium* for they were important mathematical studies prescribed by Plato in the *Republic*.¹⁰

Although the seven liberal arts were taught and studied by philosophers, there is no evidence of any handbook compiled for the seven liberal arts in antiquity. However, in the early medieval period (c 439) Martianus Capella wrote a text on the liberal arts entitled *The Marriage of Philology and Mercury*. In this handbook, seven bridesmaids represented the seven liberal arts, and each gave a presentation on her discipline at the marriage of Philology and Mercury. Cassiodorus also compiled a handbook on the liberal arts, while Boethius wrote four books on the quadrivium and is credited with coining the word quadrivium. Sisidore of Seville included the quadrivium in the first three books of the Etymologies. 14

The basis of the *quadrivium* was numbers. Arithmetic was not the study of computational systems that it is today; it was the study of numbers; more specifically, the properties of numbers. Augustine claimed that 'to ascend the path towards Wisdom, we discover that numbers transcend our mind and remain unchangeable in their own'. ¹⁵ Numbers had an immaterial and ethereal existence. Boethius claimed that 'from the beginning, all things that have been created may be seen by the nature of things to be formed by reason of numbers. Number was the principal exemplar in the mind of the creator'. ¹⁶ Boethius considered that numbers were the ideal model in the mind of God and they were different from any substance or nature. Numbers could guide the human mind from perceptible things to the invisible truth in God: from the material to the immaterial.

W H Stahl, Martianus Capella and the Seven Liberal Arts: Volume I, The Ouadrivium of Martianus Capella (New York, 1971).

¹⁰ Stahl, 91.

Stahl, 94.

Cassiodorus, Arithmeticæ.- Musicæ compendium, Geometriæ compendium.
Astronomiæ compendium (Paris, 1550); Boethius, De Institutione Arithmetrica trans M Masi, Boethian Number Theory: A Translation of the De Institutione Arithmetrica, (Amsterdam, 1983) 12.

lsidore, Etymologies, P K Marshall (ed and trans) (Paris, 1983).

Augustine, *De Libero Arbitrio* trans A Benjamin and L H Hackstaff (Indianapolis, 1964) II.xi, 126.

¹⁶ Boethius, I.2.

This incorporeal entity – numbers – existed by reason of immutable substance. For Boethius, wisdom, in terms of this reasoning, consists of two types of essences: magnitude, which is not dispersed in parts but is continuous, joined together in its parts; and multitude, which consists of many parts and is a collection. Magnitude divides into those parts that move and those that are static. Multitude divides into numbers that are plural such as 3 or 4, and numbers that are independent of any other number except their own existence. Boethius asserted that:

Arithmetic considers that multitude which exists of itself as an integral whole; the measures of musical modulation understand that multitude which exists in relation to some other; geometry offers the notion of stable magnitude; the skill of astronomical discipline explains the science of moveable magnitude. If a searcher is lacking knowledge of these four sciences, he is not able to find the truth; without this kind of thought, nothing of truth is rightly known. This is the knowledge of those things which truly are; it is their full understanding and comprehension. He who spurns these, the paths of wisdom, does not rightly philosophise. ¹⁷

Arithmetic was the study of numbers, and numbers were also the basis of the other three disciplines. Geometry was the study of shapes and of static magnitude. Astronomy was the study of geometry in motion, movable magnitude. This motion, expressed as the ratios of the distances between the planets, created the harmony of the spheres. Music was the discipline of numbers in proportion, or ratios. The fundamental numerical ratios were 1:2 (an octave), 2:3 (a fifth) and 3:4 (a fourth). These harmonies were made up of the numbers of the *tetrad* that represented the extension of the universe and their sum the limit of the universe. They were represented in the sacred symbol of the *tetractys*. The study of music was not the study of sound so much as it was the study of the relationship between numbers.

Although the seven liberal arts were based on pagan wisdom, the early Christian Fathers were often reluctant to accept this wisdom as being wholly pagan. Augustine claimed that the pagans came close to the truth, because of their observations of the pattern of creation through nature and also because Plato must have come into contact with the writings of Jeremiah and Moses. ¹⁹

¹⁷ Boethius, I.2.

A Koestler, The Sleepwalkers: a History of Man's Changing Vision of the Universe (London, 1959) 28; G Barker, The Etruscans (Oxford, 2000) 62.

Augustine, The City of God trans H Bettenson, Concerning the City of God against the Pagans (Harmondsworth, 1972) VIII.11-12.

The seven liberal arts were for the education of philosophers, and influenced many theologians of the early medieval period. They were not for the education of the 'trades'. At the wedding of Philology and Mercury, Jupiter became restless after listening to the seven bridesmaids' presentations, and asked if there were any more bridesmaids to be heard. Apollo suggested that Medicine and Architecture wanted to give presentations, but claimed that 'since these ladies are concerned with mortal subjects and their skill lies in mundane matters, and they have nothing in common with the celestial deities, it will not be inappropriate to disdain and reject them'. The seven liberal arts were sufficient for the gods, who had no interest in mundane matters.

The numbers and their representation expressed key Christian concepts. *Matthew* 13:18-23 relates the parable of the sower: the seed, the word of God, which falls into stony places and bears no fruit while the seed that falls on good ground bears fruit and 'bringeth forth, some an hundredfold, some sixty, thirty.' The commentary on this parable by St Jerome (c 342-420) gave a scale of values that were communicated as numbers expressed by hand gestures: married couples were 30, 'for the very joining of the fingers, as if embracing each other in a tender kiss and unity, depicts husband and wife.' Widows were 60, and in this gesture the index finger presses down on the thumb 'the greater the difficulty of abstaining from the enticements of pleasure once experienced, so much the greater the reward'. Virgins were 100, since 'making a circle portrays the crown of virginity'.²¹

In Augustine's sermon on the interpretation of John's catch of 153 fish, which were caught in the nets on the right side of the boat after the resurrection of Jesus, he proved to his flock that 153 is the triangular number of 17.²² Seventeen is 7+10, seven has divine qualities²³ and ten is the number of the commandments. This made the number of the catch divine providence.

For Boethius, perfect numbers resembled 'one who seeks virtue.' 24 God created the universe in six days, he brought his work to complete perfection, and since six is a perfect number, according to Augustine this is proof that 'the theory of number is not to be lightly regarded'. Seven is

²⁰ Stahl, 891.

²¹ Cited in K Menninger, Number Words and Number Symbols (Cambridge, 1970) 209.

A triangular number is the addition of all the numbers below and the number itself; ie the triangular number of 17 is 1+2+3+4+5+6+...+16+17=153.

Augustine, The City of God, XI.31; XV.20; XX.5; XX.23.

Boethius, I.19. A perfect number is equal to the sum of all its divisors except itself; eg 6 = 1+2+3. Other perfect numbers are 28, 496, 8128. They are rare: the 11th perfect number has 63 digits.

²⁵ Augustine, The City of God, XI 31.

also perfect but for a different reason, for the seventh day is the day of completeness and rest.²⁶ Twelve had significance since there were 12 apostles and 12 tribes of Israel: Augustine listed 13 tribes of Israel but continually referred to them as 12, since the tribe of Levi was a case apart.²⁷ It did not matter how many tribes there really were, since 12 became symbolic of the tribes of Israel. However, eight was the number that became particularly visible in Christian artefacts and architecture.

Eight was a number closely associated with baptism and the resurrection. According to the early Church Fathers, the resurrection constituted the eighth day of creation. God created the universe in six days and on the seventh day he rested (*Genesis* 2: 2-3). The seventh day was without an evening, which signified rest without end. Augustine claimed

That first life was not eternal for the sinner, but the last rest is eternal, and for this reason the eighth day will have eternal blessedness, because that rest which is eternal is taken up from the eighth day and it has no setting; otherwise, it would not be eternal. Thus, the eighth shall be as the first, so that the first life may be restored to immortality.²⁸

He went on to say that it was the eighth day that symbolised the resurrection and the eighth day was also the first day 'because it does not destroy that rest but glorifies it.'²⁹ The alpha and the omega are united. Eight was symbolic of the resurrection and can be seen in early ecclesiastical architecture.

Early churches tended to be traditional square or rectangular buildings, without any special architectural features. These early churches generally consisted of a large reception room that would have fitted 50 to 60 people and at the eastern end of this room would be a raised dais for the bishop or hierarch. The large room opened into a courtyard. The courtyard had room for approximately 30 people. This courtyard was the ideal place for catechumens to hear the mass of the faithful, without seeing the ritual, as a part of their preparation for baptism. Dissebius claimed that by 303 CE, crowded assemblies gathered together in every city. With overcrowding, came great dissatisfaction with the early church buildings. As a result, Christians began to erect wider and more spacious churches. The rectangular basilica became the conventional layout of most of Constantine's churches. At the church of the nativity in Bethlehem in 333,

Augustine, The City of God, XI.31.

Augustine, The City of God, XX.5.
 Augustine, Letters trans W Parsons, vol 12 (Washington, 1964) 274.

Augustine, Letters, 278.

R Krautheimer, Early Christian and Byzantine Architecture (Middlesex, 1986) 27.

Eusebius, The Ecclesiastical History trans J E L Oulton, (London, 1949) VIII.i.

an octagonal structure was built and attached to the east side of the basilica (see figure 2). This was the first move away from the standard basilica plan. In the centre of the octagon was a railed area that encircled the rock ceiling of the grotto, which, in turn, was considered to be the birthplace of Christ. The faithful would circulate around the railing looking down into the grotto.³² Eusebius mentioned a church called the golden octagon at Antioch, which had commenced construction in 327 under Constantine and was finally completed after his death in 341.³³ This church is possibly the first octagonal church, however the description is all that remains.

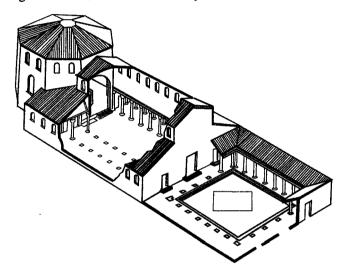


Figure 2: The church of the nativity, Bethlehem, 333 CE³⁴

Saint Ambrose, Bishop of Milan, wrote of an octagonal baptistry that was near the church of St Thecla at Milan:

Eight-sided is the lofty shine to match its sacred use;

Eight-angled is the font to show its benefits profuse; With such a number grace and life supplanted human guilt

And with such number must the hall of baptism be built.³⁵

The foundations of the baptistry to which Ambrose referred have been excavated under Milan cathedral; the octagonal structure was

³² Krautheimer, 60.

Eusebius, The Life of the Blessed Emperor Constantine ed P Schaff, Nicene and the Post-Nicene Fathers (Grand Rapids, 1979) III.L.

³⁴ After Krautheimer, 59.

³⁵ Cited in R Milburn, Early Christian Art and Architecture (Aldershot, 1988) 206.

approximately 12 metres across and the font in the centre was also octagonal.³⁶ San Lorenzo, Milan, was built shortly before 378 and significantly shaped (see figure 3). The plan recalls the church of the nativity, Bethlehem, but the octagon has become more significant to the plan of the church.

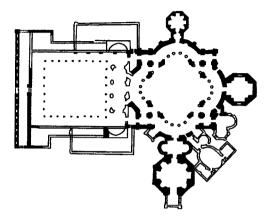


Figure 3: Floor plan of San Lorenzo, Milan c 378

Ravenna has one of the finest examples of Christian architecture from the fifth and sixth centuries. It has many fine octagonal baptistries, for example, the baptistry of the Arians (built in the late fifth century), the baptistry of the orthodox (built in the mid fifth century) and the oldest surviving Ravenna ecclesiastical architecture, the neonian baptistry, begun in the late fourth century. In the centre of the neonian baptistry is a magnificent octagonal font dated 451-475, made of Greek marble and four metres in diameter.³⁷

The design of San Vitale is considered to be one of the most complex and ingenious churches of its time (see figure 4). ³⁸ San Vitale was completed between 546 and 548, and the entire church is an octagon rather that just the baptistry. The tiled floor at San Vitale repeats the octagon pattern and contains smaller octagons. The plan of the octagon baptistry and fonts soon spread and became a standard feature of ecclesiastical architecture from the fourth century onwards.

Eight was also reflected in the benediction. The latter part of a Benediction that appears in manuscripts of the Gregorian sacramentary reads:

³⁸ Milburn, 176.

³⁶ Miburn, 206.

J A Hamilton, Byzantine Archecture (London, 1956) 87; Milburn, 167.

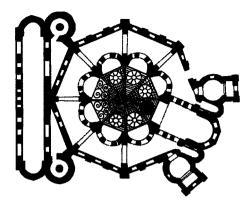


Figure 4: Plan and pattern of floor mosaics of San Vitale, Ravenna³⁹

Therefore may ye live in perfection of the number six in this age, and may ye rest in the number seven among the multitudes of blessed spirits until ye be renewed by the resurrection in the number eight, and may ye receive remission in the year of the jubilee and attain the joys that will last without ceasing. Amen.⁴⁰

The age of the Christian testaments was the sixth age; the age of the apocalypses and judgement was the seventh age and the eighth age was the age of the resurrection.

The number eight can be expressed by a hand gesture; the third and fourth fingers are lowered and the first and second fingers and the thumb are raised (see the gesture of Christ in figure 5). This hand gesture can be seen in Roman stele and gaming tokens. Hand gestures for calculating were defined by Bede in The Reckoning of Time published in 725. Although The Reckoning of Time is the earliest surviving manuscript that defined these gestures, there are many references to the gestures by ancient authors and early Christian Fathers, such as Augustine, Boethius, Cassiodorus, Cicero, Dio Cassius, Herodotus, Irenaeus, Jerome, Macrobius, Pliny, Plutarch, Seneca and many more. The Roman public was so familiar with the hand gestures for numbers that, according to Cassius Dio (c 150-235), when the Emperor Marcus Aurelius returned to Rome in 178 after a long absence the crowd greeted him with shouts and gestured the hand sign for eight, indicating how much gold they wanted. The Roman gestures that are

³⁹ after J Lassus, The Early Christian and Byzantine World (London, 1967) 75.

⁴⁰ Cited in P A Underwood, The Fountain of Life in Manuscripts of the Gospels, Dumbarton Oaks Papers (Cambridge, 1950) 83.

Cocceianus Cassius Dio, Roman History trans E Cary, Dio's Roman History vol VII (London, 1954) LXXII.32.1.

illustrated on the *stele* and gaming tokens are in general the same as those articulated by Bede; only a few have minor variations.



Figure 5: Mid twelfth century depiction of Christ blessing 42

The gesture for the number eight was one of the most common hand gestures used as the Christian blessing in medieval continental art. It can clearly be seen in medallions as early as the fourth century, for example a medallion of Constans with the sons of Constantine I enthroned, struck in 338, the same time as the appearance of the first octagonal baptistries. It can be found in early mosaics, such as the adoration of the magi, in Santa Maria Maggiore Rome, c 432. Many octagonal baptistries have figures on the ceilings and walls giving the blessing with the hand gesture eight, for example the orthodox baptistry at Ravenna. The gesture would have been well-known to citizens throughout the Roman empire, as numerous gaming tokens with this gesture and other numbers dating to this period have been found. The palm is to the front so that the gesture is clearly delineated. By the twelfth century, the number eight was the most common gesture of blessing depicted in continental and insular art.

Numbers had the ability to be represented in the corporeal world but could lead the mind to contemplate the divine order. The bridesmaid Geometry, at the marriage of Philology and Mercury, claimed that since numbers were geometric figures they were her incorporeal beginnings.⁴⁵

Augustine expressed a theory of perfection based on geometric figures; equilateral triangles were the most perfect triangle because they had the most symmetry. The greater the symmetry of a figure the more perfect that figure was. However, a point is indivisible, it is the centre, the

45 Stahl, vol 2, 210.

Mid-twelfth century, Hessische Landes-und Hochschulbibliothek, Darmstadt MS
 78 A6, fol 4v, from F Souchal, Art of the Early Middle Ages (New York, 1968) 99.
 Libercolt, Fo. folioco de Constantinople (London, 1970) 32.

J Ebersolt, Es églises de Constantinople (London, 1979) 32.
 Although the Christian blessing as number eight was ubiquitous in continental art from the fourth century, it did not appear in insular art until the end of the ninth century. However, it gained popularity rapidly.

beginning and the end of itself: infinite symmetry. A point is the *monad* and it generates the circle, the most perfect figure of all.

Knowledge of the proprieties of these abstract figures demonstrates that the soul is immaterial. Thierry of Chartres, in the twelfth century, identifies God as the *monad* or one:

Just as all things derive their existence from One, so from the One Equal to One [the divine Mind or Wisdom] proceed the form, mode, and measure of each thing ... Therefore, as the One Equal to the One contains within himself and generates from himself the ideas of all things, so does he contain within himself and bring forth from himself the very forms of all things ... [together with] all proportions and inequalities. And all things resolve themselves into him.⁴⁷

The generator of all numbers, the *monad*, was incorporeal and generated all things.

Augustine and Boethius promulgated the theory of proportion through their musical theories. 48 Their theories were based on Pythagorean lore, and music was the mathematical science of proportion. For a musician to be more than a mere practitioner, to transcend the merely mundane, he must be a student of reason or speculation. 49 The aesthetic experience was grounded in the principle of proportion: in the perfect ratios or consonances, which were considered to be values that were immaterial and could not be destroyed.

To Augustine, architecture could also transcend the mundane by applying mathematical rules. Augustine considered that music and architecture were sisters, in so far as architecture mirrored eternal harmony while music echoed it. ⁵⁰ Unlike Capella, Augustine could perceive the value of the practical application of the seven liberal arts. The application would create a representation of the macrocosm. The school of Chartres echoed this sentiment in the twelfth century.

Thierry of Chartres wrote a commentary on Boethius's theory of music.⁵¹ Thierry was a highly influential teacher and under his influence

⁴⁶ Augustine, The Greatness of the Soul trans J M Colleran (New York, 1956) chapters 8-13.

⁴⁷ As Quoted by Peck, 61

Boethius, De Institutione Musica trans C M Bower, Fundamentals of Music (New Haven, 1989); Augustine, De Musica trans C M Bower, Fundamentals of Music (New Haven, 1947).

⁴⁹ Boethius, Fundamentals of Music, I.34.

Augustine, De Libero Arbitrio, trans Anna Benjamin and L H Hackstaff (Indianapolis, 1964) and Otto von Simson, The Gothic Cathedral (Princeton, 1988) 23.

Thierry of Chartres, Commentaries on Boethius ed N M Haring (Toronto, 1971).

the school attempted to change theology into geometry. The medieval cathedral encompassed these values as a model of the cosmos and the image of the celestial city, the new Jerusalem. Abelard, a pupil of Thierry, compared the new Jerusalem, described in the *Revelation* of John, with the temple precinct of Solomon as God's regal palace, this analogy being found in *Wisdom* 9:8. The temple of Solomon was permeated by the divine harmony as were the celestial spheres. The dimensions of the temple precinct are given in *I Kings* 6: they are the proportions of the perfect consonances. The temple of Solomon was the mystical image of heaven and was the prototype of the Christian sanctuary.

For Bede the measurements of the temple of Solomon epitomised Christian hope and faith:

... the house which king Solomon built to the lord was sixty cubits long, twenty cubits wide and thirty cubits high ... the breath is determined by the number twenty because of the twofold dimension of the same charity where we love both god and neighbour; the height is determined by the number thirty because of belief in the holy trinity which is one God in the vision of whom all our hopes and desires have their fulfilment. So six has to do with the perfection of the work, two with the love of god and neighbour, and three with the hope of the vision of God. Each number is rightly multiplied by ten because it is only through faith and the observance of the Decalogue of the law that our patience gets salutary exercise or our charity burns profitably or our hope is rapt aloft to yearn for the things of eternity.⁵⁴

The sacred room that housed the ark of the covenant within the temple of Solomon was a cube: 'a cubit space, whose height, width and depth are equal, being the most perfect of all figures of magnitude, had been chosen as the figure of the holy of holies'. The word of God was housed within the ark of the covenant in the perfect cube. In the *Revelation* of John, the new Jerusalem ascended from God, and the celestial city was also in the shape of the perfect cube. Number, geometry and ratio were embedded into the most holy of holies, for God dwelt within the new Jerusalem. So

⁵² Simson, 28.

Abelard, 'Theol. Christ', in *Opera* V. Cousin (Paris: 1859) II. 384.

Bede, De Templo trans S Connolly, Bede: On the Temple (Liverpool, 1995) 22.
 W S Caldecott, Solomon's Temple: Its History and its Structure (London, 1908)

<sup>223.

56</sup> Revelation, XXI:11-22.

The importance of number symbolism to the early medieval mind cannot be overestimated. Augustine claimed that 'the theory of number is not to be lightly regarded, since it is made quite clear, in many passages of the Holy Scriptures, how highly it is to be valued'. He scorned those who were ignorant of numbers, for 'an unfamiliarity with numbers makes unintelligible many things that are said figuratively and mystically in Scripture'. To understand number symbolism was to transcend the realm of the corporal and enter the realm of the incorporeal. As with John the Divine, who was perplexed with the events happening around him and was given a golden reed to measure the temple of God, understanding would come from the process of measuring. For God ordered all things in measure, number and weight. From Wisdom 11:21, Isidore of Seville concluded: 'Take away number in all things and everything perishes'.

Isodore of Seville, Etymologiae ed P K Marshall (Paris, 1983) III.4.

⁵⁷ Augustine, *The City of God*, XI.30.

Augustine, De Doctrina Christiana, R P H Green (trans) (Oxford, 2001) II.16.25.