Chapter 30

Medieval Magical Figures: Between Image and Text

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Medieval magical figures are a type of diagram: a simplified figure, mainly consisting of lines, that conveys the meaning of the appearance, structure or workings of something and the relationship between its parts. Magical figures acted as instruments to activate celestial and spiritual powers, and as visual devices to organise ritual elements considered powerful in their own right. They were part of the ritual tool-kit with which practitioners attempted to manipulate the cosmos and very common in texts and manuscripts of learned magic. In the late Middle Ages they circulated both as integral parts of magic experiments and texts and independently, and they could involve an array of different shapes, images, words, letters, symbols, modes of construction, and ritual uses. Although they have been little studied, magical figures are useful for exploring the relationship between image and text in learned magic and for explaining why critics identified some texts as deviant.[1] This chapter sets out several common types of figures including the "Eye of Abraham" charm, the square figures called laminas, circular apotropaic amulets, figures to aid visualization in ritual magic, and magic circles to be drawn on the ground. I compare their uses, transmission histories, and evidence of creativity in their production.

Magical figures have some typical features of diagrams in the modern sense: they can possess "elegance, clarity, ease, pattern, simplicity, and validity."[2] They are also "meditational artefacts" in the medieval sense, requiring the reader to pause and fill in missing or abstract connections in order to retrieve information, and offering "an invitation to elaborate and recompose, not a prescriptive, "objective" schematic."[3] The medieval universe was teeming with vast numbers of invisible and mostly unknowable spirits. Manoeuvring abstract cosmological ideas in their minds, the users of figures had to trust that a certain character belonged to Saturn or that an unfamiliar name referred to an entity inhabiting the cosmos. The meanings of some elements in figures may have been more obvious to their designers than users, but magical figures could still be effective: human brains are naturally inclined to make connections that generate meaning even when the visual information supplied is simplified, abstract or obscure.[4]

The place of figures within the magician's ritual tool-kit was set out in one of the most sophisticated theoretical works on magic circulating in medieval Europe, the *De radiis* or *Theorica artium magicarum*, a Latin translation of a ninth-century Arabic text attributed to Al-Kindī.[5] According to the *De radiis*, the ritual actions that the magical practitioner performed in order to change the matter of the world belonged either to "the speaking of the mouth" (*oris locutio*) or "the operation of the hand" (*manus operatio*). Inscribing shapes (*figurae*) was one of the four main actions of the operation of the hand; the others were inscribing characters, sculpting images and sacrificing animals. The *De radiis* instructed the practitioner to make a talisman by inscribing magical figures into the elemental matter with due solemnity (*debita sollempnitate*) and at the correct time and place in order to activate the cosmic rays.

Christian thinkers were fascinated by the idea that the power of the stars could be drawn down into objects that had been inscribed at astrologically appropriate times, and that these objects could be used to change the matter of the world.[6] The Arabic magic texts that introduced astrological talismans to the Latin West in the twelfth and thirteenth centuries disseminated many influential magical terms and ritual instruments, especially the names, seals and characters of the celestial spirits.[7] However, it was the authors of Christian magic texts who drove the creative expansion of geometric figures to enclose powerful names and graphic motifs, under the

influence of ancient *lamellae*, circular apotropaic amulets, Solomonic seals and cosmological diagrams. The dual role of Christian magical figures as pictures and linguistic devices was recognized by Roger Bacon. His *Opus maius* of 1266-7 compared the way in which the makers of magical figures (*figura*) placed magical characters together in one visual device, to the way in which the people of Cathay (China) - using the same brush they painted with - brought into one shape (*figura*) the letters that formed a single word.[8]

The graphic motifs of astral and Solomonic magic were not assimilated unproblematically, but attracted criticism on two grounds: that they were signs of communication to demons and that they were the objects of idolatrous worship. The former was an understandable response, since most diagrams are intended to communicate something. In the mid thirteenth-century the Bishop of Paris, William of Auvergne, condemned those who used Solomonic seals and pentacles as idolators.[9] Both critical perspectives continued to be influential throughout the Middle Ages, from the *Speculum astronomiae*'s critique of "Hermetic" idolatry and "Solomonic" *figurae* to Thomas Aquinas's harsh response to the figures in the *Ars notoria*.[10] These condemnations and the figures' associations with demonic signs and idolatry, hampered efforts by some authors to establish the orthodoxy of their texts. Nevertheless they became significant ritual instruments, in part because of already existing traditions of amulets with visual motifs. Simpler kinds of instrumental figures such as the "Abraham's Eye" charm, laminas to heal wounds or aid with conception, and small circular apotropaic figures copied onto folded parchments preceded and influenced the traditions of learned magic, but were, in turn, transformed by them.

Magical figures of all types were drawn by scribes rather than specialized illustrators. They are rarely coloured or pictorially elaborate, although some were drawn neatly with a compass, square and ruler while others were sketched in the margins. Many figures were intended to be exemplars for the production of multiple portable copies, or for creating more complex images to be drawn in blood, inscribed in metal, suffumigated, consecrated or otherwise ritually prepared. In this chapter I have used the term "figure" to refer to a range of types of magical diagrams because the latin *figura* is the primary term used by medieval sources to denote large two-dimensional geometric diagrams that were assigned an instrumental power. Medieval sources distinguished these *figurae* from other common graphic motifs in magic texts, notably, characters and seals. The term character (*c(h)aracter*) usually refers to mysterious graphic signs with no verbal or typographical equivalents, that are equivalent in size to normal script.[11] Seals (*sigilla*) and signs (*signa*) denote graphic elements that tend to be larger than characters, more likely to travel singly or in small groups and are often attached to a particular planetary spirit or reputed magician like Solomon or Virgil.[12]

Abraham's Eye Experiments

The experiment to catch a thief by painting a representation of an eye on a wall was known in later sources as "Abraham's Eye" but circulated in the Middle Ages under the title "experiment for theft" or "the experiment of the eye" (*experimentum de oculo*). The idea of a painted eye that exposed thieves can be traced back as early as a fourth-century Greek papyrus.[13] Medieval examples range from a simply drawn eye to complex figures in which the eye is placed in a geometric enclosure inscribed with obscure names, letters and symbols (Figure 1).[14] In the medieval versions of this experiment, which are usually found in collections of medical recipes, charms and short occult experiments, the operator paints the eye onto a wall using a mixture of egg white, quicksilver and warm wine in a place where many people could see it. He then gathers his suspects to stand or sit around looking at the eye and activates it by reciting a charm (*carmen*), invocation to spirits or a prayer (*oratio*) calling on God, who knows the truth of all hidden things. When the eye is struck by the operator with a key, nail, hammer or knife the thief will weep from

his eye and cry out in pain and can thus be identified. If the accused refuses to confess, the operator is told to keep stabbing the eye with different implements until the initial tears of the thief turn into a raging pain. The eye is all seeing and can even find the thief in his own home.[15]

<Insert Figure 1. Caption: A Lamina for a Difficult Birth and an Abraham's Eye Experiment, London, Wellcome Library MS 517, fol. 67r>

Medieval scribes adapted the *experimentum de oculo* to suit their purpose, sometimes making its figure and rituals more orthodox, at other times more magical. A fifteenth-century priest from the Netherlands copied three different "Eye of Abraham" experiments into his compilation of diverse practical and occult items.[16] The longest and most complex of these experiments includes a *historiola* based on the story of the discovery and punishment of the thief Achar from Flavius Josephus's *The Antiquities of the Jews* that bolstered the orthodoxy of the experiment and made it appear more like other charms.[17] Other "Eye of Abraham" experiments placed a bands around the eye in order to add further ritual elements: magical names and letters and symbols of the cross (see Figure 1). The enclosing band, which became a typical feature of late medieval magical figures also clarified the relationship between the text and visual device, making sure the reader would not simply skip over latter.

Laminas

Laminas are small square magical figures that were inscribed on thin pieces of metal or other materials and then worn or carried on the body or put in the place where they were intended to have an effect. They appear in diverse contexts, from simple charm collections to necromantic manuals. This flexibility was no accident; most late medieval Christian laminas had their origins in ancient *lamellae*, amulets made from thin sheets of metal and inscribed with magical and orthodox words and invocations, which were folded, rolled up in tubes, or even buried with the dead.[18] The two most common types of lamina experiment in charm and recipe collections were intended for treating wounds and infertility, though other uses for this magical figure included attracting or repelling animals, healing equine diseases and provoking fear in enemies.[19] These lamina experiments were closely related to the charm tradition; the inscription and recitation of sacred symbols, names and formulae was part of the process of making these objects and the source of their power. The wound lamina was made from a lead plate with an inscribed central cross and four crosses in each corner. Its dimensions were supposed to replicate those of the wound, an instruction that underlines the sympathetic relationship of affliction and cure. When the lamina was being inscribed with crosses, the operator recited a prayer and, when it was placed over the wound, a song to the Virgin Mary.[20] In the lamina figures in manuscripts the crosses are sometimes drawn with thick strokes and additional colours to give them visual prominence.[21]

Laminas for conception and childbirth, like charms for the same purpose, were usually accompanied by petitions to the well-known biblical mothers Elizabeth, Anne and Mary, a common ritual motif known as the "sequence of holy mothers" or the *peperit* charm.[22] One of the earliest examples of the conception lamina (called, unusually, a *lamella*), from a manuscript of ca.1200, is made of tin and inscribed with magical characters. It is accompanied by the common instruction that it can be hung on a barren fruit tree to see if it works.[23] Later examples for fertility and childbirth are made from different materials, accommodating a range of users and what they afford. The experiment for conception in Additional MS 15236 instructs the user to engrave a lead lamina with a series of mostly uninterpretable letters ending in "amen".[24] It is wrapped in leather or silk and, until she gets pregnant, worn around the neck of a woman who is trying to conceive. A less costly version of a lamina to protect in childbirth is found in Wellcome MS 517 (see above, Figure 1). In this experiment, a simple paper lamina for a difficult birth that should be

tied onto a woman's hip has the names of the four evangelists written on it, while an accompanying prayer invokes Elizabeth, Anne and Mary and requests that the mother is kept safe from harm.[25]

Lamina making traditions entered the Latin West in Arabic astral magic texts as well as via early Christian adaptations of ancient *lamellae*. The metal laminas of astral magic were a sub-category of astrological images. They were made at astrologically suitable times, drew their power from celestial influences and were inscribed with names, magical characters, or images relating to the goal of the operation.[26] The *Picatrix*, an eleventh-century Arabic compendium of astral magic that was translated into Castilian and Latin in the mid thirteenth century, describes two types of metal laminas: those inscribed with representational images and others inscribed with magical characters.[27] The characters take the form of a series of small circles linked by strokes that are said to represent the figures of the stars (*figurae stellarum*).[28] Two lamina experiments with magical characters of this type – a copper lamina for repelling mice and a tin lamina for repelling flies – are part of a short excerpt from the *Picatrix* that was translated into Middle Dutch and compiled in Wellcome MS 517, a manuscript that also contains several Christian charm laminas.[29] This fifteenth-century manuscript has an eclectic range of occult items, from those addressing common household needs and problems to rituals for conjuring spirits, provoking love and becoming invisible.

The square metal shape of the lamina made it a particularly suitable vehicle for astrological "magic squares" (a set of numbers arranged in a square which give the same total when added in a straight line in any direction), a type of magic figure that is found in Arabic, Jewish and Latin traditions of magic.[30] The *Liber de septem figuris septem planetarum* (*The Book of the Seven Figures of the Seven Planets*) described seven magic squares to be inscribed onto laminas linked to each of the planets and made from metal appropriate to them. In addition, the magic squares could be inscribed onto many other objects, such as a piece of cloth, a ring, a dish, a knife, a bowl or a mirror to turn them into magical instruments. Each figure was activated differently: for example, to be healed from paralysis you stared into the mirror inscribed with the figure of Mercury, but to have a revelatory dream you inscribed the same figure on a cloth and placed it under your head before going to sleep. A post-medieval silver pendant at the British Museum made with the correct magic square and metal for Venus represents the goddess with bird feet, an iconographical motif drawn from the *Picatrix* (Figures 2 and 3). [31] The inscription on this pendant invokes God to help its bearer conceive a boy, just as he helped Rachel (the wife of Jacob), which suggests that the lamina maker was aware of both the medical and astral traditions of this magical object.[32]

<Insert Figures 2 and 3. Captions: Figure 2: A Silver Pendant with an Image of Venus and the Venus Magic Square. British Museum Inventory Number OA.1361.b. Figure 3: A Silver Pendant with an Image of Venus and the Venus Magic Square, Reverse. British Museum Inventory Number OA.1361.b >

Finally, laminas were used in ritual magic experiments to protect the operator from malign spirits. These lamina figures were usually inscribed on square metal or wax plates, but could also be carved onto the white-handled knives used to draw a protective magic circle.[33] Laminas are particularly common in the fifteenth-century necromantic manual Oxford, Bodleian, MS Rawlinson D 252, which describes a variety of parchment seals, magic circles to be drawn on the ground, and square and circular figures to be inscribed on metal, glass and wax.[34] Laminas are common in the rituals to compel a spirit to appear in a pleasing form, do no harm to the practitioner and depart peacefully when he wills.[35] Spirits are required to appear on or above the lamina, suggesting that it was used as an alternative to the magic circle to trap or bind them.[36]

Other laminas act as instruments to draw down celestial power or demons. A wax lamina of Saturn (*lamina Saturni*) is recommended for freeing captives, a goal suitable to this planet.[37] But the devil is the dominant power in another wax lamina experiment, this time to catch a thief (Figure 4). This experiment must be performed within three days of the theft because if the thief has in the meantime confessed his crime or used his ill-gotten gains to give money to the poor or priests, or in any way for the love of God or the health of his soul, the art of magic will not prevail. The operator is told to get up early on the day of the Moon or Mercury and go to church and hear a mass. Afterwards he inscribes in two places and colours on the lamina the names of four spirits ruled over by the kings of the south, east, west and north with their symbols and characters. The name "Sathan" (i.e. Satan) is placed in a central circle, which has an empty external band. A sixteenth-century copy of this figure indicates that this was where the user would write the names of the stolen goods. The scribe of this later figure uses this band to express the idea that Satan was not summoned lightly: whatever appears in this circle ought to be feared.[38]

<Insert Figure 4. Caption: A Lamina for Identifying a Thief, Oxford, Bodleian Library MS Rawlinson D.252, fol. 104v>

Independent Circular Magical Figures

Medieval belief in the power of the word was reflected in the widespread use of textual amulets or *breve*, apotropaic texts copied onto flexible writing supports that were worn on the body for protection. Complex textual amulets sometimes included magic figures, seals, symbols and characters, copied alongside prayers, charms and devotional iconography. The most common graphic motifs were small, circular apotropaic figures copied in groups of between four and thirty figures (Figure 5). Since abstract diagrams are hard to interpret and their uses hard to remember, each figure had an outer band describing its properties, which also allowed the sets to be broken up and shared independently in the later Middle Ages. The large graphic element (*signum*) in the inner circle was usually inspired by the form of the Greek, Latin or Tau cross or had a resemblance to Solomonic seals, but could also include divine names, letters and formulas, and the Sator Arepo word square. These groups of circular figures appear to have been widely accepted as orthodox. They were collected by clerics, lay families and physicians and survive in various formats that were easy to carry or could be copied multiple times.

<Insert Figure 5. Caption: Seven Circular Magical Figures, Paris, Bibliothèque nationale de France, MS lat. 3269, fol. 85r>

The primary function of these figures was protective, with each figure working against a particular physical or spiritual danger. These were orthodox figures, explicitly or implicitly evoking the cross and inscribed next to prayers, charms, religious iconography and professions of their angelic or divine provenance. The textual amulet was a pious object that could express its user's devotion: some figures were only supposed to work only if the bearer's faith were strong, although others claim to be effective even they had not confessed.[39] Why include graphic and often recognizably magical elements on a textual amulet? First, because their mystery evoked the sacred. The user is encouraged to view some of these figures as "the ineffable word of God", "the name of God by which all things were made", "the seal of King Solomon" or the special symbol (*signum*) of a particular saint.[40] The graphic form of these figures had other advantages, especially since the primary goal of textual amulets was to protect against the physical and spiritual blow of a sudden death. Figures could be activated by the gaze, a quicker stimulant of protection than the recitation of a charm or prayer and one that might be easier to locate quickly when it was needed.

The earliest surviving textual amulets with multiple figures date from the thirteenth century and are portable, densely written objects folded multiple times and intended to be carried on the body. The mid-thirteenth century Canterbury amulet (Canterbury Cathedral Library, Additional MS 23) has over 40 figures on one folded piece of parchment, including some magic seals without geometric enclosures and figures shaped like a lozenge and a mandorla.[41] The power of most of its figures was activated by the gaze and lasted only for a day. The figures that are interpretable (some have been partially erased by the practice of folding this amulet) offer protection against many natural disasters: sudden death, demons, flying insects, fire, flooding, storms, consumption (presumably by a wild animal) and thunder. One figure reveals the cross fertilization of protective and ritual figures. It is a *Signum regis salomonis*, which not only protects against demons, but can also be used to make them compliant to the operator's wishes.

Although clearly multi-purpose, textual amulets were also adapted to different users. The twelve figures on a textual amulet of ca. 1300 that belonged to a family in Aurillac reflect lay anxieties about human violence, illness, child birth and resources.[42] Individual figures protect against enemies, gout, epilepsy, having your throat cut, fevers, demons, all perils, lightening, childbirth (this figure has the famous Sator Arepo word square) and illnesses of the eyes. Two figures offer more instrumental benefits: one gives its bearer eloquence (*bona eloquentia*), and another requests Jesus to give him his daily bread, presumably a reference to never going hungry. In contrast to this lay owned amulet clerical priorities focused more on harnessing of the power of spirits. Three of the seven numbered circular figures copied onto a spare leaf in an Italian preaching manual protect against physical dangers: flames, dogs and the loss of a member, but the remaining four are focused on power over others (Figure 6).[43] There are figures to make men fear the angel Berachiel (one of the seven Archangels in Eastern Orthodox tradition), to bring all spirits to obedience, to protect against demons and phantasms and to make all creatures tremble. The graphic form of these figures as well as their use represents cross-fertilization with the necromantic tradition of magic.[44]

<Insert Figure 6. Caption: The Figure of St Michael, Cambridge, University Library, Additional MS 3544, fol. 93v>

Medieval magic figures were also disseminated by physicians to their patients. An amulet to protect against the plague in a late fifteenth century English medical manuscript (Wellcome MS 404, f. 32) has pleas for Christ to save its bearer inscribed in its inner circle and an outer inscription claiming that it was delivered into the hands of the Abbot of Corby by an angel on the order of Jesus Christ. In the centre of this figure are signs of the cross and abbreviated symbols of Christ's names. It is the only amulet in this physician's handbook, presumably because the plague required God's intervention more than other complaints. Another fifteenth century English medical collection (San Marino, Huntington Library HM 64), that was owned by a physician interested in astrology and divination, has five numbered figures copied onto free spaces in the manuscript. These figures (called *signa*) are drawn in black and red and consist of cross shapes, letters and sacred names such as AGLA. Outer bands explain their use to protect against enemies (1) and sudden death (2), to aid in victory (3), and protect against fire and premature births (4) and demons (5).[45] In this case the magic figures are not purely medical but have extended into other areas of potential interest to a physician's clients.[46]

In the later Middle Ages the number and complexity of personal prophylactic objects increased: their ritual making became more complex, they combined different sources of power and they claimed to be effective for multiple uses.[47] An example of a circular amulet with these characteristics is the fourteenth-century figure on the flyleaf of British Library, Sloane MS 3556, which incorporates sacred formulas, crosses, pentacles, magical characters and names within its

circular bands.[48] Although part of the ritual instructions for this figure are now missing we can recover them from a sixteenth-century copy in a necromantic compilation, where it is titled the figure (*figura*) or sphere (*spera*) of St Michael. The operator of the Sphere of St Michael is instructed to purify his body and soul for eight days and then to inscribe the figure on gold or silver with dove's blood before sunrise on the day of the feast of the assumption of the Blessed Virgin Mary. The figure is then suffumigated with various spices and kept in a clean pyx when it is not being used.[49] When the bearer carries it faithfully (*fideliter*), the figure protects against dying in sin, poison, water, fire, and indeed, all infirmities of body and soul. Moreover, he will have an excellent fortune and gain the power to cast out demons from bodies, break chains and overcome all adversaries. Finally, as the effects of the figure are felt more fully, "you will turn your back on all evil" (*omne malum tergabis*). In this case the figure clearly draws on the tradition of protective Christian amulets but it also incorporates the actions and habits of ritual magic: it will work only when the operator puts in spiritual effort, or at least uses the figure with appropriate respect, and it is intended to give him or her power over demons and the spiritual benefits of a pious life. From the fifteenth century onwards small groups of circular amulets and larger multipurpose figures often found their way into necromantic compilations, where their protective value was especially valued for the risky work of summoning demons.[50]

Figures in Ritual Magic Texts

In three important works of Christian ritual magic, the *Ars notoria*, the *Liber florum celestis doctrine*, and the *Liber iuratus* we can trace the construction, use and theorization of complex figures that draw on diverse Christian, Arabic and Jewish traditions. The *Ars notoria* was an influential and complex treatise written by a Christian in Northern Italy in the second half of the twelfth century that survives in various formats in more than fifty medieval manuscripts.[51] It claimed to miraculously endow the practitioner with knowledge of all the liberal arts, philosophy and theology, by means of angelic revelation and a divine infusion of wisdom. The practitioner of this art recited prayers while "inspecting" the *notae*, groups of figures that enclosed prayers (mainly consisting of *verba ignota*) and mysterious graphic motifs within geometrical armatures such as circles, triangles and rhomboids. The circle and other geometric forms evoked harmony and order, while incorporating motifs particular to the art being sought by the practitioner, such as the parts of grammar or the zodiac signs. But the open-ended nature of the *notae* – their mixture of familiar and obscure elements and geometry broken up by sprouting characters encouraged critics to read messages to demons into their inscrutability. The figures were accompanied by two main strategies to direct the reader towards a more orthodox interpretation. First, the text asserted a strong association between *figura* and *oratio*, which bound the spoken word and geometric forms closely together in the idea that "the figure is a certain sacramental and ineffable prayer that cannot be explained by human reason."[52] Second, drawings of miniature representational angels alongside the figures in many copies of this text directed the reader towards an interpretation of the *notae* as celestial or sacramental signs. Nevertheless, scribal creativity sometimes undermined these bids for orthodoxy, however, with stylized lions, oxen and dragons, swords, serpents and birds being drawn alongside the magical motifs and *verba ignota*.

In the early fourteenth century a French Benedictine monk named John of Morigny wrote a book called the *Liber florum celestis doctrine* (the Book of the flowers of heavenly teaching), a revision of the *Ars notoria* that tried to shift focus away from its unintelligibility and towards a less obscure ritual combination of Marian devotion and astrological ideas.[53] The *Liber florum* was a practical manual for achieving a visionary ascent to the presence of God and knowledge of all the arts and sciences. John's claims to have had revelatory experiences were viewed with suspicion and his work was burnt at the University of Paris in 1323. Nevertheless, his pragmatic

approach to achieving a spiritual experience was attractive to many readers, and his text survives in three versions and more than twenty copies from across Europe.

John of Morigny's first attempt to rework the *Ars notoria* figures to fit his visionary approach was expressed in a text now known as the *Old Compilation Book of Figures* that survives in a single incomplete copy (Oxford, Bodleian, MS Liturg. 160). In its original version the *Book of figures* was supposed to present 91 figures to help the user obtain a visionary experience, including seven figures representing the Virgin, seven figures for the planets and the twelve for the astrological Houses. The astrological figures were not typical Christian choices to inspire a visionary ascent. Conscious of this issue, John followed the *Ars notoria* in placing emphasis on the link between the figure and prayer.[54] He instructs the user to visualize the figures in his or her mind with subtlety and passion, while petitioning God silently to grant them knowledge of one of the mechanical, virtutive and exceptive arts.[55] This knowledge was not supposed to be automatically produced by the ritual, but delivered by Christ and the Virgin, working through the angels.

Only two figures were copied into Oxford, Bodleian, MS Liturg. 160, small circular figures containing crosses, circles and a pentacle and groupings of letters that reference intercessionary pleas, the operator and his soul, and the property of the figure (i.e. its planetary body or the faculty it endows such as eloquence). Claire Fanger has noted that the first figure that opens the work (a circle bearing a tetragrammaton in Latin letters and other letters representing the mental faculties), is accompanied by visualizations involving the gate to Paradise being opened by an angel. The second figure, a pentacle with a complicated inscribed prayer, is said to be useful for recovery of visions lost due to disobedience.[56] Although each element in the two figures references a mainstream devotional technique, they are compressed together in an idiosyncratic way that accentuates their mystery. Tellingly, John reports the Virgin Mary cautioning him against his tendency to complexity, emphasizing that neither prayers, nor figures, nor visualizations would have any effect without the operator's devotion of heart (I.iv.12.c); and in one place she accuses John of putting in his book "some nonsense about the angels which is not much use" (NC III.1.7.b).

Magical figures were, by definition, in some ways mysterious. So how they were interpreted was very difficult to control. John makes a determined effort to manage the inscrutability of his figures by explaining the letters and writings in the accompanying text, and by claiming that the cross was the central element in his figures and that all other shapes and representations were circumstantial.[57] But when he explains that the cross should be mentally supplied even when it is absent from a figure because it is the hidden source of their efficacy, his argument effectively reverts to the position of the *Ars notoria* and other texts that emphasize the mystery of figures and their workings.[58] John's figures also depended for their efficacy on celestial influences, an idea drawn from astrological image magic.[59] In particular, John noted that certain constellations and planetary conjunctions should be considered when making the figures because human reason was receptive to the influence of the heavenly bodies.[60] It is even be possible that the idea of combining the power of the cross with celestial influences was drawn from Arabic magic. The author of the *Picatrix* praised the cross for being a universal figure (*figura universalis*) that stood for the latitude and longitude of all bodies, and claims that it was chosen by ancient wise men as the most useful receptacle of the powers of the planetary spirits.[61]

But the integration of astrological and Christian motifs and ideas was also typical of necromantic figures (such as the laminas considered above and the magic circles considered below) and this merging of genres made critics of the *Liber florum* uneasy. John himself admitted that circles and crosses were enough to identify his figures as composed "in the manner of necromantic figures" (*more figurarum nigromancie*).[62] When he rewrote his book he chose images of the Virgin Mary

for his instrumental meditative figures. Though the new figures of the Virgin in many respects resemble the old, they are less complicated: the Virgin and child are set in a simple frame with four crosses drawn around it and mystery is now invested in the unusual attributes accompanying the Virgin rather than inscrutable graphic and letter combinations.

Control over the interpretation of mysterious figures was hindered by the creative choices of new users, but also by the fact that if they were considered powerful they might be detached from their original ritual contexts and adapted to new uses.[63] One of the most influential medieval magical figures was the *Sigillum Dei* (Seal of God), first described in the *Liber iuratus*, a work of ritual magic that circulated in two medieval versions.[64] The version of this text integrated within the *Summa sacre magice*, a compendium of magical texts written ca. 1346 by the Catalan or Valencian philosopher Beringarius Ganellus, describes how the seal can be used for six theurgical practices, including achieving the vision of God, redeeming the soul from purgatory and having power over all spirits.[65] In the truncated, "Northwestern" version of Honorius, represented by two Sloane manuscripts in the British Library, only the vision of God remains at the core of the ritual magic practices and the *Sigillum Dei* is given a prominent place at the beginning of the text.[66] In both Honorius texts the seal is supposed to be worn by the operator when he conjures spirits. It forces the spirits to appear in an attractive and docile form and grant the operator his request.

Instructions for creating the *Sigillum Dei* describe in detail the sacred proportions of its geometrical figures, from the outer band containing the Great Schemhamphoras (the seventy-two letter name of God in the Jewish tradition) to an inner pentagram containing a Tau cross. The interlocking pattern of geometric shapes on this seal creates symmetrical bands on which magical words and letters are inscribed. This was a complex figure with challenging instructions, and surviving copies contain mistakes and deliberate simplifications as well as creative choices that reflect their makers' responses to the text.[67] When it became popular to transfer the seal onto three-dimensional objects the potential challenges increased.

In ritual magic experiments figures were frequently inscribed on rings and talismans to give the operator power when he was wearing them, and on mirrors to turn them into instruments in which visions would appear. The transfer from parchment figure to inscribed metal talismans in the sixteenth century in the case of the *Sigllum Dei* and the figure of St Michael, reflects the value assigned to these figures, and their adaptation to new uses such as pendants or ritual concealments.[68] In fact, one of the original sources of inspiration for the *Sigillum Dei* may have been a circular gold or gilded silver mirror that is described in an experiment in the *Picatrix* to see spirits and other beings and make them obedient. This mirror has the same names of the seven planetary angels (Captiel, Satquiel, Samael, Raphael, Anael, Michael and Gabriel) as the Honorius *Sigillum Dei* and is also tempered with blood and suffumigated.[69]

The *Sigillum Dei* inscribed on a fifteenth century or early sixteenth century circular lead alloy disc that was concealed in a brick in Doornenburg Castle appears to have been simplified in order to make the work of cutting into the metal less onerous.[70] The most accurate surviving *Sigillum Dei* in any media, however, is a sixteenth-century English matrix found at Devil's Dyke, Cambridgeshire (Figure 7).[71] The maker of this matrix paid close attention to the written instructions of the Honorius text, presumably in the expectation that his matrix would be used to produce many new metal copies. The matrix produces a seal in which syllables of the outer names are not only placed above the correct inner names (as in the Ganellus *Sigillum*) but also between the correct intersections and crosses, giving the seal a pleasing visual symmetry. The Devil's Dyke *Sigillum* is one of only four surviving seals which attempt the instructions' complex triple interlacing of an outer heptagon with an inner heptagram to give the compelling appearance of endless knots. In addition to the Devil's Dyke and Ganellus seals the others are two

idiosyncratic versions of the *Sigillum Dei* in University of Pennsylvania, Schoenberg MS LJS 226 that combine curving ribbons with a flurry of crosses (f. 4v) and new angel names (f. 5).[72]

<Insert Figure 7. Caption: Matrix of a Magic Seal Found in Devil's Dyke, Cambridgeshire, Oxford Museum of the History of Science, Inventory Number 46378>

Magic Circles

The iconic image of the medieval magician depicted a learned man standing in a magic circle outside of which demons were standing or swarming, sometimes seeming to be submissive, at others physically menacing.[73] Magic circles had become a significant instrument in Christian ritual magic by the late thirteenth century and were quickly disseminated into popular consciousness as a powerful image of the boundary between the human and spirit worlds and (depending on your viewpoint) human hubris or daring. This emblematic motif of medieval ritual magic was influenced by four traditions: circles in astral magic texts, the seals and pentacles of Solomonic magic, protective circular amulets and the thirteenth-century scholastic understanding of the cosmos.

The magic circles of Arabic astral magic texts demarcated a special space in which the magical practitioner performed his sacrifices to the planetary spirits and received the spirit delegated to speak to him in the smoke of the burnt sacrifice. In the *Picatrix*, four rituals to draw down the spirits of the Moon when it is in particular zodiac signs use magic circles as the locations for ritual animal sacrifices.[74] The practitioner stands or sits in the circle to invoke the spirits, and also places the sacrificial flesh, an image made from it, or the censer used to burn it in the centre of the figure. The circumferences of astral magic figures were diverse: drawn in the earth or demarcated by animals, branches, goose eggs, a trench filled with water, piles of straw or images shaped into creatures. But every demarcation of the figure had some connection to the sacrifice. For example, the ritual for speaking with Mercury when it is in Sagittarius in the *Astromagia* includes drawing a large angled figure on the ground in a remote mountain place and sitting in it. After the practitioner has prayed to Mercury he is told to plant oak branches smeared with sacrificial blood in each internal angle of the figure. When one of these is burnt in a brazier in the middle of the figure the spirit appointed by Mercury will come to speak to him.[75]

Astral magic texts contained prominent instructions for animal sacrifices in rituals to summon planetary spirits. Animal sacrifices were forbidden in the Christian religion and never associated with the cult of angels, so these planetary spirits were viewed by many Christian readers of astral magic texts – whether critics or practitioners – as malign or at best ambiguous. It did not help that Christian teaching tended towards a clear divide between good and bad spirits. When Christians came to write their own rituals to summon spirits, now often explicitly demons, they retained the link between magic circles and sacrifices, sometimes drawing the circle with the blood of a sacrificed animal or using a knife made from animal horn or constructing the circle out of animal skin.[76] But they also transformed the magic circle into a protective boundary between themselves and what they perceived to be a malefic spirit world.[77] In Christian ritual magic spirits were usually compelled to remain outside the circle where the sacrifice was sometimes thrown to them. This cautionary approach is apparent even in a text like the *De secretis spirituum planetis* that has many features of astral magic and is concerned with summoning planetary angels rather than demons.[78] The operator of this text is told to draw a magic circle around the animal sacrificed to the planetary angel and its character, and to throw the sacrificial flesh outside the circle.[79] A composite magic circle accompanying the copy of this text in Wellcome MS 517 (Figure 8) illustrates the angel names and characters relevant to every operation.

<Insert Figure 8. Caption: Composite Magic Circle with the Names and Characters of Each Planet, London, Wellcome Library MS 517, fol. 234v.>

Christian magic circles also drew their inspiration from contemporary cosmological, mathematical and astrological ideas. Magic texts offered glimpses of celestial structures, spirits and hierarchies to persuade the reader of the cosmological underpinnings of their operations. Some magic circles evoked a miniature cosmos with interior bands representing the heavens, characters evoking constellations (the *figurae stellarum*) and the names, seals and characters of celestial spirits. Other magic figures had a more terrestrial orientation, such as when they indicate the zonal areas that the planetary angels influenced or the demons of the four cardinal points (Figure 9).[80] The circle was not only a suitable representation of the concentric spheres of the cosmos but also shared with the Prime Mover the property of having no beginning and no end.[81] Reflecting this association with God, Divine names were usually placed either in the centre of the circle or on the outer boundary between the human and spirit worlds where their protective power was most needed. Both celestial and Divine names and symbols were intended to protect the practitioner within a ritually demarcated and empowered space.

The practitioner's protection from evil spirits was a high priority in necromantic experiments and it is therefore not surprising that some magic circles are filled with sacred names, petitions and symbols of the cross. Four magic circles in the fifteenth-century necromantic manual Munich, Bayerische Staatsbibliothek MS Clm 849 (henceforward Clm 849) fall into this category: a circle for having a response from spirits and three figures for experiments to obtain information about a theft by gazing into a fingernail.[82] It seems likely that multiple orthodox motifs were chosen for operations to speak with spirits because this represented a particularly intense and dangerous kind of interaction with demons renowned for their skills at trickery and temptation. The sacred elements in the figures for the fingernail experiments were appropriate to the purity of the boy skryer on whom the success of these operations depended. Although there are some similarities between these figures and the circular protective figures discussed above there are important differences in emphasis. The necromantic circles were intended to call down demons as well as protect from them, hence their petitions focus on the power of God the Creator, while the circular amulets tend to appeal to Christ's mercy.

As John of Morigny noted regretfully, even figures with only circles and crosses were suggestive of demon conjuring to suspicious minds. The ways in which magic circles expressed one thing to their makers and another thing to their critics is unpacked in John Lydgate's representation of necromancy in his popular allegory of Christian life, the *Pylgremage of the Sowle* (1426).[83] The pilgrim protagonist of this narrative encounters a student of necromancy in a wood, standing in a magic circle, "within whiche (so god me save,) / I sawgh fful many a ffygure grave, / fful marvellous." According to Lydgate, the necromancer has a "cursyd ymagynacyoun" because he believes that he is God's messenger and able to command demons. He does not know what the characters mean, but he thinks that they make the spirits obey him. In contrast to this interpretation, the pilgrim interprets a "darkenesse hydde with-Inne" the characters as the marks of the devil that bind the necromancer to a treasonous allegiance with Satan and seal the fate of his soul.
<Insert Figure 8. Caption: The Pilgrim and the Student of Necromancy from John Lydgate's *Pilgrimage of Man*, London, British Library MS Cotton Tiberius AVII, fol. 44r.>

Ritual magic texts were less concerned with the orthodoxy of magic circles, however, than with advising the practitioner on how to construct them and which spirits they were most suitable for. A chapter on magic circles (*De circulis*) attributed to Virgil divides them according to their use: identifying the spirits who are willing to descend (*circulus discretionis*), invoking spirits who can

help and harm (*circulus invocationis*), and summoning spirits by the virtue of their superiors to help with the goal of the operation (*circulus provocationis*).[84] The cosmology implicit in these instructions relates more closely to the spirit hierarchies of astral magic than Christian demonology and this impression is reinforced by the fact that the text appears in a collection of works of image magic and astrology.

The adaptation of magic circles to different kinds of spirit was important in Christian ritual magic too, perhaps under the influence of magic texts like *De circulis*. The *Liber iuratus* recommends constructing different kinds of circles for the helpful spirits of the air and the malign spirits of earth. The malign spirits are summoned into a concave circular pit dug in the ground (called a *circulus in quo apparent spiritus*), while the practitioner stands in a separate circle, the "circle of invocation" (*circulus invocationis*) at a safe distance of nine feet to invoke them.[85] The magic circles of the *Liber iuratus* were taken up by Giorgio Anselmi, a professor of medicine at the Universities of Parma and Bologna, in his mid fifteenth-century treatise on magic, the *Opus de magia disciplina*.[86] Anselmi's magic circles for evil demons include the same *circulus invocationis* divided in four and inscribed with the names Mesyas, Sother, Eloy, Sabbaoth for the practitioner, and, at nine paces away, a concave circle into which demons were summoned.

The *De circulis* proposes that circles have four general purposes: for self defence, to accomplish the goal of the operation, to obtain love and to consult spirits.[87] Finally, the texts notes that the practitioner (*artifex*) should usually have four companions, although one will suffice for the first or fourth goal.[88] The emphasis on love and speaking to spirits in this text is supported by the popularity of these types of experiments in necromantic manuals. The author of *De circulis* places the circle to provoke love (*circulus ad amorem*) in a separate category from the others because it relies on sympathetic magic as well as conjuring spirits. The practitioner should take into this circle something from the object of desire (a man or woman) such as a piece of hair.[89]

The figures in two copies of a necromantic experiment to induce love illustrate the creativity of this element of the operation as well as the ways in which the techniques of sympathetic magic and conjuring spirits are combined in love magic.[90] The practitioner is instructed to draw the naked body of the woman he desires onto parchment made from the skin of a female dog in heat using blood from the heart of a dove. He then writes the names of six "hot" spirits, including Cupid and Satan, on different parts of the figure and his own name over her heart. Writing the demonic names on the image is a form of sympathetic magic intended to induce the spirits to enter the living body.[91] As each name is inscribed the spirit is commanded to go to the woman and work on her body, heart and mind, until she is inflamed with a powerful love, desire and urgent restlessness.

If this first image is unsuccessful in provoking love, the operator is advised to construct a second figure: a magic circle drawn on the ground with a sword and inscribed with the names of different demons. These demons are then conjured to bring him the object of his desire. When she arrives he touches her with the first image and by this physical action transfers the force of the image into her permanently so that she loves him for all eternity. The scribes of the two copies of this experiment chose to record different figures. In the Florence manuscript a circular magic figure with the names of the six "hot" spirits is drawn quite informally at the bottom of a folio and has additional magical characters not mentioned in the text and (perhaps) the practitioner's own initials in the centre (Figure 10). By contrast, the scribe of the Munich copy recorded only the second magic circle as a large formal diagram, with the place of the operator (*magister*) marked clearly in the centre (Figure 11).

<Insert Figures 10 and 11. Captions: Figure 10: A Magic Circle from an Experiment for Love, Florence, Bibliotheca Medicea Laurenziana, MS Plut. 18 sup. 38, fol. 286r. Figure 11: A Magic Circle from an Experiment for Love, Munich, Bayerische Staatsbibliothek MS Clm 849, fol. 10r.>

In general, there was a broad and diverse range of graphic symbols available to the authors and scribes of magic texts who could and did express their own interests, anxieties and proclivities in the choice of astral signs, Christian crosses or Solomonic pentacles. There were also iconographic changes over time, such as the dissemination of the graphic motifs of astral magic in the twelfth and thirteenth centuries, a later trend toward complex multipurpose objects and images, and sometimes, the replacement of obscure names with more acceptable crosses.[92] In the fifteenth century and into the early modern period Solomonic influences, especially the use of pentacles, triangles and other bisecting lines, and the inscription of Divine names, and Hebrew and pseudo-Hebrew lettering, began to dominate the iconography of figures in ritual magic texts.[93] This influence, an acknowledgement of Solomon's perceived power over demons in both magical and mainstream religious contexts, is also reflected in theoretical discussions of the use of figures.[94]

In his *De occultis et manifestis* the late fourteenth-century astrologer and physician Antonio da Montolmo used the typically Solomonic vocabulary of exorcism to describe the ritual inscription of the names of God on magic circles. Montolmo's category of figures includes both spatial and amuletic types, and he draws attention to the quintessentially Solomonic symbol of the pentacle, claiming that if this sign was inscribed with the name of God and carried with perfect devotion it would provide its bearer with perfect protection.[95] Georgio Anselmi's chapter on magic circles in his fifteenth-century treatise on magic also emphasizes the use of pentacles, squares and triangles, magical characters and the inscription of divine names.

Future Directions

Future work in this field will be able to add many more magical figures to those discussed, since every collection of ritual magic texts brings a subtly different set of visual elements into play with its cosmological ideas and ritual goals. In this context, it would be useful to develop a database of medieval magical figures and seals in order to track their use, selection and dissemination more precisely. A database of figures would allow further investigation into how these magical instruments draw together different iconographies - the sacred, the magical and the cosmological – and how their graphic elements relate to the text incorporated within or accompanying the figures. It would also be useful for identifying marks on objects and buildings that are likely to have had a ritual purpose rather than representing doodling, graffiti, decorative motifs, maker's marks, tally marks or any other kinds of visual communication. In spite of the variety of figures in surviving medieval manuscripts and the creativity of new scribal interpretations, there is a recognisable vocabulary of graphic elements across multiple magic texts that encouraged users' trust in their efficacy and critics' identification of them as deviant.

A final area of research that could be developed in this field relates to the cognitive science of looking, particularly in relation to diagrams. Like other diagram makers, the designers of medieval magical figures used strategies of visual language such as colour, shape, composition, framing, emphasis, vertical or horizontal orientation and placement on the page to engage their audience. These strategies provided information to the viewer and created perceptual points of attention like normative diagrams, but magical figures also signaled their occult power through the use of undecodable iconography, signs and patterns. Encountering and meditating on these, the viewer was not supposed to work towards an essential meaning but to be reassured by the power of a figure that evoked eternity, the cosmos, spirits and God.

[1] This chapter is intended to be complementary to Alejandro García Avilés' chapter in this volume. Diagrams in the Medieval Kabbalah have received more attention than those in the Latin magical traditions. See Marla Segol's excellent book, *Word and Image in Medieval Kabbalah. The Texts, Commentaries, and Diagrams of the Sefer Yetsirah* (New York: Palgrave Macmillan, 2012).

[2] Lee E. Brasseur, *Visualizing technical information: a cultural critique* (Amityville, New York: Baywood Publishing, 2003), 71

[3] Mary Carruthers, *The Book of Memory* (Cambridge: Cambridge University Press, 1992), 150 and 256.

[4] H. A. Simon and J. H. Larkin, "Why a diagram is (Sometimes) worth ten thousand words," in *Models of Thought*, ed. H. A. Simon (New Haven: Yale University Press, 1987), 413-37.

[5] Al-Kindi, *De radiis*, ed. M.T. d'Alverny and fol. Hudry, *Archives d'histoire doctrinale et littéraire du moyen Âge* 41 (1974): 250-52, ch. 7 (*De figuris*).

[6] Nicolas Weill-Parot, *Les "images astrologiques" au Moyen Age et à la Renaissance: Spéculations intellectuelles et pratiques magiques (XIIe-XVe siècle)* (Paris: Honoré Champion, 2002).

[7] Illustrations of the forms of the planets are outside the scope of this chapter. They are rare in Latin translations of Arabic magic texts, with some notable exceptions such as the forms of the planets in the copy of the *Picatrix* in Krakow, Biblioteka Jagiellonska, MS 793 and the illustrations in the *Libro de astromagia*.

[8] Roger Bacon, *Opus tertium*, chapter 26 in *Opus tertium, Opus maius, Compendium philosophiae*, ed. J. S. Brewer (London, 1859) and *Opus maius*, part 4, in *Opus maius* I, ed. J. H. Bridges (Oxford, 1897), p. 374. Chinese ideograms had recently been brought to the attention of the West by William of Rubruck. For a further discussion of Roger Bacon's views see Charles Burnett, "The Theory and Practice of Powerful Words in Medieval Magical Texts", in *The Word in Medieval Logic, Theology and Psychology*, ed. Tetsuro Shimizu and Charles Burnett (Turnhout: Brepols, 2009), 215–31.

[9] William of Auvergne, *De universo*, bk. 2, pt 3, ch 22 in *Opera omnia*. Edited by Franciscus Hotot. 2 vols (Paris: Andreas Pralard, 1674), vol. 1, pp. 1059-61

[10] *Speculum astronomiae*, ch. 11, edited and translated by Paola Zambelli in Albertus Magnus, *The Speculum astronomiae and Its Enigma: Astrology, Theology, and Science in Albertus Magnus and His Contemporaries*. A critical edition of the *Speculum astronomiae,* (Dordrecht: Kluwer, 1992), pp. 240-47; On Thomas Aquinas' views see Claire Fanger, 'John the Monk's *Book of Visions* and its relation to the Ars notoria of Solomon' in Claire Fanger, ed., *Conjuring Spirits: Texts and Traditions of Late Medieval Ritual Magic* (University Park, PA: Pennsylvania State University Press, 1994) p. 60-61. On the magic of images and idolatry, especially sculpted clay and wax figures, see Alejandro García Avilés' chapter in this volume.

[11] Benoît Grévin and Julien Véronèse. "Les "caractères" magiques au Moyen Âge (XIIe–XIVe siècle)," *Bibliothèque de l'École des Chartes* 162 (2004): 407-81. For examples of magical characters, see figures 4, 6, 8, 9 and 11 in this chapter.

[12] Some magic texts in circulation like the *De sigillis planetarum* were devoted specifically to seals and therefore provide good examples of this under studied visual motif. For examples of magic seals see the interior graphic elements in figure 5 in this chapter.

[13] See Stephen Stallcup, The "Eye of Abraham" Charm for Thieves: Versions in Middle and Early Modern English", *Magic, Ritual, and Witchcraft* 10 (2015): 24-5.

[14] My discussion here is based on the following Latin and vernacular copies, mainly in British manuscripts: Oxford, Bodleian Library [hereafter Bodleian], e Mus 219 (late thirteenth century); London, British Library [hereafter BL], MS Sloane 475 (fourteenth century); Munich, Bayerische Staatsbibliothek, Clm [hereafter Clm] MS 13057 (fifteenth century); London, Wellcome Library [hereafter Wellcome] MS 517 (fifteenth century, three versions of the experiment); BL Additional MS 34304; BL MS Sloane 2721 (fifteenth century) and BL Additional MS 34111 (1420-50). Stephen Stallcup edited the MS Add. 34111 copy and four later versions of the experiment in "The "Eye of Abraham" Charm for Thieves," 23-40.

[15] Wellcome MS 517, fol. 124: "Et cum omnis oculum inspiceret si fur sit in domo videbis oculum eius destrum lacrimantem."

[16] Wellcome MS 517, fols. 67, 81 and 124.

[17] For Achar see Flavius Josephus, *The Antiquities of the Jews*, Bk 5, ch.1, 9-14, ed. G. P. Goold (Cambridge, Massachusetts: Harvard, 1934), pp. 177-181.

[18] Ancient lamellae were often placed in small metal tubular pendants hung from the neck, a practice that derived from Jewish and Egyptian traditions. Like some late medieval Christian laminas, *lamellae* from

Jewish traditions place particular emphasis on the apotropaic power of angel names. Christian examples of *lamellae* appear as early as the second century CE: see Roy Kotansky, *Greek Magical Amulets: The Inscribed Gold, Silver, Copper, and Bronze Lamellae. Part I: Published Texts of Known Provenance* (Opladen: Westdeutscher Verlag, 1994). Amulets 35, 45, and 53 in the latter collection have invocations of Christ and allied powers.

[19] For examples of these less common uses see the instructions for a lead lamina to make all your enemies fear you (*Ut omnes inimici tui verebunt te*) in BL MS Sloane 475 (first quarter of the twelfth century), fol. 110v; a tin lamina to attract snakes (*Ut serpentes convenient in uno loco*) in BL MS Royal 12 B XXV (fourteenth century), f.65r and a lead lamina to keep bees from leaving (*Ne apes recedant de uase*) in Clm 7021 (first half of the fifteenth century), f.158. I am grateful to Karel Fraaije for the reference to the bee lamina.

[20] BL Additional MS 15236 (4th quarter of the 13th or 1st quarter of the 14th century), fol. 31.

[21] The five cross figure for making a lead lamina to heal wounds is unusual among the figures discussed in this chapter in being remarkably consistent across different manuscript copies, although there is some variation in the shape of the cross and not all experiments include the figure. The wound lamina figure is found in the following medieval manuscripts: Stockholm MS Co. Holm. x. 90, fols. 117-8; Bodleian, Laud misc. 553, fol. 56v; San Marino, Huntingdon Library HM 64, fol. 145; Durham Cosin V.III.10, fol. 30r; BL MS Sloane 1964, f.20; Bodleian, Additional. A. 106, f.149v; BL MS Sloane 2584, f.73 (with only four crosses); BL MS Sloane 3466, f.55 and Cambridge, Trinity College Library MS R.14.51 (921), fol. 29. A forthcoming article by Kathleen Walker Meikle will provide a more extensive survey of Christian medical laminas in British manuscripts.

[22] On this charm motif see Peter Murray Jones and Lea T. Olsan, "Performative Rituals for Conception and Childbirth in England 900–1500", *Bulletin of the History of Medicine* 89 (2015): 415.

[23] BL Sloane MS 475 (end of the eleventh or early twelfth century), at fols. 133v-134. For the barren tree instruction see also Cambridge, Trinity College, MS O I 58 and BL MS Additional 33996 (ca.1450).

[24] BL Additional MS 15236 (4th quarter of the 13th or 1st quarter of the 14th century), f.31v.

[25] Wellcome MS 517, fol. 67.

[26] See, for example, the *Liber quindecim nominum* in Florence, Bibioteca Nazionale Centrale, II. iii. 214, fols. 41r-42v. This text describes how to make a silver lamina to provoke the love of a woman, a lead lamina to help a sick person, an iron lamina to ward off mice, a tin lamina to rid a beast of evil or a feverish patient of illness and a lamina of copper or wax for locating a fugitive slave.

[27] The four laminas inscribed with figurative images are a tin lamina to draw clients to a physician, a silver lamina for increasing harvests and plants, a gold lamina for healing kidney stones (I v 30-32), and a silver lamina for increasing business (IV ix 44). The four laminas inscribed with magical characters are a red bronze lamina for making mice flee, a tin lamina for making flies go away, a lead lamina to create enmity, and another lead lamina to curse a place so it is never populated (II ix, 2, 4, 6, 7).

[28] *Picatrix: The Latin version of the Ghayat Al-Hakim*, ed. David Pingree (London: Warburg Institute, 1986), II, v, 2

[29] *Picatrix*, ed. Pingree, II, ix, 2 and 4. Wellcome MS 517, fol. 235.

[30] Edited by Jacques Sesiano in "Magic Squares for Daily Life," in *Studies in the History of the Exact Sciences in Honour of David Pingree*, ed. Charles Burnett, Jan Hogendijk, Kim Plofker, and Michio Yano (Leiden: Brill, 2004), 716-26.

[31] British Museum Inventory number: OA.1361.b. Date: sixteenth to eighteenth century. Inscription: "Nihil deo impossibile quis sicut tu in fortibus O tetragrammaton qui aperuisti vulvam Rachelae concepit filiu[m]". On the image of Venus with eagle feet see, *Picatrix*, II, x, 28 and 55 and the illustration in Krakow, Biblioteka Jagiellonska, MS 793, p. 382 where she also has the head of an eagle.

[32] Rachel is first mentioned in Genesis, 29. The second but most beloved wife of Jacob, she had difficulty conceiving, but went on to have two sons, Joseph and Benjamin.

[33] See Wellcome MS 517, fol. 224 and Clm MS 849, fol. 67v.

[34] Of the many magical figures mentioned in this manuscript only the following are illustrated: 1. A circular figure that is part of a conjuration to get spirits to depart peacefully (14v). 2. A square figure that is part of a skrying operation in a mirror or glass (23v). 3. Two circular figures that are part of an operation to constrain spirits (28v-29). 4. A square figure that is part of an operation to constrain spirits to do your will (46). 5. Two small circular figures that follow a prayer requesting God to protect the operator from all enemies visible and invisible, especially evil spirits and to give him power over them (f.51). 6. A square

figure to be drawn with bat's blood on a window or in a circle as part of a conjuration for a horse (74v). 7. A drawing of a circle with an outer band that has not been filled in (f.79). 8 A small square figure filled with a grid and letters that should be drawn with bat's blood on a piece of vellum (*carta*) as part of an experiment for love (97v). 8. A square figure said to be a "Signa Salomonis" to protect against spirits (f.101). 9. A square figure in an experiment to identify a thief (104v).

[35] Bodleian, Rawlinson MS D 252, ff.36v, 46r, 52v-58r. Most of these references to laminas are not accompanied by images. An exception to this is a figure accompanying the Middle English experiment to invoke spirits on f.46 that describes a complex object consisting of a plate of lead or tin with its sides turned up. In each of its corners further metal plates of silver, steel, brass and iron are placed. The object is inscribed with spirit names, obscure symbols and magical characters.

[36] See for example, the prayer on fols. 46-47 which includes the commands "contestor per ista lamina" and "appareatis super ista lamina."

[37] Bodleian, Rawlinson MS D 252, fols. 95-95v.

[38] BL Sloane 3853, fol. 74. Another version of this square figure for binding a thief is found in the sixteenth-century necromantic manual, Cambridge University Library, MS Additional 3544, at p. 44.

[39] A figure in San Marino, Huntington Library HM 64, f.34, acts *Contra mortem subitam*. Its legend reads: "Qui hoc signum super se portat sine confessione non morietur." A figure in Canterbury Cathedral, Additional MS 23 will enable the operator to be saved wherever he is, but another offers its bearer protection from fire and water only if he or she has a strong belief in God.

[40] See Canterbury Cathedral, Additional MS 23 for a figure with the "ineffabile nomen dei," a "figura sancto columchille" and a "signum regis salomonis," Paris, Bibliothèque nationale de France [hereafter BnF], MS lat. 3269 for a figure with the "Tetragrammaton," BL Harley Roll T. 11 for a figure "by which all things are made" and San Marino, Huntington Library, MS HM 64, for a "signum Sancti Michaelis."

[41] This textual amulet has more than 20 magic figures (*figuras*) and seals (unenclosed graphic motifs) on its face and 25 figures on its dorse, including three that are unfinished. See Don C. Skemer, *Binding Words: Textual Amulets in the Middle Ages* (University Park, PA: Pennsylvania State University Press, 2006), 199-212 and an edition of the texts in appendix 1.

[42] See, Alphonse Aymar, "Contribution à l'étude du folklore de la Haute-Auvergne. Le sachet accoucheur et ses mystères" in *Annales du Midi: revue archéologique, historique et philologique de la France méridionale*, 38 (1926): 273-347. The legends in the bands are transcribed on 347.

[43] BnF lat. 3269 (end of the thirteenth century to early fourteenth century), fol. 85r. On fol. 84v and 85v are other charms and experiments against epilepsy, sword wounds and the bites of wild animals.

[44] Figures 1 and 6 are similar to the circular figures in the necromantic compilation Bodleian, Rawlinson MS D 252 at fol. 51.

[45] San Marino, Huntington Library HM 64 (with reference to the catalogue entry by C. W. Dutschke): fol. 17v, Contra inimicus [sic], 1, Si quis hoc signum super se portat nequid capi ab Inimicus [sic]; fol. 21v, Contra mortem subitam, 2, Qui hoc signum super se portat sine confessione non morietur; fol. 34, Pro victoria, 3, Hoc signum misit deus Regi Tedeon [?] qui cum isto pugnat victoriam habebit; fol. 34, Pro Igni, 4, Hoc signum crucis portans se non timebis ignem, [below the circle:] In quacumque domo ubi [the charm] fecerit vel ymago Virginis Dorothee eximie matris [sic] alme, Nullus abortivus infantis nascetur in illa…; fol. 51, Contra Demones, 5, Signum sancti Michaelis quas omnes demones timent die qua videris demones non timebis.

[46] See also the fifteenth century medical manuscripts with magical figures: BL Royal MS 17 B XLVIII, BL Sloane MS 430 and BL Sloane MS 3556 discussed in Page, *Magic in Medieval Manuscripts*, 33-35.

[47] E. Bozoky, "Private Reliquaries and Other Prophylactic Jewels," in *The Unorthodox Imagination in Late Medieval Britain*, ed. S. Page (Manchester: Manchester University Press), 115–30

[48] This figure is illustrated in Page, *Magic in Medieval Manuscripts*, 34.

[49] BL Sloane MS 3556, fol. 1v, and Cambridge, University Library, Additional MS 3544, p.93v-94v, ed. and trans. Francis Young, *The Cambridge Book of Magic. A Tudor Necromancer's Manual* (Cambridge: Texts in Early Modern Magic, 2015), 95-6. The Sloane MS text begins at the point where the materials to be suffumigated are described, then continues to the end of the instructions.

[50] For a medieval example, see the group of nine small figures and one large multipurpose figure in BnF, ital. 1524 (1446), ff.185-185v, ed. Florence Gal, Jean-Patrice Boudet, Laurence Moulinier-Brogi, *Vedrai Mirabilia: Un Libro Di Magia del Quattrocento* (Rome: Viella, 2017), pp. 268-70 and plates IV-VI.

[51] On the *Ars notoria* see the edition by Julien Véronèse (Florence: Sismel, 2007) and his chapter on Solomonic magic in this volume.

[52] *Ars notoria*, gloss on version B, ed. Véronèse, 142: "Figura vero est quedam sacramentalis et ineffabilis oratio que necquid per sensum humane rationis exponi."

[53] On this text see Nicholas Watson and Claire Fanger's edition of John of Morigny's *Liber florum celestis doctrine* (Toronto: Pontifical Institute of Medieval Studies, 2015) and Claire Fanger, *Rewriting Magic: An Exegesis of the Visionary Autobiography of a Fourteenth-century French Monk* (University Park: Pennsylvania State University Press, 2015).

[54] *The Old Compilation Book of Figures*, III. 10, ed. Fanger and Watson, *Liber florum* 372.

[55] *Book of Figures*, III. 18. d, ed. Fanger and Watson, *Liber florum,* 3778-82.

[56] Fanger, *Rewriting Magic*, 95-8

[57] The circular figures in Bodleian MS Liturg. 160, fol. 1r and 66r do give the cross a central position and the representations of the Virgin in Salzburg, Studienbibliothek Salzburg, Cod. M I 24, Bologna, Biblioteca Comunale dell'Archiginnasio, MS A. 165 and MS Clm 28864 are surrounded by four crosses.

[58] *Book of Figures*, III. 11, ed. Fanger and Watson, *Liber florum,* 372-3.

[59] See Fanger, *Rewriting Magic*, 124-130 on John's knowledge of image magic texts and likely adaptation of their visual lexicons, notably in relation to the anthropoid planetary figures of the *Picatrix*.

[60] *Book of Figures*, III. 12. d, ed. Fanger and Watson, *Liber florum,* 373.

[61] *Picatrix*, III. V.

[62] New Compilation Book of Figures III.i.1.c. See Claire Fanger, "*Libri Nigromantici*: The Good, the Bad, and the Ambiguous in John of Morigny's *Flowers of Heavenly Teaching*," *Magic, Ritual, and Witchcraft* 7 (2012): 173

[63] In some cases this means that the rituals to use them and their goals are no longer discernable.

[64] Kassel, Murhardsche- und Landesbibliothek, MS Astron. 4° 3 and BL Sloane 313. The seals are at fols. 104 and fol. 4 respectively.

[65] *Summa sacre magice* IV.1.5 and IV.I.6. On Beringarius Ganellus see Damaris Gehr's chapter in this volume and Jan Veenstra, "Honorius and the Sigil of God: The *Liber iuratus* in Berengario Ganell's *Summa sacre magice*." in *Invoking Angels: Theurgic Ideas and Practices from the Thirteenth to the Sixteenth Century*, ed. Claire Fanger (University Park, PA: Pennsylvania State University Press, 2012), 151–91.

[66] The copy of the *Liber iuratus* in BL Sloane MS 3854, which does not include a representation of the *Sigillum Dei* was edited by Gösta Hedegård, *Liber iuratus Honorii: A Critical Edition of the Latin Version of the Sworn Book of Honorius* (Stockholm: Almquist & Wiksell, 2002).

[67] Creative interpretations of the seal are particularly apparent in examples from early modern ritual magic texts. Seven examples from post 1500 manuscripts and printed books are discussed by László Sándor Chardonnens and Jan R. Veenstra in "Carved in Lead and Concealed in Stone: A Late Medieval Sigillum Dei at Doornenburg Castle," in *Magic, Ritual, and Witchcraft*, 9 (2014): 117-156.

[68] The *Sigillum Doornenburgensis* is an example of ritual concealment. Two surviving examples of modern minted pendant versions of the *Sigillum Dei* both have a provenance of Italy, Rome. The example in Pitt Rivers Museum, Oxford, *Sigillum Dei* (Inventory number: 1985.50.619) is a 52mm diameter circular pendant made of gilt-bronze metal. Chardonnens and Veenstra briefly discuss an identical pendant *Sigillum Dei* that was discovered in the basement of an eighteenth-century house in Rome.

[69] *Picatrix*, ed. Pingree, IV.vii. 23.

[70] This seal is the subject of Chardonnens and Veenstra's article and called by them the *Sigillum Doornenburgensis*. It has a diameter of ca.75mm and was carved on a circular metal disc alloy containing a high proportion of lead.

[71] Oxford Museum of the History of Science (Inventory number: 463781), diameter of 53mm. Devil's Dyke is an unusual landscape feature suitable for ritual placement: a linear earthen barrier probably constructed for defensive purposes in the Anglo-Saxon period.

[72] The two seals are drawn on three leaves cut out of an earlier manuscript that have four large full page diagrams: a horoscopic figure relating to the angles of houses (f.3v), a cosmological diagram that indicates planetary rulerships over zodiac signs and months (f.4) and the two *Sigillum Dei* figures (f.4v and f.5). The leaves have been dated 1410 based on a note in the manuscript.

[73] On this iconography see Alejandro García Avilés' chapter in this volume. One of the few sustained discussions of magic circles in ritual magic texts is Richard Kieckhefer's *Forbidden Rites: a*

Necromancer's Manual of the Fifteenth Century (University Park, PA: Pennsylvania State University Press, 1997), 170-176, which focuses particularly on their different forms and protective function.

[74] *Picatrix*, ed. Pingree, IV.ii and note also III.ix.16 in which seven sacrificial goats are placed in a circle.

[75] *Astromagia* VI.2, chapter 9, ed. Alfonso d'Agostino (Naples: Liguori, 1992), p. 282. A space is left for the figure in the manuscript. On this work of astral magic see Alejandro García Avilés' chapter in this volume.

[76] See, MS Florence, Biblioteca Laurentiana, P. 89, sup. Cod. 38, fols. 256v-260, Clm 849, fols. 8 and 107v-108 and Florence, Bibioteca Nazionale Centrale, II. iii. 214, fol. 79. A necromancer and his assistant who were caught in 1323 confessed to preparing a ritual to summon the demon Berich using a circle made from cat's skin: *Les grandes chroniques de France*, ed. Jules Marie Édouard Viard (Paris: Société de l'histoire de France, 1920), vol. 5, 269-72.

[77] The protective magic circle is a topos of exempla stories as early as the thirteenth century: see Catherine Rider, *Magic and Religion in Medieval England* (London: Reaktion Books, 2012), 121-6.

[78] The *De secretis spirituum planetis* survives in MS Wellcome 517, fols. 133-135v and Cambridge, UL, MS Dd. Xi. 45, fols. 134v-9.

[79] The sacrificial meat is also thrown out of the circle in the "Experimentum verum et probatum ad amorem" ed. and trans. Juris Lidaka, in Fanger, ed., *Conjuring Spirits,* p. 60-61.

[80] For a complex zonal circle to summon the spirits of the air see the copy of the *Liber iuratus* in BL Sloane 3854 at fol. 133v.

[81] Antonio da Montolmo, *De occultis et manifestis*, ch. 6, ed. Nicolas Weil-Parot [with collab. Julien Véronèse], in Fanger, ed., *Conjuring Spirits* (1994), pp. 282-5.

[82] Each experiment has a figure attached to it: 38 (f.99v), 39 (f.103), 40 (f.105v). The only other circular figure with orthodox elements in this manuscript (experiment 16, fols. 35v-36) is intended to be written on vellum and placed under the head while sleeping.

[83] The *Pylgremage of the Sowle*, lines 18471-924. Lydgate's work is a translation (with some significant changes) of Guillaume de Deguilleville's fourteenth-century Old French *La Pélerinage de l'Âme*.

[84] BnF MS lat. 17,178, f.33: "Circulorum triplex est ordo: est enim circulus discretionis, circulus invocationis, circulus provocationis. Circulus discretionis sit autem nominibus descendere volentibus, ut sunt nomina principium. Circulus invocationis sit ut spiritus invocati qui iuvare possunt et nocere. Circulus provocationis sit ad provocandu spiritus in virtute superiorum, ut compellantur ad aliquid operandum."

[85] BL Sloane MS 3854, f.137.

[86] Florence, Biblioteca Medicea Laurenziana, MS Plut. 44, cod. 35 (1501–10), fols. 58r-60v. This sixteenth-century manuscript is the only surviving copy of this text and has three spaces where the figures for the chapter on magic circles were intended to be drawn.

[87] BnF MS lat. 17,178, f.33: "Superius dictum est de circulis in speciali nunc dicendum est de eis in generali. Quattuor enim sunt circuli in generali necessarii. Primus ad defensionem propriam. Secundus ad impetrandum sibi vel alius. Tertius ad amorem obtinendum. Quartus ad consulendum.

[88] BnF MS lat. 17,178, f.33: "In unoquoque istorum circulorum generalium sunt necessarie quattuor persone cum artifice, praeter in primo in quo sufficit una tamen eandem rem postulantes, In quarte tamen etiam potest una vel quattuor cum artifice, et sunt isti circuli totales."

[89] BnF MS lat. 17,178, f.33: "Item est circulus ad amorem qui est circulus per se. Nec sequitur ordinem aliorum circulorum, sed sit per hunc modum: fiunt duo circuli ut dictum est in principio operis, tamen habeat aliquid artifex in circulo amoris de illa vel de illo pro quo intrat, ut crinem vel aliquid tale: et semper secum etc. Et semper invocationes faciendo dicat ut superius dictum."

[90] Clm 849, fols. 8r-11v, ed. Kieckhefer, *Forbidden Rites*, 199-203 and Florence, Biblioteca Laurentiana, MS Plut. 89, sup. Cod. 38, fols. 284v-287.

[91] This point is explicitly made in the *Picatrix*, book 1, ch. 5, 40, ed. Pingree, p. 24: "verba in ymaginibus sunt quemadmodum spiritus in corpore moventes spiritus et potencias versus illud opus."

[92] In addition to John of Morigny's revision of the *Ars notoria* see also the alterations to the figure in BL Sloane MS 513, fol. 199v.

[93] Hebrew lettering is found in late medieval necromantic manuals, independant figures and ritual magic texts like John of Morigny's *Liber florum*.

[94] On the "author-magician" see the chapter on Cecco d'Ascoli and Antonio da Montolmo in this volume.

[95] Antonio da Montolmo, *De occultis et manifestis*, ed. Weill-Parot, 284-5.