Magic, Technology and New Categories of Knowledge in the Central Middle Ages

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The problem of pinning down medieval definitions of magic, and of finding clear boundaries between magic, religion and science in medieval discourse, has puzzled specialists in the subject for various generations. The debate is evidence of the problems involved in applying modern categorisations to the distant past. Medieval sources do not necessarily comply with our need to classify them in ways which seem obvious to us. We are baffled by the presence of ritualistic and religious elements in medical and pseudo-scientific texts, for example, and are similarly taken aback by the inclusion of scientific considerations in material that we would rather dismiss as fictional or superstitious. This article proposes to discuss the extent to which medieval sources differentiate between an idea of applied technological knowledge, which could be close to our modern notion of science, and actual magic. Both find expression through the marvellous and the wondrous, and they are both linked to the agency of human beings. The paper will closely examine examples coming from Geoffrey of Monmouth’s Historia regum britanniae and John of Salisbury’s Policratricus in order to propose an answer to this issue.

Written by Geoffrey of Monmouth in the 1130s, the Historia regum britanniae is a pseudo-chronicle portraying the history of the British people from its mythical origins up to the invasion of the Anglo-Saxons in the seventh century. Geoffrey’s alleged translation of ‘a very old book written in the British tongue’ includes instances in which wondrous and marvellous effects are achieved, but it is not always clear if the generating agent of these effects can be identified with the use of technology or with the supernatural. The Historia suffers from lack of credibility amongst modern historians, given its inclusion of an obviously fictional story line. Nevertheless, it was written and read as an

historical chronicle and it is a valuable source for twelfth-century concepts of magic.

Geoffrey of Monmouth’s use of the supernatural in the Historia is extensive and important. He utilizes prophecy, for example, as a structuring device in the narrative, signalling the key points in the passage of dominion of the island of Britain to the British people. Similarly, he includes the presence of magicians, both as recognisable individuals and as anonymised groups, throughout the narrative at key points. There is variation in the way these magicians, identified as magi, are presented: some are effective; some are ineffective; some dabble with clearly forbidden necromantic arts; while others rather present their skills as extremely learned and sophisticated. Perhaps the salient example in this last category is that of the magician Pellitus, come from Spain to aid the Anglo-Saxon king Edwin against the British attempts at reconquering the island. As a character, Pellitus is introduced as a most knowledgeable augur, who is identified with the use of the superlative sapientissimus.  

Most relevant perhaps are instances where wondrous results are the consequence of the direct intervention of Merlin the Magician. Merlin is not exactly described as a magus by Geoffrey of Monmouth. In the few instances that he is not mentioned directly by name he is referred to as a vates, a prophet from the ancient classical tradition, aligned with figures like the oracles and the sibyls. Merlin’s supernatural abilities in the Historia can roughly be divided into two classes, those that he controls and those that he has no control over. His renowned gift of prophecy must be counted amongst this last group. Merlin has the astounding ability to foretell the future, but when this happens and how it happens is not entirely up to him. In an episode where he is summoned to the court of the British king Aurelius Ambrosius, Merlin is asked to prophesy for the diversion of the king. He refuses however, stating that:

Non sunt reuelanda huiusmodi misteria nisi cum summa necessitas incuberit. Nam si ea in derisionem siue uanitatem proferrem, taceret spiritus qui me docet et cum opus superueniret recederet.
[Such mysteries should only be revealed in times of dire necessity. If I prophesied for entertainment or without purpose, the spirit that instructs me would fall silent and abandon me when I needed it.]⁴

In this same episode, where Merlin’s standing as a political prophet is reaffirmed, we gain a glimpse into his other abilities, those that whilst causing a similar level of wonderment and amazement are nevertheless subject to his control. The reason why Merlin has been summoned in front of Aurelius, is because the King has found himself at an impasse. He needs to erect a monument fit to commemorate the fallen heroes at Kaercaradoc and he has not been able to secure the resources to do so. Merlin is summoned and gives the following advice:

Si perpetuo opere sepulturam uiorum decorare uolueris, mitte pro chorea gigantum quae est in Killaraao monte Hiberniae. Est etenim ibi structura lapidum quam nemo huius aetatis construeret nisi ingenium artem subuectaret. Grandes sunt lapides, nec est aliquis cuius uirtuti cedant. Qui si eo modo quo ibidem positi sunt circa plateam locabuntur, stabunt in aeternum.

[If you wish to mark their graves with a lasting monument, send for the Giants’ Ring, which is on Mount Killaraus in Ireland. There is there a ring of stones which no man of this era could erect save by skill and art combined. The stones are huge, beyond the strength of any man. If you set them up in the same pattern around the burial-place, they will stand forever.]⁵

According to Merlin, stones from Mount Killaraus must be secured through the use of skill and art (nisi ingenium artem) to erect the monument Aurelius needs. Originally erected in Ireland by giants come from Africa, the stones have mysterious and medicinal properties: ‘Mistici sunt lapides et ad diuersa medicamenta salubres’ (The stones are magic and can effect various cures).⁶ With the use of the term mistici Geoffrey is emphasising the hidden supernatural properties of the stones, an idea that had already been emphasised through their association to giants. These properties are then narrowed down with the
positive use of the term *medicamenta* signalling their healing capacity. However, without knowledge of the mystical properties of the stones, the idea is derisory and Aurelius actually laughs at Merlin (in risum). But once Merlin has explained his reason to him, Aurelius is convinced and he sends a contingent to Ireland, led by his brother Uther, to secure the stones so that he can fulfil his oath to honour the British heroes. Merlin is to accompany Uther for it is deemed that his knowledge, his *ingenio et consilio*, might be helpful.⁸

On arriving in Ireland, Merlin faces a challenge from the Irish king that echoes the scepticism of Aurelius’ initial reaction. Gillomanius laughs (arrisit) at Uther and his men and challenges them to fight him, for according to him, no stones are to be removed from Irish soil on his watch, regardless of how foolish the attempt may be. As it turns out, the Irish are quickly routed, leaving Uther’s men in a position to transport the stones to their ships to be taken over to Britain. At this point in the narrative Merlin challenges Uther’s men. He asks whether brute force (*uirtus*) would serve better than intellect (*ingenium*), in moving the stones:

\[
\text{Vtimini uiribus uestrís, iuuenes, ut in deponendo lapides istos}
\text{appareat utrum ingenium uirtuti in uirtus an uirtus ingendio}
\text{cedat.}
\]

[Employ your might, men, to take down the stones and we shall
see whether brains yield to brawn or vice versa.]⁹

Uther’s men respond to the challenge at hand but are unable to move the stones, not even by an inch, regardless of the fact that they use their own contrivances, referred to in the Latin as *machinationibus*: cables, ropes and ladders that should have served them well and that demonstrate that when Merlin was referring to their use of ‘brute force’ he did not mean to discard all use of man-made devices or technology.¹⁰ After all, it should be noted that, according to Geoffrey’s chronology for these events, the accession to the throne of the House of Constantine, to which Uther belongs to, follows immediately after the Roman occupation of Britain and therefore there might be a suggestion here indicating that the army led by Uther might have benefited from insights into Roman developments. Following the warriors’ attempt at
dismantling the stone ring, Merlin makes use of his own *machinationes*[^1] and he is able easily to dismantle the monument and move the stones to the ship to be taken back to Aurelius’ chosen place for the monument, Salisbury Plain. It is clear that Merlin’s ability to move the stones generates wonder, as great warriors with the use of their force (*virtus*) and contraptions (*machinationibus*) had not been able to move them. However, Geoffrey is ambiguous as to the means used by Merlin to achieve this feat. At first sight, there does not appear to be any significant difference between his own contraptions and those used by Uther’s warriors, but Merlin’s technology is of a superior nature, it is more effective and its assemblage is difficult to the point that he is the only one capable of managing it. Is Geoffrey’s intention here to portray Merlin’s actions as supernatural? There is little indication in this episode that this is the case; Merlin has no recourse to ritual nor does he appear to summon powers beyond himself. Nevertheless, given his ancestry, Merlin himself may be considered supernatural and with the use of his *ingenium* he does achieve what is perceived to be a marvellous and wondrous deed. The extent to which this scene is perceived as potentially ambiguous and controversial can be examined by Wace’s retelling of this same feat in his *Roman de Brut*, a French translation of Geoffrey’s *Historia* produced in the 1150s. The story told by Wace does not stray much from Geoffrey’s original but in one very telling detail: at the time when Merlin is assembling his contraptions in order to take down the giant’s stones, he mutters and whispers to himself unintelligible words.[^2] It is clear that Geoffrey’s ambiguity could have presented difficulties to some of his readers as it was not easy to form an opinion on whether the origin of Merlin’s actions was supernatural, or whether it was just the product of an extremely clever and extraordinary man, who just happened to also be blessed with the gift of prophecy.

There is another episode in which Merlin’s actions are clouded with ambiguity, and where it is difficult to discern whether his actions are the consequence of hidden supernatural powers or of extremely sophisticated cutting-edge knowledge. In this instance, it is King Uther, Aurelius’ brother who had succeeded to the throne after him, who is in need of Merlin’s aid. Uther is besotted with the wife of one of his most prominent liegemen, duke Gorlois of Cornwall. Uther’s infatuation with Gorlois’ wife Igerna, (*cuius pulcritudo mulieres tocius Britanniae*).
superabat), the most beautiful woman in Britain, is extreme to the point that his ability to rule his kingdom is impaired:

Vror amore Igernae nec periculum corporis mei euadere existimo nisi ea potitus fuero. Tu igitur adhibe consilium quo voluntatem meam expleam, aut aliter internis anxietatibus interibo.

[I am aflame with love for Igerna and cannot go on living if I do not have her. Tell me how I can fulfil my desire before my inner turmoil kills me.]\(^\text{14}\)

Following the advice of one of his knights, Ulfin, Uther seeks the help of the prophet Merlin. When he arrives at court, Merlin reassures the king, promising him access to Igerna through novel and until then unheard of means, *nouis artibus et tempore tuo inauditis*, (Strange arts, unheard of in your time).\(^\text{15}\)

Gorlois’ castle of Dimilioc is being sieged by Arthur’s troops, while Igerna is being kept safe at the fort of Tintagel. Thanks to Merlin, Uther is able to reach Igerna by shapeshifting into the appearance of duke Gorlois. In order to accompany the King, both Ulfin and Merlin also shift into the appearance of two of the duke’s men. Merlin achieves this astounding feat through the use of what he describes as *medicaminibus meis*, to which only he had access. As had happened with the stones in Mount Killaraus, there are no ritual elements or procedures that can be clearly identified as magical with Merlin’s actions. Unlike the Stonehenge episode, this scene is morally ambiguous. By helping Uther lie with Igerna, Merlin is facilitating adultery, and in addition, the means by which he does so involve trickery and deception. In order to grant the king’s wishes, Merlin has to manipulate the appearance of something making it look as if it were something else: *Scio medicaminibus meis dare tibi figuram Gorlois ita ut per omnia ipse uidearis* (With my herbs I can give you the appearance of Gorlois).\(^\text{16}\)

He creates an illusion through deception and this is a property that had been associated with magic and the agency of evil demonic power since the time of Augustine. Nevertheless, thanks to Merlin’s intervention, King Arthur is born and a prophecy that Merlin had himself uttered for Uther earlier on in the narrative is fulfilled.\(^\text{17}\) Furthermore, the text
mentions explicitly that Merlin’s actions are achieved by some new drugs that are known only to him, and not thanks to the intervention of demons. As with the previous episode, this scene blurs the line between the technological and supernatural origins of wonders, for it is clear that the concealment by which Arthur was born was not only effective, but marvellous. ¹⁸

Merlin, the prophet of Geoffrey’s *Historia*, an alleged historical character who is himself the product of a supernatural conception, uses resources that generate wonder but that may be seen to rely on pure knowledge and advanced technology. The nature of the two episodes described above is ambiguous, for the innovative knowledge used by Merlin is difficult for others to understand. Merlin has control over these resources, and even if they are not a channel of the supernatural, they still generate wonder and may be thought of as marvellous. After all, instances where men leading the development of knowledge in the period were labelled as magicians are not entirely lacking. In his *Gesta regum anglorum*, for example, when discussing the life of Pope Sylvester II and the ‘black legend’ describing him as a necromantic sorcerer, William of Malmesbury mentions that: *Sed haec uulgariter ficta crediderit aliquis, quod soleat populous litteratorum famam ledere, dicens illum loqui cum demone quem in aliquot uiderint excellentem opere*, (Some may think this a lie, for the ignorant underestimate the powers of the learned, and think that all skill in science is learnt from the devil),¹⁹ a telling example of what potential current attitudes towards advanced and sophisticated knowledge could be.

At the time when Wace was producing his vernacular translation of Geoffrey’s *Historia* in the 1150s, when the text had achieved both wide acceptance and ample circulation amongst scholarly and courtly circles, signs of both interest and concern about the practice of magic at court were being expressed by churchmen like John of Salisbury (c.1110s-1180). A clerk in the service of Theobald of Bec (c.1090-1161), archbishop of Canterbury, and a supporter of Thomas Becket, John was deeply familiar with the world of lay and ecclesiastical courts. His position granted him access and his Parisian education provided him with the skills necessary to produce a ‘general’ critique of court environments that took the form of the *Policraticus*, a treatise on political theory written as a manual of government dedicated to Thomas Becket. Following a moralizing agenda, John describes the errors and
vices he believes are corroding courtly life in his time. Amongst these, he emphatically condemns magic and magicians, dedicating several chapters of the first book of the *Policraticus* to an exposition of what he considers to be ‘magic’ and its ‘practitioners’. He also includes an interjection on astrology and other magical practices, which were perceived to involve the use of cutting-edge technological knowledge.

Closely following Isidore of Seville’s *De magis*, John of Salisbury introduces his discussion of magical practices with the term *praestigia*, a word similarly used by Geoffrey of Monmouth when referring to the necromantic king Bladud; it denotes a sense of delusion, illusion or trickery. John associates the invention of ‘praestigia’ with classical paganism, emphasising its deceptive character. He indicates how it included both the practice of magical arts (artes magicas) and astrology (mathematicae), and he qualifies it as foul, harmful and lethal (nocentiora), the product of trafficking with demons. The emphasis of John of Salisbury is not placed in the marvellous or wondrous effect of the magical. On the contrary, his stance is that of the churchman who relies on patristic authorities to guide him through these muddy waters, and accordingly he places the emphasis of what is ‘magical’ unvaryingly in its demonic origin.

Within his general condemnation of magic, John of Salisbury includes a description of different types of magicians (magi), whom he describes as powerful men, capable of destroying the identity of things and of predicting the future, amongst other skills. As with his definition of ‘magic’, John of Salisbury partially bases his schematisation of the ‘magician’ on the work of Isidore of Seville, hence his description of *incantatores, arioli, haruspices, mathematici, genethliaci, salisatores, sortilegi* and *augures* closely resembles patristic characterisations of these practitioners. His portrayal of *incantatores* and *arioli* follows Isidore’s text almost verbatim, while the other categories merely rephrase Isidore’s descriptions. Nevertheless, John adds to his list of practitioners categories not mentioned by Isidore: *phycii, vultuoli, imaginarii, coniectores, chiromantici* and *specularios*, while including supplementary material on astrologers (mathematici). This is relevant because it indicates that even though John is extracting most of his material from patristic authorities, he is not merely replicating ‘outdated’ attitudes towards magical practices. On the contrary, he is manipulating his sources, adding, rephrasing and amending the text as
necessary, in order to produce his own discourse; one that not only expresses censure, as is to be expected, but that also voices anxiety.

John’s concern for the demonic origin of current magical practices at court is evident in his treatment of *speculários*, or crystal-gazers. While discussing this practice, John mentions how as a young boy he witnessed a priest, under whose care he himself was placed to learn the psalms, continuously perpetrate sacrilegious rituals involving the invocation of demons and crystal-gazing. In this passage, John expresses his gratitude to God at his apparent ineptitude in the art, which according to him, saved him from having to participate in the rituals, a privilege not shared by a fellow pupil, who apparently was more able than him in the art. In this case, the origin of John’s anxiety is clear, as is the association he makes between magical practices and demonic powers. However, there is an instance in which John’s concern about the practice of magic slides from a demon-centred concept of magic into other equally profound theological discussions, these ones related rather to the applied use of a particular branch of knowledge which in the setting of twelfth-century western Christianity was acquiring novel practical applications: astrology.

In the discussion of astrology that is included in Book II of the *Policraticas*, John is led to admit that there are instances in which its practice could be legitimate, despite the fact that he had previously classified astrology as part of the magical arts in Book I. Having already established the distinction between máthesis, accentuated on the first syllable (mathematics) and mathésis (astrology), accentuated on the second syllable, sanctioning the practice of the former while emphatically condemning the latter as magic, John establishes the boundary between the two by the recommended exercise of moderation (moderationis), which leaves us with rather ambiguous advice:

Est autem astronomiae nobilis et gloriosa scientia, si clientelam suam intra moderationis metas cohibeat, quam si licentiori unitate excedit, non tam philosophiae species quam impietatis decipula est.

[Now astronomy is a noble and glorious science if it confine its disciples within the bounds of moderation, but if it be
presumptuous enough to transgress these it is rather a
deception of impiety than a phase of philosophy.\textsuperscript{27}

There is no clear indication in the text that the technology used in the
case of one or the other is substantially different, or that in one case the
operating power is demonic, while in the other one it is merely natural.
However, his condemnation of the illicit practice of astrology is not
ambiguous. John's problem here is one of principle, not one of method.
What John perceives as the astrologer’s claim to all-encompassing
knowledge of the signs and powers of the stars is what he finds
problematic in the practice of illicit astrology, for he sees in it an
‘usurpation’ of God’s power:

\begin{quote}
Vide in quantam erroris abyssum ab ipsis caelestibus cadant.
Constellationibus suis ascribunt omnia. Tu uideris an ei fiat
iniuria qui fecit caelum et terram et omnia quae in eis sunt.
\end{quote}

[See the great abyss of error into which they are cast by the very
phenomena of the heaven! They ascribe everything to the
constellations. Seest thou whether wrong is done Him who
hath made heaven, earth, and all that is in them.]\textsuperscript{28}

Furthermore, his interpretation of the astrologer’s belief in the
‘determining’ power of celestial bodies contradicts his understanding of
the role of the creator, thus for him it negates God and jeopardizes one
of his greatest gifts to humanity, freewill: \textit{Deinde ea constellatio
rebus necessitatem indicit ut arbitrii perimat libertatem. An et hoc recte,
tecum delibera} (In fine the stars impose such compulsion upon events
that free will is destroyed. Ponder whether this too be right).\textsuperscript{29} However,
John also recognises the skilled and advanced knowledge that is
necessary for astrological calculations and he is reluctantly willing to
admit that there are instances in which its practice is legitimate. In these
cases, he recommends extreme caution in the exercise of the practice,
for it is not easy for the practitioner to exercise the required
\textit{moderationis} and to identify clearly the moment in which he is crossing
the boundaries into territories that are clearly more dangerous.

The perspective of John of Salisbury is that of an educated man of
the church, who is however immersed in the current affairs of the world.
His theoretical stance on magical practices is not surprising. It recovers what had been established by patristic authorities in the earlier centuries of Christianity, reformulating some of the material to include more recent practices and to acknowledge current attitudes. In the case of astrology, however, the division within what is to be considered ‘magical’ is not dependant on the old debate that associated magic with paganism and the power of demons. A sophisticated theological argument is developed as an example of the damnation awaiting men who dabble into knowledge that is not for them. In John’s case, it is human curiosity and its attempt to know what is not to be known that is chastised; the emphasis here is on forbidden knowledge, not on the possible interaction between magicians and demons. Therefore, John’s attitude to astrology is complex but his stance on it is not to be doubted. He recognises the danger it poses and recommends staying away from it.

John of Salisbury is able to articulate more clearly a problem that is also present in Geoffrey of Monmouth’s *Historia;* the gradual shifting of a paradigm which understood the essence of magic as a consequence of consorting with demons. In the twelfth century, the particular context in which this earlier paradigm had worked so well was now unfamiliar. In addition, the understanding of the workings of magic was being altered by the increasing presence of new and sophisticated knowledge coming into northern Europe via translations from Arabic into Latin of Classical texts and their Arabic commentaries and interpretations. The presence of the demonic in magic was to remain important, but a place in the earlier categorisation was now needed for practices that generated wonder, as magic did, but that did not need the intervention of demons to operate, however misguided they might be. A preamble to this controversy can already be seen early in the work of Geoffrey of Monmouth during the first half of the twelfth century and also in the writings of John of Salisbury by the middle of the century. Eventually, a new category of knowledge was developed in the early thirteenth century in order to address this particular change in paradigm: the notion of natural magic. Unsurprisingly, it was the consequence of the work of theologians.

The idea that there are occult properties in nature that can be tapped into by the expert and the skilled in order to produce what would appear as marvellous effects is developed in the work of philosophers like Albertus Magnus and William of Auvergne; the latter
actually providing the terminology used by modern historians to articulate this concept: natural magic or *magia naturalis*. The notion of natural magic offers a way into the occult properties of nature through skill and knowledge. It recognises the presence of the demonic in magic, but separates itself from it by establishing a neutral path lying between the magical and the miraculous. Its attempt to address the technological and knowledge-based innovations of twelfth century wonder-making, without stripping the concept of magic of its traditional sense, was innovative and theoretically successful. From a theological standpoint, it solved the ambiguity that had been present in earlier sources, where new thoughts and ideas about magic, the prognostication of the future by licit and illicit means and the use of natural, if occult, properties of things resulted in marvellous effects, and where the realms of science, magic and technology had often overlapped and thus remained ambiguous.

Notes

   According to Isidore of Seville, the ‘Vates a vi mentis appellatos, cuius significatio multiplex est. Nam modo sacerdotem, modo prophetam significat, modo poetam.’ [Vates are so called from ‘force of mind’
(vismentis), and the meaning of the word is manifold, for now it means ‘priest’, now ‘prophet’, now ‘poet’.] (VII, xii, 15) and when discussing poets he states: ‘Vates a vi mentis appellatos Varro auctor est; vel a viendis carminibus, id est flectendis, hoc est modulandis: et proinde poetae Latine vates olim, scripta eorum vaticinia dicebantur, quod vi quadam et quasi vesania in scribendo commoverentur; vel quod modis verba conecerent, viere antiquis pro vincire ponentibus. Etiam per furorem divini eodem erant nomine, quia et ipsi quoque pleraque versibus efferebant.’ [Varro is the originator of the idea that ‘seers’ (vates) are so called from the force (vis) of the mind, or from plaiting (viere) songs, that is, from ‘turning’ or modulating them; accordingly the poets in Latin were once called vates, and their writings called ‘prophetic’ (vaticinius), because they were inspired to write by a certain force (vis), a madness (vesania), as it were; or because they 'link' words in rhythms, with the ancients using the term viere instead of vincire (‘bind’). Indeed through madness the prophets had this same name, because they themselves proclaimed many things in verse.] (VIII, vii, 3)


7 Geoffrey of Monmouth, *History*, VIII, 243.
11 Deficientibus itaque cunctis, solutus est Merlinus in risum suasque machinationes confect.

[Merlin laughed at their failure, then prepared contrivances of his own.]

12 Traiez vus, dist Merlin, en sus./ Ja par force nen ferez plus./ Or verrez engine e saveir/Mielz que vertu de cors valeir./' Dunc ala avant si s'estutt./ Entur guarda, les levres mut/ Comë huem kid it oreisun;/ Ne sai s'il dist preiere u nun.

['Rise,’ said Merlin, ‘you will do no more by force. Now you shall see how knowledge and skill are better than bodily strength.’ Then he stepped forward and stopped. He looked around, his lips moving like a man saying his prayers. I don’t know if he said a prayer or not.]