



A Bridge Between Two Worlds: the Importance of the *Lorsch Pharmacopoeia* in the Transmission of Late Antique Medical Ideals in the Carolingian Empire

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Abstract

This article proposes to explore the value of early medieval medical writings, particularly those produced during the Carolingian Empire. While the value of early medieval medicine is largely disregarded in favor of foundational Greco-Roman medicine or the later renaissances of the twelfth and fifteenth centuries, it is nevertheless essential to the history of medicine as a bridge between those two eras. Further, though typically perceived of as a stagnant era due to a relative lack of scientific discourse and innovation when compared to the preceding and proceeding eras, manuscripts such as the *Lorsch Pharmacopoeia*, produced in the year 800 at the Abbey of Lorsch, with its peculiar preface, allows us a rare insight into the attitudes towards rational medicine commonly thought to be held throughout the Carolingian Empire. Though there is little evidence for standardized education at the time, and none whatsoever regarding medical education specifically, this article will consider the value of monasteries and their scriptorium in the preservation and spread of ancient medicines through both preaching and manuscript production. Thus, we can determine the scope and potential audience of the *Lorsch Pharmacopoeia* and subsequently the necessity of such manuscripts to medical history as a whole.

Keywords: history of medicine, Carolingian Empire, Lorsch Abbey, Lorsch Pharmacopoeia, medical manuscripts, early medieval medicine

The Carolingian age is well known for its renaissance and subsequent revitalization of medieval culture. Tragically, the cliché of it as a ‘Dark Age’ persists: thought to be lacking in intellect, reason, and scientific development, it is often overlooked despite producing one of the most significant works of continental early medieval medicine (Büttner and Kautz, 2015, pp. 11-13). Commonly referred to today as the *Lorsch Pharmacopoeia*, or the *Lorscher Arzneibuch*,¹ this manuscript was produced at the end of the eighth century in the Rhine

¹ Bamberg, Staatsbibliothek, Msc. Med. 1, fols. 1r-75v. <https://doi.org/10.11588/diglit.6162>

Valley at the scriptorium of Lorsch Abbey. Considered to be one of the oldest examples of a medical manuscript from the medieval European continent, the *Lorsch Pharmacopeia* has been recognized by the Memory of the World Register for its significance to the history of medicine (Büttner and Kautz, 2015, pp. 11-13). Written in the typical miniscule hand of the Carolingian Renaissance, the manuscript contains seventy-five folios composed prior to the year 800, apart from fol. 42v, a later addition listing the books in the collection of Emperor Otto III (r.996-1002). The rest of the folios, starting from fol. 5r, contain lists of ingredients, descriptions of specific sicknesses and their cures, and discussions of various intellectuals such as Isidore of Seville, Hippocrates, Aristotle, and Galen. In this way it is typical of many medical manuscripts of the period, particularly those of Anglo-Saxon origin, upon which much of modern academic scholarship medieval medicine is focused. However, it differs significantly in fols. 1v-5v which are comprised of a preface written by an anonymous monk defending the use of rational medicine by Christians, stating that “human medicine (*humana medicina*) is not to be utterly rejected, since it is evident that it is not unknown to the divine books” (trans. Wallis, 2010, p. 85).² Inspired by the distinction of ‘*humana medicina*,’ this article endeavours to trace the origin of this distinction, and how it served to create a significant medical culture within the Carolingian Empire that subsequently establishes it as a bridge between medicine of the classical era and the so called later renaissances.

There is a persistent myth throughout popular culture, and indeed some branches of academia, which posits that the rise of Christianity was directly responsible for the decline in Greco-Roman classical sciences and thus, what has become universally known as the Dark Ages of western civilization in the medieval period (Lindberg, 2010, pp. 9-10). Despite the tensions between Christianity and various medical traditions over the course of its history, it did not necessitate that Christianity openly and actively fight against the development of medicine, or indeed to erase the developments which came before them. Rather the perceived decline lay in the disappearance of medical institutions in the wake of the fall of the Western Roman Empire. Medicine, even with its ‘pagan’ origins, was something which Christianity enthusiastically embraced because, as the preface to the *Lorsch Pharmacopeia* states, “it was given by God, [and thus] seems to be worthy of imitation” (trans. Wallis, 2010, p. 85).

Indeed, we often see Christianity specifically targeting the “metaphorical value” of the physician in its attempts to replace ‘pagan’ religion and tradition (Amundsen, 1996, p. 133). In this way, Christianity was essential to the further development of medicine, though many scholars are eager to mark the rise of Christianity as the downfall of science and the beginning of the ‘Dark Ages.’ However, in reality Christianity did not destroy Greco-Roman medicine, but instead transformed it into something new, picking and choosing the elements which best fit their theology (Jefferson, 2013, p. 325). Peregrine Horden (2019) describes this transformation as the “domestication” of pagan medicine by Christianity, a phenomenon which is most clearly seen in the adaptation of Greco-Roman healing cults and the active promotion of Jesus Christ as Divine Healer (p. 95).

Superstition and medicine have always been two sides of the same coin, even in the fabled days of Classical Greco-Roman learning, hailed at the high point of rationality (Flint, 1991, p. 241). However, for as long as there were medical professionals there were voices speaking out against this association. Hippocrates was one such voice, for he dismisses

² “A Monastic Defense of Medicine Against Rigorist Critics: the *Lorsch Leechbook*,” in *Medieval Medicine: a Reader*, ed. Faith Wallis (Toronto: Toronto University Press, 2010), 85. “quaemobrem respondeboeis non meis sed facisu(m) scripturaru(m) uerbis | quia non est respuenda humana p enitus medicina cumeam const(et) diuinis | non esse incognitam libris,” Bamberg, Staatsbibliothek, Msc. Med. 1, fol. 1r, <https://doi.org/10.11588/diglit.6162>. Wallis’ translation is the one which this paper will be working with.

illnesses and cures attributed to superstition as the result of the unknowledgeable trying to make sense of that which “they are at a loss to understand” (trans. Jones, 1992, p. 139). Therefore, to blame the Catholic Church alone for the harsh attitudes towards secular science and its superstitious associations would be a falsity. If one strips away every influence that rational medicine has come under since its origins, the fundamentals of what is left is a discipline which heals the body through natural means, in which everything that causes and cures sicknesses is derived either from the earth or the body itself. Despite physicians such as Hippocrates actively fighting against the perception of illness as something caused by gods or demons, for “if it is to be considered divine just because it is wonderful, there will be not one sacred disease but many” (trans. Jones, 1992, p. 139), the issue with medicine remained that it was a discipline that was inherently ‘pagan.’ Though Greco-Roman medicine was well developed and indeed effective for the time, due in part to intellectuals such as Hippocrates, Galen, and Aristotle, Christianity, new and eager to spread its doctrine, was unwilling to accept or allow for the preservation of the competing ideologies imbedded within that tradition (Horden, 2019, p. 100). Despite this, the early Christian Church knew the value of health and medicine. In fact, many Greco-Roman medical traditions were rather complimentary to healing narratives found within the gospels. Indeed, the Hippocratic Oath aligns with Christian ideals when it states that “I will be chaste and religious in my life and in my practice” (trans. Chadwick, 1950, p. 67). While the Oath was said in the name of the Greco-Roman deity Apollo, it would not have posed an issue to an aspiring Christian physician. Indeed, Christianity had few issues with repurposing pagan traditions for their own needs, especially through the means of substituting Jesus for pagan gods (Amundsen, 1996, p. 129).

We often see Christianity specifically targeting the “metaphorical value” of the physician in its attempts to replace ‘pagan’ religion and tradition (Amundsen, 1996, p. 133). In this way, Christianity ‘domesticated’ pagan medicine, but so too was it inherently influenced by it and the Greco-Roman culture of Late Antiquity generally (Sirasi, 1990, p. 7). For the purpose of this study, the most important source of influence came from the Greco-Roman healing cults that provided comfort for sick individuals and their loved ones who otherwise had nowhere to go (Jefferson, 2013, p. 55). While these healing cults were not necessarily associated with the true rational medicine of Hippocrates and Galen, they nevertheless helped to shape Christianity’s opinion of rational, secular medicine as it shaped Christianity itself, simply by the virtue of both being ‘pagan.’ These cults evoked healing miracles which, because of their pagan origins, would be condemned as ‘superstitious’ or otherwise evil by later Christian commentators. Regardless, these cults existed side by side with Christianity and competed with it, and stood as an option to either replace or supplement rational, secular healing (Sirasi, 1990, p. 7). While it is not known for certain why individuals would choose secular over religious healing, or vice versa, it has been made quite clear that there were little repercussions in the community for those who decided to forgo one for the other (Sirasi, 1990, p. 9). This then suggests an otherwise amicable relationship between all three institutions before the Christian Church began to spread and accumulate increasing amounts of power and influence within their communities.

As Christianity gained a foothold within the Late Antique Mediterranean world and further into the European continent proper, two things occurred which establish the approaching early Middle Ages to be regarded as an era devoid of medical, and indeed scientific development as a whole. First, and most importantly, was the collapse of the western Roman Empire and with it, the intellectual and professional institutions which allowed Greco-Roman antiquity to develop such a sophisticated body of rational secular medicine alongside pagan healing cults (Nutton, 2013, p. 323). This collapse allowed for the

proliferation of ‘superstitious’ folk healings in addition to a widespread preference for spiritual healing. Therefore, it cannot be said that the shifts in attitudes towards healing were always the direct result of Christianity (Nutton, 2013, p. 338). Certainly, should these institutions have continued to thrive as they did in the Byzantine east, then the overall ‘medical literacy’ of the population would not have declined as steeply as it did, and thus Christian ideals of health would not have gained the significant foothold within the general population as it ultimately did. While secular healing did not disappear entirely due to preservation efforts made by monastic communities during the Carolingian Renaissance, it is nevertheless extremely difficult at times to distinguish between “physical healing and spiritual counsel” offered by the Church, due to its effective takeover of medical institutions and the subsequent precedence which Christian theology took over rational methods of healing the body (Sirasi, 1990, pp. 7-11; Nutton, 2013, p. 338).

Secondly, with the collapse of the institutions which provided both medical education and care, people began to rely more and more upon long circulated folk remedies and otherwise unsanctioned practices condemned by the Catholic Church. Though this work’s primary goal is to illuminate the harmony between Christianity and medicine, it is nevertheless of the utmost importance to also understand the tensions within the relationship. In this era, the majority of the population was faced with choosing between the medical traditions that had persisted in their culture for hundreds of years—not only pagan, but also simple folk remedies and ‘magic’ which appealed to nature—and a new, all-encompassing religion which promised spiritual health at the expense of their physical constitution (Horden, 2019a, p. 94). The solution more often than not resulted in a blending of Christian and native—or pagan—practices, as clearly illuminated by the substitution of Jesus for Asclepius in Greco-Roman healing cults. However, as Christianity grew more prominent on the European continent, this blending occasionally came under attack by highly visible and outspoken individuals, such as St. Caesarius (c. 470-542CE), who, like many of his cohort before him, condemned ‘superstitious’ healing practices for maintaining a magical presence in what was supposed to be a purely Christian world (Jefferson, 2013, p. 22).

The new Christian culture was no longer one that had to actively compete with other religions and their healing cults as it did in Late Antiquity. In the new era of the early Middle Ages, the Church had become a well-established institution, and though there were still large swaths of the European continent which awaited conversion, the problem that faced the Church was not so much competition, but rather regulation. The early medieval Church, particularly under the Carolingians, was one which instead endeavored to preserve as much ancient Greco-Roman knowledge as was available to them (Sirasi, 1990, p. 10). Thus, huge amounts of ancient medical writings were preserved by the intense efforts put in by the monasteries and the monks working in their scriptoriums (Sirasi, 1990, p. 9). To say that Christianity was totally opposed to secular medicine, then, is false (Nutton, 1995b, p. 85). However, contradictory statements regarding the importance of the soul over the body prevailed, and therefore remnants of this supposed conflict between the Church and secular medicine continued to cause confusion until the rational revolution of scholasticism during the twelfth century renaissance, and further until the Renaissance proper (Park, 1995). But as we can see in the works of these great churchmen identified specifically by the author of the Lorsch preface (trans. Wallis, 2010, pp. 84, 94), medicine was largely compatible with Christianity, albeit subject to certain, often times contradictory, stipulations.

Let us look to St. Benedict whose *Rules* irrevocably shaped medieval Christian monasticism and indeed, appeared to support the usage of rational healing by Christians. Born in Umbria under the rule of Odacer and considered to be the founder of medieval monasticism as we know it, Benedict is possibly one of the most important figures of medieval history

(Noble, 2015, p. 288). Further, as the witness to great cultural shifts during his own lifetime with the fall of the Roman Empire, a voice such as his is especially valuable to research which endeavors to determine the influence that cultural shifts and blending had on healing. The inherent compatibility between medicine and religion is due to the frequent appropriation of the physician as the ideal healer and thus role model for the ideal Christian (Horden, 2019a, p. 101). Benedict supports this compatibility when he states that every monk within his monastery “should take the greatest care of the sick, of children, guests and the poor, knowing for certain that he will have to give an account of all these on the Day of Judgement” (trans. White, 2008, p. 56). Additionally, not a few pages later, Benedict indisputably declares that “the care of the sick must take precedence over everything else” (p. 62). Again, then, in the guide which would come to structure every monastic house in the Carolingian Empire we see the same motivations that lead to the promotion of Jesus as the ultimate Divine Healer: that care of the sick is the corner stone of Christian charity, and that Christianity alone can provide healing necessary for both the body and the soul. Admittedly, Benedict does not specify what exactly he means by healing, whether spiritual only, or as accompanied by secular medicine (Paxton, 1995, p. 237). However, that does not seem to particularly matter, for it is but one of many Christian writings and indeed no authoritative early Christian text “entirely condemns, *on theological grounds*, the Christian’s use of physicians and medicine” (Amundsen, 1996, p. 7). Indeed, as the Lorsch preface reads that “whatever good is done by man is brought to perfection by God,” (trans. Wallis, 2010, p. 91) it is therefore not unreasonable to presume that Benedict was open to the usage of secular medicine within his monasteries. As he instructs the sick directly that they “should consider that they are being served out of reverence for God and must not irritate the brothers who are serving them by making unreasonable demands,” (trans. White, 2008, p. 62) I would argue that the exact nature of the healing was not of concern, so long as it was not magical or otherwise ‘pagan.’ And indeed, ensuring the health of the body alongside the health of the soul, rather than prioritizing one over the other, is what St. Benedict claims to be one of the most assured ways to salvation: “and so we must prepare our hearts and bodies to fight by means of holy obedience to his instructions” (p. 5).

Issues arise when competing perceptions of authority figures of each discipline—i.e., doctors versus monks or saints—influence the perception of the discipline as a whole and thus lead unsure pious Christians to turn to the extreme of relying solely on spiritual medicine, due in part to a misunderstanding of the works of Church authorities and fear mongering preachers who would spread them. To determine the truths underlying the largely overexaggerated animosity between the two will allow us to properly appreciate the development of secular attitudes towards different types of healing and thus, lead to such a statement as that within the preface of the *Lorsch Pharmacopoeia*. For this, we shall go beyond the strictly ‘pagan’ associations which initially soured Christianity towards Greco-Roman medicine, and instead focus on that hard to define category of ‘superstition,’ which lead some individuals to, as St. Caesarius (c. 468-542 CE) sermonizes,

seek soothsayers in every kind of infirmity [...] consult seers and divines, summon enchanter, and hang diabolical phylacteries and magic letters on themselves. Often enough they receive charms and even from priests and religious, who, however, are not really religious or clerics but the Devil’s helpers (trans. Mueller, 1956, p. 253).

Thus, we are looking at the condemnation of practices that were feared to potentially corrupt all levels of society, both secular and religious. Not necessarily medical in any strict sense of

the word, these taboo practices are undoubtedly ‘superstitious’ and what the Anglo-Saxon tradition of medical studies has established as the cornerstone of medieval medicine. However, Christian concerns will prove to go beyond the scope of the ‘superstitious,’ and indeed many writings focus instead upon criticizing those who allowed for their physical health to take precedent over their spiritual health, as St. Caesarius does when he writes that “the person who feels anxiety for his bodily health alone is like the animals and wild beasts” (p. 253).

In contrast, the more scientifically minded Isidore of Seville (560-636) manages to strike a better balance than any of the previous writers, for he emphasises the goodness of both secular and spiritual medicine to heal their respective designated areas, as “human beings have two aspects: the interior and the exterior. The interior human is the soul [and] the exterior is the body” (trans. Barney, et. al., 2006, p. 231). A Spanish scholar and cleric, he served as the Archbishop of Seville from 603 to 636 and was an essential intellectual figure during the shift from Late Antiquity to the early Middle Ages. Indeed, Isidore was especially important to the Carolingian reforms, as many texts, including the *Lorsch Pharmacopeia*, look directly to him as an authority. In the Lorsch preface, the writer calls “someone who does not seek medicine in time of need [...] foolish and lacking in sense” (trans. Wallis, 2010, p. 91). Isidore’s influence is obvious in this statement, as he too writes that “the curing power of medicine should not scorned, for we recall that Isaiah ordered something medicinal for Hezekiah when he was failing, and the apostle Paul said to Timothy that a moderate amount of wine is beneficial” (trans. Barney, et. al., 2006, p. 113). Isidore of Seville agrees that “strictly speaking, ‘human being’ is from ‘soil’” (p. 231), and thus, as is written in the Lorsch preface “man, who is formed of earth, should receive relief of his infirmity from the earth” (trans. Wallis, 2010, p. 91). Therefore, Isidore’s writings are especially illuminating to research interested in Christian attitudes towards secular medicine, as he makes it clear that while spiritual healing is of great import and is often considered to be the most assured route to good health, the use of rational medicine, derived from the natural elements that God had put upon the Earth to be used by humans, can be just as beneficial to one’s health.

Indeed, healers often overlapped and interacted with each other in the treatment of any single patient, as the doctor could assist the patient while they undergo spiritual cleansings via penance, and the saint could supplement the limits of the doctor’s knowledge (Nutton, 2013, p. 339). Thus, as Vivian Nutton writes, “health obtained through medicine is one of these things that has its origins and existence as a consequence of divine Providence as well as human cooperation” (2013), therefore supporting that Christianity and medicine are inherently compatible, and indeed that the stagnation of medical advancement in the early medieval period was not so much the doing of the Church as it was a consequence of the downfall of the western Roman Empire and secular institutions with it. We can subsequently see that Christianity’s issue was not with medicine so much as it was with paganism, and in fact made efforts to illuminate the compatibility between itself and secular medicine. It is therefore not surprising that Christian monasteries were the centers of the preservation of classical medicine. Further, in conjunction with the Carolingian reforms, monasteries were essential in the dissemination of medical knowledge into general society. They were therefore essential to the spread of medicine in the early medieval period, despite the lack of, but steadily growing, scholarship exploring the significance of early medieval medicine and the inherent compatibility of the Church and secular medicine

The history of medieval medicine is a difficult one to tackle. Sources are scarce, specifically regarding medical education. Indeed, there is little evidence for large scale schooling of any kind during the period, even under Charlemagne’s reforms, and none whatsoever regarding medical education specifically. However, the spread of knowledge both

formal and otherwise is important to this study as it will allow us to better identify the possible audience that the writer had in mind when he penned the *Pharmacopoeia*'s preface. This article will not be especially strict in what it considers to be 'medical literacy.' Indeed, while it would be easiest to focus strictly upon practitioners, this work is interested instead in the degree of medical knowledge that the average person may have had. Thus, for our purposes, medical literacy does not equal medical expertise. While naturally it will be necessary to determine what medical professionals actually knew—be they physicians, monks, or folk healers—determining the everyday lay knowledge will better allow us to answer the questions raised by the Lorsch preface.

The new monastery at Lorsch was founded between 762 and 764 by the Count Cancor, whose family was involved in growing the Abbey's land holdings through donations over the next several years, such as that by his wife, Angela, in 771 (Innes, 2000). In 774 the new abbey was consecrated by Archbishop Lull of Mainz (McKitterick, 2004, p. 196); and in 775 Embert, Bishop of Worms, donated land to the abbey on behalf of Count Cancor's son, Heimerich, to ensure the salvation of his soul (Innes, 2000, p. 59). Thus, these gifts of land served as tokens through which their donors would receive salvation (Hen, 2007, p. 114); they were earthly payments exchanged for spiritual gains which insured their salvation via "vicarious devotion" (Nelson, 2018, p. 676), regardless of whether these donors were pious Christians in their daily lives. Beyond the spiritual advantages, however, land donations also ensured that aristocratic families remained at the center of what would prove to become a vast and highly important cultural network through which all strata of the kingdom were able to interact on some, frequently intangible, level. Unavoidably, however, Lorsch had always felt royal influence on some degree prior to the royal acquisition in 772. Indeed, it was Pippin III's spiritual advisor Bishop Chrodegang of Metz who served as its protector and had appointed his brother Gundeland as abbot from 765 to 778 (McKitterick, 2004, p. 196). But in these interim years from 762 to 772, Lorsch, like many monastic sites, fell under the primary influence of the local aristocracy whose names appeared in the abbey's *libri vitae*. And while the founding aristocrats continued to maintain a certain level of influence within their communities, Charlemagne ensured that his acquisition of local monasteries stood as a check to aristocratic power and allowed him to establish a royal presence throughout the kingdom (Innes, 2000, p. 27). Thus, by 806 most of the important aristocratic monasteries had come under royal power, allowing Charlemagne to better monitor local conflicts, uphold monastic independence from the bishopric, and to intervene through the appointment of his own loyal courtiers in positions of power to shape the localities to benefit the kingdom over the aristocracy (de Jong, 1995, p. 626). These newly royal monasteries thus served to connect the localities and royal court, and subsequently, made Lorsch receptive to royal culture (Innes, 2000, p. 262). This, in addition to the increased decentralization of the secular courts (Hen, 2007, p. 123), allowed for the dissemination of secular learning throughout the kingdom, creating the conditions under which works such as the *Lorsch Pharmacopoeia* could be produced (Innes, 1998, p. 251).

With this spread and takeover, royal courtiers brought the secular culture of the courts to the monasteries and the localities that they served (Hen, 2007, p. 106). These courtiers were scholars who had been trained in classical knowledge together from childhood in court schools, and they often produced their own texts which they disseminated between themselves and their localities via their new positions within the monasteries and cathedral churches (Hen, 2007, p. 100). There is no definitive proof of the extent or the exact nature of this secular intellectual culture which these courtiers brought with them into the countryside, however they were part of Charlemagne's larger effort to standardise learning throughout the kingdom, and thus contributed to the overall increase in scientific discourse and expanding

libraries (Shank, 2013, p. 211). For Lorsch in particular, the more it prospered under royal protection, the more impressive its intellectual endeavours became: it would amass more than 500 codices, one of which was a copy of Gregory of Tours' *Histories*, copied at approximately the same time as the *Pharmacopeia* was compiled (Büttner and Kautz, 2015, p. 11). This period, around the late eighth and early ninth centuries, was considered the height of the scriptorium's production, with two hundred codices and fragments being compiled by the monks there, the majority focusing on late antique and early medieval writings (Büttner and Kautz, 2015, p. 13).

These literary and cultural endeavours would not have been possible without Charlemagne's concerted efforts to bring about an educational reform and with it, realise his vision of the Carolingian Empire as the successor to the glory of the Romans. As we have seen, the preservation of Greco-Roman knowledge had started long before Charlemagne had embarked upon his reform, but it is in this period that we see a truly monumental effort to collect and preserve this knowledge. This period therefore is especially fruitful for the exploration of attitudes towards health and medicine in the early medieval era as a whole. However, to determine the breadth of these reforms is a difficult task. Outside of the aristocracy, the courtiers within his palace, and the monks within the monasteries, we cannot know for certain to whom or what extent Charlemagne's reforms were to extend (Hildebrandt, 1992, pp. 53-55). There is little to no evidence to suggest that lay schools were a widespread phenomenon (Hildebrandt, 1992, pp. 1-19), and as a whole, aristocratic education was based on an informal Roman model which had been disseminated through the Merovingian period (McKitterick, 2002, p. 212), though it was also common for Charlemagne to send courtiers to monasteries for further training (Hildebrandt, 1992, p. 53). Based on this, in addition to the collections of practical handbooks found within aristocratic libraries, we know that the aristocracy, at least, was literate (McKitterick, 2002, p. 244). Literacy, therefore, was not strictly a monastic attribute, though throughout the entirety of the Empire literacy was considered to be essential in the pursuit of God (Contreni, 2014, pp. 89-90). While scholars have come to different conclusions regarding the degree of literacy amongst the general population—Rosamond McKitterick assures us that literacy extended all the way to the bottom of the social ladder (McKitterick, 1989, pp. 211, 270), an assessment with which M. M. Hildebrandt steadfastly disagrees (Hildebrandt, 1992, p. 18)—it is of the utmost import to note that regardless of scholarly stances, literacy was not a pre-requisite for knowledge.

Due to the lack of standardized education, we therefore have no curriculum for the education that did occur. Thus, we also have no way of definitively knowing what students in the Carolingian Empire were learning in schools, or if they were widely available. Despite this, we can gather a general idea of what knowledge the Carolingians particularly valued based on the carefully curated manuscripts held within both aristocratic and monastic libraries. While much of the study of Carolingian education has focused upon the transmission of classical grammar and rhetoric, there is nevertheless evidence of an interest in and the transmission of the scientific arts such as astrology and astronomy, in addition to medicine (Contreni, 2014, p. 109). While the majority of texts existed strictly within a monastic environment due to their great expense, lay medical knowledge was largely passed through the oral tradition from master to apprentice or through familial lines.³ Indeed, there is evidence of families of medical practitioners going back generations from the insular world,

³ Vivian Nutton, "Roman Medicine, 250 BC to AD 200," in *The Western Medical Tradition 800 BC to AD 1800*, eds. Lawrence I. Conrad et al. (Cambridge: Cambridge University Press, 1995), 46. See also Valerie L. Garver, "Childbearing and Infancy in the Carolingian World," *Journal of the History of Sexuality* 21, no. 2 (May 2012), 215-216 for a discussion of women and the oral transmission of medical knowledge, particularly as related to midwifery.

and though there is no comparable evidence for the Continent, the frequent cross-cultural interactions with Ireland may suggest that there was a similar tradition in Gaul (Binchy, 1966, p. 6). Beyond that, there is also evidence of medicinal prayers, such as that dedicated to St. Sigismund, which appear to act as a form of instruction to sick individuals seeking help, as it instructs that “In the name of the Father, I speak to you, O fevers” and “I conjure you, fevers, and join issue with you, that you be cast out of the servant of God” (trans. Wallis, 2010, p. 62). Though not an example of practical medical knowledge, it nevertheless stands as an example of the proliferation of medical advice which circulated throughout the Frankish realm. It is comparable, perhaps, to “Dietary Advice for a Merovingian King,” which, though part of a larger treaty known as *On the Observance of Foods*, has the manner of something which would easily pass into general knowledge, such as the direction that “anyone who is prepared to take care over his food in the way which I shall set out will have need of no other medicine” (trans. Wallis, 2010, p. 78).

We do, however, have evidence of general handbooks transmitting medical knowledge from the classical era to the Latin west, and of course the more sophisticated leechbooks such as Lorsch and Bald’s (Nutton, 1995a, p. 40). Bald’s *Leechbook* in particular is especially noteworthy as it was divided into two parts for easy transport, suggesting its use as a field guide for medical practitioners, and thus, a potentially significant disseminator of knowledge throughout the Anglo-Saxon world (Nokes, 1993, p. 44). In contrast, there is no evidence to support that the *Lorsch Pharmacopoeia* ever served as a practical field guide as Bald’s did, or indeed left Lorsch Abbey. Nor is there evidence of any other travelling medical compendium on the Continent, however there are examples similar to “Dietary Advice for a Merovingian King” which, while also contained in manuscripts, had the potential to pass into general knowledge. The sixth-century collection known as the *Natural Remedies of Pliny* included a preface which states that “[...] it seemed to me necessary to muster aids for health from wherever I could and collect them into summary form” (trans. Wallis, 2010, p. 31). And while it is likely that a text such as this would have been held in an aristocratic library, nevertheless the nature of the information within it was such as could easily disseminate and transfer orally. Proper leechbooks, in contrast, were highly technical, comprising of extended lists of ingredients and remedies that were only relevant to professional physicians and the monasteries which housed them.

Beyond these few examples, one of the best indicators of the nature of Carolingian education comes once again from Isidore of Seville; had there been curricula, his works would certainly have been included in them.⁴ In addition to the *Etymologies*, Isidore’s *Differentiae* (*Differences*) was especially influential for its definition of wisdom as a holistic study of all arts including physics, ethics, rhetoric, geometry, music, astrology, astronomy, and medicine (Contreni, 2014, p. 108). Isidore’s subsequent influence on the study of medicine is also seen within the preface to the *Lorsch Pharmacopoeia*, which directs to Isidore “whoever wants to know what realm of knowledge these [arts] pertain to” (trans Wallis, 2010, p. 86). However, again, it must be restated, that the *Lorsch Pharmacopoeia* itself had no distinct impact on medical education. Its contents were primarily lists of herbs and maladies, and it does not appear to impart any instructions on how to perform procedures or mix medicines. Thus, it is not nearly as useful or practical as examples such as Bald’s *Leechbook*.⁵

⁴ In the Lorsch manuscript, there are instances of marginalia indicating mentions of Isidore, fol. 2v, Bamberg, Staatsbibliothek, Msc. Med. 1.

⁵ The table of contents for the *Lorsch Pharmacopoeia* can be found on 9r-14v in Bamberg, Staatsbibliothek, Msc. Med. 1. If one looks through the manuscript as a whole they will primarily find alphabetical lists of ingredients, sicknesses, and cures for those sicknesses.

Most of those primary sources come from the monasteries who preserved classical knowledge for us (Contreni, 2014, p. 92). But despite their huge impact on the development of education under Charlemagne's insistence that they remain the central features of his reforms, the monasteries themselves were less than enthusiastic about the prospect of being held responsible for the general population's educational needs (Hildebrandt, 1992, p. 53). While Charlemagne had no issues with the blending of secular and monastic learning, the monasteries themselves had no interest in general education and indeed insisted upon its incompatibilities with monastic life (Hildebrandt, 1992, p. 78). The purpose of the monastery and the education which took place within it was not focused on the glory of the Empire, but on the deeper knowledge of God through living and breathing Christian doctrine (Hildebrandt, 1992, p. 26). Of all the writings which came from early medieval monasteries, none expressed the desire or enthusiasm of being such a crucial part of Charlemagne's reforms (Hildebrandt, 1992, p. 37). Indeed, this prospect and the reality of it as experienced when the secular clergy and aristocracy made their way into monastic schools for temporary education was as a whole more disruptive to monastic life than it was beneficial to any degree (Hildebrandt, 1992, p. 4). The monasteries were so against this trend, in fact, that in 817 secular students were prohibited; nevertheless, monasteries remained the preferred finishing school of sorts for the secular clergy and royal courtiers (de Jong, 1995, p. 644).

The intended recipients of monastic education, naturally, were those who were promised to the monastery as child oblates and therefore dedicated to an intellectual life within the church (de Jong, 1995, p. 643). Very few, if any, new recruits to monasteries were adult novices (de Jong, 1995, p. 640), and while there were a few children at any given time being educated who were not promised to the monastery (Hildebrandt, 1992, p. 35), in addition to a small drop out rate (de Jong, 1995, p. 642), this was not in anyway significant enough to allow us to conclude that non-aristocrats were going to the monasteries strictly to be educated. Indeed, there would have been little value of a monastic education to a lay peasant or even the average local aristocrat. Beyond Christian doctrine, education was primarily made up of the most useful remnants of secular Roman education, particularly grammar, maths, and rhetoric (Shank, 2013, p. 207). Medical education did not receive any particular emphasis in monastic education beyond the necessities, and indeed there were many writers who debated the proper regimen of education that Carolingian monks should receive. Hrabanus Maurus was one such writer, and in 819 he composed a guide dedicated to the education of the clergy entitled *De situatione clericorum*. While medical language does frequently appear in many ecclesiastical writings, including Hrabanus', due to the inherent metaphorical value of Christ as physician of the soul, it is important to not confuse metaphorical references for support of rational medicine (Paxton, 1995, p. 237). So though Hrabanus writes that clerics should "possess fullness of wisdom, rectitude of life, and especially perfection of learning. They ought not to be ignorant to some extent of these, with which they must instruct either themselves or those under then, that is: [...] different medicines against a variety of illness,"⁶ we as historians cannot use that as definitive proof for the support of medical education in the monasteries (Paxton, 1995, p. 233). Rather, we must remember that the priority was ensuring the proper religious education for monks and pastors and that any instances of medical knowledge accompanying it was simply a coincidence of the monastic lifestyle, as the next section will try to demonstrate (Paxton, 1995, pp. 235-239).

Monasteries were the cornerstone of Carolingian education and culture due to their active scriptoria and subsequently extensive libraries. Therefore, it is not an over exaggeration

⁶ *De institutione clericorum libri tres*, ed. A. Knöpfler (Munich: Lenter, 1901), 3.1.187-188 quoted by Paxton in "Curing Bodies—Curing Souls: Hrabanus Maurus, Medical Education, and the Clergy in Ninth-Century Francia," *Journal of the History of Medicine and Allied Sciences* 50, no. 2 (1995), 233.

to say that books were some of the most important commodities in the Empire. Even the smallest of local monasteries had a library of some worth (McKitterick, 1989, p. 196). However, it was not simply the presence of such books which allowed for the possibility of a well-rounded monastic education, but rather the extensive reading regimens around which the monasteries were built (Contreni, 2014, p. 93). Indeed, in Benedict's *Rules* we see the decree that "During Lent they [the monks] should all be given a book from the library which they should read from over to cover" (trans. White, 2008, p. 78). Thus, it is not unreasonable to assume that at monasteries such as Lorsch or Fulda which housed medical manuscripts, inevitably they were being read by at least a handful of dutiful monks (Contreni, 2014, p. 128). Essentially, then, the point this article makes is that books and the monasteries were the cornerstone of education, both medical and otherwise. The vast amounts of literature held within these monasteries insured that some medical knowledge was getting spread throughout these communities to some degree as monks and other religious figures were sent out to see to the health needs both spiritual and physical of their local communities (Gurevich, 1988, p. 44). Despite popular perceptions, then, the average early medieval lay person was not as medically incompetent as would be believed. Rather, then, as now, there was an average baseline of common medical knowledge supplemented by professionals who learned their trade through oral instruction passed down by their families and monastic brothers who had direct access to the practical and theoretical texts which all medical knowledge was based upon. Further, this helps to point us in the direction of who the exact audience of the Lorsch preface was, if there was indeed an intended audience (Gamble, 2021, pp. 92-94). While we can suppose that some of the points within the preface were disseminated throughout the communities indirectly in the manner noted above, it is clear that the laity was not the main audience, though the arguments that the preface writer makes are related to lay beliefs. Rather, we can narrow our focus to conclude that the *Pharmacopoeia* was meant strictly for the intellectuals within the monastery interested in the theoretical and theological side of medical practice, who would subsequently impart these statements unto those over whom they had authority. Thus, like all intellectual endeavours in the Carolingian Empire under Charlemagne's reforms, the conclusion that we can come to regarding audience is both broad and narrow: primarily these reforms were directly intended for the intellectual elites, with the hope/understanding that the knowledge they made available would eventually be disseminated into popular cultural through the influence those elites held. Regardless of this, however, works such as the *Lorsch Pharmacopoeia* stand out as significant bright spots in a so-called 'dark age,' working to not only preserve classical medical thought upon which subsequent renaissances would build, but also imparting its own distinctive perception of medical practice, seen in the arguments of spiritual versus physical healing, which allows the early Middle Ages and the Carolingian Era in particular to stake its own claim of significance in the overall history of medicine.

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