

## Pain in Medieval and Modern Contexts

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### Article abstract

Intellectual historians of the High Middle Ages have generally argued that scholastic medicine had little influence on the study of theology in medieval universities, especially in the thirteenth century. Yet three chairs of theology at the University of Paris in the early 1200s had previous careers as physicians. Their extant work suggests that they did turn to their medical roots to explicate theological problems, sometimes rarely, as in the work of Gueric of St. Quentin, but sometimes more often as in the work of Roland of Cremona. Indeed Roland's work on human and divine emotions, including his discussions of sadness and pain, demonstrates that Roland was dedicated to integrating his medical learning into his theological arguments and to ensuring that the positions of his medical training were in agreement with the theological arguments he made. A short conclusion suggests historiographical reasons for why the medical influence on early Parisian theological treatises has generally been overlooked, pointing to the separate nature of study of mind and body that has occurred since the rise of Cartesian dualism in the seventeenth century.

# Pain in Medieval and Modern Contexts\*

DONNA TREMBINSKI

## *Abstract*

*Intellectual historians of the High Middle Ages have generally argued that scholastic medicine had little influence on the study of theology in medieval universities, especially in the thirteenth century. Yet three chairs of theology at the University of Paris in the early 1200s had previous careers as physicians. Their extant work suggests that they did turn to their medical roots to explicate theological problems, sometimes rarely, as in the work of Guerric of St. Quentin, but sometimes more often as in the work of Roland of Cremona. Indeed Roland's work on human and divine emotions, including his discussions of sadness and pain, demonstrates that Roland was dedicated to integrating his medical learning into his theological arguments and to ensuring that the positions of his medical training were in agreement with the theological arguments he made. A short conclusion suggests historiographical reasons for why the medical influence on early Parisian theological treatises has generally been overlooked, pointing to the separate nature of study of mind and body that has occurred since the rise of Cartesian dualism in the seventeenth century.*

## *Résumé*

*Les historiens intellectuels du Moyen Âge ont généralement soutenu que la médecine a eu peu d'influence sur l'étude de la théologie dans les universités médiévales, surtout au treizième siècle. Pourtant, trois professeurs de théologie à l'Université de Paris au début du treizième siècle avaient*

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\* This article has its origins in a paper presented at a joint session of the Canadian Historical Association and the Canadian Society of Medievalists in 2012. I am grateful for the comments and insights of my fellow panelists, Mairi Cowan and Jessie Sherwood, and the members of the audience for their insightful comments and suggestions. I would also like to thank the three assessors of this article for their detailed and extremely useful comments.

*initialement pratiqué la médecine. Leurs travaux suggèrent qu'ils se sont servis de leur expérience médicale pour expliquer des problèmes théologiques. Certains l'ont fait plus rarement, pensons à Gueric de Saint-Quentin, alors que d'autres l'ont fait plus souvent, pensons à Roland de Crémone. Les travaux de ce dernier portant sur les émotions divines et humaines, incluant ses réflexions sur la peine et la douleur, démontrent la volonté de l'auteur de lier ses connaissances médicales et ses arguments théologiques. L'article s'intéresse aussi aux raisons qui expliquent que l'influence de la médecine sur les théologiens parisiens médiévaux n'ait pas été étudiée par les historiens. L'auteure explore alors la séparation qui s'est opérée entre l'étude de l'esprit et celle du corps lors de l'avènement de la pensée cartésienne au dix-septième siècle.*

The interplay between Christian religious belief and medicine in the High Middle Ages was complicated. The making of the modern historical view of that relationship is similarly complex as changes in modern ideas of medicine and health, illness and pain have influenced the historical analyses of such topics. Nowhere is this clearer than in my own field of the scholastic conceptions of how physical and emotional pain were perceived. While exploring the various ways pain was conceptualized in the disciplines of medicine and theology in the thirteenth century for a larger project, it has become increasingly clear to me that the differences between medical and theological conceptions of pain noted in this period by Esther Cohen in *The Modulated Scream*<sup>1</sup> are incorrect. Indeed, it is the contention of this paper that early scholastic theology was more steeped in medical thought than has been previously recognized and that this reality has been overlooked until recently due to the rigid separation of the study of theology and the sciences, including medicine, which occurred in the West in the wake of the Scientific Revolution.

Given the life of Christ as recorded in the canonical Gospels and the acts of the martyrs who were said to have followed in his footsteps, it is not at all surprising that many medieval people seemed suspended between the desire to relieve pain and cure diseases by any means necessary and suffering such illnesses in emulation of the pain of Christ and other Christian heroes. Some of the earliest Christians chose to suffer

as witnesses to their faith under the sporadic persecution of the Roman government, but the link between Christianity and religious devotion to suffering continued long after it became a tolerated religion in the Roman Empire. Indeed, as Judith Perkins has cogently argued, early Christian identity was fundamentally linked with the suffering self.<sup>2</sup>

The ways in which individuals expressed their identification with the suffering Christ has, however, changed over time. According to Giles Constable, Christian theologians of Late Antiquity expressed the perfection of imitating the suffering of Christ, as bending one's own will not to suffer to God's will that one should suffer. In Constable's formulation, to imitate Christ in the early centuries of Christianity was thus to imitate Christ's divinity, which understood the necessity of his human suffering.<sup>3</sup> By the High Middle Ages, the emphasis on the importance of suffering had changed — more than an indication of the submission of individual will, it had become a way of understanding and honouring Christ's human experience.<sup>4</sup> As numerous other studies attest, the desire to physically imitate Christ's suffering increased dramatically in the later Middle Ages.<sup>5</sup>

Beyond demonstrating one's devotion to God, suffering was regarded as redemptive. Thus, seeking out medical explanations for illnesses and medical therapies for cures could be regarded as counter-productive to salvation. And yet the situation was not so clear as the above suggests, for Christ himself was a healer as well as a sufferer, and medicine, like the ailments themselves, could be considered a gift from God.<sup>6</sup> Thus, from the patristic period to the High Middle Ages, ecclesiastical opinion was divided on the usefulness of medicine. The great thirteenth-century encyclopedist Vincent of Beauvais illustrates this ambivalence perfectly. In a question entitled "How the counsel of doctors is to be used?" in the *Speculum naturale*, Vincent cites four authorities who support consulting a physician when one is ill, four who advise against it, and one opinion which is undecided.<sup>7</sup> Cohen's work too suggests a tension between pain as a conduit to salvation and pain as an evil that existed in the writing and work of many later medieval physicians.<sup>8</sup>

In spite of the medieval ambivalence about whether individuals should consult physicians, many people did so. Early gospels (canonical or not) reported stories of Christ healing the blind, the paralyzed,

and the ill. The earliest of saints, too, are credited with healing miracles. Yet the presence of stories of miracle healings in the New Testament and in early saints lives did not necessarily immediately translate into Christians who sought healing through supernatural means. Gary Ferngren has convincingly demonstrated that for the first five centuries of Christianity, Christian attitudes towards healing mirrored that of their non-Christian counterparts in the Greek and Roman worlds — that is, the vast majority of Christians looked to physicians and traditional modes of healing and home care for their ailments.<sup>9</sup> Others, such as Guenter Risse, however, have noted that long before Christians were turning to Christ and the saints for healing miracles, pilgrims travelled to temples built in honour of the Greek healing god Asclepius.<sup>10</sup> Whether a transition to entrusting health and healing to a competing healing god or a renewed interest in supernatural healing inspired by the stories of Christ and the saints' healing miracles, the ways in which individuals approached cures for diseases and pain did change in the Early and Central Middle Ages. Medieval people began to pray and pilgrimage in the hopes that communion with God and his saints might provide them with a cure for their illnesses, even as they consulted with local healers for more worldly attention.<sup>11</sup> This process of turning to the supernatural, along with the more mundane, may also have been aided by the relative dearth of professionally trained physicians present in the early and central Middle Ages.

With the return of schools, this time in the form of medieval universities, professionally trained physicians were again more widely available for consultation by the turn of the twelfth century. By then, however, recourse to the supernatural for healing was also a common occurrence. Thus, approaches to healing in the High Middle Ages were naturally varied and multifaceted, as scholars such as Sheila Campbell, Ronald Finucane, and Darrel Amundsen have demonstrated.<sup>12</sup> It was not uncommon for medieval people to consult healing practitioners (not always doctors, whose prices and availability meant they were out of reach for much of the medieval population) and also seek religious intervention through prayer and pilgrimage to healing shrines. As the practice of medicine became increasing regularized and regulated in the High Middle Ages, the

church itself took notice of how often people were turning to secular medicine for cures. One of the many new canons passed at the Fourth Lateran Council of 1215 included an injunction to physicians to ensure that their patients seek out a “physician of the soul,” that is a priest, before applying a secular medical cure as “corporeal infirmity is sometimes caused by sin.”<sup>13</sup> It is clear that the expectation of the church officials who passed this new law was that individuals would seek out physicians, as well as, or perhaps instead of, turning to prayer and modes of faith healing. By the High Middle Ages then, and often much earlier, approaches to caring for the sick and infirm were clearly crossing boundaries between medicine and religion.<sup>14</sup>

While the interrelationship between religious and secular medical methods of healing has been well established, at least in terms of how medieval people approached the finding of a cure, the possibility of a similarly permeable barrier between scholastic theology and medicine has been less well studied. Indeed, as Danielle Jacquart has recently noted, “historians have generally viewed the relationship between [scholastic] medicine and theology as antagonistic.”<sup>15</sup> The reasons this was believed are manifold: theological works tend not to reference medieval medical theorists by name, canon law of the High Middle Ages frequently urged religious of all types not to enter into the field of medicine,<sup>16</sup> and, as evidenced by the quotation from Vincent of Beauvais’ *Speculum naturale* above, theological opinion of the usefulness and the propriety of seeing physicians was, at best, quite divided. Yet, in the Middle Ages, body and soul were not usually understood to be two separate entities that occasionally worked together, they were conceived as intimately connected and co-existing.<sup>17</sup> Given the medieval understanding of the intimate interrelationship between body and soul, one should expect intersection amongst those individuals who dedicated themselves to the health of the body (physicians) and those who dedicated themselves to the health of the soul (theologians). However, until the past decade, such findings have been quite rare. Only recently, as more research has been dedicated to finding such interconnections, has evidence of intersections amongst the ideas and, especially, the people practicing scholastic medicine and theology been discovered. In 1999, Joseph Ziegler

demonstrated that Nicholas of Ockham (d. *circa* 1320) referenced many different medical texts in his works, particularly in his *quaestiones disputatae*.<sup>18</sup> Danielle Jacquart has also recently suggested that medieval theologians of the mid-thirteenth century did at times use medical sources, and wonders whether this might be true of the fourteenth century as well.<sup>19</sup> Even more intriguing is William Courtney's finding that in the fourteenth century, at least fourteen medical students also began theological training at the University of Paris.<sup>20</sup> The consensus amongst the few historians who argue for greater integration of scholastic theology and medicine (if one can argue there is a consensus at all) is that these intersections are a product of the late thirteenth and early fourteenth century. However, my own research on early scholastic perceptions of physical and emotional pain demonstrates that medical texts were influencing theological treatises earlier than that, as early as the 1220s and 1230s, when the curriculum in the school of theology at Paris, which would define the scholastic period, was just being formulated.

### **The History of Theology at Paris**

Until the early decades of the thirteenth century, masters of theology at Paris traditionally lectured on Scripture and the *Glossa ordinaria*, exegetical excerpts from the Church Fathers explicating any given biblical passage. This changed around the year 1220, when one of the Masters of Theology, Alexander of Hales, began to lecture on the *Sentences*, written by Peter Lombard at Paris nearly a century earlier.<sup>21</sup> The *Sentences* were an attempt to reconcile the seemingly disparate opinions of various church fathers on diverse and thorny theological issues. Alexander's move to lecture on the topics and solutions found in Peter Lombard's text began a trend for masters of theology, first at Paris and later at many other universities throughout Europe. The *Sentences* became the seminal text from which masters of theology lectured from the thirteenth century until the Reformation.<sup>22</sup>

Amongst the many issues debated by theologians in the thirteenth century, one of the most contested concerned how Christ took on corporeal form; how he experienced his divinity and his humanity simultaneously through the hypostatic union. Perhaps the

most common way in which this topic was explored was in discussions of how, precisely, the incarnate Christ experienced passions — best understood today to mean emotions.<sup>23</sup> As Donald Mowbray has convincingly shown, one of the most common discussions of Christ's passions centred on the ubiquitous human experience of pain.<sup>24</sup> By the last half of the thirteenth century, most scholastic thinkers followed Peter Lombard, whose position was further nuanced by Aquinas and Bonaventure. All three argued that Christ experienced pain in the same way he experienced other human *passiones*, as proto-passions which did not draw him away from right reason. The humanity Christ thus experienced was the humanity of prelapsarian man, when emotions could not draw one away from right reason and contemplation of God.<sup>25</sup>

While the church fathers were naturally important sources for the various scholastic explorations of Christ's incarnation, even as early as Alexander of Hales' own lectures on the *Sentences*, there is evidence of another influence. In the section dealing with Christ's experience of humanity, Alexander expands a great deal on Lombard's discussion of how Christ experienced the defects of humankind that resulted from the fall. In his explanation of how the fully human and fully divine Christ experienced pain, in particular, he provides several different definitions of pain. Some are clearly linked to theological sources, such as when he quotes Augustine in stating, "pain is the sense of one's own corruption."<sup>26</sup> Others however, appear to be medical in origin. Expanding on a discussion of the differing patristic opinions about Christ's ability to experience physical pain, Alexander defines pain again, this time attributing his definition to the philosopher Aristotle. "Pain," he writes, "is the dissolution of continuity ... and in this way, there was pain in Christ."<sup>27</sup> Alexander is wrong in his attribution. This definition of pain is not found anywhere in Aristotle's texts; it is instead part of a definition of pain given in medieval summaries and translations of Galen's work.<sup>28</sup> In these works, Galen is said to have posited that there were two causes of pain, the first was an imbalance of the humours, the second was what is called "a dissolution of continuity," an awkward phrase that might best be termed "sudden trauma" in modern parlance. The great eleventh century philosopher and physician Avicenna also



followed Galen's dual categorization of the causes of pain in the *Canon of Medicine* — a text which, after it was translated into Latin, became a fundamental text in European schools of medicine and remained so until the sixteenth century.<sup>29</sup> How this medical discussion ended up as a part of Alexander of Hales' commentary, especially given the common assumption that the medical school at Paris was not very innovative or influential, is an open question.

### **The History of Medicine at Paris**

While the study of medicine at the University of Paris in the High Middle Ages has not yet been very well studied, the increasing theorization and professionalization of medical study in the High Middle Ages has been extensively explored. By the sixth century, many schools of medicine dedicated to training physicians in both theory and practice, common during the empire, had disappeared from the west. Medical education thus became more localized, and practices were passed on informally, often within monasteries. Monasteries, indeed, became places in which the care of the sick was centred; the first hospitals in medieval Europe were founded in monasteries.<sup>30</sup> From these monasteries, the new formal schools of medicine, devoted to the study of Greek medicine with the aid of Latin translations of Arabic manuscripts, were founded perhaps as early as the late tenth century. The first of these was, according to tradition, founded at Salerno,<sup>31</sup> but they soon spread widely. Each school had its own character and curriculum. Paris, known widely for its faculty of theology, seems to have had a less influential faculty of medicine. Nonetheless, the existence of a medical school is affirmed by the thirteenth century with fragmentary evidence suggesting that the teaching of medicine at Paris actually dated from perhaps a century before that.<sup>32</sup>

The Faculty of Medicine used a corporate seal for the first time in 1270, which is also the first year we have evidence for a set curriculum for those studying medicine at the University of Paris. Texts read in the Faculty of Medicine included the *Tegni* (a Latin translation of the Assyrian physician Hunayn ibn Ishaq's Arabic compilation of some of Galen's works, especially Galen's *Ars medica*), a work on

urinostomy by Theophilus, the works of Isaac ben Solomon translated by Constantinus Africanus, the *Antidotarium Nicholai*, and the work of an early thirteenth-century physician, Aegidius of Paris.<sup>33</sup> Even by the standards of medical training in 1270, this curriculum was conservative, which could suggest that the curriculum had been in place for some time,<sup>34</sup> though this is far from certain. What is certain is that the texts of this curriculum were well-known by the 1270s.<sup>35</sup> Further, a witness from the late twelfth century, Alexander Neckam, records that students studying medicine in Paris were already expected to read and attend lectures on the *Tegni*.<sup>36</sup>

Thus, it is clear that Alexander of Hales<sup>37</sup> had access to translations and commentaries on the works of Galen and Avicenna at the university of Paris in the early decades of the thirteenth century. He also would have had fellow masters at the university who were experts in teaching those texts. While it seems most likely that Alexander found his definition of pain in the *Tegni*, or a commentary on that text, Avicenna's *Canon of Medicine* would also have been readily available. Written in Arabic *circa* 1025, it was translated into Latin by the mid-twelfth century, though in Alexander's time it had not yet taken a place of prominence in the curricula of faculties of medicine.

Aside from having access to medical texts and the medical experts who lectured upon those texts, the milieu in the Faculty of the Theology at Paris was also likely heavily influenced by individual Masters of Theology who had a previous background in medicine and who brought that knowledge to bear on their lectures on the *Sentences*. In the late 1220s and early 1230s, when Alexander of Hales was lecturing at Paris, the number of chairs in theology was limited between eight and twelve.<sup>38</sup> Yet no fewer than three individuals who held chairs of theology at Paris contemporaneously with Alexander had previously been trained as physicians.<sup>39</sup> These are John of St. Giles, who held a chair for roughly five years from 1229, Roland of Cremona who took a chair in 1229, though he only held it for a little over a year, and Gueric of St. Quentin who became a master of theology at Paris in 1233 and taught there until 1242.

While few works of medicine have been attributed to these three early physician-theologians, all three were prolific authors of theological texts. Of the three men, only John of St. Giles is credited

with medical texts, though today, only a very few medical receipts and outlines of a handful of his sermons are extant.<sup>40</sup> The presence of both sermons and medical recipes demonstrates John of St. Giles' interest and talent in both medicine and theology, but there is too little of his writing to attest to any sort of serious influence of John's training as a physician in his theological texts.

Guerric of St. Quentin left behind no known medical texts, but he was a prolific author of sermons and Scriptural commentaries, writing analyses of the books of Job, Isaiah, Malachi, Luke, John, Acts and various Pauline epistles.<sup>41</sup> Guerric's former life as a physician is recorded in *Vitae fratrum*. He is said to have completed studies in logic, the *quadrivium*, and medicine "at different places."<sup>42</sup> Though Guerric's commentaries are not the focus of my current research, it does seem clear that Guerric used his medical knowledge in his theological work, at least occasionally. As Beryl Smalley has noted, at least one of Guerric's several commentaries on Scripture, his commentary on Isaiah, includes a detailed and specialized discussion and the meaning of "*uulnus et livor*" in his commentary on Isaiah 1:6.<sup>43</sup> On these words, wound and bruise, Guerric provides a humoral explanation of their occurrence. The wounds in the passage are a part of a prophecy about how Christ will be beaten — with wounds that are open on the body and with those that are not. "If the wound is made open, either there is in that place a gathering of humours and thus it is a swollen cut or it is not and thus is a wound on account of the [open] width and free evaporation of humours. But this is not a cut, nevertheless on account of its depth."<sup>44</sup> Guerric then describes several different ways in which wounds, bruises, and cuts may be treated medically, including binding the wound, repressing the humours so that not too much leaks from the wound, or with medicine and then soothing oil.<sup>45</sup> This admittedly rare inclusion of medical knowledge in Guerric's theological works,<sup>46</sup> for which Smalley could find no known source, suggests that Guerric of St. Quentin did bring his studies as a physician to bear on the texts he was studying as a theologian, even if rarely.

It is, however, in the work of Roland of Cremona that we find definitive evidence of the influence of medical authorities and reasoning on theological texts and arguments. Little is known of Roland's early

life, but his extant works demonstrate a close familiarity with medieval medical principles and texts. Whatever his training, Roland was teaching at Bologna in 1219, and although sources are divided about whether he was a Master of arts or medicine,<sup>47</sup> a close examination of his extant commentary on the *Sentences* demonstrates his easy familiarity with medical texts and suggests he was, in fact, a physician teaching medicine. Roland's life comes more clearly into focus for the historian in July of 1219, when he was received into the Dominican order, possibly in response to preaching of Jordan of Saxony.<sup>48</sup> He seems to have remained in Bologna teaching for the next decade or so; certainly he was there in 1228 when he left for Paris to study theology. He lectured on the *Sentences* there under the tutelage of John of St. Giles and, during the faculty strike of 1229, he took up a vacated chair of theology at the university, a move that created much controversy.<sup>49</sup> When his own mentor, John of St. Giles adopted the Dominican habit in 1230, Roland's controversial acquisition of his chair gave the order two of the 12 chairs of theology at Paris.<sup>50</sup> It also intensified tensions between the secular and religious masters. While teaching at Paris, Roland began a commentary on *Sentences* and another commentary on the Book of Job, though these works were likely not completed until after he left Paris. In 1230, Roland left his post as chair and went to Toulouse where he preached in the Dominican convent there for perhaps three years. By 1233, Roland had returned to Italy, where he spent the rest of his life preaching against Cathar heretics and, occasionally, teaching theology at Bologna and Cremona. He remained in Italy until his death in the 1250s.<sup>51</sup>

Roland's extant work demonstrates clearly that, unlike Guerric of St. Quentin's rare use of his medical knowledge, Roland regularly integrated medical theory into his theological arguments. Indeed, Roland believed so strongly in the usefulness of medical knowledge that he posited that that medicine was from God and therefore theology and medicine could not ever be in conflict. Moreover, he stated, if a contradiction between the two appeared to arise, the theologian, rather than the physician needed to rework his opinion.<sup>52</sup> Yet Roland's work suggests that he was dedicated to ensuring that theological and medical positions were in agreement and, indeed, that the discipline of medicine could aid in explaining thorny theo-

logical problems.

Roland regularly combined philosophical or theological explanations with the medical. Take, for example, his discussion of the *sensus communis*, the power of a conscious being that makes individual sensory inputs understandable to the self. "First is the *sensus communis*, which is called by another name, *phantasia*, by physicians because appearances, unreal deceptions and errors occur in it. And it is called the *sensus communis* since it drinks and absorbs other senses, as Augustine says."<sup>53</sup>

Such discussions, reasonably common in the second book of his commentary, which deals largely with human acts and ends, are less visible in other parts of his work. Yet even Book III of Roland's discussion of the *Sentences*, which concentrates on Christ and the divine, shows evidence of Roland's previous training as a physician. Discussing whether or not Christ's human nature could shy away from the thought of his death, Roland weaves together an answer that relies both on theological and medical proofs. He argues that a soul that is rightly ordered ought only to seek out the good. Further, since it is better for a soul to be free from the body since in being so free it becomes impassible, one should not fear illness (or anything other distress), which might result in the death of the body. Roland writes:

Therefore in this way, it ought to be, concerning the soul of such a holy man, that it is ordered correctly, that there is no illness which creates dread for illness [generally] creates growing dread, but not in a natural state. Concerning the soul of Christ and the holy man, I say this: the soul of a sinner has a perverse appetite, and the infection of the appetite makes it seek things contrary [to its good], just as Galen said that unnatural distemperaments make people seek out things contrary to health. Therefore, if he had a well ordered appetite of the senses, Christ ought to have sought that which was pleasurable and without pain. Therefore, since he did not seek out this, his soul was not well ordered. But, this is impossible.<sup>54</sup>

Roland goes on to argue that Christ sought out his own death for the

salvation of mankind. Knowing in his higher reason that only good could come from his corporeal death, Christ's well ordered soul insisted on his acceptance of death even as his sensitive soul sought to avoid it. The argument included in the passage above is not unique to Roland, indeed, it is a recapitulation of a point made by Peter Lombard — that Christ could not fear his death according to his superior reason because he knew that humanity's salvation would result from his sacrifice. What is unusual for a scholastic text (though the idea itself is not uncommon), and it is neither in Lombard nor in any scholastic work written after Roland of Cremona, is the comparison of man's fallen nature to a coming down with an illness.<sup>55</sup> Nor are the references to Galenic medicine present in the Lombard's *Sentences* or in any subsequent commentary on the *Sentences* emanating from the University of Paris that I have examined. It is something unique to Roland's commentary and it suggests the extent to which his old work as a physician influenced his new work as a theologian.

Roland's discussion of human and divine sorrow found in Book II, provides further evidence that he used his medical knowledge to strengthen his theological arguments. In the first instance there are several references to medical authorities and texts. Amongst the authorities cited are Hippocrates, Galen, Nemesius (mistakenly cited as Gregory of Nyssa), and Avicenna. As in other parts of the commentary, Roland also regularly gives humoural explanations for various psychological or physiological states. Thus, for instance, in his discussion of human sadness, Roland acknowledged that monks living alone and those who fasted often were more likely to experience sadness than others. His explanation for this truism was entirely based in medieval humoural medicine. Hermits and those who fasted constantly tended to eat less. Thus, their bodies were empty and did not have many spirits, a Galenic term that refers to interconnections between the soul and parts of the body, which enable the soul to exert its will over the body's corporeal matter. Moreover in the Galenic tradition, consumed food is transformed into heat within the body, and that heat contributes to a warmer sanguineous, rather than cooler melancholic complexion. Thus, for Roland, eating could lead to joy, a position he fully supported through medical reasoning, but also buttressed at the end of his discussion with a proverb of

Solomon's: "Give strong drink to them that are sad and wine to them that are grieved in mind."<sup>56</sup>

In the same part of Roland's *Summa*, he also questioned why sadness seemed to occur more often at a late hour (already a question which seems to have medical implications). As in the above discussion, Roland's solution is wholly humoural. Night-time was naturally cooler and thus tends people more towards cool melancholy. "Since physicians say that [sadness] begins with the [humour of] melancholia [which] remains and holds dominance [at night], we now say that melancholia naturally excites sadness and fear, but in the morning, [the humour of] blood begins to dominate and spirits are diffused through the body and in that way fear and sadness are latterly expelled."<sup>57</sup> Roland's use of humoural theory clearly demonstrates his familiarity with not only basic concepts, but also the teaching of physicians, and more complex ideas found within Galenic medicine, such as the idea of spirits.

Roland also spends some time on an extended metaphor of Christ as *medicus* and his crucifixion as the necessary medicine for humanity's salvation. Early on in Book III of his commentary, Roland compares Christ to a medical doctor. He begins by asking why the *Christus-medicus* delayed his incarnation after the Fall, since a new wound gives much more pain than an older wound and therefore should be treated quickly. Quoting Hippocrates, Roland states, "when the discharge of the wound is just beginning there are greater pains than that which it takes to create the discharge, therefore in the beginning men grieved more from the wound of sin." Continuing the metaphor, Roland argues that God wanted humanity to apply the medicine of penance before experiencing the grace provided by Christ's life and death on earth.<sup>58</sup> It seems clear then, that in many ways Roland's commentary is steeped in the medical tradition in which he was initially trained, even as he tackles theological questions and problems in his *Sentences* commentary. Even a cursory look at Roland's commentary supports this conclusion; medical discussions are included everywhere.

A comparison of Roland of Cremona's work with that of his near contemporaries at Paris clearly highlights the unusually integrated nature of medical and theological knowledge in Roland's commen-

tary on the *Sentences*. Thus, for instance, Albert<sup>59</sup> and Thomas<sup>60</sup> include only one reference to the idea of *Christus medicus* in their works on Christ's incarnation in Book III of their commentaries on the *Sentences*. Both seem to be responding to Roland's early question about the tardiness of Christ's incarnation and framing the discussion around the idea of penance as medicine and Christ's incarnate form as a *medicus*. Though my search has not been exhaustive, I note that this question and comparison cannot be found in the Lombard's *Sentences*, and I have not been able to find an earlier source that asks such a question and uses medical allusions — Roland seems to have had an influence on later commentaries. It is worth noting however, that while Roland references Hippocrates in an extended metaphor that links an infected wound to the sinful nature of fallen man, neither Albertus nor Thomas include that metaphor in their own accounts. Nor do later commentators use medical examples and proofs with anything like the frequency that Roland does. Nonetheless, by responding to Roland's notion of the *Christus-medicus*, the commentaries by Albert and Thomas both demonstrate the continued (though diminishing) influence of Roland's medical training on debates emerging out of the Faculty of Theology at Paris in the thirteenth century.

If the recent research of scholars like Danielle Jacquart, Joseph Ziegler, and William Courtenay have suggested intersections between the study of medicine and the study of theology at the University of Paris in the fourteenth century, and my own research suggests such interconnections may also have occurred much earlier, in the first half of the thirteenth century, why then, until quite recently, have the majority of scholars tended not to see evidence of interrelationships between these two areas of study? Why have scholars like Mark Jordan argued for the siloed and separate nature of the faculties at Paris?<sup>61</sup> Any answer to this question must look to modern medical conceptions of the interconnections of mind and body rather than to what was occurring in the faculties of the University of Paris in the High Middle Ages.



## HISTORIOGRAPHY

Modern western theoretical medicine has its origins in the Scientific Revolution, the Enlightenment, and the idea that the body, like nature itself, was a sophisticated mechanized system that operated according to unchanging and discoverable rules. The ground-breaking work of Paracelsus,<sup>62</sup> Vesalius,<sup>63</sup> and Harvey,<sup>64</sup> all suggested that bodies did not differ based on an individual's humoural complexion, but operated in the same manner regardless of temperament. A human being was beginning to be understood not as an individualized interface of body made up of humours and animated by spirits, which were directed by a soul, wholly united with and infused within that body,<sup>65</sup> but as a machine that operated automatically in which an individualized soul resided. In this latter conceptualization, the responses of a person's mind or soul<sup>66</sup> could not necessarily be predicted, but the responses of a body, given enough study, certainly could be determined. This idea of the body as a machine found one of its greatest advocates in René Descartes, who believed that much of a body's reaction to sense perception occurred automatically, and that a soul need not be wholly attached to every part of a body.<sup>67</sup> Descartes' model of the body as a machine, whose sense perceptions and reactions did not necessarily require the active participation of a mind or soul, has had a profound impact in the history of modern medicine and psychology, and nowhere is this evidence more apparent than in modern perceptions how physical pain is experienced.

The genealogy of modern perceptions of physical pain stems from Descartes' *Treatise on Man*, published posthumously in 1664. In this text, Descartes describes experiences of pain as an automatic physiological response. As the body was a machine, Descartes argued, when a limb or a digit that contained pain receptors sensed pain, that message automatically traveled along fibres in a specific pathway (through the spine) to the brain, and thus pain was perceived.<sup>68</sup> Descartes' model assumed that every experience of physical pain had a proximate physical cause, usually damage of the tissue, and this assumption has influenced how human experiences of pain has been conceptualized in the West ever since.<sup>69</sup> Medical theorists came to believe that those experiencing physical pain could only do

so as a result of discernible damage done to tissues and nerve endings. Pain, in this configuration, was, first and foremost, a product of the senses of the body responding to external stimulus. The possibility of experiencing pain in the mind/soul without concomitant bodily tissue damage was not believed possible in the way it had been in the pre-Cartesian era.<sup>70</sup>

As the humoural system of medicine gave way to more modern conceptualizations, Descartes' argument for how the body-machine perceived pain and the idea that it only did so as a result of sensing an external stimulus gained influence.<sup>71</sup> The paradigm became so dominant that, in the words of the most influential modern researcher of pain perception Ronald Melzack, "Descartes' theory ... determined the 'facts' as they were known up to the middle of [the twentieth century], and even determined therapy."<sup>72</sup> However, by the mid-twentieth century, the Cartesian model of pain reception was being updated slightly, to take into account the growing realization that people did not necessarily experience similar levels of pain with correspondingly similar amounts of tissue damage. In the late 1950s and early 1960s, Patrick Wall and Ronald Melzack suggested a new theory of pain reception called the gate control theory. In this theory of pain reception, there are two sorts of nerve endings (large diameter fibres, which are normal sense receptors, and small diameter fibres, which are specialized receptors for pain, also called nociceptors). Once tissue damage occurs, both types of fibres receive stimulus and send messages on to the dorsal horn in the spinal cord and, ultimately, to different parts of the brain. When the large fibre sensors receive stimulus, the message of pain goes to the dorsal horn and activates what Wall and Melzack termed pain projection neurons; but before the projector neurons can send their signal of pain onwards to the brain a second type of neuron called inhibitor neurons can also be fired. Inhibitor neurons block projection neurons from sending their message. According to the gate control theory, perception of pain, or nociception, only occurs when there is more small fibre stimulus than large fibre stimulus. When this occurs, inhibitor neurons in the dorsal horn are not activated, and thus the projection neurons can send a message of pain to the brain unhindered.<sup>73</sup> While the gate control theory of pain is, in many ways, just

a more nuanced version of the Cartesian model of automated response to external stimulus, it does go some way towards explaining why pain is experienced differently by different individuals. However, experiencing sensations of physical pain still required some sort of outside stimulus and the body still responded automatically to that external stimulus.<sup>74</sup>

It is a testament to the strength of the dualist paradigm that even attempts to modify Descartes' understanding of how physiological pain is sensed to include the possibility of non-physiological influences, ultimately, re-inscribed some aspects of Cartesian theories of pain perception. It was not until the 1990s that a theory of pain perception was developed that began to break down the divide between the mind/soul and the body. Indeed, Ronald Melzack himself had recognized that his gate-control theory still could not account for all experiences of pain and certainly did not explain why an individual could experience what felt like physical pain without an apparent physiological cause. Melzack's work on people who had lost limbs had allowed him to note that there were people who experienced pain with no discernible tissue damage or outside stimulus that might activate pain reception. Of particular interest to Melzack was the experiences of amputees who often experienced pain (or numbness) in digits and limbs that were no longer a part of their body. As Ronald Melzack put it, it comes as a shock, but you "do not need a body to feel a body."<sup>75</sup> From this idea, Melzack developed the idea of a neuromatrix, a "widespread network of neurons that consist of loops between the different parts of the brain. This network continually processes input and synthesizes output through time. A characteristic pattern develops called the neurosignature. Though this is rather simplistic, essentially the neurosignature allows a flow of awareness to occur along with a pattern of movements designed to bring about a desired goal. The neuromatrix is then the core of experiencing sensory input, including pain and the core of physical responses to that input. Melzack hypothesizes that the neuromatrix and consequent neurosignature can also account for experiences of pain when there is a lack of sensory input. For example, after the loss of a limb, the attempts to move that absent limb continue and get stronger, as the brain recognizes the body's lack of action based on

the signals it is sending. This produces a sense of pain in a limb that is not there.<sup>76</sup>

Largely working within the context of a neuromatrix, recent psychologists, neurobiologists, and cognitive scientists have come to argue that this system processes not only physical pain but also psychological suffering.<sup>77</sup> Feelings of social exclusion and grief, in particular, have been linked by various individuals to experiences of physical pain. Linguistically, of course, these experiences are related, one experiences a broken bone and a broken heart, the phrase “the pain was shattering” can apply equally to physical pain as to grief. Beyond linguistic evidence (which is circumstantial at best), recent studies, in particular those by neuro-psychologists suggest that the neural pathways through which physical and emotional pain are perceived by an individual are the same. Thus, more and more scholars are beginning to believe that physical and psychological pain are, at least in some ways, a shared state. This change can be detected in some of the new definitions of pain that have been adopted in recent years. Thus, the International Association for the Study of Pain now defines pain as “an unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage.”<sup>78</sup> The division between mind/soul and body described by Descartes and adopted as generally true in the wake of the Enlightenment is beginning to break down. One of the results of new perceptions of the intense interconnection between body and mind/soul for experiencing pain is that the study of pain perception has become more interdisciplinary. Psychologists, neurobiologists, and cognitive scientists, amongst many other specialists, are speaking to each other and informing each other’s work. The study of pain in the contemporary world is becoming truly interdisciplinary.

The dominance of dualism in modern theoretical perceptions of how mind/soul and body interacted also affected the study of theories of pain perception in the Middle Ages. It ensured that the study of the history of theology and the study of the history of medicine, both disciplines in which pain perception might be discussed, were carried out by different individuals, each trained in the texts and questions of their specific disciplines. The modern historical categories of investigation were, in effect, entirely disconnected from

each other and the separate nature of investigations into medieval scholastic medicine and theology in turn meant that any interconnections between medical and theological texts were overlooked, or at best, deemed irrelevant. My own training as a historian of religion and theology led me to pass over a medical definition in Alexander of Hales' commentary on the Lombard's *Sentences* without recognizing its source in my dissertation.<sup>79</sup> But other scholars have made similar oversights. Thus, Mark Jordan argued in 1992:

The study of medicine [at university] was kept apart from the study of theology not only by taste but by the various pressures tending to enforce the guild-character of the faculty of theology .... The exclusion of Galen from thirteenth-century philosophical or theological disputes is one measure of the distance between the faculties of medicine and the faculties of theology.<sup>80</sup>

More recently still, Esther Cohen's *The Modulated Scream* posits a separation of medical and theological perceptions of the usefulness of pain.<sup>81</sup> But the positions of Jordan and Cohen must now be called into question as more studies of thirteenth-century theological texts suggest that at times, their content seems to be rooted, at least in part, in an understanding of medical questions and arguments.<sup>82</sup> Indeed, Jacquart has suggested that modern scholars' reluctance to believe medieval reports of theologians who were also physicians is the result of a presumed but unsubstantiated antagonism between the medieval faculties.<sup>83</sup> The implication of this criticism is that the presumption of such animosity reflects more of the modern world's perception of the (non)relationship between these two disciplines than the evidence of the Middle Ages does.

In the last 20 years, as the supremacy of Cartesian dualism has been challenged in modern conceptualizations of how pain is perceived and, more generally, in our concept of health, so too is the divided nature of the study of scholastic texts breaking down. Initially, the move to embrace the multifaceted nature of medieval conceptualizations of medical and theological realities occurred in discussions of modes of healing sought out by the laity in the Middle Ages, but more recently, as outlined above, scholars have turned to

potential interconnections between scholastic medical and theological texts. This has resulted in a more richly nuanced and more accurate understanding of the interrelationship between the personnel and sources of the faculties of medicine and theology at the University of Paris in the thirteenth and fourteenth centuries.

Historiographical analysis clearly demonstrates that the writing of history always tells its readership as much about the culture in which it was written as it does about the past. However, there are times when a change in critical approach allows historians to focus their lens more clearly on the past to produce a much more accurate understanding of it. The modern collapse of mind/soul and body dualism in the study of pain perception more broadly is one such instance. Believing the mind/soul and body to be intimately interconnected (and so both involved in the experience of pain, for example) requires an interdisciplinary approach to fully comprehend how both pieces of the tightly woven whole human operate. Newly cognizant of such a need for interdisciplinarity to aid the modern understanding, intellectual historians seem to have become more receptive to the possibility of interconnections between the disciplines in discussions of this topic. It is becoming increasingly clear, then, that in medieval Europe, as in the modern West, understanding the whole of a human being required the expertise of those skilled in many different disciplines.

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### Endnotes:

- 1 Esther Cohen, *The Modulated Scream: Pain in Late Medieval Culture* (Chicago: University of Chicago Press, 2010), 4, 87–112.
- 2 On this topic, see Judith Perkins, *The Suffering Self: Pain and Narrative Representation in the Early Christian Era* (London and New York: Routledge, 1995).
- 3 Giles Constable, *Three Studies in Medieval Religious and Social Thought* (Cambridge, UK: Cambridge University Press, 1998), 148.
- 4 *Ibid.*, especially 201–11.
- 5 Just for a sampling, see Caroline Walker Bynum, *Holy Feast and Holy Fast: The Religious Significance of Food to Medieval Women* (Los Angeles: University of California Press, 1988); Miri Rubin, *Corpus Christi: The Eucharist in Late Medieval Culture* (Cambridge, UK: Cambridge University Press, 1991); and Margaret Miles, *The Word Made Flesh: A History of Christian Thought* (Oxford: Wiley-Blackwell, 2005).
- 6 The *Christus-medicus* was a common trope in late antique and medieval texts and the notion stems from the gospels themselves when Christ healed various infirmities, culminating in raising Lazarus from the dead. On the topic of the *Christus-medicus*, see R. Arbesmann, “The concept of “*Christus-medicus*” in St. Augustine’s, *Traditio* 10 (1954), 1–28; and, more recently, in the history of art, W. Gollwitzer-Voll, *Christus-Medicus: Heilung als mysterium* (Paderborn: Schöningh Verlag, 2007).
- 7 Vincent of Beauvais, *Speculum naturale* (Graz: Akademischen Druck-u. Verlagsanstalt, 1967), xxxi, 99.
- 8 Cohen, *The Modulated Scream*. Although Cohen’s chapter on physicians, “Alleviating Pain,” suggests that physicians understood pain to be an evil (112), elsewhere she argues that “the main reason that healers did not search for such a means [of relieving pain] was that there was no reason to do so,” as pain was a useful force for salvation (51).
- 9 Gary Ferngren, *Medicine and Health Care in Early Christianity*

- (Baltimore, MD: Johns Hopkins University Press, 2009), 13.
- 10 Guenter Risse, *Mending Bodies, Saving Souls: A History of Hospitals* (Oxford: Oxford University Press, 1999), 37.
  - 11 Valerie Flint has demonstrated the competition between early medieval healers and medieval saints who performed miraculous healings in the hagiography of Merovingian Gaul. See Valerie Flint, “The Early Medieval ‘*Medicus*’, the Saint — And the Enchanter,” *Social History of Medicine* 2, no. 2, 127–45.
  - 12 See Sheila Campbell, *Health, Disease and Healing in Medieval Culture* (Houndmill, UK: Palgrave-Macmillan, 1992); Ronald Finucane, *Miracles and Pilgrims: Popular Belief in Medieval England* (Houndmill, UK: Palgrave-Macmillan, 1995); and Darrell Amundsen, *Medicine, Society and Faith in the Ancient and Medieval Worlds* (Baltimore, MD: Johns Hopkins University Press, 1996).
  - 13 Lateran IV, Canon 22. Cum infirmitas corporalis non nunquam ex peccato proueniat, dicente Domino, languido quem sanauerat: Uade et amplius noli peccare, ne deterius aliquid tibi contingat, decreto praesentistatuimus et districte praecipimus medicis corporum, ut cum eos ad infirmos uocari contigerit, ipsos ante omnia moneant et inducant, quod medicos aduocent animarum, ut postquam infirmis fuerit de spirituali salute prouisum, ad corporalis medicinae salubrium procedatur, cum causa cessante cesset effectus . . . Hoc quidem inter alia huic causam dedit edicto, quod quidam in aegritudinis lecto iacentes, cum eis a medicis suadetur, ut de animarum salute disponant, in desperationis articulum incidunt, unde facilius mortis periculum incurrunt. Si quis autem medicorum huius nostrae constitutionis postquam per praelatos locorum fuerit publicata, transgressor extiterit, tamdiu ab ingressu ecclesiae arceatur, donec pro transgressione huiusmodi satisfecerit competenter. Ceterum cum anima sit multo pretiosior corpore, sub interminatione anathematis prohibemus, ne quis medicorum pro corporali salute aliquid aegroto suadeat, quod in periculum animae conuertatur. See *Decrees of the Ecumenical Councils: Nicaea to Lateran V*, ed. N. Tanner, 2 vols. (Washington D.C.: Georgetown University Press, 1990), 245–6. The English translation of this canon can be found in H.J. Schroeder, *Disciplinary Decrees of the General Councils: Text, Translation and Commentary* (St. Louis, MS: B. Herder, 1937), 236–96. Now in public domain and available at [www.fordham.edu/halsall/basis/lateran4.html](http://www.fordham.edu/halsall/basis/lateran4.html), <viewed 15 July 2009>.
  - 14 Of course, this formulation presumes a sharp division between such religious and medical methods of healing, a false dichotomy in the Middle Ages when cures were often accompanied by charms or prayers for health. Nor was the use of charms and prayers limited to those practitioners who were not trained physicians. For a summary of the



- interrelation between religious and medical modes of healing even by university trained physicians, see Anne Van Arsdel, “Reading Medieval Medical Texts with an Open Mind” in *Textual Healing: Readings on Medieval and Early Modern Medicine*, ed. Elizabeth Furdell (Leiden: Brill, 2005), 9–26.
- 15 Danielle Jacquart, “Medicine and Theology” in *Crossing Boundaries at Medieval Universities*, ed. Spencer E. Young (Leiden: Brill, 2011), 213–26, 217.
  - 16 On this subject, see Angela Montford, *Health, Sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries* (Aldershot, UK: Ashgate, 2004), 109–11.
  - 17 The primary sources from the scholastic period that support this contention are numerous, though many differ in discussions of how, precisely, the interconnection between body and soul should be understood. For a relatively clear and influential formulation, see Thomas Aquinas, *Summa theologiae*, I:76.
  - 18 Joseph Ziegler, “*Ut dicunt medici*: Medical Knowledge and Theological Debates in the Second Half of the Thirteenth Century,” *Bulletin of the History of Medicine* 73, no. 2 (Summer 1999): 208–37. Ziegler has also argued that the physician Arnald of Villanova regularly used theories and examples from medicine in his theological writings. See Joseph Ziegler, *Medicine and Religion Circa 1300: The Case of Arnau de Vilanova* (Oxford: Clarendon Press, 1998).
  - 19 Jacquart, 221.
  - 20 William J. Courtenay, “Curers of Body and Soul: Medical Doctors as Theologians” in *Religion and Medicine in the Middle Ages*, eds. Peter Biller and Joseph Ziegler, York Studies in Theology 3 (York, UK: York Medieval Press, 2001), 69–75, 72.
  - 21 Peter Lombard likely completed his text between 1150 and 1157. See Marcia Colish, *Peter Lombard*, 2 vols. (Leiden, New York, Cologne: Brill, 1994), 17.
  - 22 On the history of the *Sentences* and commentaries on it, see Philipp W. Roseman, *The Story of a Great Medieval Book: Peter Lombard’s Sentences* (Peterborough, Ont: Broadview Press, 2007).
  - 23 There is much debate about what the term *passio* meant to the scholastics of the High Middle Ages. The closest modern English term for *passio* might be emotion, but it literally meant a movement of the soul caused by a non-natural. Much work has been done on the high medieval idea of *passiones*, for instance, see Erich Auerbach, “*Passio* as Passion,” trans. M. Elsky, *Criticism* 43, no. 3, 288–308; Simo Knuuttilla, “Medieval Theories of the Passions of the Soul” in *Emotions and Choice from Boethius to Descartes*, eds. H. Lagerlund and M. Yrjönsuuri (Dordrecht, Boston, London: Kluwer Academic Publishers, 2002),

- 49–84; Silvana Vecchio, “Passions de l’âme et péchés capitaux: les ambiguïtés de la culture médiévale” in *Laster im Mittelalter: Vices in the Middle Ages*, eds. C. Flüeler and M. Rohde (Berlin: de Gruyter, 2009), 49–64. On the importance of the passions for understanding Christ’s experience of the incarnation particularly (and an argument that medieval thought in this area was a disjuncture from patristic sources), see Kevin Madigan, *The Passions of Christ in High-Medieval Thought: An Essay on Christological Development* (Oxford: Oxford University Press, 2007).
- 24 Donald Mowbray, *Pain and Suffering in Medieval Theology: Academic Debates at the University of Paris in the Thirteenth Century* (Woodbridge, UK: Boydell, 2009), especially 31–42.
- 25 These ideas are most clearly articulated in Thomas Aquinas, *Scriptum super libros sententiarum Magistri Petri Lombardi episcopi parisiensis*, eds. P. Mandonnet and M.F. Moos (Paris: P. Lethielleux, 1929–1947), III.15.2. For more discussion of medieval scholastic discussions of Christ’s pain, see Donna Trembinski, “[Pro]passio doloris: Early Dominican Representations of Christ’s Physical Pain,” *Journal of Ecclesiastical History* 59, no. 4 (October 2008): 630–56; Mowbray, 13–42; and Cohen, 198–226.
- 26 “Dolor est sensus propriae corruptionis,” Alexander of Hales, *Glossa in quatuor libros sententiarum Petri Lombardi*, eds. V. Doucet, G. Gál, et al., 4 vols. Bibliotheca Franciscana Scholastica 12–15. (Quaracchi: S. Bonaventurae, 1951–1957), I.151–152. This appears to reference Augustine, *De libro arbitrio*, III.23. “Quid est dolor nisi quidam sensus divisionis uel corruptionis impatiens.”
- 27 “Dolor est solutio continuitatis, secundum Philosophum: hoc modo fuit in eo,” Alexander of Hales, 159.
- 28 In particular, it is found in the *Tegni* and in Galen’s *De accidenti et morbo*.
- 29 Avicenna, *Canon of Medicine*, trans. O. Cameron Gruner, adapted by Laleh Bakhtiar (Chicago: Kazi Publications, 1999), 246.
- 30 Risse, 94–9.
- 31 Jacalyn Duffin, “Salerno, Saints and Sutton’s Law: On the Origins of Europe’s ‘First’ Medical School,” *Medical Hypotheses* 73 (2009): 265–67, 265. Interestingly, Duffin hypothesizes in this article that the popularity of shrines dedicated to physician-saints and the rise of a medical school at Salerno may have occurred contemporaneously, neatly underlying the dual approach of medieval people to healing. On the origins of the medical school at Salerno, also see Paul Kristeller’s seminal article “The School of Salerno,” *Bulletin of the History of Medicine* 7 (1945): 138–94, especially 144–7.
- 32 Jacques Verger, “The First French University and the Institutionalization

- of Learning: Faculties, Curricula, Degrees” in *Learning Institutionalized: Teaching in the Medieval University*, ed. John Van Engen (Notre Dame, IN: University of Notre Dame Press, 2000), 5–19, 6.
- 33 Hastings Rashdall, *The Universities of Europe in the Middle Ages*, 2 vols. (Oxford: Clarendon Press, 1895), 1. 429.
- 34 Verger, 12.
- 35 Danielle Jacquart and Françoise Micheau, *La médecine arabe et l'Occident médiéval* (Paris: Maisonneuve et Larose, 1990), 173–5.
- 36 In Alexander Neckam's *Sacerdos ad altare*, written circa 1180. See Cornelius O'Boyle, *The Art of Medicine: Medical Teaching at the University of Paris 1250–1400* (Leiden: Brill, 1998), 116–17.
- 37 This number was imposed by Innocent III and was reinforced by a bull from Honorius III in 1221. The official number of chairs at Paris was not increased until 1254, though it appears that the Faculty of Theology did occasionally house more than eight regent masters. On this, see Jean-Pierre Torrell, *Saint Thomas Aquinas: The Person and His Work*, trans. Robert Royal (Washington, D.C.: Catholic University of America Press, 1996), 75; and Rashdall, 457–8.
- 38 Interestingly, all three of these individuals also entered the Dominican Order in the 1220s and 1230s. This is an unexpected beginning for an order that would repeatedly ban members from practicing medicine and, by the 1250s, had attempted to outlaw the study of the natural sciences — though such bans were never universally enforced or successful. See Angela Montfort, 111–13, 119–21, 259.
- 39 Ernest Wickersheimer, *Dictionnaire biographique des médecins en France au Moyen Âge* (Geneva: Librairie Droz, 1936, 1979), 478–9.
- 40 See Thomas Kaeppli's listing for Guericus de S. Quintino, in his *Scriptores ordinis praedicatorum medii aevi*, 4 vols. (Rome: S. Sabina, 1970–1993), 2:61–70.
- 41 Gerald of Frachet, *Uitae fratrum*, trans. P. Conway (London: Blackfriars Publications, 1955), 216–17.
- 42 “A planta pedis usque ad uerticem non est in eo sanitas uulnus et liuor et plaga tumens non est circumligata nec curata medicamine neque fota oleo.” Douay-Rheims (American Edition, 1899) translates this as, “From the sole of the foot unto the top of the head, there is no soundness therein: wounds and bruises and swelling sores: they are not bound up, nor dressed, nor fomented with oil.” More literally, it perhaps might be, “From the heel of the foot to the crown of the head there is no health in him. The wound and bruise and swollen cut is not bound nor cured with medicine nor soothed with oil.” Isaiah, 1:6.
- 43 “Si facit aperturam, aut ita quod sit ibi aggregatio humorum, [et] tunc est plaga tumens, uel non, [et] tunc est uulnus, propter latitudinem et liberam euaporationem humorum, quod non est in plaga tamen, propter

- arcitudinem sui.” Latin from Berryl Smalley, “A commentary on Isaias by Gueric of Saint-Quentin” in *Miscellanea Giovanni Mercati*, 2 vols., *Studi e testi*, vols. 121–122 (Vatican City, 1946), 11, 383–97, 387.
- 44 “Hic autem curantur tribus modis, quia ad curationem talium oportet quod fiat circumligatio, ne cor, dum pura uulnus abicit, ... uel oportet ut aliquid fiat ad repressionem humorum, ne nimis effluent. Tertium est appositio medicaminis, sed quia medicamen mordax est, propter hoc quarto oportet apponi mitigauum, scilicet oleum, sed nullum horum fuit adhibitum.” Ibid.
- 45 I can find no other reference as lengthy or as explicitly medical in the critical edition of Gueric’s quodlibetal questions, though I have not perused his numerous unedited commentaries on Scripture.
- 46 Michele Mulchahey suggests that Roland was a master of medicine, see Michele Mulchahey, *First the Bow is Bent in Study* (Toronto: PIMS, 1999), 60, while the *Scriptores ordinis praedicatorum* suggests he was a master of arts; see Kaeppeli, 3:330.
- 47 Antoine Dondaine, “Un commentaire scripturaire de Rolande de Cremona: Le livre de Job,” *Archivum Fratrum Praedicatorum* 11 (1941): 109–37, 116.
- 48 Andrew Traver, “Rewriting History? The Parisian Secular Masters’ *Apologia* of 1254” in *History of Universities XV*, ed. P. Denley (Oxford: Oxford University Press, 2000), 9–45.
- 49 Ibid., 22–6.
- 50 On Roland’s life, see M-H. Vicaire, *Dominique et ses Prêcheurs* (Paris: Éditions du Cerf, 1977), 75–100.
- 51 Bibliotheque Mazarine MS 795 (hereafter Bibl. Maz. 795), 138v–138r. Mulchahey also notes Roland’s insistence that preachers be well grounded in philosophy and logic before preaching publicly. Mulchahey, 62.
- 52 “Primus sensus est communis, qui alio nomine a physicis uocatur phantasia eo quod in ipso fiant apparentiae et non existentiae deceptiones et errores. Et dicitur sensus communis quia alios sensus bibit et ebibit ut dicit Augustinus.” Vatican Library, Barberiniani. latini 729 (hereafter Barb. lat. 729) 101; BiblMaz795, 33r, transcribed in C.R. Hess, “Roland of Cremona’s Place in the Current of Thought,” *Angelicum* 45 (1968): 429–77, 442.
- 53 The entire passage is reproduced here. Uidetur quod anima Christi secundum sensualitatem non debebat aliquot modo appetere non mori; nec anima alicuius sancti uiri — et intelligas sensualitatem eo modo quo probauimus superius; quod debet intellegi — quia anima secundum sensualitatem, que sensualitas recte est ordinate, appetite illud quod sibi melius est, et debet illud appetere; sed melius erat ei dissolui quam esse in corpore quia per dissolutionem fiebat impassibilis; et melior est status

impassibilitatis quam status passibilitatis. Ergo eodem modo debet esse de anima cuiuslibet sancti uiri, que recte est ordinate, et in qua non est morbus qui faciat horrere quod proficit; morbus enim facit horrere proficiens, natural autem non. De anima Christi et sancti uiri dixi istud, quoniam anima peccatoris habet peruersum appetitum, et infectio appetitus facit appetere contraria, idest deteriora, sicut dicit Galienus, quod innaturales distemperantie faciunt appetere contraria. Ergo Christus, si habebat bene ordinatum appetitum sensualitatis, debebat appetere illud quod erat sibi iocundum, et bonum, et sine pena. Ergo, cum non illus appetisset, non fuit bene ordinate anima illa. Quod est impossibile. Roland of Cremona, *Summae Magistri Rolandi Cremonensis, Liber Tercius*, ed. A. Cortesi (Bergamo: Edizioni Monumenta Bergomensia, 1962), 100–1.

- 54 The comparison of a diseased soul to an ill body is not new with Roland of Cremona. Indeed, in medieval treatises and sermons, leprosy was often described as the outward evidence of a diseased soul. However, in the context of theological texts, especially commentaries on Peter Lombard's *Sentences*, the reference is unusual and perhaps unique.
- 55 Proverbs 31:6. The translation is from the Douay-Rheims American edition (1899). Roland's argument in its entirety is reproduced below. Jejuni atque magis de facili tristatur quia ut uacuu in superioribus. pauci spiritus sunt quando homo uacuu est et multitudo spirituum facit gaudium. Ergo et absencia spirituum facit tristitiam. Et quod uacuum sit corpus spiritu quando est jejunum signum est quia homo magis ponderat quando est jejunus quam quando est satur quia in jejuno pauci sunt spiritus qui suspendant corpus. In saturo atque multi qui suspendant corpus. Et idea dixit Salomon pouerbum 'ultra date siceram maerentibus et uinum hiis quo amaro animo sint ut per potum boni uini multiplicenter spiritus quibus multiplicetur gaudium. Vatican Library, Barb. lat. 244-1; Bibl. Maz795, 49r.
- 56 Solutio: dico quod naturaliter tristitia magis intenditur circa noctem quam mane sicut uisum est. Et hoc est propter naturam temporis. Quia dicunt physici quod tunc incipit melancholia moneri et habere dominium. Nos iam diximus quod ex melancholia naturaliter excitatur tristitia et timor in mane atque incipit sanguis dominari et spiritus diffundi per corpus et ideo timor et tristitia serotino expellitur. Barb. lat, 246-2; Bibl.Maz. 795, 49r.
- 57 Roland of Cremona, *Summa*, 6–7.
- 58 Albertus Magus, *Super Sententiarum I-IV*, ed. A. Bourget (Paris: Vives, 1890-1899), III.1.2, 7B.
- 59 Thomas Aquinas, *Scriptum super sententiis*, 3.1.1.4 ad 3.
- 60 Cf. pages 21-22.
- 61 Though his ideas often met with scorn in his own time, historians of

- medicine today often credit Paracelsus as one of the first theorists to break away from the two-millennia old humoural model of disease and cure. In the humoural model, disease is always caused by some imbalance of the humours that made up the body and so was cured by re-establishing the balance of one's own complexion. Instead, Paracelsus believed that diseases had different etiologies and thus different cures. The most authoritative work on Paracelsus is still Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance*, 2nd revised ed. (Basel and New York: Karger, 1982). Also see Allen G. Debus, "Paracelsus and the Medical Revolution of the Renaissance" in *Paracelsus: Five Hundred Years; Three American Exhibits* (Bethesda: Friends of the National Library of Medicine, 1993), 3–13, especially 13; and Jacalyn Duffin, *History of Medicine: A Scandalously Short Introduction* (Toronto and Buffalo: University of Toronto Press, 1999), 99.
- 62 Vesalius' best known work, the *De humani corporis fabrica* contained many diagrams and much information concerning human anatomy gleaned from direct observation and participation in dissections of the human body. For a full-length scholarly biography, see C.D. O'Malley, *Andreas Vesalius of Brussels: 1514–1564* (Berkeley: University of California Press, 1965).
- 63 Harvey's book *De motu cordis* described accurately for the first time how blood was circulated through the veins of the body. On Harvey and his influence see Duffin, *History of Medicine*, 46–7.
- 64 On the complicated interconnections of body and soul and the understanding of Galenic spirits in medieval medicine, natural philosophy, and theology, see James Bono, "Medical Spirits and the Medieval Language of Life" in *Traditio* 40 (1984): 91–130, especially 116–21.
- 65 In this essay, I have chosen to use the terms mind and soul interchangeably, as many medieval scholastic theorists did. For medieval theorists, the soul was the first actuality of a human being and was responsible for thought, sense perception, and bodily responses. In the modern world, we tend to use the term mind to encompass the above meaning. Of course the reality of how both terms were used in the philosophies of the past is much more complex than the above simple formulation allows. For a concise history about how the terms mind and soul have been used in relation to each other in the history of philosophy from Plato to Descartes, see Robert Pasnau, "The Mind-Soul Problem" in *Mind, Perception, and Cognition: The Tradition of Commentaries on Aristotle's De anima*, eds. P. Bakker and H. Thijssen (Aldershot, UK: Ashgate, 2008), 3–19.
- 66 René Descartes, *Treatise on Man*, trans. Thomas Steele Hall (Cambridge, MA: Harvard University Press, 1972), Kindle Edition, Cl 2. As Kindle editions do not contain page numbers, the references to this text will be

- to the interlinear references in the text that match the translation with the Clerselier's French edition, published in 1664.
- 67 Descartes, CI 28 and CI 30.
- 68 On the tremendous influence of Descartes' dualism on the history of perceptions of pain and pain research, see David Morris, *The Culture of Pain* (Los Angeles: University of California Press, 1991), Kindle Edition. See The Future of Pain, Location 3396 of 4440; and Ronald Melzack and Joel Katz "Pain in the 21st Century: The Neuromatrix and Beyond" in *Psychological Knowledge in Court: PTSD, Pain and TBI*, eds. G. Young, A. Kane, and K. Nicholson (Toronto: Springer, 2005), 129–48, 129.
- 69 Unlike Descartes' formulation, the premodern humoral system that was believed to govern both bodily composition and emotional temperament simply did not allow for the possibility of psychological experiences without concomitant physiological ones and vice versa.
- 70 The extent of Descartes' dualism has been overstated by some modern scholars. Descartes himself was not consistent in how he discussed the soul's intersection with the mind and body throughout his works and certainly cannot be said to definitively and always support absolute dualism as some scholars, notably Gilbert Ryle, have suggested. See Peter Harrison, "That Descartes Originated the Mind-Body Distinction" in *Galileo goes to Jail and Other Myths about Science and Religion* (Cambridge, MA: Harvard University Press, 2009), 107–13.
- 71 Ronald Melzack, "Pain: Past Present and Future," *Canadian Journal of Experimental Psychology* 47, no. 4 (December 1993): 615.
- 72 Melzack and Wall initially published their theory in *Science*. R. Melzack and P. Wall, "Pain Mechanisms: A New Theory" *Science* 150 (19 November 1965): 971–9. It has been summarized many times by both since, including, *ibid.*, *The Challenge of Pain* (Toronto: Penguin Books, 1982), 193ff.
- 73 A problem which, as noted below, Melzack's later research addressed.
- 74 Melzack, "Pain: Past Present and Future," 620.
- 75 Melzack's theory of the neuromatrix is explained simply in "Pain: Past, present and Future."
- 76 There have been many studies in the past ten or so years on this topic, but the work of Naomi Eisenberger has been particularly prevalent in the literature. For instance, see Naomi Eisenberger, "The pain of social disconnection: examining the shared underpinnings of physical and social pain," *Nature Reviews Neuroscience*, Advanced Online Publications, 3 May 2011, 14, <viewed July 23, 2012>; and Naomi Eisenberger and Matthew Liberman, "Why Rejection Hurts: A Common Neural Alarm System for Physical and Social Pain," *Trends in Cognitive Sciences* 8, no.7 (July 2004): 294–300. Other articles that represent this new trend in the

- field include E. Kross, M.G. Berman, W. Mischel, E.E. Smith, and T. D. Wagner, "Social rejection shared somatosensory representations with physical pain," *Proceedings of the National Academy of Sciences of the United States of America* 108 (12 April 2011): 6270–75; and Geoff MacDonald and Mark Leary, "Why Does Social Exclusion Hurt?: The Relationship between Social and Physical Pain," *Psychological Bulletin* 131, no. 2 (March 2005): 202–23.
- 77 Taxonomy of Pain, International Association for the Study of Pain, [www.iasp-pain.org/Content/NavigationMenu/GeneralResourceLinks/PainDefinitions/default.htm#Pain](http://www.iasp-pain.org/Content/NavigationMenu/GeneralResourceLinks/PainDefinitions/default.htm#Pain), <viewed 13 August 2012>.
- 78 In fact, it took me a decade to recognize that definition for what it was, a reference to a medical, rather than theological source.
- 79 Mark Jordan, "The Disappearance of Galen in Thirteenth-Century Philosophy and Theology" in *Mensch und Natur in Mittelalter*, eds. Albert Zimmermann and Andreas Spear (Berlin and New York: Walter de Gruyter, 1992), 703–17, 715.
- 80 Cohen posits that while theological and legal perceptions of pain in the Middle Ages argued for its usefulness, medicine did not understand pain to be useful. Further, while Cohen argues that theological scholasticism influenced medical perceptions of pain, she sees no influence of medicine or medical theory on theological explanations of pain. See Cohen, 4, 258.
- 81 Jacquart, 220–1.
- 82 *Ibid.*, 217.