

# The Pursuit of Knowledge in Carolingian Europe

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*O how sweet life was when we used to sit at leisure  
amid the book boxes of a learned man, piles of books,  
and the venerable thoughts of the Fathers; nothing  
was missing that was needed for religious life and the  
pursuit of knowledge.*

—ALCUIN

Alcuin's nostalgic lament, written by a worried master to a former pupil traveling in distant and pestilent Italy (*Italia firma*), captures the essence of learning in the early Middle Ages.<sup>1</sup> Written sometime between 793 and Alcuin's death in 804, this touching portrait of the life of scholarship, with its emphasis on tranquility, close personal bonds between master and student, and communion with great minds, might have been written in any medieval century. But Alcuin was writing in the Carolingian century at a time when education and learning were being radically transformed.

Alcuin, an Anglo-Saxon born around 730 and educated at York, represents part of that transformation. Many like him who had been educated in the cathedral and monastic schools of England, Ireland, Spain, and Italy no doubt had been destined to replace their own masters. Instead, as adults they found themselves transplanted to the kingdoms of the Franks, where their learning, pedagogical skills, and books were put to a new task. That task, the effort to harness the quiet pursuit of religious life and wisdom to broad social reform, forced Carolingian leaders to think about schooling and how it might be used to achieve their goals.

Two documents issued in the name of Charlemagne (ca. 742–814), one

in March 789 and the other sometime during the 790s, might well be considered the manifestos of the Carolingian educational reform movement. The *Admonitio generalis* and the *Epistola de litteris colendis*, both of which bear the impress of Alcuin's mind, provide good starting points for a foray into the world of Carolingian schools.<sup>2</sup>

The *Epistola de litteris colendis* was directed to the monasteries of the Carolingian realms. This brief letter was prompted by the poor literary quality of letters monks had been sending to the royal court. The evident piety of the monks was poorly served by their clumsy prose. Charlemagne was convinced that monks had to be schooled in the study of *litterae*, Latin letters, in order to understand the message of the Scriptures and to be able to convey its spiritual meaning to others:

For we want you, as befits the soldiers of the Church, to be inwardly devout and outwardly learned, pure in good living and scholarly in speech; so that whoever comes to see you in the name of God and for the inspiration of your holy converse, just as he is strengthened by the sight of you, so he may be instructed also by your wisdom, both in reading and chanting, and return rejoicing, giving thanks to Almighty God.<sup>3</sup>

The *Admonitio generalis*, as its title implies, was a more far-reaching document. Addressed to all the ranks of the clergy and secular leaders alike, it drew its inspiration from the example of Josiah, the Hebrew king who corrected his wayward people and restored them to the "words of the book of the law" (2 Kings 22:11). Josiah became a model of Carolingian kingship—later in the ninth century, Charlemagne's grandson, Charles the Bald (823–77), would be depicted in an illustration in his Psalter as a king in the tradition of Josiah and Theodosius—another lawgiver.<sup>4</sup> In the context of the *Admonitio generalis*, the example of Josiah was evoked just before the presentation of eighty-two articles that were intended "to correct what is erroneous, to cut away what is inadmissible, to strengthen what is right."<sup>5</sup> Fifty-nine of the eighty-two articles derive from the *Dionysio-Hadriana*, a collection of canons that Charlemagne had requested from Pope Hadrian I (r. 772–95). Amid the canons addressing clerical discipline, encouraging the observance of the Sabbath, and inveighing against sin and abuses of all kinds, one specifically obliged monks and priests to conduct themselves in a praiseworthy manner and to establish schools

that many may be drawn to God's service by their upright way of life and they may gather and associate to themselves not only children of

servile condition but also the sons of freemen. And let schools for teaching boys the psalms, the *nota*, singing, computation and grammar be created in every monastery and episcopal residence. And correct catholic books properly, for often, while people want to pray to God in the proper fashion, they yet pray improperly because of uncorrected books. And do not allow your boys to corrupt them, either in reading or in copying; and if there is need to copy the gospel, Psalter or missal, let men of full age do the writing, with all diligence.<sup>6</sup>

These two documents prompt several observations about the nature of Carolingian educational reform policy. First, its focus was almost exclusively on the clergy or those intended for the clerical state. One might also observe the rudimentary and practical nature of the recommendations in the two documents: emphasis fell on the proper understanding and use of language; on mastery of Tironian notes, chant, and computus or calculation; and, of course, on proper manuscript copying. Most significant of all, these documents were intended to establish kingdom-wide policy—the *Admonitio generalis* by its very nature and also by the requirement that every cathedral and monastery establish schools, and the *Epistola de litteris colendis* by the injunction that copies be sent to all bishops and monasteries. Cassiodorus planned to establish a school in Rome in the sixth century; the Council of Vaison (529) ordained the creation of rural schools; and the Rules of Benedict, the Master, and other monastic founders made provisions for teaching and learning. Individual secular leaders also encouraged learning in the early Middle Ages, but the Carolingian documents are unique both in their scope and in the consistent royal and episcopal impetus that animated them.<sup>7</sup>

How did it all turn out? Some have been so impressed by the achievement of the late eighth and the ninth centuries that they have argued that a renaissance resulted in the Frankish lands. A little more than 150 years ago in 1839, Jean-Jacques Ampère coined the phrase "Carolingian renaissance." More recently Pierre Riché mapped out two renaissances—one during the reign of Charlemagne and a second one, more original than the first, during the reign of Charles the Bald in the third quarter of the ninth century. Some have seen the renaissance in education and intellectual life as part of a much larger package, the reform of society as a whole. Others have rightly underscored the limits of the Carolingian achievement and have stressed the disjunction between policies, programs, and ideals on the one hand, and results on the other.<sup>8</sup>

There can be no doubt, however, that the schools of Carolingian Europe, given the central position accorded them in the Carolingian educational program, flourished. Monasteries and cathedrals served as the principal centers where reforms in copying were carried out, where libraries were built up by the deliberate efforts of patrons and collectors, where new teaching manuals were created for new students, and where masters were recruited to supervise and direct the teaching of youth. Two school texts emanated from this charged environment and describe clearly the focus of Carolingian education and its goals.

The first is Hrabanus Maurus's treatise, *On Clerical Training*. Hrabanus (ca. 780/4–856) wrote this handbook when he was a teacher at the monastery of Fulda in response to the insistent urgings of his brothers, who were preparing for the priesthood. They wanted their teacher to take the notes he had written out on individual sheets of parchment and put them together in one volume. The first part of the treatise introduced students to the Church, the ecclesiastical grades, vestments, the sacraments—especially baptism and the Eucharist—and to the Mass. The second section provided a handy précis of the divine office, the liturgical year, feast days, hymns, the Bible, and basic prayers and blessings, and heresies. The final section outlined what priests in training ought to know, "Quid eos scire et habere conueniat, qui ad sacrum ordinem accedere uolunt." What they ought to know was, essentially, the liberal arts curriculum—grammar, rhetoric, dialectic, mathematics, arithmetic, geometry, music, astronomy, and the "philosophical" books.<sup>9</sup>

In Hrabanus Maurus's scheme, his chapters on the arts were bracketed by others that stressed the relationship between wisdom and charity and emphasized the acquisition and practice of virtue. The master also gave future priests helpful hints on preaching and recommended that they modify the style of their message for their audience. Education seen from the perspective of Hrabanus Maurus was essentially Christian and practical in purpose. Much of the third book of *On Clerical Training* consists of a pastiche of earlier guides to learning—notably Augustine's *On Christian Doctrine*, but also Gregory the Great's *Pastoral Care*, Cassiodorus's *Institutes of Divine and Secular Learning*, and Isidore of Seville's *Etymologies*. These texts, prepared in different times and for different audiences, found new life and a new audience in the ninth century when woven together by the Fulda master.

Notker of Saint Gall's guide to the foremost commentators on Scripture is another text that can stand both as a product and index of Carolingian educational practice.<sup>10</sup> Notker (ca. 840–912) prepared his survey

of biblical exegetes for his former pupil Bishop Salomon of Constance (ca. 860–919/20). The reading program that he set out is heavily dependent on the work of the church fathers—Augustine, Jerome, and Gregory the Great—but also recommends Isidore of Seville, Alcuin, and Hrabanus Maurus.

The study and comprehension of Scripture were the ultimate goals of Carolingian education. Although modern observers of the Carolingian scene may be dazzled by the philosophic brilliance of a John Scottus Eriugena (ca. 810–ca. 877), the exegetical prowess of a Paschasius Radbertus (ca. 790–860), the poetical sophistication of a Theodulf of Orléans (ca. 760–821), or the classical humanism of a Lupus of Ferrières (ca. 805–ca. 862), what united these scholars of different talents and interests and their confreres was the absolute centrality of the Bible in their intellectual life. Notker's guide to the authorities one needed to consult to comprehend the Bible reflects the preeminence of biblical studies in Carolingian schools and the maturation of Carolingian biblical studies—a program complete with a list of authors had been erected around the Bible.<sup>11</sup>

Texts such as those of Hrabanus and Notker, however, can be deceptive. In their prescriptive nature they suggest a calm, orderly approach to learning and intellectual life in the Carolingian period. Reality of course was much different. While Carolingian teachers and their charges may have started from the same general intellectual presuppositions—a Christian spiritual worldview; the centrality of the sacred writings; enormous respect for the Fathers; and general acceptance of classical, pagan authors in the canon—what they came up with on their own was often widely divergent and sometimes the source of great anxiety in the world of Carolingian schools. While one master might lash out at the misplaced fondness of Irish scholars for the syllogism and an Irishman might accuse a Saxon of not knowing his Augustine, those who reflected more deeply on the matter concluded that many different streams flowed into the river of Christian wisdom and that there were, in fact, different “philosophical” schools. Harmony, in other words, was illusory, discord was systemic.<sup>12</sup>

Any attempt to explore the more prosaic world of Carolingian schooling inevitably reaches the same conclusion. Conventional treatments of Carolingian education center on the arts in somewhat schematic fashion. In reality, application of the program was spotty and everywhere unequal. Everything depended on the material and human resources available. Individual interests and talents no doubt played their part as well. Nevertheless, it is possible to present a panoramic view of studies in Carolingian schools across the ninth century while keeping inevitable differences and

variety in mind. The survival of actual schoolbooks that masters and students used will lend detail to the panorama by revealing the specific educational experiences of individual Carolingian masters and students.



The word *schola* had a long tradition in late antiquity and the early Middle Ages. It could refer to a group of any sort, from craftsmen, to cantors, to warriors. The monastery, in Benedict's famous phrase, could be called a "school" for the service of God.<sup>13</sup> By the late eighth and ninth centuries, *schola* came also to mean a grouping of students or disciples around a master pursuing studies that were at once academic and spiritual. The school itself, the place where studies took place, was ill defined. It could be a separate room in a monastic complex, such as the exterior school depicted in the Plan of Saint Gall.<sup>14</sup> It could also be located in a separate building, such as the one mentioned in a charter of 767 at Lucca and the novice's cloister in the Saint Gall Plan, or even in a garden, such as the one in which Fulbert of Chartres taught early in the eleventh century.<sup>15</sup> Hermits were known to teach in their isolated locations where the material surroundings must have been very spartan. At the opposite extreme, school could be held in the royal palace, where under the Carolingians, monarch and master could engage in intellectual conversation, debate, and witty repartee on a whole range of subjects.<sup>16</sup>

Most of the schools in Carolingian Europe about which something is known were associated with monasteries and cathedrals. More than seventy left some evidence of their activities.<sup>17</sup> The most numerous schools of all, those at the parish level, are the least well known. Carolingian bishops in their directives to their priests throughout the ninth century showed themselves faithful to the call for education at the parish level.<sup>18</sup> It was at this level, after all, where the reform of society had to begin, with rural priests serving as the point men, the "soldiers of the Church" (in the words of the *Epistola de litteris colendis*) of the new society. In his statutes for his priests, Archbishop Herardus of Tours (r. 855–66) bid them to establish schools for the training of priests and to have on hand corrected books.<sup>19</sup> Bishop Theodulf of Orléans counseled his priests to read and pray, for reading and prayer were the most effective weapons in overcoming the devil and winning eternal life. He also required them to maintain schools where the children of the faithful might come to learn their letters. Priests were not to charge for this tuition, but were to offer it freely in a spirit of love.<sup>20</sup>

In the face of political turmoil and competing demands for resources, it

must always have been a struggle for dedicated bishops to maintain schools. When Fulco (r. 883–900) became archbishop of Reims at the end of the ninth century, he found the schools for the rural clergy and even the cathedral canons in plain disarray. He restored them by recruiting to Reims two of the leading masters of his day, Remigius of Auxerre (ca. 841–ca. 908) and Hucbald of Saint-Amand (ca. 850–930), and even by teaching himself. If the schools of Reims, one of the richest and most powerful ecclesiastical provinces in the Carolingian realms, led such problematic existences, what must the situation have been like in less fortunate bishoprics?<sup>21</sup> Furthermore, when Remigius of Auxerre and Hucbald of Saint-Amand answered Fulco's call, the schools of Reims gained at the expense of those at Auxerre and Saint-Amand.

No document takes us inside a parish school, so we cannot gauge how far priests struggling to maintain themselves and their buildings were faithful to the injunctions of their superiors. The few surviving inventories from rural parishes indicate that the resources for education were rudimentary indeed.<sup>22</sup> The occasional books mentioned in the inventories were either liturgical or books of canons, homilies, and penitentials obviously intended for the priest's own use. The kind of schooling the local priest provided was not book learning. His task was to impart religious instruction to his parishioners. Perhaps in the process he taught children how to write by forming letters on pieces of slate or wax tablets. Further instruction at this level would have prepared them with the skills they needed to enter the "literate community" that Rosamond McKitterick has reconstructed from the study of charters.<sup>23</sup> But the primary purpose of schooling at the parish level was to initiate young people into the community of belief. That community came together in the celebration of the liturgy, in which it was expected that the laity would participate actively. Abbot Angilbert of Saint-Riquier (ca. 755–814), in his *ordo* for the Ascension Day rogations, specified that the inhabitants of the seven towns surrounding Saint-Riquier would form up in ranks in an elaborate procession with the monks. Boys and girls were to sing the Lord's Prayer as they processed behind their banners and crosses.<sup>24</sup>

Some of these students may have gone on to cathedral or monastery schools for further training. Theodulf of Orléans suggested this possibility when he gave license to his priests to send their relatives, if they wished, to the cathedral school at Orléans or to one of the local monastic schools.<sup>25</sup> Archbishop Hincmar of Reims (ca. 806–82) in this way launched the education and clerical career of his sister's son, the future Bishop Hincmar of Laon (ca. 835/38–879).<sup>26</sup> It would be fascinating to

know something of the social backgrounds of students in Carolingian monastic and cathedral schools. The *Admonitio generalis* did direct priests to teach the sons of free men as well as the sons of men in servile condition.<sup>27</sup> But what does this passage mean? That the children of unfree parents usually received schooling from monks and priests? Or that clerical leaders were being told not to assume that the sons of free parents, those who were wealthy and perhaps had clerical and aristocratic ties, were necessarily educated? Although two archbishops of Reims, Ebbo (r. 816–35) in the ninth century and Gerbert (ca. 945–1003; later Pope Sylvester II), in the tenth, emerged from humble beginnings and Paschasius Radbertus, the learned abbot of Corbie, was an orphan, it would stretch the evidence to suggest that education in the Carolingian world opened up paths to advancement to those with humble social backgrounds.

We would also like to know more about the education of women, but the surviving evidence tilts overwhelmingly toward the experiences of male students and masters. It may be, as Suzanne Wemple has suggested, that Carolingian efforts to cloister religious women more closely limited their creative scholarly activity and with it the survival of evidence that would throw light on the schooling of girls.<sup>28</sup> Nevertheless, if Carolingian women with the remarkable exception of the noble laywoman Dhuoda, were not writers, as Christians they had to participate to some extent in the literate culture of the Carolingian world.<sup>29</sup>

Here and there, glimpses of educated Carolingian women emerge from the shadows. Gisla (ca. 757–810) and Rotrud (ca. 775–810), the sister and daughter of Charlemagne, in a very cleverly argued letter implored Alcuin to write a commentary on the Gospel of John for them because their own studies were stymied by the complexity and verbiage of Augustine.<sup>30</sup> Another Gisla, the wife of Count Eberhard of Friuli (d. 864), was a reader, and so were her daughters. Among the friends and relatives to whom Count Eccard of Mâcon (d. ca. 876) willed his books were several women.<sup>31</sup>

On a more generalized and unfortunately more anonymous level, women in religious communities engaged in intellectual pursuits. Paschasius Radbertus received his early education from the nuns at Soissons and always remembered them fondly for it. Later in life he wrote a commentary for them on Psalm 44, a wedding song, which describes a resplendent princess and her virgin companions entering the palace of the king. At their request he composed a treatise on the perpetual virginity of Mary. When he wrote to them on the Assumption of Mary, he paid tribute to their intellectual accomplishments (as well as his own!) by masking his



treatise as a letter from Jerome to Paula and Eustochium, the fourth-century Roman noblewomen whose intelligent questions spurred some of Jerome's exegetical work. Perhaps at Soissons "Paula" was Abbess Theodrada, just as her cousin, Charlemagne, was known as David to his court scholars.<sup>32</sup>

The work of women as expert scribes at Chelles has been recognized for some time.<sup>33</sup> It also appears that nuns working at Corbie, Soissons, or Noirmoutiers should be credited with the almost forty surviving manuscripts copied in the well-known Corbie "a-b" script.<sup>34</sup> It may well be that additional evidence for scribal and intellectual activity by women remains to be discovered in medical manuscripts that deal with maladies specific to women and in the histories of the Carolingian period.<sup>35</sup>

One of the rare references to schooling for girls is instructive. Hincmar of Reims in his *De ecclesiis et capellis* alluded to schools for little girls (*puellulae*) but in the context of separating the educational experiences of girls from that of boys.<sup>36</sup> This document, of course, can be read in two ways. Obviously, boys and girls were being educated together. And just as obviously, one influential official wanted to stop the practice. Did he succeed? There is no evidence to answer that question in specific terms, but the general picture of female participation in Carolingian educational and intellectual life is quite clear. Women such as Gisla and Rotrud and the nuns who sheltered Paschasius Radbertus were educated to participate in Christian life but not to engage creatively in intellectual life. Something of the frustration intelligent women must have experienced can be sensed in a petition one master (known only as "A") carried on behalf of two nuns, one his cousin, the other the daughter of Count Baldwin of Flanders. The two women had asked "A" to intercede with his own master, an otherwise unknown but obviously highly revered teacher, "E," so that they might study with "E" and learn from him everything that pertains to salvation. "When I met with them," "A" wrote, "they pestered me to intercede with your holiness for them."<sup>37</sup> When women had questions, they sought out sympathetic men. While girls learned the basics and were led in the direction of sewing, embroidery, copying, and pious devotion, their brothers headed off for more intellectual pursuits.

Tutelage in the cathedral and monastic schools began at the elementary level, with instruction in reading, writing, computus, and chant. Training in one skill went hand in hand with training in another. Students began by learning to recognize the letters of the alphabet singly and then in combination. One way to help recognize letters was to copy them out. Repetitious writing practice took place on wooden tablets inlaid with wax,

which could be scraped and recycled into a smooth surface, ready once again for the child's stylus. Adults continued to use these tablets for correspondence. More permanent examples of writing instruction occur on the flyleaves of manuscripts in pen trials by beginners, whose crude alphabets reveal their fledgling efforts or whose apostrophes exhort them to learn how to write: "Who knows not how to write is a living ass"; "Holy Mary, teach me how to write with a quill"; "Learn, boy, how to get money with skilled hands"; "Learn how to write, boy, so that you are not mocked." Sometimes masters would copy out passages for beginners to emulate.<sup>38</sup>

The student's formal exposure to the mechanics of reading and writing was continually reinforced outside the classroom. Ecclesiastical buildings were flooded with inscriptions of all kinds: incised and painted elegant display capitals, as well as more spontaneous graffiti, on walls, tombs, and even floors. Young readers could sharpen their budding skills by deciphering the more public examples of literate culture they daily encountered.<sup>39</sup>

In learning to read and especially to pronounce Latin, Carolingian students were taking their beginning steps in the most complex and revolutionary aspects of the Carolingian intellectual reform program. Even after years of study, accomplished scholars would still worry about their Latin pronunciation or beg indulgence for the rusticity of their prose.<sup>40</sup> These were no mere *topoi* or displays of false modesty. The author of the *Admonitio generalis* and the *Epistola de litteris colendis* clearly emphasized the proper use of language in reading and chanting. It was no longer sufficient, in the words of the *Epistola de litteris colendis*, for the faithful to be fortified by the appearance of monks; they had also to be instructed by what the monks said and sang. And what they said and sang were the words of God and words in praise of God, words that had to be pronounced correctly to be effective. What was new and revolutionary was the definition of what constituted correct language.

As Roger Wright has shown, inhabitants of the Romance-speaking areas of Carolingian Europe spoke and wrote the same language, "early Romance," until about the year 800. After that date those who could write continued to do so in the traditional language while spoken languages began to diverge. Everyone in the Romance-speaking lands spoke the ordinary vernacular of their regions. Children who went on to school, however, began to learn how to read in a new way, producing one sound for each written letter—precisely the way in which Anglo-Saxon and Irish "foreigners" had learned to pronounce Latin in their Germanic and Celtic cultural milieus. Alcuin and numerous other Anglo-Saxon and Irish masters applied their archaic Latin pronunciation as the norm for spoken

Latin in Carolingian Europe. The norms instituted by the reformers had a profound impact not only on Latin, which Wright calls an "invention of the Carolingian Renaissance," but also on Carolingian culture—the language of the schools was no longer the language of the people.<sup>41</sup>

The first major test of a student's progress in learning was mastery of the Psalter. At the very earliest stages of schooling, growth in wisdom, as Hrabanus Maurus had hoped, was to be accompanied by growth in virtue. The reading primer was also a spiritual primer. Many students, after continual drill and repetition, succeeded in committing the Psalter to memory—a prodigious task from our perspective, but not an unprecedented one in predominantly oralic societies.<sup>42</sup>

The Psalms remained embedded forever in the minds of Carolingian scholars and flowed from the tips of their pens into their writings more often, in most cases, than any other text. Lupus of Ferrières in his correspondence cited Augustine seventeen times, Boethius eight, Cicero twenty-one, Aulus Gellius four, Jerome twenty-four, Priscian thirteen, Servius six, and Virgil thirteen. However, the overwhelming majority of citations in his letters come from the Bible, and of these, forty-four were inspired by the Psalter.<sup>43</sup> John Scottus's fifteen references to the Psalms in his *Exposition on the Celestial Hierarchies* exceed the number of references to any other text, secular, sacred, or patristic, with the exception of the Gospel of John, which appears twenty-one times in the work.<sup>44</sup> "Beatus uir," the opening words of the First Psalm, occurs frequently among the pen trials of beginning students and even of more advanced scribes, who copied out the phrase almost instinctively when testing their quill points on the flyleaves of manuscripts.

The Psalms are songs, and while learning to read them, students learned to sing them and thus received their introduction to chant. The observation of the daily office made chant a lifelong practice. Neumatic notations, the early medieval system of assigning graphic values to melody, appear as apparently random jottings in many nonmusical manuscripts, thus suggesting that students thought about or practiced their lessons away from the choir. A tenth-century manuscript of Ambrosiaster's *Commentary on the Epistle to the Romans* preserves on its back flyleaf a rare look into a master of chant's class. The teacher, an otherwise unknown Adalus, listed in the manuscript the names of his students and their responsibilities. After Geroldus sang the invitation, two groups of nine students each sang the lessons for matins.<sup>45</sup>

Beginning students also had to tackle the computus and thereby became skilled in arithmetical reckoning.<sup>46</sup> Future priests and monks would often draw on the practical skill of manipulating numbers in the perfor-

mance of their sacred and mundane duties. They had to know how to calculate dates of holy days such as Easter and the equinoxes and how to use the various tables that made that task easier. Collection of the tithe and its distribution into fourths also required arithmetical learning, as did calculation of harvests from fields or receipts from peasants, which often fell to clergymen. Carolingian masters were at their cleverest when attempting to teach arithmetical reasoning. A series of "story problems" attributed to Alcuin would not be unfamiliar to modern students. "Suppose," one *propositio* suggested, "that three men are traveling together, each with his own sister. When the six travelers came to a river, they found a boat that could carry only two persons at a time over the river. One of the men lusted after the sisters of his friends. How did they manage the crossing and at the same time preserve the girls from harm?"<sup>47</sup>

Students who learned the elements of reading, writing, chant, and *computus* were ready for their own crossing into the world of the liberal arts. Here the terrain got technical very fast. General introductions, such as Martianus Capella's *Marriage of Philology and Mercury* and the relevant books of Isidore of Seville's *Etymologies* helped, but these encyclopedias needed their own commentaries. Martianus Capella's fifth-century allegory of the liberal arts especially required explanation for Carolingian students, as the many ninth-century commentaries on that text attest.<sup>48</sup>

Other general problems attended the study of the liberal arts. One concerned the relationship of the arts to each other and to the general concept of Christian wisdom. Various schema were proposed, but none gained the field. To complicate matters even further, so-called minor or mechanical arts jostled for attention in the curriculum. These included astrology, medicine, and surprisingly, the arts of the plowman, fuller, and mason. While the arrangement of the curriculum might seem a pedantic detail, it actually sheds significant light on what Carolingian masters thought about wisdom, its constituent parts, and the relationships of these parts to each other.<sup>49</sup> In the tenth century, Otric of Magdeburg sent a student spy into the classroom of Gerbert of Aurillac when he heard that, in his discussion of theoretical knowledge, Gerbert subordinated physics to mathematics. When the student erroneously confirmed the misinformation that had come Otric's way, the stage was set for a personal debate on the various subdivisions of knowledge, which took place in Ravenna before no less a personage than Emperor Otto II (r. 983–1002) of the Holy Roman Empire.<sup>50</sup>

While such lofty discussions probably rarely beset Carolingian classrooms, nagging concerns about the appropriateness of the liberal arts in Christian education lingered even after scholars such as Alcuin and John

Scottus "christianized" the arts by demonstrating their utility in a Christian framework.<sup>51</sup> But syllogistic reasoning was often suspect, and Ermanric of Ellwangen (ca. 815–74) even dreamt that Virgil had come to haunt him. One master toward the middle of the ninth century felt compelled to justify the study of pagan literature in Christian schools by citing the opinions of patristic authorities who had dealt with the same problem centuries earlier.<sup>52</sup>

Despite the reservations of some about the appropriateness of the arts and quarrels among masters about their definition and relationship to each other, study of the arts became the bedrock of Carolingian schooling, the foundation that some students used to mount to the highest study of all, the study of the wisdom and mysteries of Scripture.<sup>53</sup>

This journey began with the study of Latin grammar. Carolingian schools inherited a rich harvest of Latin and early medieval texts with which to begin the study of Latin language and literature. Anglo-Saxon and Irish scholars also brought their books to the Continent in the eighth and ninth centuries. Many of the grammars they carried in their pouches had dropped out of circulation centuries earlier and were rare on the Continent. Masters such as Alcuin and Sedulius Scottus (act. ca. 840–ca. 860) added to these resources by producing grammatical commentaries that reflected their own "Latin as a foreign language" approach to grammar and pronunciation.<sup>54</sup>

Grammatical studies proceeded along three tracks simultaneously. Depending on local resources, a manual such as Donatus's *Ars maior* and *Ars minor* introduced students to the parts of speech. Many of these manuals are organized in a dialogue format. Donatus's manual, for example, begins with the question, "How many parts of speech are there?" and continues with the answer, "Eight." "What are they?" "Noun, pronoun, verb, adverb, participle, conjunction, preposition, and interjection." The first chapter of the *Ars minor* introduces the student to the noun: "What is a noun?" it begins. The grammar then goes on to explore the attributes of nouns.<sup>55</sup> The same strategy is followed with the other parts of speech. Many grammars also discussed bad grammar—technically *barbarismus*, *solecismus*, *acrylogia*, *cacemphaton*, *pleonasmus*, *perissologia*, *macrologia*, *tautologia*, *eclipsis*, *tapinosis*, *cacosyntheton*, and *amphibolia*—and provided examples of each kind of grammatical vice.

What must have been obvious to a Latin speaker in the late Empire, when Donatus taught St. Jerome, was not so obvious to Frankish students in the ninth century. Carolingian masters had to explain the grammarians. Donatus's simple query about the number of the parts of speech and the single

word reply, "Eight," elicited fifty-five lines of comment in the Corpus Christianorum edition of Sedulius Scottus's commentary on Donatus. Sedulius warned his students that the response, "Eight," did not mean that the parts of speech were something named "eight," but that there were eight parts of speech. Where Donatus's manual listed the eight parts, Sedulius's commentary briefly defined each one for learners who may have encountered the words *nomen* and *uerbum* for the first time. Sixteen lines of Sedulius's comment on the first two lines of Donatus anticipated a question about why there were not fewer or more than eight parts of speech. His answer was that the human voice articulates only eight properties such as naming, or describing actions or feelings, or interjecting.<sup>56</sup>

While learning the mechanics of grammar, students embarked on a second, parallel track and began to expand their Latin vocabularies by studying glossaries and specialized word lists. Glossaries were essentially dictionaries that presented simpler equivalents for Latin words. The various glossaries available are generally known to us by their first words: *Abauus*, *Abolita*, *Abrogans*, *Abstrusa*. The *Liber glossarum*, with its more than 500,000 entries, was one of the most useful guides to Latin vocabulary.<sup>57</sup> With entries culled from a vast variety of authors and works—including Jerome, Ambrose, Augustine, Isidore of Seville, Virgil, Orosius, and medical and scientific texts—all alphabetically arranged, the *Liber glossarum* was more an encyclopedia than a dictionary.

While modern critical editions of these books seem lifeless on the printed page, the actual manuscripts used in the schools are fascinating. When Carolingian masters and students entered marginal marks, underlinings, notes, and additions into their glossaries, they were also entering into the historical record impressive evidence of their creative use of these storehouses of Latin language and lore. The flyleaves of glossaries are especially interesting for the fragments of texts and odd notes they preserve from the classroom experience. The flyleaves of one copy of the *Liber glossarum* bear an extract from Bede's (672/3–735) guide to Latin pronunciation and spelling, the *De orthographia*, intended undoubtedly to be at the ready when troublesome words were encountered.<sup>58</sup>

Two kinds of specialized glossaries also supported grammatical studies. Bilingual glossaries helped students to bridge the gap between the vernacular and Latin.<sup>59</sup> This is not to suggest that the vernacular was disdained in the schools. Lupus of Ferrières sent three young monks to the monastery of Prüm precisely to learn German because it was such a useful language to know.<sup>60</sup> The councils of Tours in 813 and Mainz in 847 as well as the statutes of Vesoul recommended explicitly that priests be able to

preach in the languages of their parishioners.<sup>61</sup> To earn entry to the higher wisdom defined by the arts and the Scriptures, however, students needed all the help they could get to move beyond their vernaculars to the comprehension of Latin. Surviving Greek-Latin glossaries and word lists suggest that students could even advance beyond Latin to the study of Greek. Enough Greek shows up in Carolingian poetry, exegeses, and philosophy generally and in the court of Charles the Bald specifically to prove that some Carolingian students learned Greek, as far as one was able to do so in the ninth century.<sup>62</sup>

A second kind of specialized glossary helped students to read specific authors. Not quite commentaries, these reading aids, often called *scholia*, explained the rare and not so rare vocabulary of authors such as Virgil and Sedulius. First-time readers of the *Aeneid* must have found it useful to learn that *Carthago* was an African city or that a *thensa* was a cart or vehicle in which likenesses of the gods were drawn.<sup>63</sup> Classical texts were not the only ones that inspired glossaries. Students also needed help with the Bible. A whole battery of pedagogical aids—ranging from Jerome's guides, to Hebrew personal and place names, to contemporary ninth-century glosses on obscure biblical vocabulary—helped with the task.<sup>64</sup>

Glossaries, of course, were not used in isolation. The third track in grammatical studies was actual study of the authoritative texts. Reading the so-called school texts, a canon of classical and late antique authors, taught students proper Latin usage and the arts.<sup>65</sup> The works of the Fathers and the Bible also provided bases for religious instruction. Carolingian masters and their students faced a formidable challenge when they confronted the great minds of antiquity and late antiquity and the word of God itself.

Carolingian masters proved what adept teachers they were by responding to the challenge with an outpouring of commentaries on secular and sacred writings in order to accommodate these difficult texts to their audiences. Their strategies could be as simple as using a system of marks or letters of the alphabet to rearrange the order of words in a text so that a student could untangle the sometimes tortuous periods of classical and patristic Latin.<sup>66</sup> Or they produced full-blown commentaries on Virgil, Boethius, Martianus Capella, and other classical and late antique authors.

The case of the Martianus Capella commentaries is especially illustrative of classroom technique. The commentaries usually begin with an *accessus*, an introduction that sets the author and the work in historical and literary context. The *accessus* was arranged around the seven *periochae*: an account

of the author's life; the title of the work; the quality or kind of work it is; the intention of the work; the number of books it contains; the order of the books; and an explanation of the work.<sup>67</sup> The commentary then proceeded to explain selected words or passages in order.

The explanations generally were not profound, and one looks long and hard for flights of creative interpretation in these commentaries. The fact of the matter is that they were intended for beginners and the needs of the schoolroom. They also were never considered complete and "published" as finished works—a problem that has especially bedeviled editors of the Martianus Capella commentaries.<sup>68</sup> One suspects that when a student transferred a master's comments from wax tablets to parchment for later use the master's comments were "frozen." Meanwhile, the master's commentary would continue to evolve, eventually to be recorded by another student in a slightly different version.

When it came to commenting on the Fathers or on the books of the Bible, Carolingian teachers realized that they were on quite different terrain. While many of these commentaries were written on demand for ecclesiastical or secular superiors, the needs of the classroom inspired a number of them. Christian of Stablo (act. ca. 860–80) wrote a commentary on Matthew because his students, like Gisla and Rotrud earlier in the century, could not fathom the gospel even after reading it through twice and consulting Jerome's commentary. Christian adapted techniques from the study of the liberal arts in his own commentary on Matthew and began by discussing the *tempus*, *locus*, and *persona* of the book.<sup>69</sup> Ercanbert of Fulda (act. 846–65) wrote out the oral comments of his master Rudolf on the Gospel of John, "neither adding or cutting anything," because he thought the master's words would fade from memory.<sup>70</sup> Students and other readers placed an almost impossible burden on Carolingian biblical commentators. They wanted guides that were clear, brief, and based on as many of the Fathers as possible. This required no little ingenuity and courage on the part of the masters, who were well aware of the danger of misrepresenting the authorities or falling into doctrinal error.<sup>71</sup>

Grammar, understood broadly as secular and divine literature, occupied most students most of the time in Carolingian schools. One experienced reader of Priscian's *Institutiones grammaticae* neatly captured the centrality of grammatical studies when he wrote at the end of his copy of Priscian that "It's like a sea without a shore / Once you fall in, you rise no more."<sup>72</sup> But while grammar and grammatical thinking dominated Carolingian intellectual life, in the same way that dialectic and mathematics would



provide the organizing and interpretive principles for later ages,<sup>73</sup> study of the other arts was pursued for its own sake and for what it could contribute to the comprehension of texts.

Rhetoric and dialectic were especially useful skills. The boundary between grammar and rhetoric is not an easy one to draw, especially since the inappropriateness of classical rhetoric for public discourse by preachers, judges, and public officials in the Carolingian world meant that rhetoric became a literary skill. Knowledge of the figures of speech as well as of the technique of constructing an argument was useful in literary exercises and treatises, but discouraged in public speech. Preachers from the time of Caesarius of Arles in the sixth century through the Carolingian period were reminded to preach in a simple, clear fashion and not to make declamations as if they were performing before scholars. In fact, Carolingian preachers were encouraged to use the vernacular, *Thiotiscam* (German) and the *rustica Romana lingua*, since German speakers could not understand Latin, and Romance speakers could not understand the new Carolingian pronunciation of Latin.<sup>74</sup> In their writings and their discourse among themselves, however, they emulated the style of the classical masters, whose examples were reinforced by late antique Christian authors such as Cyprian, Ambrose, Augustine, Hilary, and Pope Leo I.<sup>75</sup>

Students in the schools learned how to write letters of condolence with all the stock phrases, how to describe a king, how to compose a debate between winter and spring, how to write encomia, and how to draft letters announcing the election of a bishop or the death of a member of the community.<sup>76</sup> It was not plagiarism but schooling that led Einhard (ca. 770–840) to portray Charlemagne in terms Suetonius had used to describe Roman emperors. When biblical commentators defended their tactic of borrowing from many different authors, it naturally occurred to them to employ metaphors. Extracts from a variety of authorities in a commentary were likened to the pipes of an organ, which individually emit different sounds, but when played together bring forth a harmonious melody.<sup>77</sup> Or, by way of justifying the eclectic nature of their works, they suggested that the ideal beautiful woman is one composed of the different attributes of several pretty women.<sup>78</sup> The most sophisticated practitioners of Carolingian rhetoric knew how to use rhymed prose, parallelism, panegyric, and other rhetorical skills to good effect.<sup>79</sup>

It was once thought that dialectical studies in Carolingian schools were but a small peak in a yawning intellectual chasm between Augustine and Boethius on the one hand and the masters of the eleventh century on the other. Most comment has focused on the seeming Irish penchant for syl-

logistic analysis, on Fridugisus of Tours's (d. 834) treatises on "nothing" and "shadows," and on John Scottus's use of dialectical reasoning in his work on predestination. Interest in dialectic in Carolingian schools was both deeper and wider than these seemingly isolated examples suggest. The sources for Carolingian dialectical studies were largely Claudianus Mamertus, Augustine, and Boethius. Alcuin, as he did in so many other areas of Carolingian pedagogy, oriented dialectical studies when he compiled a manual on the subject, the *De dialectica*, which, while it derived from earlier authorities, addressed issues of particular interest to Alcuin and his circle.

Alcuin's teachings and those of Candidus Wizo, his pupil, circulated throughout the ninth century as the *Dicta Albini* and the *Dicta Candidi*. Students who studied these texts considered such thorny matters as the Trinity, God's vision, Christ's physical and spiritual body, and the existence of God. Interest in dialectic was spurred by late eighth- and ninth-century debates on images, predestination, the Trinity, and on universals. By the second half of the ninth century, a considerable set of glosses had developed on Aristotle's ten categories, especially at the school of Auxerre. Scholars such as Ratramnus (act. 844–68) and the shadowy but brilliant Hadoard at Corbie found in the categories a useful analytical tool when they tried to unravel complex matters and arrive at precise definitions.<sup>80</sup>

Evidence of dialectical reasoning in the *Libri Carolini* and in the writings of Alcuin, Fridugisus, John Scottus, Heiric and Remigius of Auxerre, Ratramnus and Hadoard of Corbie, and many others is incomprehensible without acknowledging dialectical studies in the schools. Some of these masters taught dialectic, and their lessons have survived in the form of glosses and the *dicta*. Students practiced formal syllogistic exercises on the flyleaves of manuscripts. They learned that God is not "anywhere," because only bodies can be contained in places, and since God does not have a body, he cannot be "anywhere."<sup>81</sup> Even in their grammatical studies, students were sometimes led to consider whether nouns were only names or whether they stood for creatures.<sup>82</sup>

Theological questions, especially questions about the Trinity, the existence of God, and God's attributes, animated dialectical studies. Alcuin praised the dialectical prowess of a nun and invited her to consider fifteen dialectical *interrogationes*. Each question focused on the relationship of Christ to the Father and drew forth a response that led to an inference and a question that was intended to refute Adoptionist heretics. Proceeding "per interrogationes et responsiones" proved that Christ was truly and fully God.<sup>83</sup> Another set of logical questions about God's existence began

by asking "What, if God exists, do you think he is?" The interlocutor's response that God is the good of which there was none better and the mighty of which there is none mightier set off a string of such interchanges, which concluded seventeen questions later with the affirmation that God does indeed exist.<sup>84</sup>

The dialectical question-and-response format in which these issues were explored was undoubtedly very useful in the classroom, where students learned by repetition and memorization. The classroom format crossed over into written texts. It survives in letters scholars wrote to each other and even provided the formal structure for biblical commentaries in the ninth century.

If modern students of Carolingian education have paid less attention to the quadrivial arts—arithmetic, geometry, astronomy, and music—it has not been because these subjects were neglected in the schools. One suspects that historians, whose training is primarily humanistic and literary, find little of interest and less to understand in treatises on planetary motion, calendar reckoning, or musical theory. But there was a lively interest in these subjects in the schools, and computus was expressly required as a field of study in the *Admonitio generalis*. The practical necessity simply of telling time and charting the course of the seasons and years required that all educated persons be trained in the computistical arts of arithmetic, geometry, and astronomy.<sup>85</sup>

Erecting buildings, defining boundaries, calculating ratios, charting the harmony of the celestial bodies, and making accurate translations from one calendar system to another—Roman to Hebrew, for example—taxed the ingenuity of teachers and students alike. The debates over images and the Trinity in the Carolingian court had their analogue in court battles over changes in the calendar for 797 and a special meeting called in Aachen in 809 to resolve computistical problems.<sup>86</sup> Einhard possessed a formidable scientific mind, which has led at least one modern scholar to call him an "engineer."<sup>87</sup> Lupus of Ferrières was fascinated by a comet, watched it closely for several days, and described it in impressive detail before it disappeared.<sup>88</sup> One of the little-noticed benefits of the microscopic attention paid to the Plan of Saint Gall is what it has revealed about Carolingian draftsmanship and measurement.<sup>89</sup>

Medieval manuscript collections are rich in manuals and school exercises that reflect the important role scientific studies played in the Carolingian schools. The fundamental works that undergirded scientific studies in the schools were Boethius's treatises on arithmetic and geometry; Martianus Capella's liberal arts manual; Cassiodorus's *Institutes*; the works of

Isidore of Seville, Pliny, Vitruvius, and Victorius of Aquitaine; and the corpus of Roman surveyors.<sup>90</sup> Bede's works, especially his *De natura rerum*, *De temporibus liber*, and *De temporum ratione*, belong in a special category. Bede had a real genius for his subject and was an admirable synthesizer.<sup>91</sup> Carolingian masters added their own works to the school-room shelves. Dicuil, an Irish monk and palace intimate during the first quarter of the ninth century, wrote a treatise on astronomy and one on the measurement of the earth.<sup>92</sup> Hrabanus Maurus prepared a computus manual.<sup>93</sup> Helperic turned his lectures on Bede's computus into a book because his students could not remember his comments and found Bede rough going.<sup>94</sup>

Everywhere Carolingian masters added notes to their school texts in order to break complex material down into more elementary forms. It was no easy task to correlate the moon's phases with planetary formations or to teach students calendar systems that came in 8-, 84-, 85-, 112-, and 532-year cycles. Remembering how to find the nones, ides, and calends of each month required Frankish students to think as Romans—a virtually impossible task. But they could memorize verses similar to our "Thirty days has September" to help them: "Nonae aprilis norunt quinos. . . ." One ninth-century master when teaching Bede's *De temporum ratione* gave examples, recorded in the margins of his manuscript, based on the current year, 873, so his students could more easily comprehend Bede's lesson.<sup>95</sup>

This essentially pedagogical concern encouraged masters to try to make scientific principles visual in the form of graphs and charts. Most of these illustrations have to do with planetary configurations, but graphic depictions of all kinds of subjects, from *Sapientia* itself and its constituent parts to musical tropes to the morbidity of diseases, were represented by diagrams. These illustrations often are quite complex. Teachers used them to convey verbal doctrine in images of high visual impact and thus moved between two kinds of cognition. A diagram in a Fleury manuscript depicts the relationships among the four elements, the four seasons, the four humors, and the four ages of man all in one image.<sup>96</sup> Michael Evans has studied the implications of this kind of thinking, or what Bruce Eastwood has called the "submerged assumptions" of visual images, for the high Middle Ages.<sup>97</sup> The inquiry ought also to be extended to the drawings that accompanied school texts of the Carolingian period, for while texts may have inspired the images, the images pushed thought beyond the limits imposed by words.

The most wide-ranging of all the liberal arts studied in the schools was music, or harmonics as it was sometimes called. Musical intervals could be

correlated with the distances between planets as Pliny the Elder taught. Or as Aurelian of Réôme, mid-ninth-century author of a *De musica*, taught, music is superior to all arts because it is the art of the angels, and its power moves even the beasts of the earth, the serpents, dolphins, and vultures.<sup>98</sup> Between these celestial and terrestrial extremes toiled Carolingian students, who needed to know both the theory and practice of music.

A basic knowledge of chant learned at an early age no doubt sufficed for those for whom the daily office was no more than a routine chore to be fulfilled as rapidly as possible.<sup>99</sup> Masters, however, had to work hard to keep up with the changes in Carolingian musical theory and practice. For one thing, the different practices in the Carolingian lands, where uniformity in the praise of the Lord was the goal, made the choir a potential battlefield. Charlemagne himself entered upon that contested ground at least five times, according to Notker of Saint Gall's rendition of the great emperor's life.<sup>100</sup> Whether or not the incidents Notker reported actually took place is beside the point. What is clear is that Notker knew implicitly that his audience would understand the pressure to perform perfectly the public praise of God and thus would appreciate and find plausible stories about monks who could not sing or who sang incorrectly.

Recognizing incorrect chant and reforming it were two different things. In the generation after Charlemagne, Helisachar, Louis the Pious's chancellor from 814 to 819 and abbot of Saint-Aubin in Angers and later of Saint-Riquier, recalled to Bishop Nidibrius of Narbonne (r. ca. 799–ca. 822), a fellow palace intimate, how discordant the admixture of Roman and Frankish usages had become. In the preface to his new antiphony, which he sent to Nidibrius, Helisachar was sensitive to the potential for tension between tradition embodied in sacred verse and the demands of art, but in the end his antiphony endorsed modifications made by “*melodiae artis magistros*.”<sup>101</sup>

On the theoretical side, the traditional curriculum based on Augustine, Cassiodorus, Isidore of Seville, and the ninth book of Martianus Capella was transformed forever by the assimilation into the curriculum of Boethius's *De musica* in the ninth century. The integration of Boethius's Platonic and Pythagorean musical theories into the Carolingian schoolroom apparently was first attempted by John Scottus Eriugena in his commentary on Martianus Capella.<sup>102</sup> At least one music teacher confessed that Boethius's theories were beyond his comprehension. By the end of the ninth century, however, Remigius of Auxerre was using Boethian theory with confidence and two anonymous ninth-century schoolbooks, the *Alia musica* and the *Musica enchiriadis*, borrowed extensively from it.<sup>103</sup>

No tour of the Carolingian schoolroom and its curriculum would be complete without at least mentioning some of the many other studies that occupied students and masters. Specialized studies of script, Tironian notes, law, medicine, the sacraments, and the skills of the chancery and, especially, the liturgy were all pursued in Carolingian schools.<sup>104</sup> But no school ever offered the full range of theoretical and practical studies that was possible in the Carolingian realms. Everything depended on local resources, interests, and talents. Indeed, the unevenness of the curriculum fostered interdependence among centers and stimulated masters and students to create networks that linked schools, libraries, and, of course, people. The studies of three students who became masters in their own turn offer a more local and personal perspective on schooling in the Carolingian world.



Walahfrid Strabo was born in 808 or 809 and as a young boy entered the monastery of Reichenau. He studied at Fulda under Hrabanus Maurus, but returned to Reichenau where he eventually became abbot. His active political and scholarly life was cut short when he drowned in the Loire River during the summer of 849. If Walahfrid can no longer be credited as author of the *Glossa ordinaria*, he still did manage to edit the histories of Einhard and Thegan and to produce a body of poetry and saints' lives that have earned him a secure place among second-generation Carolingian scholars.<sup>105</sup>

In 1950 Bernhard Bischoff announced his discovery of Walahfrid's personal notebook, a manuscript preserved today at Saint Gall.<sup>106</sup> Walahfrid Strabo began his notebook at Reichenau in 825, when he was about sixteen years old, and took it with him when he went to Fulda for further schooling. It continued to serve him when he became a teacher. The earliest parts of the manuscript contain Hrabanus Maurus's computus. The student's interest in reckoning remained with him throughout his short life. Hands W III and W IV, which Bischoff identified as Walahfrid's mature script, copied the portions of the manuscript containing extracts from Bede's *De temporibus* and various chronicles and calendars. Walahfrid was interested in other subjects as well. One hundred and sixty-nine pages of the 394-page manuscript contain a variety of grammatical texts including Donatus, Priscian, Bede's *De arte metrica* and *De schematibus et tropis*. A third interest is represented by a series of medical texts and extracts from Palladius's *De agricultura* and Bede's *De natura rerum*.

Some of the texts Walahfrid copied into his personal manuscript reveal

preoccupations that are reflected in his own literary works such as the poem on his garden, *De cultura horticorum*. But to see the Saint Gall manuscript only as a window into Walahfrid's work would be to miss its significance. His notebook's broad-gauged eclecticism mirrors his schooling and the lifelong appeal that grammar and the computus had for the poet and hagiographer.

The career of Heiric of Auxerre outwardly mirrored that of Walahfrid Strabo.<sup>107</sup> Born in 841, Heiric also kept a personal notebook. In the margins alongside the calendar in his book he recorded the significant events of his life, including his tonsuring in 850 at age nine, the beginning of his subdiaconate in 859 at age eighteen, and his ordination as a priest in 865 when he was twenty-four years old. Although he began his schooling at Auxerre, Heiric traveled to Ferrières and then to Soissons to complete his education. He left a partial record of his early education in the *Collectanea*, a compilation of notes he put together from the time he studied first with Haimo of Auxerre (d. ca. 875) and then with Lupus of Ferrières.<sup>108</sup> These *ludicra pulchra*, as Heiric called them, consisted of two sorts: secular learning picked up in Lupus's school and divine wisdom learned at the feet of Haimo.

Lupus taught Heiric to rifle classical authors for pithy sayings that could adorn his own writings. This part of the *Collectanea* presents a fine example of grammatical and rhetorical studies in the Carolingian schools. Most of the extracts Heiric copied at Ferrières were plucked from Valerius Maximus's book of memorable sayings and deeds compiled originally in the first century A.D. This treasure trove of lore about famous Greeks and Romans and historical events in the ancient world could be plundered to elevate the tone and style of one's own work. A section on prodigies records the story about the bees who deposited honey on the lips of sleeping Plato when he was a babe in the cradle as a prediction of the future sweetness of his thought. Lupus's student had at the ready pithy sayings on dreams, miracles, military discipline, patience, abstinence, continence, poverty (the story of Cornelia and her sons, her true "jewels"), conjugal love, old age, and reverence toward parents. Lupus also provided his students with short portraits of the Roman emperors based on Suetonius.<sup>109</sup>

The tone of the second section of the *Collectanea* changes dramatically. Not only was the tuition Heiric received from Haimo different in content—it focused on the Bible—its format was also different. Haimo taught by posing contrary questions, and thus Heiric's *Scholia quaestionum* preserves puzzles such as this: How is it possible that Christ in Luke 18:19 says that "No one is good but God alone," while earlier in the same book

(Luke 7:45) we find the statement, "A good man draws what is good from the store of goodness in his heart?"<sup>110</sup> Again, if avarice is the root of all evil, how is it that all sin begins with pride?<sup>111</sup> Heiric's record of his education with Haimo reveals a more active, controversial strain than is suggested by the essentially passive mastery of rhetorical embellishments he imbibed from Lupus of Ferrières.

No information survives about the early education of Martin Hibernensis, or Martin the Irishman.<sup>112</sup> In the margins of his calendar Martin recorded his birth date, 819. A colleague recorded his death in 875 in the same calendar. Martin probably received his first schooling in Ireland or England and came to the Continent as an adult, much like his Irish contemporaries, John Scottus Eriugena and Sedulius Scottus.<sup>113</sup> Martin taught the arts and Greek and put together an impressive collection of books, most of which passed to masters who succeeded him at the cathedral school of Laon.

One of the books Martin used, MS Laon, Bibliothèque Municipale, 265, has not attracted much attention, but it was carefully put together by him and reflects his interest in pastoral and dogmatic teaching. At first glance, the manual he used to teach his students what they had to know as priests appears paleographically as a miscellaneous hodgepodge of texts from at least seven different manuscripts. If Martin had not written a table of contents for the entire collection on the first folio of his manuscript, one might easily surmise that it had been put together much later by some librarian interested in preserving fragments from various manuscripts.

The 191 leaves of Martin's collection contain some twenty-six separate texts. Many of them can be classified as broadly doctrinal. Excerpts from two sermons of Gregory the Great treat the resurrection of the body and the virtue of charity. A passage from Gregory's *Moralia* conveys a handy précis on the seven principal vices. Jerome's letter to Rusticus on penance drew special attention from Martin since he marked it with his characteristic asterisk several times. Important summaries of basic Christian belief appear in the manuscript in the form of Augustine's sermon on the Symbol, Gennadius of Marseilles's *De ecclesiasticis dogmatibus*, and the second book of Isidore of Seville's *Differences*.

Several of the texts concern christological themes. The *Acta Pilati*, an apocryphal work, recounts the trial of Christ. An excerpt from Jerome's commentary on Daniel describes the Antichrist. Two texts from the pen of Fulgentius of Ruspe, the *Liber ad Donatum* and the *De fide*, address a burning issue in the ninth century, the Trinity. Not all the texts deal with doctrinal or theological matters. Many of them center on the practice of



Christian life and have as their focus the Carolingian laity. These texts concern baptism, marriage, blessings for the people, the Mass, and the Mass for the Dead. Eight sermons, including one that warns against idolatry and other pagan practices, appear primarily pastoral in intent. Martin's manuscript also contains an unpublished Carolingian commentary on the Lord's Prayer.<sup>114</sup>

Martin's manuscript brings this essay full circle again to the text with which this exploration into the schools of the Carolingian world began—the *Admonitio generalis*. When it ordained the establishment of schools, the *Admonitio* also provided for checking the competency of parish priests. Subsequent Carolingian legislation and episcopal statutes throughout the ninth century elaborated a system of what might be called clerical quality control. The subjects parish priests had to know and to be able to communicate to the Carolingian people are mirrored almost perfectly by the texts in Martin's manuscript.<sup>115</sup>

These cameos of Walahfrid Strabo, Heiric of Auxerre, and Martin Hiberniensis as students and masters only begin to illustrate the richness and variety of Carolingian schooling.<sup>116</sup> Multiplied many times over, the studies and work of Carolingian masters and students testify eloquently to the creative talents that were unleashed in the schools in the attempt, as McKitterick has noted, "to put a social ideal into practice, and to create a society with a future."<sup>117</sup>

## Notes

1. "O quam dulcis uita fuit, dum sedebamus quieti inter sapientis scrinia, inter librorum copias, inter uenerandos patrum sensus; quibus nihil defuit, quod relegiosae uitae et studio scientiae deposcebat." *Alcuni sive Albini Epistolae*, no. 281, ed. Ernst Dümmler, MGH, Epp. 4 (Berlin, 1895), p. 439, lines 23–26. For this theme and other Carolingian reflections on school life, see John J. Contreni, "The Carolingian School: Letters from the Classroom." For Alcuin, see the masterful essay by Donald A. Bullough, "Alcuin and the Kingdom of Heaven: Liturgy, Theology, and the Carolingian Age."
2. For the *Admonitio generalis*, see MGH, Capit., no. 22, ed. Alfred Boretius, vol. 1 (Hannover, 1883), pp. 52–62 (trans. in P. D. King, *Charlemagne: Translated Sources*, pp. 209–20); also, Friedrich-Carl Scheibe, "Alcuin und die Admonitio Generalis." The circular letter known as the *Epistola de litteris colendis* survives in the copy directed to Abbot Baugulf of Fulda (780–802); see MGH, Capit., no. 29, ed. Boretius, 1:79 (trans. in H. R. Loyn and John Percival, *The Reign of Charlemagne: Documents on Carolingian Government and Administration*, pp. 63–64); see also Luitpold Wallach, "Charlemagne's *De litteris colendis* and Alcuin," in Wallach, *Alcuin*

and Charlemagne: *Studies in Carolingian History and Literature*, pp. 198–226.

3. "Optamus enim uos, sicut decet ecclesiae milites, et interius deuotos et exterius doctos castosque bene uiuendo et scholasticos bene loquendo, ut, quicumque uos propter nomen Domini et sanctae conuersationis nobilitatem ad uidendum expetierit, sicut de aspectu uestro aedificatur uisus, ita quoque de sapientia uestra, quam in legendo seu cantando perceperit, instructus omnipotenti Domino gratias agendo gaudens redeat." MGH, Capit., no. 29, ed. Boretius, 1:79, lines 37–42 (Loyn and Percival trans., p. 64).
4. The portrait appears in the "Psalter of Charles the Bald" (MS Paris, B.N., lat. 1152, fol. 3v) and is dated to sometime before 869; for a copy, see Jean Hubert, Jean Porcher, and Wolfgang Fritz Volbach, *L'Empire carolingien*, p. 147 (fig. 135) (p. 147 [fig. 135] in the English trans.).
5. "Ne aliquis, quaeso, huius pietatis ammonitionem esse praesumptiosam iudicet, qua nos errata corrigere, superflua abscidere, recta cohartare studemus, sed magis beniuolo caritatis animo suscipiat." MGH, Capit., no. 22, ed. Boretius, 1:53, line 43, to 1:54, line 2 (King trans., p. 209).
6. "Obsecramus, ut bonam et probabilem habeant conversationem, sicut ipse Dominus in evangelio [Matt. 5:16] praecipit: 'sic luceat lux uestra coram hominibus, ut uideant opera uestra bona et glorificent patrem uestrum qui in celis est,' ut eorum bona conuersatione multi protrahantur ad seruitium Dei, et non solum seruilis conditionis infantes, sed etiam ingenuorum filios adgrement sibi que societ. Et ut scolae legentium puerorum fiant. Psalmos, notas, cantus, compotum, grammaticam per singula monasteria uel episcopia et libros catholicos bene emendate; quia saepe, dum bene aliqui Deum rogare cupiunt, sed per inemendatos libros male rogant. Et pueros uestros non sinite eos uel legendo uel scribendo corrumpere; et si opus est euangelium, psalterium et missale scribere, perfectae aetatis homines scribant cum omni diligentis." Ibid., 1:59, line 42, to 1:60, line 7 (King trans., p. 217; however, where King has "musical notation" for *nota*, I have retained the original. The reference is to the medieval form of shorthand, Tironian notes).
7. For these earlier programs, see Pierre Riché, *Education and Culture in the Barbarian West, Sixth through the Eighth Centuries*, trans. John J. Contreni. For a handy précis of ninth-century educational legislation, see Riché, *Ecoles et enseignement dans le haut moyen âge: Fin du Ve siècle–milieu du XIe siècle*, pp. 354–55. For a more detailed analysis, see Rosamond McKitterick, *The Frankish Church and the Carolingian Reforms, 789–895*.
8. See Contreni, "The Carolingian Renaissance"; Riché, *Ecoles et enseignement*, pp. 103–10; Janet L. Nelson, "On the Limits of the Carolingian Renaissance"; and Giles Brown, "Introduction: The Carolingian Renaissance."
9. See Rabani Mauri *De institutione clericorum libri tres*, ed. Aloisius Knoepfler, Veröffentlichungen aus dem Kirchenhistorischen Seminar München 5 (Munich, 1900). For Hrabanus's life, the best sketch is now John M. McCulloh, introduction to *Rabani Mauri Martyrologium*.

10. See the edition prepared by Erwin Rauner, "Notkers des Stammers 'Notatio de illustribus uiris,' I: Kritische Edition," *Mittelaltinisches Jahrbuch* 21 (1986): 34-69.
11. On this theme, see McKitterick's chapter on the organization of written knowledge in *The Carolingians and the Written Word*, pp. 165-210; and Silvia Cantelli, "L'Esegesi al tempo di Ludovico il Pio e Carlo il Calvo."
12. For these themes, see Claudio Leonardi, "Alcuino e la scuola palatina: Le ambizioni di una cultura unitaria"; Leonardi, "Martianus Capella et Jean Scot: Nouvelle présentation d'un vieux problème"; Roberto Giacone, "Giustificazione degli 'Studia liberalia' dalla sacralizzazione alcuiniana all'immanentismo di Giovanni Scoto Eriugena"; Contreni, "Inharmonious Harmony: Education in the Carolingian World."
13. See Dieter von der Nahmer, "*Dominici scola servitii*: Über Schultermini in Klosterregeln."
14. See Walter Horn and Ernest Born, *The Plan of St. Gall: A Study of the Architecture and Economy of, and Life in a Paradigmatic Carolingian Monastery*, 2:168-75. For the "external school," see M. M. Hildebrandt, *The External School in Carolingian Society*.
15. See Horn and Born, *The Plan of St. Gall*, 1:311-13; Riché, *Ecoles et enseignement*, pp. 190-91.
16. See Bullough, *The Age of Charlemagne*, pp. 99-128; Bullough, "*Aula Renovata*: The Carolingian Court before the Aachen Palace"; McKitterick, "The Palace School of Charles the Bald."
17. For a rapid survey of these schools, see Riché, *Ecoles et enseignement*, pp. 99-110.
18. See McKitterick, *The Frankish Church and the Carolingian Reforms*, pp. 45-79.
19. See the *Capitula Herardi*, chap. 17, PL 121:765c: "Ut scholas presbyteri pro posse habeant et libros emendatos."
20. Theodulf of Orléans, *Erstes Kapitular*, chap. 2, ed. Peter Brommer, MGH, *Capitula Episcoporum*, pt. 1 (Hannover, 1984): "Haec sunt enim arma, lectio videlicet et oratio, quibus diabolus expugnatur. Haec sunt instrumenta, quibus aeterna beatitudo acquiritur. His armis vitia comprimuntur; his alimentis virtutes nutriuntur" (p. 105); *ibid.*, chap. 20: "Presbyteri per villas et vicos scholas habeant. Et si quilibet fidelium suos parvulos ad discendas litteras eis commendare vult, eos suscipere et docere non rennuant, sed cum summa caritate eos doceant. . . . Cum ergo eos docent, nihil ab eis pretii pro hac re exigant nec aliquid ab eis accipiant excepto, quod eis parentes caritatis studio sua voluntate obtulerint" (p. 116).
21. Flodoard, *Historia Remensis ecclesiae*, bk. 4, chap. 9, ed. Ioh. Heller and G. Waitz, MGH, SS 13 (Hannover, 1881):

Folco, sollicitus circa Dei cultum et ordinem ecclesiasticum, amore quoque sapientiae feruens, duas scholas Remis, clericorum scilicet loci atque ruralium clericorum, iam pene delapsas, restituit, et euocato Remigio Autisiodorensis magistro, liberalium artium studiis adolescentes clericos

exerceri fecit; ipseque cum eis lectioni ac meditationi sapientiae operam dedit. Sed et Hucbaldum Sancti Amandi monachum, uirum quoque disciplinis sophicis nobiliter eruditum, accersiu et ecclesiam Remensem preclaris illustrauit doctrinis. (P. 574, lines 39–45)

For Fulco, see Gerhard Schneider, *Erzbischof Fulco von Reims (883–900) und das Frankenreich*, esp. pp. 239–44; and Michel Sot, *Un Historien et son Eglise: Flodoard de Reims*, pp. 112–213. Fulco was killed in June 900 by Baldwin of Flanders and his men.

22. See Carl I. Hammer, Jr., "Country Churches, Clerical Inventories and the Carolingian Renaissance in Bavaria."
23. See McKitterick, *The Carolingians and the Written Word*, pp. 77–134.
24. *Institutio de diuersitate officiorum*, IX, ed. Kassius Hallinger, *Corpus consuetudinum monasticarum*, 10 vols. (Siegburg, 1963–80): "Tunc sequatur scola laicorum puerorum cum flammulis septem. Quos statim subsequantur nobiles uiri septeni et septeni a preposito uel decano electi. Feminae uero nobiliores similiter obseruent. Tunc iterum procedant septem iam dictae forinsicae cruces; ipsas sequantur pueri et puellae, quae canere sciunt orationem dominicam et fidem, uel cetera, quae eis auxiliante domini insinuare precepimus" (1:297). Carolingian religious houses began to use church bells to encourage popular attendance at and participation in the liturgy; see the references cited by Donald A. Bullough and Alice L. H. Corrêa, "Texts, Chant, and the Chapel of Louis the Pious," p. 490 (repr. with revisions in Bullough, *Carolingian Renewal*, p. 242).
25. Theodulf of Orléans, *Erstes Kapitular*, chap. 19, ed. Brommer, MGH, *Capitula Episcoporum*: "Si quis ex presbyteris uoluerit nepotem suum aut aliquem consanguineum, ad scolam mittere, in ecclesia sanctae Crucis aut in monasterio sancti Aniani aut sancti Benedicti aut sancti Lifardi aut in ceteris de his coenobiis, quae nobis ad regendum concessa sunt, ei licentiam id faciendi concedimus" (1:115–16).
26. See Peter R. McKeon, *Hincmar of Laon and Carolingian Politics*, p. 14.
27. MGH, *Capit.*, no. 22, ed. Boretius: "... et non solum seruilis conditionis infantes, sed etiam ingenuorum filios adgregent sibi que socient" (1:60, lines 1–2).
28. See Suzanne F. Wemple, *Women in Frankish Society: Marriage and the Cloister, 500 to 900*, pp. 175–88; also Karl F. Morrison, "Incentives for Studying the Liberal Arts," pp. 50–52, for the patristic background.
29. For Dhuoda, see *Dhuoda, Manuel pour mon fils: Introduction, texte critique, notes*, ed. Pierre Riché, *Sources Chrétiennes* 225 (Paris, 1975); and *Dhuoda, Handbook for William: A Carolingian Woman's Counsel for Her Son*, trans. Carol Neel (Lincoln, Nebr., and London, 1991).
30. See *Alcivini Epistolae*, no. 196, ed. Dümmler, MGH, *Epp.* 4:323–25. It was not because they were women that Gisla and Rodtrud had a difficult time with Augustine. Bishops, abbots, monks, and kings also complained about the wordiness and difficulty of the Fathers when they asked their favorite Carolingian masters to write clearer, more literal biblical commentaries for them; see Contreni, "Carolingian Biblical Studies," pp. 90–93.

31. For the libraries and wills of Eberhard and Eccard, see Riché, "Les Bibliothèques de trois aristocrates laïcs carolingiens"; and McKitterick, *The Carolingians and the Written Word*, pp. 245–50.
32. See *Paschasi Radberti Expositio in Psalmum XLIV*, ed. Bede Paulus, CC cont. med. 94 (Turnhout, 1991); *De partu Virginis*, ed. E. Ann Matter, CC cont. med. 56c (Turnhout, 1985), pp. 9–89 (text, pp. 47–89); *De assumptione sanctae Mariae uirginis*, ed. Albert Ripberger, *ibid.*, pp. 99–162 (text, pp. 109–62). For Paschasius's career, see Franz Brunhölzl, *Geschichte der lateinischen Literatur des Mittelalters*, 1:369–79; and David Ganz, *Corbie in the Carolingian Renaissance*.
33. See Bernhard Bischoff, "Die Kölner Nonnenhandschriften und das Skriptorium von Chelles."
34. See T. A. M. Bishop, "The Scribes of the Corbie a–b"; and Ganz, *Corbie*, pp. 48–56, who reserves judgment on the matter. See also the important study by McKitterick, "Frauen und Schriftlichkeit im Frühmittelalter."
35. See, e.g., Ernest Wickersheimer's description of MS Paris, B.N., lat. 11218, in his *Les Manuscrits latins de médecine du haut moyen âge dans les bibliothèques de France*, pp. 100–112; and Nelson, "Perceptions du pouvoir chez les historiennes du haut moyen âge."
36. See *Collectio de ecclesiis et capellis*, ed. Martina Stratmann, MGH, *Fontes iuris Germanici antiqui in usum scholarum separatim editi* 14 (Hannover, 1990): "Ut diuinum officium non dimittant et scolarios suos modeste dstringant, caste nutrant et sic litteris imbuant, ut mala conuersatione non destruunt, et puellas [sic] ad discendum cum scholariis suis in scola nequaquam recipiant" (p. 100, lines 6–9). *Puellulas* is the corrected reading of Hincmar's manuscript.
37. "In quo primo colloquio obnix me rogauerunt, ut apud uestram sanctitatem pro illis intercederem." *Epistolae variorum inde a saeculo nono medio usque ad mortem Karoli II (Calvi) imperatoris collectae*, no. 26, ii, ed. Ernst Dümmler, MGH, *Epp.* 6 (Berlin, 1925), p. 186, lines 15–30, at lines 17–18. The nuns were members of the monastery of Saint Mary, possibly the one at Soissons.
38. See Bischoff, "Elementarunterricht und Probationes Pennae in der ersten Hälfte des Mittelalters"; and Ganz, "The Preconditions for Caroline Minuscule," esp. pp. 34–35. For an eleventh-century sketch of students with their writing instruments, see pl. 4 in Colette Jeudy, "Le *Scalprum Prisciani* et sa tradition manuscrite."
39. See John Mitchell, "Literacy Displayed: The Use of Inscriptions at the Monastery of San Vincenzo al Volturno in the Early Ninth Century"; and J. Marilier and J. Roumihac, "Mille ans d'épigraphie dans les cryptes de Saint-Germain d'Auxerre (857–1857)."
40. See the references in Contreni, "The Carolingian School," pp. 95–96; and Contreni, "Carolingian Biblical Studies," pp. 91–92.
41. Roger Wright, *Late Latin and Early Romance in Spain and Carolingian France*: "Latin, as we have known it for the last thousand years, is an invention of the Carolingian Renaissance" (p. ix). See also Wright, "On Editing 'Latin' Texts Written by Romance Speakers."

42. See Riché, *Education and Culture*, pp. 464–66.
43. See *Servati Lupi Epistulae*, ed. Peter K. Marshall, Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana (Leipzig, 1984), pp. 133–42.
44. See *Iohannis Scoti Eriugena Expositiones in Ierarchiam Coelestem*, ed. Jeanne Barbet, CC cont. med. 31 (Turnhout, 1975), pp. 222–24.
45. MS Laon, Bibliothèque Municipale, 107, fol. 119r. For a plate of this leaf, see Giuseppe Billanovich, "Dall'antica Ravenna alle biblioteche umanistiche," pp. 89–90; see also Contreni, *The Cathedral School of Laon from 850 to 930: Its Manuscripts and Masters*, pp. 146–47.
46. Valuable insights on this subject are provided by editors' comments prepared as introductions to their editions of the basic texts. See Charles W. Jones, introduction to *Bedae Opera de temporibus*, pp. 3–172; and Wesley M. Stevens, introduction to *Rabani Mogontiaccensis episcopi De computo*, pp. 165–89.
47. See the *Propositiones Alcuini doctoris Caroli Magni imperatoris ad acuendos iuvenes*, PL 101:1149b–c. The *olutio* to the puzzle recommended that a brother and sister make the first crossing. The sister should remain alone on the other side while her brother returns the boat to their companions. Next, the other two sisters row the boat across the river where the first girl is waiting. One of them returns the boat to the three brothers on the other shore, and so on.
48. See Leonardi, "I codici di Marziano Capella"; see also Leonardi, "Martianus Capella et Jean Scot: Nouvelle présentation d'un vieux problème."
49. On these themes, see Contreni, "John Scottus, Martin Hiberniensis, the Liberal Arts, and Teaching."
50. The source for this debate is bk. 3, chaps. 55–65, of the *Historia* of Richer of Reims; see Richer, *Histoire de France (888–995)*, ed. Robert Latouche, 2nd ed., 2 vols., Les classiques de l'histoire de France au moyen âge 12, 17 (Paris, 1964–67), 2:66–80. The controversy is retold by Riché, *Gerbert d'Aurillac, le pape de Van mil*, pp. 58–63.
51. See Leonardi, "Alcuino e la scuola palatina"; Giaccone, "Giustificazione degli 'Studia liberalia' dalla sacralizzazione alcuiniana all'immanentismo di Giovanni Scoto Eriugena." See also Morrison, "Incentives for Studying the Liberal Arts."
52. See the poem edited by Bischoff, "Theodulf und der Ire Cadac-Andreas." Ermanric's dream is recorded in a letter he wrote to the abbot of Saint Gall; see *Ermenrici Elwangensis Epistola ad Grimaldum abbatem*, ed. Ernst Dümmler, MGH, Epp. 5 (Berlin, 1899), pp. 561–62. For an apparently original ninth-century reflection on the tension between Christian and pagan learning preserved in MS Paris, B.N., lat. 5600; see Contreni, "Learning in the Early Middle Ages," n. 37.
53. See Contreni, "Carolingian Biblical Studies"; and chap. 5 in this volume, by Bernice M. Kaczynski.
54. See Louis Holtz, *Donat et la tradition de l'enseignement grammatical: Etude sur l'«Ars Donati» et sa diffusion (IVe–IXe siècle) et édition critique*; Vivien Law, *The Insular Latin Grammarians*; Law, "The Study of Grammar";

- Grammatici Hibernici Carolini aevi*, ed. Louis Holtz and Bengt Löfstedt, CC cont. med. 40, 40A, 40B, 40C (Turnhout, 1977); and Alcuin, *Grammatica: Disputatio de uera philosophia*, PL 101:847-902.
55. See Donatus, *Ars Minor*, chaps. 1-2, in Holtz, *Donat et la tradition*, pp. 585-87.
  56. See Sedulius Scottus, *In Donati artem minorem*, ed. Bengt Löfstedt, *Grammatici Hibernici Carolini Aevi*, III, 2, CC cont. med. 40C, pp. 6-7.
  57. See Gernot Wieland, "Latin Lemma—Latin Gloss: The Stepchild of Glossologists"; and *La Lexicographie du latin médiévale et ses rapports avec les recherches actuelles sur la civilisation du moyen âge*. For editions of glossaries, see Georg Goetz, ed., *Corpus glossariorum latinorum*, 7 vols. (Leipzig and Berlin, 1888-1923; repr., Amsterdam, 1965); and Wallace M. Lindsay, J. F. Mountford, and J. Whatmough, eds., *Glossaria latina iussu Academiae Britannicae edita*, 5 vols. (Paris, 1926-31; repr., Hildesheim, 1965). For the *Liber glossarum*, see Ganz, *Corbie*, pp. 53-54; Ganz, "Heiric d'Auxerre: Glossateur du *Liber glossarum*"; and Ganz, "The 'Liber Glossarum': A Carolingian Encyclopedia."
  58. MS Laon, Bibliothèque Municipale, 445; see Contreni, *Cathedral School of Laon*, p. 69.
  59. See, e.g., Elias Steinmeyer and Eduard Sievers, eds., *Die althochdeutschen Glossen*, 5 vols. (Berlin, 1879-1922). In *The Carolingians and the Written Word*, pp. 7-22, McKitterick argues that Latin was the vernacular in the Romance regions of the Carolingian realms and that it served as a second language for administrative and religious purposes in the Germanic regions.
  60. *Servati Lupi epistolae*, no. 70, para. 2 ("cuius usum hoc tempore pernecesarium nemo nisi nimis tardus ignorat"), and no. 91, para. 5, ed. Marshall, pp. 73-74, 89.
  61. For these statutes and other evidence bearing on the significance of vernacular instruction, see McKitterick, *The Frankish Church*, pp. 184-205.
  62. See Edouard Jeuneau, "Jean Scot Erigène et le grec"; A. C. Dionisotti, "Greek Grammars and Dictionaries in Carolingian Europe"; Walter Berschin, *Greek Letters and the Latin Middle Ages: From Jerome to Nicholas of Cusa*; and Kaczynski, *Greek in the Carolingian Age: The St. Gall Manuscripts*.
  63. For an example, see the unpublished *Glossae super Virgilium epithetis suis conuenientes*, in MS Laon, Bibliothèque Municipale, 468, fol. 36ra, in the facsimile edition, *Codex Laudunensis 468: A Ninth-Century Guide to Virgil, Sedulius, and the Liberal Arts*, ed. Contreni.
  64. See Contreni, "Carolingian Biblical Studies," pp. 79, 96-98.
  65. See Günter Glauche, *Schullektüre im Mittelalter: Entstehung und Wandlungen des Lektürekansons bis 1200 nach den Quellen dargestellt*.
  66. See Maartje Draak, "Construe Marks in Hiberno-Latin Manuscripts"; Draak, "The Higher Teaching of Latin Grammar in Ireland during the Ninth Century"; and Fred C. Robinson, "Syntactical Glosses in Latin Manuscripts of Anglo-Saxon Provenance." Continental masters also made use of syntactical glossing; see MS Paris, B.N., lat. 10307, a schoolbook

from the last quarter of the ninth century with texts of Virgil, Servius, and Sedulius.

67. See, e.g., John Scottus, *Glosae Martiani*, 3:1–4, ed. Jeauneau, "Commentaire érigénien sur Martianus Capella," in Jeauneau, *Quatre thèmes érigéniens*, pp. 101–2; the numbers cited by Jeauneau in his edition refer to the page and line numbers in *Martianus Capella*, ed. Adolfus Dick, rev. ed., *Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana* (Stuttgart, 1969). For this pedagogical genre, see R. B. C. Huygens, *Accessus ad auctores*.
68. On this general textual problem, see Gangolf Schrimpf, "Zur Frage der Authentizität unserer Texte von Johannes Scottus' 'Annotationes in Martianum.'"
  69. See *Expositio in Mattheum evangelistam*: "In omnium principiis librorum tria quaerenda sunt, tempus, locus, persona. Similiter de isto Evangelio, haec tria tenenda sunt" (PL 106:1264b).
  70. See *Epistolae variorum inde a morte Caroli Magni usque ad divisionem imperii collectae*, no. 34, ed. Dümmler, MGH, Epp. 5:358–59: "Scripsi autem, ut ab ore uestro accepi, nihil addendo uel minuendo, in quantum me emula non retardauit obliuio" (p. 359, lines 1–2).
  71. See Contreni, "Carolingian Biblical Studies," pp. 85–93; Cantelli, "L'Esegesi al tempo di Ludovico il Pio e Carlo il Calvo"; and Cantelli, *Angelomo e la scuola esegetica di Luxeuil*.
  72. See Margaret T. Gibson, "RAG Reads Priscian."
  73. On this fundamental point, see Jean Jolivet, *Godescalc d'Orbais et la Trinité: La Méthode de la théologie à l'époque carolingienne*; and Brunhölzl, "Der Bildungsauftrag der Hofschule," for the programmatic nature of Alcuin's *Grammatica: Disputatio de uera philosophia*, which is suggested in the complete title of his work.
  74. See Wright, *Late Latin and Early Romance*, pp. 118–22, for the pertinent text from the Council of Tours in 813 and for this interpretation of it.
  75. See Alcuin, *De rhetorica*, lines 1000–1010, in *The Rhetoric of Alcuin and Charlemagne: A Translation with an Introduction, the Latin Text, and Notes*, ed. Wilbur Samuel Howell, Princeton Studies in English 23 (Princeton, N.J., 1941), p. 132; also Elisabeth Dahlhaus-Berg, *Nova Antiquitas et Antiqua Novitas: Typologische Exegese und isidorianisches Geschichtsbild bei Theodulf von Orléans*, pp. 116–37, 146–60.
  76. For collections of formularies, see *Formulae Merowingici et Karolini aeni*, ed. Karl Zeumer, MGH, Leges (Hannover, 1886); also, James J. Murphy, *Rhetoric in the Middle Ages: A History of Rhetorical Theory from Saint Augustine to the Renaissance*, pp. 194–202.
  77. See, e.g., Angelomus of Luxeuil in the preface to his commentary on the Canticle of Canticles, MGH, Epp. 5:627, where he also describes his work in these terms: "ut quod ego more medicorum ac pigmentariorum, qui ut diuersa unguenta et antidota temperatim possint componere" (lines 27–28).
  78. See the prologue to Paschasius Radbertus's commentary on Matthew, in *Epistolae variorum inde a saeculo nono medio usque ad mortem Karoli II*



- (*Calvi*) *imperatoris collectae*, no. 6, ed. Dümmler, MGH, Epp. 6:141 (a later edition in *Pascasii Radberti Expositio in Matheo Libri XII*, ed. Bede Paulus, CC cont. med. 56, 56A, 56B [Turnhout, 1984], 56:6); and Bishop's comment on this passage, "The Scribes of the Corbie a-b," pp. 523-24.
79. See Dahlhaus-Berg, *Nova Antiquitas et Antiqua Novitas*, pp. 116-37, 146-60; and Claude Carozzi's introduction to *Adalbéron de Laon: Poème au roi Robert*, pp. ix-cxl.
  80. See John Marenbon, *From the Circle of Alcuin to the School of Auxerre: Logic, Theology, and Philosophy in the Early Middle Ages*, the fundamental work on Carolingian dialectic; Ganz, *Corbie*, pp. 81-102; and Marcia L. Colish, "Carolingian Debates over *Nihil* and *Tenebrae*: A Study in Theological Method."
  81. "De loco Dei," in Marenbon, *From the Circle of Alcuin to the School of Auxerre*, p. 158.
  82. Jeudy, "Le Florilège grammatical inédit du manuscrit 8° 8 de la bibliothèque d'Erfurt," p. 99.
  83. See *Alcivini Epistolae*, no. 204, ed. Dümmler, MGH, Epp. 4:337-49: "Interrogandum est, si aliquid adorandum nobis sit aut colendum, nisi uerus Deus. Si dicit non esse, inferendum est: quomodo adorabis filium uirginis, si non est uerus Deus? . . . His ita confirmatis per interrogationes et responsiones, quid superest, nisi Christus Iesus uerus credatur Deus? uerus et plenus et unus credatur filius? proprius et perfectus adoretur et laudetur ab omni creatura?" (p. 339, lines 30-32; p. 340, lines 4-6).
  84. For this text, see Marenbon, *From the Circle of Alcuin to the School of Auxerre*, pp. 154-57.
  85. Helperic, in the preface to his computus manual, argued that no one, lay or cleric, should remain ignorant of computus; see *Lupi abbatis Ferrariensis epistolarum additamentum*, no. 8, ed. Dümmler, MGH, Epp. 6:120: "Cottidiana igitur annuaque compoti argumenta uulgatiora et quae ne laicus quidem, nedum clericus, impune ignorauerit" (lines 4-6). For arithmetic, geometry, and astronomy, see the essays in Paul Leo Butzer and Dietrich Lohrmann, eds., *Science in Western and Eastern Civilization in Carolingian Times*.
  86. See Alcuin's letter, among several on this subject, to Charlemagne in *Alcivini Epistolae*, no. 145, ed. Dümmler, MGH, Epp. 4:231-32; also, *Capitula de quibus conuocati compotistae interrogati fuerint*, in *Epistolae variorum Carlo Magno regnante scriptae*, no. 42, ed. Dümmler, MGH, Epp. 4:565-67. For additional references to early ninth-century computistical literature, see Stevens, introduction to *Rabani Mogontiaccensis episcopi De computo*, pp. 171-75; Patrick McGurk, "Carolingian Astrological Manuscripts," with pls.; Arno Borst, "Alkuin und die Enzyklopädie von 809"; and Lohrmann, "Alcuins Korrespondenz mit Karl dem Grossen über Kalender und Astronomie."
  87. See Wesley M. Stevens, "Compotistica et Astronomica in the Fulda School," p. 39.
  88. See his *Epistola ad Aluinum*, para. 13, in *Servati Lupi epistolae*, no. 20, ed. Marshall: "quam rem aliquot dies scrupulose obseruans" (p. 28).

89. See "Method of Rendering," in Horn and Born, *The Plan of St. Gall*, 1:53–63; and A. Hunter Dupree, "The Significance of the Plan of St. Gall to the History of Measurement: A Link between Roman, and English and American Systems of Measurement."
90. See Wesley Stevens, "Computistica et astronomica," pp. 36–43. These pages are fundamental for understanding the place of geometry—all but ignored by modern scholars—in Carolingian learning.
91. See *Beda's Opera de temporibus*, ed. Charles W. Jones, Mediaeval Academy of America, Publications 41 (Cambridge, Mass., 1943); and *Beda's Venerabilis opera*, pt. 6, *Opera didascalica*, ed. Jones, 3 vols., CCSL 123A–C (Turnhout, 1975–80).
92. See Mario Esposito, "An Unpublished Astronomical Treatise by the Irish Monk Dicuil"; and *Dicuili Liber de mensura orbis terrae*, ed. John J. Tierney, *Scriptores Latini Hiberniae* 6 (Dublin, 1967). For Dicuil, see also James F. Kenney, *The Sources for the Early History of Ireland, Ecclesiastical: An Introduction and Guide*, pp. 545–48; Michael Lapidge and Richard Sharpe, *A Bibliography of Celtic-Latin Literature, 400–1200*, pp. 174–75; and Werner Bergmann, "Dicuil's *De mensura orbis terrae*." For additional evidence, see Bruce S. Eastwood, "The Astronomy of Macrobius in Carolingian Europe: Dungal's Letter of 811 to Charles the Great."
93. Wesley Stevens, introduction to *Rabani Mogontiacensis episcopi De computo*, pp. 165–97.
94. See *Lupi abbatis Ferrariensis epistolarum additamentum*, no. 8, ed. Dümmler, MGH, Epp. 6:119–20, for the preface. This computus, also known as the *Ars calculatoria*, has sometimes been attributed to Heiric of Auxerre; see Stevens's introduction to *Rabani Mogontiacensis episcopi De computo*, p. 172, n. 30.
95. See the marginal notes to *De temporum ratione*, xlvii ("De annis dominicae incarnationis"), in MS Berlin, Deutsche Staatsbibliothek, Phillipps 1832, published in *Beda's Venerabilis Opera*, pt. 6, *Opera didascalica*, ed. Jones, vol. 2, CCSL 123B:429–30. For the master responsible for the Bede glosses, see Jones's introduction to *De temporum ratione Liber*, *ibid.*, pp. 257–61; and Contreni, *Cathedral School of Laon*, pp. 124–29.
96. See the sketch published by Jeudy, "Le Scalprum Prisciani," pl. 4; also, Ganz, "A Tenth-Century Drawing of Philosophy Visiting Boethius"; Marie-Elisabeth Duchez, "Jean Scot Erigène, premier lecteur du *De institutione musica* de Boèce?" esp. pls. 2–4; and Wickersheimer, *Les Manuscrits latins de médecine*, pls. 1–10 (pl. 1 for the Fleury drawing in MS Chartres, Bibliothèque Municipale, 62).
97. Michael Evans, "The Geometry of the Mind"; Bruce S. Eastwood, "Medieval Science Illustrated," p. 203; see also Eastwood, "Plinian Astronomical Diagrams in the Early Middle Ages" (with pls.).
98. *Epistolae variorum inde a saeculo nono medio usque ad mortem Karoli II (Calvi) imperatoris collectae*, no. 1, ed. Dümmler, MGH, Epp. 6:130: "Bestias quoque, serpentes, uolucres ac delfines suum ad auditum prouocat, sicut et supra in laude musicae disciplinae, prout potuimus diximus. Et quid plura? musica ars omnes exsuperat artes. Angeli quoque quod Deo

- laudes more huiusce disciplinae in arcae referunt siderea, lecta Apocalipsi nemo qui dubitet" (lines 4–7). See *Aurelian: Musica disciplina*, ed. Lawrence A. Gushee, *Corpus scriptorum de musica* 21 (n.p., 1975).
99. An anonymous monk blasted contemporary negligence of the praise of God in the dedication of his own treatise on the Psalms to Bishop Batheric of Ratisbon (817–847); see *Epistolae variorum inde a morte Caroli Magni usque ad divisionem imperii collectae*, no. 35, ed. Dümmler, MGH, Epp. 5:359–60: "Sunt namque nonnulli, qui tantum ob uerecundiam hominum, ne forte ignaui ab ipsis iudicentur, intrantes ecclesiam sine antiphonis cursim et omni cum uelocitate, ut citius ad curam carnis exeant peragendam, diuinis negligenter assistunt laudibus, cum in mundanis studiosi habeantur operibus" (p. 359, lines 33–36).
  100. *Notheri Balbuli Gesta Karoli Magni Imperatoris*, bk. I, chaps. 7, 8, 10, 19; bk. 2, chap. 7, ed. Hans F. Haefele, MGH, SS rer. Germ., new ser., 12 (Berlin, 1959; repr., Munich, 1980), pp. 9–11, 12–13, 25, 58. See also Susan Rankin, "Carolingian Music"; Bullough and Corrêa, "Texts, Chant, and the Chapel of Louis the Pious"; and Cyrille Vogel, "Les Motifs de la romanisation du culte sous Pépin le Bref (751–768) et Charlemagne (774–814)." For more on the development of music performance in the Carolingian age, see chap. 4 in this volume, by Richard L. Crocker.
  101. See *Epistolae variorum inde a morte Caroli Magni usque ad divisionem imperii collectae*, no. 6, ed. Dümmler, MGH, Epp. 5:307–9; and Michel Huglo, "Les Remaniements de l'Antiphonaire grégorien au IX<sup>e</sup> siècle: Héliaschar, Agobard, Amalaire."
  102. Duchez, "Jean Scot Erigène, premier lecteur du *De institutione musica* de Boèce?"
  103. See the *Musica enchiriadis* in Hans Schmid, ed., *Musica et scolica enchiriadis una cum aliquibus tractatulis adiunctis*, Veröffentlichungen der Musik-historischen Kommission (Munich, 1981), and Leonie Rosenstiel, trans., *Music Handbook = Musica enchiriadis*, Colorado College Music Press Translations 7 (Colorado Springs, 1976); the *Alia musica*, ed. Jacques Chailley (*Alia Musica [Traité de musique du IX<sup>e</sup> siècle]*, Publications de l'Institut de Musicologie de l'Université de Paris 6 [Paris, 1965]); and Marcel Pérès, "Rémi et la musique." Edmund Brooks Heard has observed that Latin *alia* is the medieval spelling of Greek *halia* and that, therefore, the correct English title of this work is *A Musical Compendium*; see Heard's "Alia Musica: A Chapter in the History of Medieval Music Theory," p. 19.
  104. For a brief survey of these subjects, see Riché, *Ecoles et enseignement*, pp. 221–45, 276–80.
  105. See Brunhölzl, *Geschichte der lateinische Literatur* 1:345–58, 557–59; Eleanor Shipley Duckett, *Carolingian Portraits: A Study in the Ninth Century*, pp. 121–60; Wesley M. Stevens, "Walahfrid Strabo—a Student at Fulda"; Stevens, "Compotistica et astronomica," 1:31–63; Peter Godman, *Poetry of the Carolingian Renaissance*, pp. 34–40; and Godman, *Poets and Emperors: Frankish Politics and Carolingian Poetry*, pp. 133–47.
  106. Bischoff, "Eine Sammelhandschrift Walahfrid Strabos (Cod. Sangall. 878)," with pls.; an earlier version was published in *Aus der Welt des Buches: Festgabe zum 70. Geburtstag von Georg Leyh*, pp. 30–48.

107. See Brunhölzl, *Geschichte der lateinische Literatur* 1:481–85, 571–72; Riccardo Quadri, introduction to *I Collectanea di Eirico di Auxerre*, ed. Quadri, pp. 3–28; Joachim Wollasch, “Zu den persönlichen Notizen des Heiricus von S. Germain d’Auxerre”; and Eckhard Freise, “Kalendarische und annalistische Grundformen der Memoria.”
108. Heiric’s *Collectanea* was edited and published by Quadri, *I Collectanea di Eirico di Auxerre*, pp. 77–161.
109. *Ibid.*, pp. 78–113.
110. *Ibid.*, p. 115.
111. *Ibid.*, p. 127.
112. See Contreni, *Cathedral School of Laon*.
113. See John J. O’Meara, *Eriugena* (Oxford, 1988); and the sketch of Sedulius Scottus’s life provided by Edward Gerard Doyle in his introduction to *Sedulius Scottus: On Christian Rulers and the Poems*, trans. Doyle, pp. 9–48.
114. See Contreni, *Cathedral School of Laon*, pp. 130–33, for details on these texts.
115. See McKitterick, *The Frankish Church and the Carolingian Reforms*, pp. 45–79; and E. Vykoukal, “Les Examens du clergé paroissial à l’époque carolingienne.”
116. See, e.g., Gottschalk, *Oeuvres théologiques et grammaticales de Godescalc d’Orbais*, ed. Cyrille Lambot; *Sedulii Scotti collectaneum miscellaneum*, ed. Dean Simpson, CC cont. med. 67 (Turnhout, 1988); and Morrison, “Unum ex multis: Hincmar of Rheims’ Medical and Aesthetic Rationales for Unification.”
117. McKitterick, *The Frankish Church and the Carolingian Reforms*, p. 209.