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Gerbert, the Teacher

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GERBERT, the peasant boy from Aurillac in old Auvergne, now central France, is well known as pope (Sylvester II, 999–1003), as a scholar, as one of the most facile letter writers of the Middle Ages,[1] as a politician who played a significant role in the rise of the Capetian dynasty in France, and as a statesman who exerted decisive influence upon the young German king and emperor, Otto III. These political and literary aspects of Gerbert's life have been noted in detail by his modern biographers and recently re-emphasized when French scholars, in 1938, celebrated the thousandth anniversary of his birth.[2]

Proper attention has not, however, been given to Gerbert's remarkable work as a teacher who in the tenth century displayed the best qualities of a humanist and whose teaching methods, devices, and results rank him among

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[1] Julien Havet, ed., *Lettres de Gerbert, 983–997* (Paris, 1889), has long been standard, and his numbering of the letters (*Ep.* for *Epistola*) is used in this article.

[2] Gerbert's millenary celebration produced several reappraisals of his place in history without breaking new ground in regard to his teaching. Pierre Bayle-Montaigu's article, "Le Millenaire de Gerbert," in *La revue universelle*, LXXIV, no. 10 (Aug. 15, 1938), 493–503, is a repetition of well-known facts. More sparkling is Paul Basted, "Le Millenaire de Gerbert," in *Revue politique et parlementaire*, XLV, no. 525 (Aug. 8, 1938). The most valuable is that by Ferdinand Lot, "Étude sur le recueil des lettres de Gerbert," in *Bibliothèque de l'École des Chartes*, C (January, 1939), 6–62, who demonstrates in a basic study of Gerbert's writings that Havet cannot be relied upon too blindly.

Wide disagreement exists among Gerbert scholars as to the date of his birth, ranging from 938 to 950. French scholars chose the earliest possible date for their celebration, but a later date, 946, has more to be said for it from the sources, and fixes Gerbert's millenary in this past year. The date can only be conjectured from Richer (*Historiarum Libri Quatuor*, III, 43; see note 33 below), writing in 996 that Gerbert was *adolescens* when he left Aurillac for Spain in 967. Had he been born as early as 938 he would be twenty-nine years old in 967 (certainly too old to be termed *adolescens*), and thirty-four when he began teaching at Rheims in 972. In a letter (*Ep.* 179) written in 991, Gerbert refers to his early days at Rheims by saying that he knew the city *a puero*. Such a man would hardly term himself a boy at thirty-four. In *Ep.* 194 Gerbert uses the words adolescence and youth in a way that shows his concept of them to be the ordinary ones: *quae adulescens didici, juvenis amisi, et quae juvenis concupivi, senex contempsi.* Havet (p. v) figures Gerbert was born at the earliest in 940, at the latest in 945. R. S. Allen, "Gerbert, Pope Sylvester II," in *English Historical Review*, VII (1892), 626, accepts the year 945. This date would make Gerbert twenty-two when he went to Spain and twenty-seven when Otto I, Pope John XIII, and Adalbero became interested in his future. But *adolescens* would hardly apply to anyone over twenty-one and certainly not *puer*. Therefore I incline to a date between the 945 of Havet and Allen and the 950 of H. O. Taylor and Sandys, certainly not earlier than 946. This would place Gerbert's millenary in the year 1946 and confine his teaching career between the ages of twenty-seven and forty-three. A contemporary, Abbon, became in 977 the *scholasticus* at Fleury at the age of twenty-seven (M. Cuissard-Gaucheron, "L'École de Fleury-sur-Loire à la fin du dixième siècle," *Mémoires de la Société Archeologique et Historique de l'Orleanais*, XIV [1875], 585.)

the great teachers of all times.[3] This paper will consider him solely in these aspects, in the belief that Gerbert was primarily important as *scholasticus*. In this capacity he was eminently successful, original, and truly great, and his later honors came as a result of his own outstanding education and teaching.

Gerbert's great work was done in the cathedral school at Rheims between the years 972 and 989 A.D. With the exception of the year 983, during which he was absent on an ill-fated "administrative appointment" as abbot of Bobbio,[4] Gerbert headed this school and made it famous by his genius and enthusiasm as a teacher.

Gerbert's formal training for such a position was as unusual for the tenth century as the man himself. His education made him heir to three widely divergent and even hostile sources of inspiration: the Christian Cluniac and Lotharingian enthusiasm for monastic reform and the good life, the pagan Latin classics, and the Moslem-tinctured scholarship of tenth century Spain. The combination of these three, in varying degrees, produced Gerbert.

Christian Cluniac enthusiasm pervaded the monastery of Saint Gerauld at Aurillac in which Gerbert was reared. This monastery was itself young in the tenth century, having been founded in 984, less than fifty years prior to Gerbert's entry. Above all, the famous Odo, abbot of Cluny, was previously abbot of Saint Gerauld, so that during Gerbert's formative years it was an important center for the Cluniac revival of spiritual earnestness in monastic life.[5] Thus Gerbert's early education was received in one of the best monasteries of the tenth century, under the guidance of two remarkably spiritual men, Abbot Gerauld and the monk Raymond, Gerbert's teacher, who later succeeded Gerauld as abbot.

Gerbert's letters to these two men and to his "brothers" in the monastery are among the finest he ever wrote and bear witness to the character of his Christian education. The happy days at Aurillac and the sound classical training given him there by Raymond increased in value to him as he first became a teacher on his own and then was drawn into the intricate affairs of high politics where the intrigue and duplicity of medieval statecraft contrasted

[3] The only books which profess to examine Gerbert exclusively as a teacher are P. L. Péchenard, *De Schola Remensi Decimo Saeculo* (Paris, 1875), a D. ès-L. thesis of eighty-seven pages written in Latin and quoting extensively from Richer, and Karl Otto Schultess, *Papst Sylvester II als Lehrer und Staatsmann* (Hamburg, 1891).

[4] Gerbert planned to continue his teaching activities at Bobbio, as seen from a letter he wrote on arriving there to Ecbert, archbishop of Trèves (*Ep.* 13): "You know the magnanimity of our Lord Caesar, his solicitude and extraordinary appetite for learned men. Thus if you are in doubt whether you should send scholars to us in Italy, here is our definite agreement: those you approve we will approve; what you recommend we will accept."

[5] *Cf.* Alexandre Olleris, "Gerbert, Aurillac et son monastère," *Memoires Acad. Clermont-Ferrand* (1862), B, IV, 161 ff. (separately printed at Clermont, 1862). G. M. F. Bouange, *St. Geraud d'Aurillac et son illustre abbaye* (2 vols., Aurillac, 1881–85).

sharply with the character of his early training. Throughout his life whenever despair, defeat, or compromise overshadowed him, he turned for strength to his old teachers at Aurillac. From his school at Rheims after his reverses at Bobbio he wrote to Abbot Gerauld, who had reared him:

I do not know that divinity has given to mortals anything better than friends. Happy day, happy hour, where I am permitted to know a man the remembrance of whose name alone suffices to make me forget all my pain. If I could only see him oftener I would be the happier. To this end I had stationed myself in Italy in a not ignoble position. But blind fortune which governs the world, dropped me into profound darkness, directing me in my course first toward one extreme then the other. The face of my friend remains fixed in my heart. I say this friend is my lord and father, Gerauld, whose counsel shall be my all in all.[6]

On the same occasion (984) he poured out his heart in a separate letter to his old teacher, Raymond, in the kind of epistle, when it is sincere, that teachers like to receive from former pupils. It shows genuine appreciation for what Raymond taught him in the application of learning to life, and shows that Gerbert passed on to his own pupils some of the light he had received seventeen years earlier from his own teacher to whom he writes:

With what appreciation we regard what you taught us, the Latins and Barbarians know, who are the recipients of the fruits of our own labors. They earnestly wish to see you since of course you are at liberty, whereas I, burdened with troubles, stay here for no other reason than to study. The one and only remedy for such cares is philosophy. Its study has often procured for me precious advantages; it has helped me, for example, in these times of trouble, has deadened the blows of fortune inflicting its fury upon others and upon myself. In effect, as public affairs were at this time in Italy, it was necessary if we sought any other shelter than our innocence, to submit shamefully to the bondage of tyrants; or, if we attempted to protect ourselves with force, we would have had to seek protectors on all sides, to fortify castles, to inflict pillage, fire and murder. We have chosen the sure calm of peace rather than the uncertainties of war.

Whereas we do not always arrive when we follow the trail of philosophy, we cannot keep down all the tumults of an agitated soul. We momentarily return to that which we have abandoned. Sometimes moved by the advice of my friend, Abbot Guarin,[7] I think of seeking the Spanish princes; then by the sacred letters of our empress, the lady Theophano, ever august, ever to be revered, we are driven to abandon our previous intention. In this perpetual fluctuation of grief, fear, pleasure, longing, Gerbert, special son of the most devoted of fathers, Gerauld, whom these evils cannot hurt, implores advice on the line of action to follow.[8]

The feeling in this letter is genuine. If it reads more like an outburst from a pagan Roman than the outpouring of a medieval Christian spirit reared in a

[6] *Ep.* 46.

[7] Guarin, whom Gerbert met on his stay in the Spanish March, was abbot of St. Michel de Cuxa, diocese of Elan, in the Pyrenees.

[8] *Ep.* 45.

monastery, it is because Raymond, for all his known piety, appears to have anchored his pupil firmly to the Latin classics.

The well-known conflict between the classical and ecclesiastical literature, pagan versus Christian, which raged in many medieval minds and broke out into such dreams as that of Odo of Cluny and visions such as Othloh's, seemed sublimely harmonized in Raymond.[9] He was deeply pious, spiritual, and Christian. He was also steeped in Latin literature even though the monastic reformers of his times strongly proscribed it. Raymond knew how to inspire in his pupils a mellow love for the classics as witnessed by Gerbert, who wrote that Raymond "shone forth with the double light of religion and science."[10] This was no easy accomplishment in the early Middle Ages, when giants like Jerome and Gregory the Great found Christ and Cicero incompatible. Gerbert himself suffered keenly from the suspicions of his contemporaries on this ground. The papal legate, Leo, in 995, opposed his elevation to the archbishopric of Rheims on the basis that "the vicars of Peter and their disciples will not have for their teacher a Plato, a Virgil, a Terence or any other of that herd of philosophers."[11]

Though Gerbert often writes, as above, like a Roman, more particularly like Boethius, whose "real religion is philosophy,"[12] yet his letters to Raymond habitually end with a request that his devout old teacher remember him in his prayers. In 995, eight years before Gerbert's death, he wrote a wonderful tribute to his teacher in a letter addressed to the entire monastic chapter at Aurillac:

It is from you all in general that I remember having acquired the benefits of my education, but more particularly from father Raymond. If I have acquired any knowledge it is, after God, to him more than to any other mortal that I owe it.[13]

Gerbert was at the peak of his fame as a learned man when, on his temporary elevation to the archbishopric of Rheims in 995, he chose another gracious way to compliment his old master. He wrote a perfectly balanced sentence to Raymond expressing an eternal truth of the educational world: *Discipuli victoria, magistri est gloria.*[14]

[9] For an interesting collection of such dreams and stories see A. Graf, *Roma del medio evo* (2 vols., Turin, 1883), excerpts of which are readily available in D. C. Munro and G. C. Sellery's source book, *Medieval Civilization* (New York, 1924), chapter on "The Latin Classics in the Middle Ages."

[10] *Ep.* 91.

[11] The interesting letter elaborating upon this statement, addressed to the kings Hugh and Robert, is printed in Alexandre Olleris, ed., *Oeuvres de Gerbert* (Clermont and Paris, 1867), pp. 237–43.

[12] Edward K. Rand, *Founders of the Middle Ages* (Cambridge, Mass., 1929), p. 139, citing E. Zeller, *Grundriss der Geschichte der griechischen Philosophie.*

[13] *Ep.* 194. [14] *Ibid.*

Few details are known of Gerbert's course of study under Raymond. Richer simply states that he was taught grammar.[15] Grammar, which covers too little today, tended to include too much in the Middle Ages. Barthélemy expands Richer's meager statement to contain literature, theology, history, philosophy, and logic.[16] Gerbert's wide knowledge of Latin literature, indeed his absorption in this to the apparent exclusion of theological literature as revealed in his correspondence and in the curriculum he set up for his pupils at Rheims in 972, is rooted in Aurillac. Yet Gerbert demonstrates his thorough familiarity with the Scriptures and the writings of the Fathers in his long "apologia" (*Ep.* 217), written in his own defense against the accusations of the papal legate. He also shows his enemies that he can write good sermons in the truly medieval fashion.[17]

But Raymond was not interested in the exact sciences, and Abbot Gerauld saw Gerbert intellectually outgrow the offering of Aurillac. Thus when Borel, newly made duke of Hither Spain (count of Barcelona), stopped at the monastery of Saint Gerauld's in 967, he was

> received most warmly by the abbot of that monastery. After the two had talked over many things, the abbot inquired whether Spain contained any scholars very learned in the arts. When the duke very promptly asserted that there were, he was at once persuaded by the abbot to take one of the monks with him for the purpose of having him further instructed. Therefore, since the duke had no objections, he freely granted the favor, and with the unanimous consent of the brothers took Gerbert as their choice, and turned him over to Bishop Hatto to be taught, with whom he studied mathematics extensively and successfully.[18]

Richer tells little more. Gerauld and Raymond thought first of their pupil's future and, as we would say today, arranged for his acceptance into the best "graduate school" of the times.

Thus it was that Gerbert drank from the third well of inspiration and acquired his remarkable knowledge of mathematics. The question has never been satisfactorily settled as to how far Gerbert was influenced by Moslem Spain, then at the peak of its brilliance under Al-Hakam. Although Gerbert is silent upon the subject of his Spanish studies, he made several lifelong friends in the Spanish March with whom he occasionally corresponded. One was Guarin, who as we have seen tried to persuade Gerbert to come back to Spain after he was driven out of Bobbio. Guarin made at least one journey up

[15] " . . . *grammatica edoctus est.*" Richer, III, 43.

[16] Edouard de Barthélemy, *Gerbert, étude sur sa vie et ses ouvrages* (Paris, 1868), p. 2.

[17] His "Sermo de Informatione Episcoporum" (*Oeuvres*, pp. 269–78) is more original and interesting than his sermon "De Corpore et Sanguine Domini" (*ibid.*, pp. 278–91).

[18] Richer, III, 43. This literal translation of Richer makes it clear that the initiative came from Abbot Gerauld instead of Borel as William J. Townsend (*Great Schoolmen* [London, 1881], p. 67) has erroneously stated.

to Saint Gerauld's at Aurillac, where he left a book on the multiplication and division of numbers edited by Joseph the Spaniard. Gerbert very much wanted this book and wrote Abbot Gerauld for a copy.[19] Impatient at the delay he soon afterwards wrote to another of his Spanish friends, Bonifilius, apparently a former fellow student under Hatto, requesting from him a copy of the same book.[20] This was in 984, when Bonifilius had become the bishop of Girone. A third Spanish acquaintance of Gerbert was a certain Lupitus of Barcelona, to whom he wrote requesting "the book on astronomy which was translated by you."[21] It is logical to assume that this book was a translation from the Arabic, and as such partly indicates the nature of Moslem influence upon Gerbert.

Modern French scholars have gone to great lengths to clarify the thesis that Gerbert learned his mathematics from the writings of Boethius and not from the Moslems. It is of course true that the works of Boethius were included in the curriculum of his school at Rheims and that Gerbert held the great Roman in the highest regard.[22] However, it was in the Spanish March, according to Richer, whose testimony cannot be discounted, that Gerbert studied mathematics, and his contacts there provided him with at least two volumes that were probably more closely related to Arabic learning than they were to Boethius. Moreover, it was Gerbert's knowledge of mathematics that singled him out so uniquely when Borel and Hatto took their pupil to Rome in 971. Pope John XIII was struck by it, and Otto I, whose brother Bruno was an ardent reader of the classics, acted as though he had found a curiosity. Obviously Gerbert's mathematical knowledge was of a different order from anything known at the time in Christendom,[23] at least wholly unlike anything either the pope or the emperor had experienced, and they both must have known scholars acquainted with the writings of Boethius. The very novelty of Gerbert's knowledge is significant, and strong evidence that Gerbert had at least supplemented Boethius with extraneous sources.

Surprisingly little basic work has been done in Spanish archives or among Arabic sources on Gerbert's trip to Spain.[24] Even so well known a repository

[19] *Ep.* 17. [20] *Ep.* 25. [21] *Ep.* 24.

[22] Gerbert later inspired his imperial pupil, Otto III, with such enthusiastic regard for Boethius that Otto erected a monument to his memory, for which Gerbert wrote an epigram. In it he broadly traces the career of Boethius as the "father and light of his country," who "shed light through learning and yielded not a whit in rank to the genius of the Greeks," ending with: "Now renowned authority, who so supremely dominates the arts, the third Otto himself judges you fitting for his court, and has erected a permanent monument to your labors, and fittingly embellishes merit with distinguished favors." For "Gerberti Carmina" see *Oeuvres*, p. 294.

[23] Richer writes (III, 44), *"musica et astronomia in Italia tunc penitus ignorabantur."*

[24] M. Gainet, "Le Voyage de Gerbert en Espagne," *Travaux de l'Académie de Reims*, XV (1851), 218–32, is the only study that devotes itself exclusively to the subject. It uses French sources entirely, devoting the bulk of its contents to a general comparison of Christian and Moslem culture in the tenth century and refers to Gerbert only in broad terms.

as the *Archivo de la Coruna de Aragón* in Barcelona is, on the authority of the late Professor Merriman, still "largely unexplored and especially rich on the medieval period."[25] Provincial libraries at Vich[26] and Girone might contain material upon Gerbert's friends and upon the educational background of Bishop Hatto,[27] Gerbert's mathematics teacher. "Joseph the Spaniard" and his work are as yet unknown. So is the "translation" of Lupitus of Barcelona.

The great question in Gerbert's academic record is whether he visited Moslem Spain as a student. Many secondary writers accept at least a modicum of the many legends which support the thesis that he did, but the known contemporary evidence is meager and unreliable. Ademar de Chabannes (988–1030) is the only writer born in the tenth century to mention Gerbert's studying at Cordova.[28] If Gerbert toured the peninsula while living upon the patronage of the count of Barcelona, some ravelings of evidence must have got into the writings of Arabian or Jewish scholars. As yet modern students of Gerbert have not tapped sufficiently the possibilities of these sources.

Gerbert might easily have visited Cordova, since diplomatic relations between Cordova and Christian European rulers were not infrequent at this period. Abderrahman sent aid to Sancho, king of Leon in 959, and even exchanged ambassadors with the emperor, Otto I.[29] It is not significant that neither Gerbert's letters nor the *Historia* of Richer mention the trip. His extant letters are a fraction of the many he wrote and include only a very few

[25] Roger B. Merriman, "Spain and Portugal," in Dutcher's *Guide to Historical Literature* (New York, 1931), p. 641.

[26] *Cf.* as a beginning J. Serra y Campdelacreu, *El Archivo municipal de Vich, su historia, su contenido y su restauracion* (Madrid, 1880), and "Codicis é incunables de la catedral de Vich en 1806," *Bol. Acad. Histor.*, XXV (Madrid, 1894), 320–31.

[27] "Atton Arzobispo, Maestro del Papa Silvester II," *España Sagrada*, XXVIII, 92–100, deals thoroughly with Hatto's trip to Rome in 970 at the end of Gerbert's period of study with him.

[28] How elaborate stories sometimes develop out of a mere scrap of dubious source material is illustrated by the growth of legends around Gerbert's voyage to Spain. Ademar de Chabannes, writing fifteen years after Gerbert's death, starts the legend when he writes: ". . . pursuing knowledge he journeyed first to France then to Cordova" (*"causa sophiae primo Franciam, deinde Cordobam lustrans."* Migne, *Patrologia Latina*, CXLI, 49.) Fifty years later Benno, cardinal of the antipope Guibert, adds to Ademar's statement the phrase, "where he studied science and magic" (*Oeuvres*, p. cxc) and elaborates upon Gerbert as a sorcerer. In the early twelfth century the English William of Malmesbury spins these two accounts into a wild yarn depicting Gerbert "fleeing by night into Spain, chiefly designing to learn astrology and other sciences of that description from the Saracens," telling how "he resided with a certain philosopher of that sect," and by means of magic got into and out of a series of exciting scrapes. William of Malmesbury, *Chronicle* (Bohn's Antiquarian Library, London, 1847), pp. 173–74. In the nineteenth century Barthélemy makes a hash of Ademar and Benno, adding something of his own, when he writes: "Adamar de Chabannes, his contemporary, even asserts that he travelled as far as Cordova and Seville, not hesitating to contact the learned Arab scholars." Barthélemy, p. 3. Finally the *Catholic Encyclopedia* in an unsigned article, "Sylvester II," uses a composite story made up from Richer, Ademar, Benno, and Barthélemy: "He was then taken by a Spanish count into Spain, where he studied at Barcelona and also under Arabian teachers at Cordova and Seville, giving much attention to mathematics and the natural sciences."

[29] *Cf.* the biography of John of Gorze, Otto I's ambassador, in Jean Mabillon, ed., *Acta Sanctorum Ordinis S. Benedicti*, sacc. V, 402–407.

(all from royalty) of the many he received. The selection was made by Gerbert himself. Thus we must bear in mind that we see Gerbert in his letters through the medium of his own censorship. The accurate, political common sense of a man like Gerbert, who aspired to high ecclesiastical offices, would dictate silence upon a subject that ran counter to the contemporary popular sentiment of Christendom.

Wherever or however Gerbert acquired his knowledge, unrivaled among his contemporaries, he was ready to teach by 971 and in Rome looking around for a good position. His choice fell upon Rheims, the ecclesiastical center of France. As luck would have it, Garamnus, archdeacon of Rheims, noted for his knowledge of logic and the outstanding scholar of Rheims, was then in Rome as ambassador from Lothair, king of France, to Otto, king of Italy. Though Otto offered Gerbert a position as tutor to his son, the future Otto II, Gerbert refused this excellent opening which would have directed his life into Italian and German channels. For some unexplained reason Gerbert suddenly wanted to study logic under Garamnus. At Gerbert's request Otto turned him over to the archdeacon, who was flattered and took him home with him to Rheims. Garamnus taught Gerbert logic; in return, Gerbert gave him lessons in music and mathematics.

In Rheims, circumstances could hardly have been more propitious for Gerbert's advent. Adalbero, wealthy brother of Godfrey, duke of Lorraine, and newly elected archbishop of Rheims in 969, had during the first two years of his primacy introduced sweeping reforms in his diocese.[30] Adalbero was a disciple of John of Gorze, the father of monastic reform in Lorraine, and a vital force for the revival of spirituality and learning in both the monastic and secular branches of his clergy. In 971, while Gerbert was in fact at the papal court, Adalbero journeyed to Rome, where he was received most graciously and warmly by John XIII. The archbishop and the pope worked zealously together for the completion of Adalbero's reform plans. Thus John XIII knew exactly what Adalbero needed for their completion. It was a *scholasticus*, fired with a similar zeal for the *Regula*, equipped with a wide scholarship, and above all capable of inspiring students with the love of learning, that Adalbero needed to make his cathedral school into a progressive force in the reformation of his church.

"While he was thinking along these lines," writes Richer, "wondering how he could improve the calibre of his school, . . . Gerbert was directed towards him by God himself."[31] Knowing Gerbert as we do, it is no surprise to find Adalbero seizing upon him with gratitude as a gift from heaven. "Gerbert

[30] Richer, III, 22–24. [31] *Ibid.*, III, 42, 43.

recommended himself to the archbishop by the high order of his studies and won his esteem ahead of all others. Upon the request of Adalbero, he took charge of the crowd of pupils coming to him for instruction in the arts."[32]

Gerbert's teaching methods are described at greater length and detail than those of most medieval teachers, by one of his pupils, a young monk of Rheims, Richer, the son of a French nobleman.[33] Gerbert had many students reputedly more illustrious than Richer, but Richer remained with Gerbert longer than any other student, possibly working under him as instructor, and is the only writer to describe the methods by which Gerbert made knowledge clear and interesting in his classroom, and standard in the classrooms presided over by his pupils in the next generation.

Richer's description of the course of study in the Rheims school is undoubtedly based upon his own education under Gerbert. He begins by listing the "textbooks" Gerbert used in teaching dialectics, logic, and rhetoric.

> He taught dialectics by running through a series of books accompanied with learned words of explanation. The first book he explained was Porphyry's *Isagoge* or *Introduction,* according to the translation of the rhetorician Victorinus and also according to Boethius; then the *Categories* or the book of *Propositions* of Aristotle, properly explaining it. However, he showed most ably the contents of the *Periermenias* or the *De Interpretatione.* Finally he initiated his listeners to the *Topica,* which is the foundation of argumentation, translated by Cicero from the Greek into Latin and explained in a commentary of six books by the consul Boethius.
>
> Besides this, he read and expounded profitably four books on different topics, two on categorical syllogisms, three on hypothetics and one book on definitions,

[32] *Ibid.,* III, 45.

[33] The ms. of Richer's "Historiarum Libri Quatuor," neither circulated nor copied in his own day or subsequently, was found by Pertz in the library of Bamberg in 1833. It was the original, written and amended by Richer himself. No copies exist. Pertz edited the ms. in the *Monumenta Germaniae Historica. Scriptores,* III (1839), 501–657, and this edition was reprinted in Migne, CXXXVIII, 17–170. In 1877 G. Waitz re-examined the Bamberg ms. and the edition of Pertz, and printed a more accurate edition as *Richeri Historiarum Libri IIII* (Hanover, 1877) in *Scriptores rerum Germanicarum usum scholarum ex Monumentis Germaniae Historicis.* A German translation with an introduction by Wattenbach is R. von der Sacken, *Richer's vier Bücher Geschichte, nach der Ausgabe der "Monumenta Germaniae"* (Berlin, 1854), in *Geschichtschreiber der deutschen Vorzeit in deutscher Bearbeitung,* XXIII. Three French translations have been made. The edition of J. Gaudet, published in two volumes by the Société de l'Histoire de France (Paris, 1845) is based upon the edition of Pertz. In this work the "Notice critique sur Richer et sur son histoire," I, xvii–cxi, is more worth while than the translation which is occasionally faulty and too free. Ten years later the Académie de Reims published a French translation by A. M. Poinsignon, *Historie de Richer en quatre livres* (Rheims, 1855), which contains a facsimile of Richer's ms. The best edition today is that by Robert Latouche—Richer, *Histoire de France (888–995)* (2 vols., Paris, 1930–37), in *Les classiques de l'histoire de France au moyen âge*—whose Latin text and translation are based upon the work of Waitz and profit from all the preceding. There is almost nothing written upon Richer in English except Professor A. C. Howland's translation of the passage from the *Historia* concerning Richer's trip to Chartres and his studies under Heribrand in Munro and Sellery, *Syllabus of Medieval History* (Philadelphia, 1919), pp. 73–75, and Loren C. MacKinney, "Tenth Century Medicine as Seen in the *Historia* of Richer of Rheims," Johns Hopkins Institute of the History of Medicine, *Bulletin,* II (1934), 347–75. An English translation of Richer is being prepared by the author of this article.

> as well as one on division. When he wished to lead his students on from such studies to rhetoric, he put into practice his opinion that one cannot come by the art of oratory without a previous knowledge of the modes of diction which are learned from the poets. So he brought forward those poets which he wanted his pupils to know. Thus he both read and explained with them the poets Virgil, Statius and Terence, also the satirists Juvenal and Persius and Horace, as well as Lucian the historiographer. Once his pupils were familiar with these and acquainted with their style, he led them on to rhetoric.[34]

Richer omits telling the practical steps Gerbert took to inspire his pupils to apply the lessons learned from the classics, but continues with:

> After they were instructed in this art, he brought up a sophist on whom they tried out their disputations, so that practiced in this art they might seem to argue artlessly, which he deemed the height of oratory.[35]

This is enough to show that Gerbert was a practical teacher, teaching neither logic nor rhetoric for their own sake but for the purpose of developing finished and accomplished orators. This is further borne out by a letter Gerbert wrote to Ebrard, abbot of Tours, in 984, in which he states one of the highest truths of teaching when he places oratory and scholarship subordinate to character and practical affairs.

> I am not a man, such as Panetius, to separate the useful from the honorable, but constantly endeavor, as Cicero, always to join the one to the other. . . . Since philosophy does not separate the science of morals from the science of speaking, I have always considered as equal the study of the good life and the study of good speaking. To a man exempt from the cares of government the one suffices perfectly without the other. But, when one is as we are entangled in public affairs, both are necessary. For it is of the highest importance to be able to speak in a persuading manner and to restrain the violence of mis-led spirits by the sweetness of eloquence. It is for this purpose that I bend all my efforts to assemble a library. . . .[36]

In Gerbert's school rhetoric was thus a very practical study related most realistically to current affairs and efficient living, and not, as it later became in some medieval universities, largely an intellectual maneuver divorced both from practical life and productive philosophy.

It is easy to see that Gerbert loved Cicero. "Take as a companion on your journey," he advised his pupil Constantine, "the little works of Cicero, either the *De Republica* or the *In Verrem* or anything which the parent of Roman eloquence wrote for the defense of the many."[37] This sounds more like a Roman or a Renaissance man than it does like a churchman speaking in the heart of the Middle Ages, a Benedictine archbishop of Rheims, archbishop

[34] Richer, III, 46–47. Part of the second paragraph and the following one are translated in Henry O. Taylor, *The Mediaeval Mind,* II, 289–90.

[35] *Ibid.,* III, 48. [36] *Ep.* 44. [37] *Ep.* 86.

of Ravenna, and pope, who would be expected rather to urge his disciple to read Augustine or Gregory's *Dialogues* or at least one of the early Fathers. It seems even more out of part, however, for the tenth century Gerbert to avow, "Indeed, nothing in human affairs is more worthy of veneration than the wisdom of famous men which is contained in the multitudinous volumes of their books. Continue therefore as you have started, and quench your thirst in the waters of Cicero. . . ."[38] Gerbert here refers to the Greek and Latin classics, the former available to him only in translation. Indeed, whenever he requests a particular book from a friend, a confirmed custom with Gerbert, who was indefatigable in his zeal for a large library, the request is invariably for a secular one, and usually a classical one. Not once in his letters does he seem to be seeking religious literature. Perhaps he already had the church writings in his library and did not need to seek them afar. However, "out of the abundance of the heart the mouth speaketh," and we should add, "the pen writeth." Gerbert's letters constantly make allusions to classical writers and only infrequently to ecclesiastical ones or to the Bible.[39] This man, living in the "darkest" period of medieval history, is more in harmony with the Renaissance than with the medieval mind. Had he been pope five centuries later instead of during the year 1000, he would have suited the times more accurately, though he had perhaps cultivated too far "the art of holiness" to please the later era.

The extent to which his classical learning made him out of temper with his own times is revealed by the letter of the papal legate, in 995, already referred to. It was Gerbert's humanism and nonconformity to medieval patterns that gave rise after his death to the legends of his compact with the devil.

If Gerbert was practical in his teaching of the trivium, he is seen to have been even more so in the techniques he developed for teaching the subjects of the quadrivium. Richer continues the account of his education by writing:

> So much for logic. In teaching mathematics it is not out of place to say he expended quantities of sweat. First he took up arithmetic, which is the first part of the science of mathematics. This he followed with music, of which the Gauls had long been ignorant, making it very popular. Arranging the various notes on the monocord, breaking up its consonants or symphonic unions into tones and half-tones, even into major thirds and quarter tones, accurately separating its sounds into tones, he restored a perfect knowledge of music.[40]

[38] *Ep.* 167, written to Romulf, abbot of Sens.

[39] Gerbert imparted the classical spirit to his pupil, Richer, whose *Historia,* inspired by Gerbert and dedicated to him, is an imitation of classical historians, notably Sallust. *"Les historiens de la Grèce et de Rome furent évidemment les modèles que Richer se proposa d'imiter."* J. Gaudet, *Richer, Histoire de son temps* (Paris, 1845), I, XCIV.

[40] Richer, III, 49.

From mathematics, Gerbert led his students on into astronomy, where his genius for teaching expressed itself in several tangible ways. Gerbert becomes here one of the outstanding exponents of the teaching techniques described today as "visual aids." In the tenth century the teacher had to construct his own. Thus Gerbert's, which Richer describes, were all made by himself.

From the writings of Richer and Gerbert it is possible to piece together detailed instructions for making globes and spheres which Gerbert used in the classroom to teach astronomy. These instructions assume that the world is round, and rest upon a mass of scientific knowledge inherited from the Greeks. In spite of the fact that this knowledge was passed along from one medieval school to another, more than five hundred years after Gerbert's time Columbus sailed across what many people believed was a flat world. Richer writes:

> It is not inexpedient to say, in order that the sagacity of this great man may be appreciated and so that the reader can understand more fully the efficiency of his method, what a quantity of sweat was also generated over the principles of astronomy. This poorly understood science, Gerbert explained by means of certain instruments. First, he demonstrated the form of the world by a plain wooden sphere [*mundi speram ex solido ac rotundo ligno argumentatus*], thus expressing a very big thing by a little model. Slanting this sphere by its two poles on the horizon, he showed the northern constellations toward the upper pole and the southern toward the lower pole. He kept this position straight by means of a circle which the Greeks call *horizon,* the Latins *limitans,* because it divides the stars which are visible from those which are not visible. On this horizon line, placed so as to demonstrate practically and plausibly [*utiliter ac probabiliter,* still the highest aim of "visual aids"] the rising and the setting of the stars, he traced natural outlines to give a greater appearance of reality to the constellations. During the night he studied the glowing stars, and proved that both at their rising and setting they moved in an oblique direction over the diverse regions of the world.[41]

Richer next describes the details of making various types of spheres, the way a student might who had often helped Gerbert in their construction.

> As for the circles which are called parallels by the Greeks and equidistants by the Latins, which without doubt are theoretical, here is the clever way he illustrated them. He divided a sphere in half, letting a tube represent the diameter, the one end representing the north pole, the other the south pole. Then he divided the semicircle from one pole to the other into thirty parts. Six lines down from the pole he drew a heavy ring to represent the arctic polar circle. Five divisions below this he placed another line to represent the tropic of Cancer. Four parts lower he drew a line which set forth the rotundity of the equinoctial circle [the equator]. The remaining distance to the south pole is divided by the same dimensions. This instrument was so well contrived that when its diameter was pointed toward the pole and the semicircle revolved, it brought to light circles which were new to the eyes and securely fixed them deep in the memory.[42]

[41] *Ibid.,* III, 50.

[42] *Ibid.,* III, 51.

It is interesting that Gerbert divided his sphere into 60 degrees rather than 360, which makes each of his lateral lines equal to six degrees of those employed for the same purpose today. This would place Gerbert's polar circle at 26 degrees, which is several degrees off from the actual 23° 28′. Gerbert's location of the tropics was nearly exact. His equator was exact.

It should be emphasized that in all Gerbert's many devices he is not the experimenter groping for new knowledge, like Roger Bacon or even Frederick II of the thirteenth century, but is solely the teacher making visual aids for his classroom pupils. The purpose of the devices is a practical one: to fix known facts upon the memory of students. Richer emphasizes this throughout his entire account of Gerbert, only mentioning his writings insofar as they bear upon his teaching.

Gerbert was not attempting to add to human knowledge in his scholarly writings. They were all textbooks, each having a specific purpose related to the curriculum of his school and demonstrating that teaching, not research, was Gerbert's prime scholarly interest. All five of his books[43] are lucid, well-organized, show the writer's wide acquaintance with previous research upon the subject, and appeal to the student point of view—criteria for good textbooks in any age. In his writings, in his mechanical devices, in his very nature, Gerbert is primarily the teacher.

Lot even concludes that Gerbert's sole reason for preserving those of his letters now extant was to make a textbook of letter writing for his pupils, especially for Otto III, and that Gerbert's desire to make the collection a stylebook determined his selection of letters.[44] Thus the Letters of Gerbert can be considered as his sixth textbook.

Richer continues with a description of a sphere which Gerbert constructed to make the planets more easily recognized.

He succeeded equally in showing the paths of the planets when they come near or withdraw from the earth. He fashioned first an armillary sphere. He joined the two circles called by the Greeks *coluri* and by the Latins *incidentes* because they fall upon each other, and at their extremities he placed the poles. He drew with great art and accuracy, across the *colures,* five other circles called parallels, which,

[43] *Libellus Rationali et Ratione uti; Regula de Abaco computi; Libellus de Numerorum Divisione; Liber Abaci; Geometria*—all are to be found in *Oeuvres.* The best edition of his mathematical works, however, is that of the Russian scholar who devoted his life to the study of Gerbert: Nic. Bubnov, *Gerberti Opera Mathematica* (Berlin, 1899).

[44] "*Le but de Gerbert est avant tout pedagogiques, il veut mettre un modèle de style épistolaire sous les yeux de son jeune disciple imperial.*" Lot, in *Bibliothèque de l'École des Chartes,* C. This was a subtle and effective way for Gerbert to get before the young emperor his correspondence with his father, Otto II, and members of the imperial family, where Gerbert appears in a faithful and even confidential role. Had Gerbert's motive been a historical instead of a pedagogical one he would have preserved all his letters instead of selecting from them, together with the letters he received. References appear constantly to a much more extensive correspondence than is preserved in the "stylebook."

from one pole to the other, divided the half of the sphere into thirty parts. He put six of these thirty parts of the half-sphere between the pole and the first circle; five between the first and the second; from the second to the third, four; from the third to the fourth, four again; five from the fourth to the fifth; and from the fifth to the pole, six. On these five circles he placed obliquely the circles which the Greeks call *loxos* or *zoe,* the Latins *obliquus* or *vitalis* (the zodiac) because it contained the figures of the animals ascribed to the planets. On the inside of this oblique circle he figured with an extraordinary art the orbits traversed by the planets, whose paths and heights he demonstrated perfectly to his pupils, as well as their respective distances.[45]

Richer concludes this paragraph with a tantalizing statement to one in search of medieval teaching methods when he writes: "It would take too long to tell here how he proceeded further; this would sidetrack us from our subject."

The construction of Gerbert's last and most ingenious sphere fortunately is described not only by the pupil Richer but also by Gerbert himself in a letter to a colleague, Constantine, abbot of Micy. The two descriptions supplement each other and clearly reveal Gerbert's most original and effective teaching device. It still remains, however, solely a teaching aid. Richer's description can be translated thus:

He made yet another sphere composed of circles, in the interior of which he placed no circles; but he fashioned above, upon iron and copper wires, the forms of the constellations. For an axis he used a tube through which one looked at the north pole, and when one looked at this pole the machine corresponded to the sky and all the stars corresponded to the marks of the sphere. This machine was so miraculous that even those who were ignorant of the science, if a single constellation were known to them on the sphere they could find the others themselves, and that without the aid of a teacher. This is how he produced knowledge in his pupils. So much for astronomy.[46]

It would be difficult to construct such a sphere from this brief and inadequate account given by Richer. More explicit is Gerbert's account, written to Constantine in response to a request for such information. It has the authoritative ring to it and throws light upon the above paragraph from Richer, though like all Gerbert's writings it is cryptic.

A sphere, my brother, concerning which you inquire for encircling the heavens and demonstrating the stars, is made round in all parts: then a line drawn around the middle is divided equally into sixty parts. Then where you have decided upon the beginning of the line, fix one foot of a compass. Place the other foot on the mark where six parts of the aforesaid line are enclosed, and when you have swung the compass around you include twelve parts. Without moving the first foot, the second foot is extended up to the mark on the first line where the eleventh part ends, and then it is drawn around so that twenty-two parts are encompassed. In

[45] Richer, III, 52. [46] *Ibid.,* III, 53.

like manner the foot is stretched forth to where fifteen parts of the aforesaid line are included, and by turning the compass, thirty parts are enclosed, and the middle of the sphere, having thirty parts, is cut off by the revolution of the compass.

Then moving the compass to the other half of the sphere, you should fix the first foot there, making sure that you station it exactly opposite [the first pole], and you will follow the above rules for measuring and encircling of these parts. Then the circles which you have drawn will be five in number, the middle one being divided equally into sixty parts.

Then take one of these hemispheres and hollow it out, and where you had fixed the other foot of your compass upon the aforesaid line bore a hole so that the circumference line runs through the middle of the hole. In the poles of the spheres, where you had placed the first foot of the compass, make a single hole, so that the middle of those holes sets bounds to the aforesaid hemisphere. Now there will be seven holes, in each of which you should put single tubes a half foot long: and the two extremities will be placed opposite each other so that both ways you will be able to see as through one tube. However, lest the tubes wobble, you can make an iron semicircle measured and perforated in the same way as the hemisphere, so that the upper ends of the tubes cohere; which differs in this way from organ pipes, that they are all equal in thickness, lest it diminish the brightness by which you contemplate through them the celestial bodies. The semicircle should be made fully two fingers wide, so that the whole hemisphere has thirty parts in length, keeping an equal proportion of the division through which the hole receives the tubes.

Then some night when our north pole is visible, take the hemisphere model out under the sky, so that through each tube, whose limits we have described, you can clearly distinguish and study the same north pole. If you are in doubt as to which star is the pole, fix a tube in such a position so that it does not move all night, and upon that star which you suspect to be the pole: now if it is the pole, you will be able to see it all night: if any other, its location will shortly afterwards not appear visible through the tube.

Accordingly, the hemisphere being stationed in the aforesaid manner so that it cannot be moved in any way, first you will be able to measure through the lower and upper tube the north pole, through the second the arctic circle, through the third the summer [Cancer], through the fourth the equator, through the fifth winter [Capricorn]. However, for the south pole, which is under the earth, no sky appears to be gazed at but only earth through any tubes.[47]

There is no telling how far or how widely these spheres emanating from Gerbert's genius were used in the schools of the tenth century. From the above letter from Gerbert we could infer that the abbot of Micy went ahead and made one; Fulbert carried on his master's methods at Chartres. An illuminating correspondence between Gerbert and his former pupil, Remi, monk of Trèves, leaves us in doubt whether the latter succeeded in securing a sphere, but it reveals further details concerning their construction, illustrates Gerbert's relationship to his former students, and incidentally shows a method which he commonly employed to augment his library.

[47] *Oeuvres*, pp. 479–80.

Remi, teaching at Trèves in 988, had the effrontery to ask Gerbert, not, like Constantine, for the instructions whereby he could make a sphere but for a completed sphere itself. Gerbert was apparently not interested in going into the business of supplying his former students with teaching aids, so he wrote the following "To Rémi, monk of Trèves":

> . . . we have not sent you a sphere, and just now we do not have any. It is not a work of small moment, especially when we are so very busy with public affairs. However, if you strongly desire to possess such an object, write out carefully the volume of the *Achilleis* of Statius, so that by your gift you may extort the sphere which you cannot have gratis because of the difficulty of making it.[48]

Four months later Remi had dutifully copied and sent the demanded "present" to Gerbert. Nearly every writer interested in Gerbert's scholarship mentions his receiving the *Achilleis* from Remi, but I have read none who carry the story out to its amusing conclusion. The *Achilleis* had never been finished by Statius but left in an incomplete state. Gerbert was not aware of this, and on receipt of his copy immediately suspected that poor Remi had grown tired of copying (he knew him as a student and probably remembered his term papers) and thus had deliberately fulfilled but half of the bargain.

Gerbert thereupon sat down and wrote Remi a scolding letter before he thought of verifying the *Achilleis:*

> Your affection, dear brother, pushed forward the work of the *Achilleis,* which you truly well commenced but you stopped short when your transcript stopped short. Therefore we, not unmindful of your good work, have begun a sphere of very intricate execution which will be polished on a lathe and covered artistically with horsehide. If you are too impatient to wait until it is marked with more than a single color, you may look for it towards the end of March [Gerbert is writing in January]. But if you expect it to be marked clearly with a horizon and with the beauties of various colors, you will be horrified that I must work a whole year at it. Furthermore, concerning giving and receiving among our clients, the established rule is that he gets nothing who gives nothing.[49]

In this instance, however, Remi appears to be the one who got nothing even though he sent Gerbert a copy of all that ever existed of the *Achilleis.* For within a month after the above letter Gerbert's affairs took a sharp turn for the worse upon the death, on January 23, 989, of his patron, Archbishop Adalbero, the man who made possible the excellent episcopal school at Rheims. Gerbert was at once plunged into perilous political waters and for the time being such petty things as spheres, and even his teaching itself, were of lesser consideration. Remi appears to have written an answer to Gerbert's letter, containing another "request" for the sphere, and undoubtedly in self-defense

[48] *Ep.* 134. [49] *Ep.* 148.

pointing out the truth regarding the *Achilleis* to Gerbert, the foremost book collector of his day, who would be expected to know as much about books and their contents as any scholar in Europe. It was ill timed. Gerbert was in no mood for jesting or even for scholarship, when he wrote to Remi in February of 989 his last letter concerning the sphere. He wrote:

> . . . in this universal confusion when duties to mortals pale into nothing, with what demands, with what petitions you incautiously pester me! In such a state of affairs, with the see vacant, must I be driven back to the fables of philosophers, for the time being not pertinent? I speak not of myself, whom a thousand deaths menace, or that father Adalbero had designated me as his successor, with the approval of all the clergy and many of the knights; and that I am credited as the author of everything that goes wrong. Should the friends who shared with me the intimacy of my blessed father Adalbero, who work and suffer with me, should they be abandoned for the sake of a piece of rounded wood? Patiently endure, therefore, the delays which necessity imposes; wait for better times when studies long since dead in me can be revived.[50]

Gerbert cut Remi off rather sharply, considering that he had done all Gerbert required in order to receive the sphere. The fact that we never hear another word concerning Remi's sphere furnishes at least one exception to William of Malmesbury's extravagant summary of Gerbert: "He left nothing unexecuted which he had once conceived."[51]

Gerbert is credited with having revived the use of the abacus. His motive, again, was to have a practical teaching device. As Richer explained:

> In geometry he expended no less labor in his teaching. As a beginning he had a shieldmaker construct an abacus, or a table for measuring. Its length was divided into twenty-seven parts, on which he arranged nine signs expressing all the numbers. He made 1000 characters of horn, which, placed in the twenty-seven compartments of the abacus, gave the multiplication or the division of each number, dividing and multiplying their infinite numbers with such quickness that, as for their multiplication, one could get the answer quicker than he could express it in words. Those who wish to understand fully this method should read the book which he wrote to the *scholasticus* Constantine where one will find this subject fully treated.[52]

In writing to Bernard, a monk of Aurillac, in 986, Gerbert defines his teaching aim as that "of offering from time to time to the best scholars the sweet fruits of liberal studies," and describes another of his visual aids. This one is for the better teaching of rhetoric. The letter continues:

> It is for them that last autumn I drew up a diagram of rhetoric on twenty-six leaves of parchment sewed together, and forming in all two columns side by side each of thirteen leaves. It is without doubt a device admirably adapted for the ignorant and useful to the studious scholars in order to help them understand the subtle and obscure rules of rhetoric and to fix these in their memory.[53]

[50] *Ep.* 152. [51] William of Malmesbury, p. 176.
[52] Richer, III, 54. [53] *Ep.* 92.

Gerbert's diagram of rhetoric has not come to light in modern times, though it would be a most interesting teaching device along with his globes and the abacus. Richer does not mention the diagram, which indicates that in his narration of Gerbert's teaching he is selective.

Richer also makes no allusion to Gerbert's academic interest in medicine, although Richer himself was a student of medicine and must have studied the subject under Gerbert prior to his journey in 991 to Chartres in order to complete his medical education under Heribrand. Gerbert assembled a good medical library and willingly lent books from it to his friends, as his letters show. His interest in medicine was entirely a scholarly one. In a letter (*Ep.* 151) to his friend Adalbero, bishop of Verdun, who had requested medical advice, Gerbert replied, "You should not wish me to treat with authority what belongs to the practice of physicians, for while I have enthusiastically pursued a knowledge of their science I have always shunned its practice."

Richer also omits to mention that Gerbert constructed at Rheims a hydraulic organ with brass pipes and a mechanical clock. No doubt he employed both of these to teach something to his students.

Gerbert, however, possessed infinitely more than merely clever and practical paraphernalia for classroom instruction. In Gerbert's school everything was subordinated to the spiritual energy of a great teacher, so that he won from Richer a verdict upon his teaching that should satisfy the most ambitious instructor. "*Fervebat studiis*," pronounced Richer, "*numerusque discipulorum in dies accrescebat.*"[54] Cause and effect.

To discuss Gerbert's pupils in detail would exceed the scope of this article and form an independent study in itself. It can be stated here, however, that he influenced some of the most important minds of his era, and through them, incidentally, affected ages to come.

Gerbert's teaching influenced the political and religious course of his times because he had as pupils Robert, the son and successor of Hugh Capet, "of exquisite talents,"[55] and Froment, who became Robert's chancellor and bishop of Paris. He also molded the character and ambitions of the emperor Otto III and was teacher to Heribert, Otto's chancellor in both Germany and Italy, and Adelbald, secretary to Otto III's successor, the emperor Henry II. At least thirteen of Gerbert's pupils became bishops or archbishops, and five or six more abbots of principal monasteries. All of these important posts were

[54] Richer, III, 55.
[55] William of Malmesbury, p. 175. "His [Robert's] mother sent him to the school of Rheims, and confided him to master Gerbert to be taught by him and instructed in the liberal arts in a manner in every way pleasing, by his virtues, to God. This was done. This same Gerbert, because of his merit which shone over the whole world . . ." The monk Helgaudus, *Vie du Roi Robert*, in M. Guizot, *Collection des memoirs relative à l'histoire de France* (Paris, 1824), VI, 366.

west of the Rhine, mostly in northern France. The bishops carried with them a zeal for learning that expressed itself in rejuvenated cathedral and monastic schools. Schools at Utrecht, Cambrai (where three of Gerbert's students in succession were bishops), Longres, Sens, Cologne, as well as those at Chartres, Laon, Auxerre, and Rouen, became centers for the new learning.

> The enlightened zeal of Gerbert in the cause of studies effected a real revival of intellectual activity. What had been done under Charlemagne in the promotion of liberal arts by . . . Alcuin, and what Saint Bruno had effected in the same direction under Otto the Great for the Germans, was accomplished for the newly rising kingdom of France by Gerbert. . . . And it must be confessed that he was superior to either of these great and good men . . . the range of subjects with which he dealt was much more liberal and comprehensive, and the influence of his work was perhaps deeper than either Alcuin or Bruno. . . . Gerbert may be described as the father of the schoolmen. . . .[56]

The quality of Gerbert's teaching is seen in the fact that many of his pupils devoted the rest of their lives to his humanistic ideal: an enthusiastic pursuit of the liberal arts and an effectual application of the liberal arts to secular affairs. Richer was not satisfied to stop with his "formal education," but tells us that he "studied all the rest of his life."[57] Another pupil, Richard, became famous for his mastery of Arabic, Coptic, and Syriac, most unusual in tenth century Christendom, and in practical affairs became abbot of Saint Vanne near Verdun.[58] Adalbero of Laon was not only noted as one of the most learned men of the first quarter of the eleventh century but, profiting from Gerbert's lessons in oratory, came to personify his master's teaching of eloquence. Eloquence coupled with sound learning advanced the pupil as it had the master, and Adalbero became bishop of Laon. Gerard, a relative of Gerbert's patron and a student at the cathedral school also later distinguished himself as an orator. Bernelius wrote a treatise on the abacus that surpassed that of his master.[59] Herbert, originally a Jew, a co-disciple of Fulbert under Gerbert, became through his learning and piety the abbot of the monastery of Lagny.[60]

Gerbert's best known pupil, as far as scholarship is concerned, was of course Fulbert, first *scholasticus* in the cathedral school at Chartres, and then bishop.[61] Fulbert is remembered today as one of the intellectual antecedents of the University of Paris and as such is the important link between Gerbert and

[56] Horace K. Mann, *Lives of the Popes* (14 vols., London, 1902–28), V, 24.
[57] Richer, IV, 50.
[58] Léon Maitre, *Les écoles épiscopales et monastiques de l'occident depuis Charlemagne jusqu'à Philippe Auguste* (Paris, 1866), p. 99.
[59] Mann, V, 26.
[60] A. Olleris, *Vie de Gerbert, premier pape français* . . . (Clermont-Ferrand, 1867), p. 54.
[61] An interesting article on Fulbert is by Loren C. MacKinney, "Bishop Fulbert: Teacher, Administrator, Humanist," *Isis*, XIV (Bruges, 1930), 285–300.

Abelard. Fulbert's school at Chartres carried on Gerbert's work and methods,[62] and a catalogue of the tenth century books in its library lists every one of the textbooks used by Gerbert as cited by Richer. Three of Gerbert's own books were there, namely, *De Abaco*, *De Ratione uti et rationabili*, and *De constructione spherae*.[63] From Fulbert's school went forth scholars like Lambert, who carried the lamp to Paris; Adelmann, who made famous the school of Liège; and the illustrious Berenger, scholastic of the cathedral school at Tours, famous for the conviction that dialectic was the instrument for discovering truth and for his controversy with Pope Gregory VII.

Another of Gerbert's pupils, Jean, became a brilliant *scholasticus* at Auxerre and, like Adalbero at Laon and Fulbert at Chartres, was raised from the school to become bishop. Both Fulbert and Jean sweetened learning with piety. Humility was the outstanding virtue of both scholars, and Jean of Auxerre passed whole nights on his knees in prayer.[64] Gerbert's blend of religious reform and classical learning was therefore exemplified as well by his greatest pupils.

In one sense Gerbert was also a direct ancestor of the papal and church reform movements of the eleventh century. His dominant influence upon the young emperor Otto III is well established. Equally significant were Gerbert's two pupils, Heribert and Adelbald, whose strategic posts in the imperial service helped them further Gerbert's educational ideas and reform principles. Heribert was raised to the archbishopric of Cologne the year Gerbert was elevated to the papacy. In Cologne, from 999 to 1021, he furthered Gerbert's reform principles. Adelbald was a sound scholar, a first-rate mathematician.[65] Insofar as these two men, close to the emperor, influenced Henry II in his bent along the same lines, Gerbert is behind the imperial reform policies in Italy and Germany. Thus Gerbert becomes an important figure in the Lotharingian reform movement which so basically influenced Henry II. It has earlier been pointed out in this paper that Gerbert was a principal link between the Cluniac reform movement of his homeland in southern France and the Lotharingian movement in the Rhineland.

The two reforming movements converge in a very real way at Rome in the eleventh century under Pope Gregory VII. Gerbert's influence upon Hildebrand cannot now be clearly traced, for the early years of Hildebrand are obscure.[66] However, several facts stand out concerning his education. The

[62] See Jules A. Clerval, *Les écoles de Chartres au moyen âge* (Chartres, 1899).
[63] Maitre, pp. 289–97.
[64] Honoré Jean Pierre Fisquet, *La France Pontificale: Metropole de Sens et Auxerre* (Paris, 1868), p. 275.
[65] Péchenard, p. 76.
[66] Thomas Oestreich, "Gregory VII," *Catholic Encyclopedia*.

two teachers who influenced him most were a certain Laurence, later archbishop of Amalfi, who was evidently an old man while Hildebrand was a student at the monastery of Santa Maria on the Aventine over which Laurence presided; and John Gratien, who became Pope Gregory VI in 1046. All contemporary accounts agree that these men were renowned scholars and one contemporary, Cardinal Benno, declares these mentors of Hildebrand both to have been pupils of Gerbert.[67] Though the date of Gratien's birth is unknown,[68] both he and Laurence were of an age to support this statement of Benno. Moreover, when Gregory VI went into exile in 1046, taking his young secretary with him, he chose the city of Cologne as his residence. Hildebrand's year in Cologne is usually regarded as of fundamental importance in the development of his reform ideas. Significantly enough, he left Cologne in 1047 for his first visit to the monastery of Cluny. These few facts suggest Gerbert's part in the inspiration of Gregory VII and indicate the route by which the so-called Cluniac influence first reached its future papal champion.

Gerbert was a humanist centuries before the Renaissance and inspired more than a few of his pupils with his spirit. His devotion to his books, to his school, and to his students, his rare ability to make learning attractive to others, and his success in making the liberal arts effective aids to practical life establish Gerbert as one of the great teachers of all time.

[67] See Reginald L. Poole, "Benedict IX and Gregory VI," *Proceedings of the British Academy*, VIII (1917–18), 223–24.
[68] Horace K. Mann, "Gregory VI," *Catholic Encyclopedia*.

Notes and Suggestions

The Four Lords and the Partition Treaty

Chester Kirby*

SECRET treaties rarely remain secret very long and revelations of their existence have more than once caused political storms. The partition treaties of 1698 and 1699, the story of which is well known today, occasioned just such a disturbance, four leading statesmen being impeached for their connection with the negotiations. As the accusations never came to the test of real trial, the Whig view that the impeachments were nothing but the product of party rancor has had an easy acceptance. Evidence has now come to light which makes it possible to examine the facts as they were known at that time.

It is not necessary to rehearse here the familiar story of the two partition treaties and their failure to prevent the War of the Spanish Succession.[1] As the war approached, the Tories found themselves in the ascendancy in the House of Commons. In reaction from the previous war they forced the king to make drastic cuts in the army and drove the chief Whigs from office. The bitterness of party animosity was extreme. It was therefore inevitable that the parliament which came together on February 6, 1701, should turn to the mystery of the secret treaties. That some kind of partition had been agreed upon was common gossip, though the details had not transpired. In any case, as Whig ministers must have been prominently concerned in such an agreement, it was possible that political capital might be made out of the affair.

At the same time, apart from politics, there was reason for objecting to the treaties. England was still tired from the previous war, and, in fact, the partition treaties had been negotiated in hopes of preventing another. But after Louis XIV violated his agreement and accepted Spain's offer of a throne for his grandson, enforcement of the partition policy could mean only war and was certain to appear to the appeasement party wicked in the extreme. There was a further consideration of a constitutional nature. Parliament had of course not been consulted in the negotiations, nor, as soon appeared, even the

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[1] For general accounts of the negotiations and the surrounding circumstances see: Macaulay, *History of England;* Onno Klopp, *Fall des Hauses Stuart;* Leopold von Ranke, *Englische Geschichte;* and Sirtema de Grovestins, *Guillaume III et Louis XIV, histoire des luttes et rivalités politiques entre les puissances maritimes et la France dans la dernière moitié du XVII^e siècle* (nouvelle ed., Paris, 1868; title of first edition [Paris, 1854] begins with the word *Histoire*).