Chapter 5

NATURE AND LEARNING IN THE TENTH CENTURY

THE RECEPTION OF the *Physiologus* in the early Middle Ages was bound up with the political and cultural changes associated with the invention of the miscellany manuscript in Western monastic circles and its success as a book format. This context prioritized flexibility of selection in the compilation and use of texts, in order to meet a range of new educational, political, and pastoral challenges. With the emergence of new modes of rule from the late ninth century onwards, the large-scale cultural patronage supported by the stability and political programs instituted the Carolingians gradually waned.[1] It continued in some places, especially East Francia under the Ottonian kings, a period with such sumptuous book art that it has sometimes been called the Ottonian renaissance.[2] But new political priorities also meant new priorities in book production. Some of these will be brought out in this chapter. Since the early medieval perception of the natural world was closely bound up with the written word, these changes had an impact on the cultural history of nature in this period as well.

The full extent of the impact of wider tenth-century political and economic realities on the mobility of scribes, and ecclesiastical agendas as regards educational goals and pastoral care, is still being explored.[3] Part of the debate concerns the feudal revolution, and the influence of Carolingian intellectual and conceptual innovations on later developments in the way that society became structured. There are practical questions to be asked about the fragmentation of the Carolingian empire, its effect on book patronage as well as trade and intellectual networks, the consequences of extreme violence and the new idea of the Peace of God, and the impact of the displacement and movement of people.

The findings of this chapter, which examines a small and specific set of sources, should be seen within our rapidly changing understanding of this context, an analysis of which is beyond the scope of this volume. The copies of the *Physiologus* discussed below do, however, provide evidence of two emerging features that point to wider tenth-century tendencies relating to book culture: firstly, a new trend towards systematic collocation of texts on the natural world; and secondly, confirmation that the *Physiologus* was beginning to be used more systematically as a classroom text. These features indicate that both the interpretation of the *Physiologus* and the perception of nature were different in the tenth century to what they had been previously. These changes were associated with developments in educational practices that led to the

1 A useful introduction to the historiography of political decline in this period is Jong, "The Empire."

2 Schenkluhn, "Ottonische Renaissance."

3 Patzold, *Presbyter*; Greer, Hicklin, and Esders, eds., *Using and Not Using the Past*; Vanderputten, *Dark Age Nunneries*, chap. 4; West, *Reframing the Feudal Revolution*; Patzold, *Das Lehnswesen*; Head and Landes, eds., *The Peace of God*.

decline of the miscellany and the rise of the thematic compilation. This was, in turn, related to the gradual emergence of a new phase in the early medieval reception of the natural world, which prioritized the consolidation of the allegorical and moral learning that has been developed in past centuries. This chapter explores the encoding of these changes in the four extant tenth-century witnesses of the *Physiologus*: Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074; Wolfenbüttel, Herzog August Bibliothek, MS 148; Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77; and Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455.

Nature and Orthodoxy

The tenth-century manuscript of the *Physiologus* now in the Vatican Library (Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074) is small, both in size and in the number of texts it contains. In this discussion, the manuscript classmark will be used only to refer to the first part of this composite codex, which is also its earliest. It contains four quires, numbered I–IV by a contemporary hand, of which the fourth is now missing the final folio. This indicates that the manuscript was designed as an independent booklet, or even as part of a complete codex. Its Catalan or Iberian origin, suggested in the catalogue by Dorothea Walz,[4] is indicated by the recurrent addition of an initial aspirate *h* to Latin words such as "heleuatur," "hodorem," and "hélephans."[5] The southern European origin of the manuscript is confirmed by the common mark of abbreviation, which has evolved from a horizontal stroke into a tall and narrow 2-shaped mark, though the more standard form also sometimes appears. An example is the phrase "de aquila talem," where the *e* in *de* is suspended using a horizontal stroke across the shaft of the *d* and the *m* in "talem" is suspended using the 2-shaped mark.[6] This mark is not dissimilar to the 2-shaped mark of abbreviation used in Montecassino in the early to mid-Middle Ages, though it is not part of the Beneventan system used there.[7]

Unusually, some of the uses of this manuscript are preserved in its palaeographical features. The text is written in multiple hands with a clear system of *positurae* (punctuation marks), primarily the *punctus versus* and the *punctus elevatus* for the final and medial pauses respectively, but also occasionally the *punctus interrogativus*.[8] The acute accent is also used frequently, apparently over stressed vowels—not long vowels in the manner of the Roman *apex*—though this is debatable in words such as "ínuicem."[9] At the beginning of the text this accent can be found in almost every word; it becomes less frequent—though still on every folio—by the middle, and increases again towards

4 Walz, *Die historischen und philosophischen Handschriften*, 255–7.

5 "Is elevated," "odour," "elephant." Respectively, on fol. 3v, three lines from the bottom; fol. 12r, l. 15; and fol. 17v, l. 13.

6 Fol. 3v, l. 17.

7 Newton, *The Scriptorium and Library*, 182.

8 E.g. fol. 5r, l. 8.

9 "By turns"; fol. 17v, l. 19.

the end. It is not used by every scribe, nor does it appear to have been used systematically for certain words like "animal."[10] The word "Phisiólogus," too, sometimes has an accent on the first *o*, and sometimes doesn't.[11] In some instances a consonant is marked with an accent as if it were a vowel, as with "aúes";[12] but this is rare, and may simply be due to displacement of the accent to the right during writing. These inconsistencies are not associated with a change in scribe; in fact, a single hand can copy the same word with and without an accent in quick succession, as with four instances of the word "necticorax" on fol. 3v.[13] This means that these accents are not systematic rhythmic or stress marks inserted specifically to prepare the text for public reading. Neither are they corrections or later additions, since the shades of ink are evidently a match in accents and letters.[14] Rather, they are guides to pronunciation inserted as and when the scribe remembered to do so, or when they felt it necessary for a particular word. This shows that the manuscript was produced in a milieu in which Latin pronunciation was becoming (or was already) a particular concern, perhaps because knowledge of the language was declining, or in efforts to distinguish it from the vernacular. As Roger Wright has shown, late Latin and early Romance were not entirely separate languages in early medieval Spain and France.[15] Wright suggested that the accents in this particular manuscript were made by scribes trying to help themselves in copying by "thinking aloud."[16] For example, double *i* was usually copied with accents on both letters in words such as "períít" and "páríít": perhaps a reminder that in Latin, doubled vowels are pronounced separately.[17] The presence of these accent and punctuation marks does not exclude the possibility that the text was used for *lectio publica*, but their features indicate that in the first instance, they were writing aids, and perhaps later also functioned as reading aids.

This, then, was the educational and linguistic context of the manuscript. Its extant texts are:

1. *Physiologus*.
2. Descriptions of the pearl and three birds from Isidore's *Etymologiae*.
3. Anonymous commentary on two passages from Daniel.
4. Profession of faith sent to Iberian bishops in 794 after the Council of Frankfurt in response to the Adoptionist controversy.
5. Commentary on the Creed by Venantius Fortunatus.

10 With the accent: fol. 1v, 5 lines from the bottom; fol. 8r, four lines from the bottom; and fol. 9r, l. 16. Without the accent: fol. 9v, l. 22.

11 Fol. 9v, l. 23; fol. 10r, l. 19.

12 Fol. 21v, final line.

13 Lines 3, 4 and 14.

14 See especially fol. 17v with its different gradations of ink colour.

15 Wright, *Late Latin and Early Romance*.

16 In private correspondence of 13 June 2013.

17 Fol. 17v, l. 12 and l. 21.

6. Smaragdus of Saint-Mihiel, letter on the procession of the Holy Spirit.
7. Charlemagne, letter to Alcuin from 798 on Septuagesima, Sexagesima, Quinquagesima, and Quadragesima Sundays.

These texts can be divided into two groups: the first focused on the natural world, and the second on orthodox faith, with a strong emphasis on Carolingian authority. The arrangement of the first group is focused on the *Physiologus*. Each of its chapters has been modified by additional sentences from the *Etymologiae* on the same animal, stone, or plant, titled *De ethymologiarum*. These additions are present in every chapter, but they are not visually distinguished: the titles are on the same line and in the same colour as the main text. The only exception is the first uncial title, "De libro etimologiarum sancti hysidori." Because of this and several other contemporary additions (described below), this copy of the *Physiologus* is sometimes considered to be the first bestiary, of the B-Is version. Florence McCulloch described it as follows:

> A point of particular interest in this manuscript is that it shows how the large Second Family bestiary could have been composed. At the end of the entire *Physiologus* with its fixed passages from Isidore, the scribe has continued (f. 21v) *De etimologiarun libro*, and has apparently aimlessly copied and somewhat elaborated on Isidore's descriptions of the Psitacus, Ercine, and Coturnix—birds totally unrelated to the old *Physiologus* contents. All that was then needed was a more systematic borrowing from Isidore, which would result in the highly organized Second Family bestiary.[18]

However, there are two issues with this description. Firstly, the scribe made a clear distinction between the *Physiologus* and the appended sections from Isidore. The final chapter, on the *mirmicoleon* or ant-lion, ends on fol. 21r with the phrase, copied in uncial: "Here ends the book. The Physiologus argued well. Amen. From the etymologies."[19] The words "From the etymologies" introduce an extract on the pearl. Another uncial title, "From the book of the etymologies," then introduces the extracts on the parrot, Harz forest bird (*hercinia*) and quail from fol. 21v.[20] While there is clearly a thematic relationship between the *Physiologus*, the pearl, and the three bird-chapters, the latter were not incorporated into the main *Physiologus* text. This copy is not, therefore, an early, as yet disorganized bestiary. Explaining these additions as early attempts to create a bestiary pre-empts the causes that led to the systematic re-organization and expansion of the *Physiologus* into the bestiary in the eleventh century.

Secondly, expansions of and additions to the *Physiologus* were not uncommon, as can be seen in the ninth-century examples of Bern, Burgerbibliothek, MS 318—which contains additional chapters on the cockerel and the horse—and Munich, Bayerische Staatsbibliothek, Clm 19417, which arguably contains an appended chapter on nard. Should we consider these to be proto-bestiaries? The usefulness of labels at this early

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18 McCulloch, *Mediaeval Latin and French Bestiaries*, 29n29. Also listed as a bestiary in Henkel, *Studien zum Physiologus*, 28, and Clark, *A Medieval Book of Beasts*, 116.

19 "Explicit liber bene phisiologus. arguit. amen. de ethimologiarum."

20 "De etimologiarum libro." *Etymologiae* 16.8.10; 12.7.24, 31 and 64. None of these subjects are included in the B Family *Physiologus*, to which this Vatican manuscript belongs.

stage in the history of the text's gradual alterations is limited. It is more interesting instead to consider this manuscript on its own terms, in order to explore how the textual context of this particular copy affected its function.

Perhaps more importantly, a focus on text-internal additions ignores the wider manuscript context. In this case, it is just as relevant, since a commentary from the Book of Daniel follows the *Physiologus* and contains the same discussions of natural objects. Commencing without a title or other notice of its contents immediately after the added extract on the *coturnix* (quail), the text explains the Latin meanings of words associated with the appearance, rich with gold and precious stones, of the man from Uphaz in Daniel's vision on the bank of the Tigris (Dn. 10.4–5); and of Daniel's dream of four beasts (Dn. 7): a winged lion, a bear, a four-headed winged leopard, and a huge beast with ten horns. The passage on the beasts is significantly longer and is covered in much greater depth in this commentary extract: only the first seventeen or so lines are concerned with the first passage on the man from Uphaz. The anonymous author purposefully linked Daniel with Jacob's son Dan in Genesis 49:17, in which Dan is called a serpent who bites the horse's heels so that the rider falls backwards.[21] The appearance and behaviour of the four beasts are explained and linked with the Second Coming.[22] This commentary therefore adds to the reader's understanding of the allegorical treatment of animals in the Bible, and their relevance to the moral and spiritual well-being of humanity.

The *Physiologus*, the four added extracts from the *Etymologiae* and this partial commentary form a reference collection on biblical beasts, birds, and stones. These are not simply described and explained, but also linked with human beings. The quail, for example, suffers from "falling sickness," like humans: "sicut et omo." Nature is shown to consist of signs that have a significance in human—moral or eschatological—terms. In the exposition, priority is given to those animals, plants, and stones that are mentioned in the Bible. The reader is taught to see an impression of the Bible overlaid on the physical world, highlighting certain features. At the same time, this impression emphasizes the illusoriness of nature, since not all the things mentioned in the Bible can be found in life, and those that can are conduits to a more profound reality. The resulting landscape, which exists largely in the imagination, is powerfully spiritual and memorable.

The other extant texts comprise a Creed, a credal commentary, a letter on the procession of the Holy Spirit and a letter from Charlemagne to Alcuin requesting information about the liturgical function of the named Sundays in Lent. Three of these texts can be linked directly to the circle around Charlemagne at the end of the eighth century and beginning of the ninth. The first of these is the *Epistola de processione Spiritus Sancti* by Smaragdus of Saint-Mihiel. It was one of several works sent by Charlemagne

21 Fol. 23r, l. 14: "et fiat inquid dán serpens in uia" ("And it is said that Dan shall be a snake by the roadside").

22 Fol. 23v, lines 16 and 21–2: "Post hec adueniet dominus…post hec erit celum nouum et terra noua" ("Thereafter the Lord shall come…thereafter there shall be a new sky and a new earth"). This is a reference to Rev. 21:1, "Then I saw a new heaven and a new earth."

to Pope Leo III in response to the *filioque* controversy at the end of 809, to explain the Frankish position.[23] The copy of the *Epistola* in Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074 is the earliest that survives.[24] It is supplemented by the credal commentary of Venantius Fortunatus, whose works were well known in the early Middle Ages. The second Carolingian work is the Creed sent to Iberian bishops in 794 after the Council of Frankfurt in response to the Adoptionist controversy. It is a "mosaic" based on the Niceno-Constantinopolitan as well as other credal statements, and may have been composed by Alcuin.[25] The detailed letter by Charlemagne to Alcuin on the Sundays in Lent completes this small grouping. Though the quire has missing leaves, cutting short the letter and any other texts that may have followed, this collection has a clear focus on the correct interpretation of liturgical matters, in particular the fundamental Christian statement of faith, and the observance of the most significant period in the Christian calendar (Lent and Easter). Evidently the creators of Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074 had access to a set of texts that represented both Charlemagne's court and its concern with the orthodox faith as expressed in the *filioque* and Adoptionist controversies, which are among the major ninth-century religious disputes.

In an Iberian manuscript, such a collection might have functioned as a re-affirmation that the Iberian Church had renounced Arianism. The adoption of the *filioque* wording in the Creed had been an important anti-Arian event at the Third Council of Toledo in 589. It may also have helped to explain the inclusion of the *filioque* in the Latin rite, spread from Francia during Charlemagne's reign. If this manuscript was indeed produced in Catalonia, such a Carolingian collection of texts can also be explained by Catalonia's positioning of itself as a Frankish domain in the tenth and eleventh centuries. Catalan charters in this period were dated by the reigns of Frankish kings and take as their example Frankish rather than Visigothic documents.[26] The *Physiologus*, and the texts that supplement it, modify this interpretation of the Carolingian collection. Read together, both sets of texts function as a commentary on orthodox belief, with particular attention paid to the avoidance of heresy, and to the Bible as a means of exploring the moral and eschatological significance of the created world.

This manuscript witness of the *Physiologus* demonstrates strong continuity in the text's use during the tenth century. The original codicological whole is incomplete, making it impossible to tell whether its careful arrangement was not already made in some earlier exemplar, and so whether it simply transmits pre-existing textual traditions that reflected earlier concerns. But the act of recopying such a collection itself

23 See Haugh, *Photius and the Carolingians*. The manuscript from which the work has become known today—Vatican City, Biblioteca Apostolica Vaticana, MS Reg. lat. 190—is now lost: Willjung, "Zur Überlieferung der Epistola."

24 The next-oldest manuscript is the eleventh-century Vatican City, Biblioteca Apostolica Vaticana, MS Ottob. lat. 339.

25 Bullough, *Carolingian Renewal*, 191–92. The text of the creed has been analyzed by Wallach, *Alcuin and Charlemagne*, 152–54.

26 Jarrett, *Rulers and Ruled*, 6. See also Chandler, *Carolingian Catalonia*.

indicates its continued relevance. The combination of texts such as explanations of the Creed, that clarify the basic foundation of the Christian faith and emphasize the orthodox path, and of texts that explain the natural world through allegory and various forms of linguistic interpretation, is one that is repeated over and over in the *Physiologus* manuscripts. The continued collocation of these texts ranks its allegorical and etymological interpretation of the natural world alongside the central tenets of Christianity in terms of knowledge that was thought to be essential. For the first time, however, there is also a consolidation of this knowledge. The texts are not brought together in a convenient volume to fulfill a diversity of practical needs, but rather to form a compilation of existing knowledge on the created world and its relevance to the Christian faith. This difference is small but important, because it indicates that the justification of the natural world as a landscape of signs from God was complete. In the tenth century, it was now time to begin a new phase: collecting these signs together as a body of evidence. In Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074, therefore, the importance of the expansion of the *Physiologus* from the *Etymologiae* lies not in its status as an early bestiary, but as perhaps the earliest symptom of eleventh- and twelfth-century encyclopaedic culture. This is expressed even more clearly in another tenth-century *Physiologus* manuscript now in Wolfenbüttel.

Nature and Virtue

Wolfenbüttel, Herzog August Bibliothek, MS Gud. lat. 148 was copied by a single scribe. A number of features show that this scribe was somewhat inexperienced, though the hand is not unskilled. Ascenders and descenders are generally of a regular height, and the letters are well-formed and regularly placed. However, the ductus is not always entirely certain. There is a marked tendency to slant to the right.[27] This slant is often corrected at the beginning of a sentence with the formation of a *littera notabilior*, but sometimes returns after a few words. It improves significantly later in the manuscript. On some folios (e.g. 14r) the ink varies significantly in colour every few words, emphasizing the places where the scribe dipped the quill. He or she was either not yet adept enough at making the ink flow smoothly from the quill to the page, or had not quite learnt the optimal amount of ink to collect on the nib. Inexpert ink or quill preparation may also have played a role.

The manuscript's contents are as follows:

1. Julian of Toledo, *Prognosticum futuri saeculi*: question-and-answer text based on patristic sentences, mainly from Augustine, Gregory, and Isidore, on life after death and especially the state of the soul before the Resurrection.
2. Short Latin glossary, mainly on Greek words relating to different kinds of discourse, from Isidore of Seville, *Etymologiae* 1.37.22–34.
3. Isidore of Seville, *In Deuteronomium* 16.3, on the eight vices.
4. Phaedrian fables.

27 As on fol. 11v, l. 12, "in sermonibus."

5. Alcuin of York, commentary on the Song of Songs.
6. Note in upper margin recording the appearance of a new star and of a rainbow.
7. *Physiologus*.
8. *Liber monstrorum*, on monsters, and two short texts on whales and serpents.

This is the only early medieval Latin *Physiologus* manuscript whose entire contents appear to have been collocated because they share the same theme: the natural world. The fables, the *Physiologus*, and the *Liber monstrorum*, which make up around half of the total number of folios, contain allegorical and moral interpretations of animal behaviour and appearance, stones, plants, and geographical features. The remaining texts shift the focus of the collection even further towards the meaning of the natural world in terms of its moral value for the life of the soul.

This is especially evident in Julian of Toledo's *Prognosticum futuri saeculi* and in Alcuin of York's commentary on the Song of Songs. The commentary preserves the theme of nature, but in the context of the heavenly Paradise. The *Prognosticum* also discusses Paradise as part of a set of questions and answers on life after death: "How death entered the world, the types of paradise, our age and sex after death, whether the disembodied soul can sense pain, the resurrection of those consumed by animals, whether what the soul senses after death is any more vivid than that which it once sensed in dreams, and whether our corporeal eyes, that now see the sun and moon, will also be the eyes that see God."[28] The text aims to answer practical and philosophical questions and comfort those who fear death, but also to encourage its readers to lead a more moral life, as Julian wrote in his prologue: "May this ordered collection of chapters be in its combined wisdom a mirror wherein our spirit may recognize its very self. For if we consider in careful meditation what we will become in the future, I believe that we would rarely or never sin."[29] The topic of moral living is explored in the *Physiologus*, with its dogmatic tales of the wickedness of the devil and of evil men; in the list of vices; in the fables; and in the *Prognosticum*. A clear link is made between the good life and the afterlife.

The natural world is presented as an essential component of salvation, through the idea that every physical object has a meaning. The short list of Greek words for different kinds of interpretative text from Isidore's *Etymologiae* (allegory, enigma, tropology, parable, paradigm, prose, dialogue, apologetic text) emphasizes the importance of biblical exegesis as the working principle behind every written work. Both the fables and the *Liber monstrorum* transmit important information about the names, history, appearance, location, behaviour, and other characteristics of animate and inanimate things in the world. These required both explanation and interpretation, which this collection as a whole provided. It taught that behind the visible physical world was the invisible, intangible world of God, and understanding the mysteries of the connection between them brought Christians closer to the Creator of both. The advan-

28 Stork, "A Spanish Bishop," 44.

29 Trans. in Stork, "A Spanish Bishop," 48.

tage of this was evident, since the Creator was the source of all that is morally good. This manuscript represents the first collection containing the *Physiologus* to systematize received thought about the natural world, and its relationship with allegory and morality, from previous centuries. By doing so, it also consolidated these ideas. Like Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074, because of its emphasis on nature as a subject rather than on a method such as allegorical exegesis (as had been the case in earlier *Physiologus* copies), the Wolfenbüttel codex represented a move from practice to preservation. It was a compendium of knowledge, perhaps copied for reference purposes.

The Natural World in the Classroom

Unlike the Vatican and Wolfenbüttel manuscripts, the tenth-century copy of the *Physiologus* now in Brussels (Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77) is much more difficult to categorize. Part of the reason for this has been its composite structure and unclear origin. Hubert Silvestre, following François Masai, argued that it was made in Rheims or Laon. He showed that the Benedictine theologian Rupert of Deutz used the manuscript during his time at the Abbey of Saint Laurent in Liège (1085–1119), which means that it arrived there before the end of the eleventh century. But Silvestre pointed out that there was no community to speak of at Saint Laurent before the eleventh century, and that the manuscript was not included in the list recording books donated to the Abbey by Prince-Bishop Reginard of Liège between its foundation in 1026, and until 1034.[30] Consequently, the Abbey only acquired this tenth-century manuscript between ca. 1034 and 1085.[31] Its Rheims or Laon origin is made plausible by the fact that links existed between these cities, the Abbey of Saint Hubert near Liège and the Abbey of Saint Laurent, from the end of the eleventh century. Silvestre, too, believed that "close contacts existed at the end of the eleventh century and in the first years of the twelfth century between Saint Laurent, Saint Hubert and other centres associated with Laon and Rheims."[32] These links were expressed principally in the circulation of monks between these communities.

However, Robert Babcock showed that this manuscript was associated with the flourishing of Liègeois schools in the tenth and eleventh centuries, and with the intellectual circles of Liège more generally.[33] This is supported by the manuscript's codicology. Almost all its six independent parts either originated, or were put together, in the Meuse valley. The first three parts were assembled at the Abbey of Saint-Laurent in Liège. The last two parts date from the second half of the tenth century and so cannot

30 Silvestre, "À propos du 'Bruxellensis'"; Masai, "Le manuscrit à miniatures."

31 Silvestre, "À propos du 'Bruxellensis'," 156, suggested that this occurred during the temporary exile of Abbot Berenger of Saint Laurent to the nearby priory of Evergnicourt in 1092–95. He was reinstated at Saint Laurent with the assistance of ecclesiastics from Rheims and Laon.

32 "Entre Saint-Laurent, Saint-Hubert et les centres rémois et laonnois des contacts intimes existaient à la fin du XI^{e} et dans les premières années du XII^{e} s."

33 Babcock, *The Psychomachia Codex*, esp. 28.

originate at the Abbey of Saint-Laurent (as noted by Silvestre).[34] They are linked by the illustrations in the *Psychomachia* and the *Physiologus*, which were executed by the same artist and traced to the Meuse valley by several art historians.[35]

The eleven quires (fols. 80–162) of the fourth, fifth, and sixth parts of this manuscript were, as Babcock showed, produced in the same context, and gradually filled with text over the following centuries. In the following discussion, the manuscript's classmark shall refer only to these eleven quires. Their contents are as follows:

1. Alphabetized list of Biblical Hebrew names
2. Greek-Latin glossary, letters A–C
3. Biblical glossary (*Expositio dicionum difficilium bibliae*)
4. Prudentius, *Psychomachia*
5. *Physiologus*
6. Gerbert of Aurillac, scholia on Boethius' arithmetic (excerpt)
7. Anonymous commentary on Boethius' *De consolatione Philosophiae*
8. Micon of Saint-Riquier, *Opus prosodiacum*
9. Boethius, commentary on Cicero's *Topica* (excerpts from books 1, 2, 4, and 6) and mythological notes
10. Calcidius, excerpt from *Commentarius in Timaeum*

In addition, *glossae collectae* (also known as the *Glossae Bruxellensis*) to works by Horace, Juvenal, Lucan, and Vergil, with some definitions in Old High German and Old French, are scattered throughout the quires. They provide the most secure evidence that these quires had been brought together by the early eleventh century: they can be dated palaeographically to this period, and their contents are related to the biblical glossary that covers quires two to four.[36]

Babcock has demonstrated that the above texts were copied into this Brussels manuscript with gaps, which were later filled in with other texts; that none of the quires were necessarily planned to be joined into a volume together, since all three of the longer texts (the biblical glossary, the *Psychomachia*, and the *Physiologus*) begin on the recto of a new quire and since the latter two end with blank pages (the end leaf or leaves of the glossary are lost); that the first quire was once the fourth; and that the final quire (containing Micon's *Opus*, the extracts from Boethius, and the excerpts from Calcidius as well as later texts) was probably not originally planned to be included in the volume.

As Babcock concluded, the codicology indicates that the last eleven quires of this Brussels manuscript were used within the same context in the late tenth and early

34 Fraeys de Veubeke, "Un catalogue de bibliothèque scolaire"; Silvestre, "À propos du 'Bruxellensis'"; Gheyn, *Catalogue des manuscrits*, 2 (1902).

35 Gaspar and Lyna, eds., *Les principaux manuscrits*, 1:25; Nilgen, "Der Codex Douce 292," 204–7; Swarzenski, *Monuments of Romanesque Art*, 180; Euw, *Rhin-Meuse*, 225.

36 See De Cesare, "Su di un gruppo di glosse," 439.

eleventh century, but were not planned as a coherent whole, instead circulating separately—perhaps as single booklets. But although the biblical glossary, the *Psychomachia*, and the *Physiologus* were not copied together, they form the earliest core of the manuscript. This core was used for allegorical exegesis, both in novice education and in more advanced scholarship. From the beginning of the eleventh century, additions to these texts had moved the manuscript more clearly into a general schoolroom context, which nevertheless remained geared towards allegorical interpretation.[37] These additions indicate that its compilers were interested in prosody, arithmetic, dialectics, philosophy, and Platonic physics, topics that sit comfortably within the framework of the seven liberal arts as defined by Martianus Capella: grammar, rhetoric, dialectic, arithmetic, geometry, astronomy, and music.[38] In Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77, as in other manuscripts from this period, a late antique, Capellian attitude to education is mingled with Christian texts and concerns. All the manuscript's texts, original and added, were associated with Heriger, schoolmaster and abbot of Lobbes, and Notger, bishop of Liège, both active in the second half of the tenth century.[39] The compilation of Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77 was probably undertaken by one or more of their students and successors.

This manuscript suggests, therefore, that the *Physiologus* was gradually becoming a classroom text by the end of the first millennium. The association of the *Physiologus* with the *Psychomachia* in the tenth century also supports this, since Prudentius' poem is known to have been used in schools even in the Carolingian period. Babcock argued that the *Physiologus* and the *Psychomachia* were not paired because they were useful school-texts, but because of the strength of their allegorical readings. The drawing of the temple of Sapientia in the *Psychomachia* (fol. 137r), for example, probably depicted Solomon's temple instead, providing a teacher of allegory with an image to illustrate the struggle of human souls to enter the temple of Heaven.[40] The utility of the *Physiologus* for allegorical exegesis, especially in conjunction with other texts, is undeniable. As a group, the core of tenth-century texts in this manuscript—the *glossae collectae*, the *Psychomachia* and the *Physiologus*, together with their illustrations—not only supplied readers with literal and allegorical levels of interpretation, but also used allegory to link the natural world with morality. The allegorical hermeneutic method revealed the link between the visible physical world and the invisible world of God. From the allegorical sense, one could proceed to the moral and spiritual, correcting not only belief but also oneself and so coming closer to spiritual salvation. Nevertheless, the texts in this manuscript show a clear shift of this kind of allegoresis from miscellanies into school-room books. Miscellanies had been community books and, most likely, a product of a kind of informal on-the-job training for monks and priests: a practical

37 On this, see also Baxter, "Learning from Nature."

38 Greenfield, *Humanist and Scholastic Poetics*, 20. For an introduction to and bibliography for Martianus Capella, see Teeuwen and O'Sullivan, eds., *Carolingian Scholarship*.

39 Babcock, *The Psychomachia Codex*, 42 and 101.

40 Babcock, *The Psychomachia Codex*, 170–71.

instrument and, at their most innovative, a mirror of the early medieval world. With the gradual formalization of training during the tenth and eleventh centuries, exegesis became more clearly part of the medieval curriculum.

The Siren and the Centaur

In practice, advanced reading—both the texts in Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77, and of the physical world—could sometimes produce apparently contradictory statements or descriptions. Yet they were all considered to be meaningful. This can be demonstrated using the example of the siren in the *Physiologus*. Its story reads as follows:

> Formerly, Isaiah the Prophet pointed out that the sirens and ass-centaurs and hedgehogs will come into Babylon and dance [cf. Is. 13:21 and 34:14]. Physiologus treated the nature of each one, saying of the sirens that they are deadly animals living in the sea which cry out with odd voices, for the half of them down to the navel bears the figure of a man, while the other half is that of a bird. [They sing a most pleasant song so that through the sweetness of the voice they charm the hearing of men sailing far away and draw them to themselves. By the great sweetness of their extended song they charm the ears and senses of the sailors and put them to sleep. When they see the men lulled by most heavy sleep, they attack them and tear them to pieces. Thus, they deceive men unacquainted with the persuasion of their voices and kill them. Just so are those men deceived who delight in the charms of the world, in games and the pleasures of the theater. Dissipated by tragedies and various melodies and lulled to sleep, these men become the prey of their enemies.]
>
> Likewise, the ass-centaurs from their breasts up bear the figure of a man and that of an ass from there down. "Thus the man of deceitful heart is confused in all his ways" [Jas. 1:8]. Such are the impulses of the souls of wicked merchants; they even sin secretly while gathered together in church. As the Apostle said, "Holding the form of piety, they deny its virtue" [II Tim. 3:5]. And in church their souls are like sheep, yet when they are released from the congregation they become like the herd. "They are like brutish beasts" [Ps. 49:20].
>
> Such beasts, sirens or ass-centaurs, represent the figures of devils.[41]

The siren appears in both the *Physiologus* and in the *glossae collectae* on various books of the Bible which precede the *Psychomachia* and *Physiologus*, and which contain several mentions of animals also found in the *Physiologus*. They are given below, with their chapter number in the Brussels *Physiologus* indicated in brackets (see Appendix II):

91r: *Caradrion* (5)

92v and 95v: *Sirena* (11)

95v: *Onocentaurus* (11)

99v: *Onager* (17)

102v: *Pelicanus* (6), *Nocticorax* (7)

103r: *Aquila* (8)

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41 Curley, trans., *Physiologus*, 23.

These unalphabetized *glossae collectae* do not rely on the *Physiologus* for the above creatures. The list derives from other sources. However, the fact that these creatures appear both in the *Physiologus* and in the *glossae collectae* underscores the early medieval desire for information about natural and biblical creatures. The two descriptions of the siren in the *glossae collectae* are of particular interest for the allegorical interpretation of the natural world, because they derive from two different traditions: one that depicts sirens as bird-women and one that depicts them as winged serpents. Despite these contradictory portrayals, they are brought together within the same codicological and textual context. How were these different readings reconciled? To understand this, we must look at their sources and background.

The first and longest gloss is as follows:

> It is said that there were three sirens in the sea, in one part maidens and in one part birds having wings and claws. One made music with her voice, one with a flute, one with a lyre. They drew sailors, enticed by the song, into shipwreck. But in truth they were prostitutes, who, because they seduced passers-by into destitution, were imagined as bringing shipwreck upon them.[42]

This description derives from the *Etymologiae* 11.3.30–31, from which it differs only in minor ways:

> People imagine three Sirens who were part maidens, part birds, having wings and talons; one of them would make music with her voice, the second with a flute, and the third with a lyre. They would draw sailors, enticed by the song, into shipwreck. In truth, however, they were harlots, who, because they would seduce passers-by into destitution, were imagined as bringing shipwreck upon them.[43]

Isidore himself took the above information directly from Servius' *Commentary on Virgil*:

> According to legend the three sirens were part maidens, part birds, the daughters of Achelous the river and Calliope the muse. Of these sirens one made music using her voice, another using the flute, and another using a lyre. At first they dwelt near Faro Point, and after in the islands of Capri. They drew those seduced by their songs into shipwreck. But in fact they were prostitutes, who, because they seduced passers-by into destitution, were imagined as bringing shipwreck upon them.[44]

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42 "Sirenę tres finguntur fuisse. in fluctibus ex parte uirgines et ex parte uolucres habentes alas et ungulas quarum una uoce. altera tibia tertia lira canebat. quae illectos cantu nauigantes. in naufragium trahebat. Secundum ueritatem autem meretrices fuerunt, quę transeuntes quoniam deducebant ad egestatem. his fictę sunt inferre naufragia."

43 Isidore of Seville, *The Etymologies*, trans. Barney et al., 245. Original: "Sirenas tres fingunt fuisse ex parte virgines, ex parte volucres, habentes alas et ungulas: quarum una voce, altera tibiis, tertia lyra canebant. Quae inlectos navigantes sub cantu in naufragium trahebant. Secundum veritatem autem meretrices fuerunt, quae transeuntes quoniam deducebant ad egestatem, his fictae sunt inferre naufragia."

44 "Sirenes secundum fabulam tres, parte virgines fuerunt, parte volucres, Acheloi fluminis et Calliopes musae filiae. Harum una voce, altera tibiis, alia lyra canebat: et primo iuxta Pelorum, post in Capreis insulis habitaverunt, quae inlectos suo cantu in naufragia deducebant. Secundum veritatem meretrices fuerunt, quae transeuntes quoniam deducebant ad egestatem, his fictae sunt inferre naufragia." Servius, *Servii grammatici*, ed. Thilo and Hagen, 2.2:654–55.

Servius' commentary may have been based on an earlier fourth-century commentary by Aelius Donatus, St. Jerome's teacher. The Servius text exists in two versions, long and short; the long version (known as *Servius auctus* or *Servius Danielis*, after its editor Pierre Daniel) is based on a seventh-century expansion of the short version, using material from Donatus that Servius himself originally omitted.[45] It is this longer version that Isidore used.[46] It's apparent that he drew on late antique sources for his information—ones, like Servius' *Commentary*, that were in active circulation and use in Isidore's own time. This, then, is the source of the description of sirens as bird-women.

The second gloss on sirens in Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77 reads: "Sirens. Demons or a kind of monster, or large, crested, and flying dragons."[47] This description derives from Jerome's *Commentary on Isaiah*, in which he described sirens as demons or monsters or large, flying dragons: "Moreover, sirens are called THENNIM (תנים) which we interpret as either demons, or some kind of monsters, or indeed great dragons, who are crested and fly."[48] This description may have come to the Brussels manuscript via two authors who are likely to have known Jerome's text: Isidore, who stated that "moreover in Arabia there are snakes with white wings, called sirens";[49] or, more probably, Eucherius, whose *Instructiones* mention that sirens appear in Isaiah: "Sirens are, in Isaiah, either demons or great dragons, crested as well as flying, as is thought by some."[50] There exist, therefore, two separate traditions of the siren's appearance: classical and Christian. Both these different descriptions, of bird-women and of winged serpents, made it into the *glossae collectae* of Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77.

The iconography of the Brussels *Physiologus* also suggests that the illustrator was aware of both the siren forms. The chapter on the siren (146v), in accordance with the text, depicts three bird-women, one playing a lyre and two others tearing a man apart. The illustration to the chapter on the saw-fish, several folios earlier (142r), depicts a snake or fish-woman, swimming in water, with several sets of wings growing out of her human arms. The remaining details of the scene, however, reveal it as an illustration not to the saw-fish but to the siren: some sailors sleep in a boat next to the winged woman. The double illustration may have been a result of the production process, which was apparently somewhat chaotic, and in which not all the planned images

45 Martindale, ed., *The Cambridge Companion to Virgil*, 73. This idea was originally suggested by Rand, "Is Donatus's Commentary on Vergil Lost?"

46 Isidore of Seville, *The Etymologies*, trans. Barney et al., 12.

47 "Syrenę. demones. uel monstra. quedam uel dracones magni atque cristati. ac uolantes."

48 Jerome, *In Esaiam*: "Sirenae autem thennim (תנים) uocantur, quas nos aut daemones, aut monstra quaedam, uel certe dracones magnos interpretabimur, qui cristati sunt et uolantes." CCSL 73.

49 "In Arabia autem serpentes albi sunt cum alis, quae sirenae vocantur." *Etymologiae* 12.4.29.

50 "Syrenae, in Isaia, daemones, aut dracones magni, cristati pariter ac volantes, ut a quibusdam putatur." Eucherius, *Instructiones*, CCSL 66.

Figure 5.1. Siren. Paris, Bibliothèque nationale de France, MS lat. 12048 (the Gellone Sacramentary), fol. 1v. Courtesy of gallica.bnf.fr / Bibliothèque nationale de France.

were later executed.[51] In such an unrestricted context, could the illustrator have been responding not only to the *Physiologus*, but also to the *glossae collectae*?

Certainly, for the compiler of the *glossae collectae*, these twin descriptions were neither contradictory nor redundant. The two illustrations in Brussels, Bibliothèque royale de Belgique, lat. 10066–77 show that the early medieval makers of the manuscript were aware of two traditions for the siren, and their appearance in the same codicological unit indicates they were not mutually exclusive. The two manifestations of the siren are not explicitly linked with the fourfold method of exegesis anywhere in the manuscript, but they are part of the same mode of thinking: one that accepts a plurality of forms or interpretations (an "emblematic worldview"). The *Physiologus* itself contains several different interpretations of the same animal, such as the three natures of the ant. Supporting this idea is the suggestion made by Jacqueline Leclerq-Marx that the translation of the *Physiologus* into Latin may have been the catalyst for the development of an illustrative tradition in the West—absent in the East—that emphasized allegorical interpretation.[52]

The Brussels sirens and those in Bern, Burgerbibliothek, MS 318 (fol. 13v) are also the first known depictions of fish-tailed women, rather than the bird-women of antiquity. The origins of the fish-woman remain unclear. The Gellone Sacramentary (Figure 5.1, made ca. 780 in Meaux) contains an illustration depicting a woman's head with a fish-tail, but it is decorative and has no connection to the story of the siren.

51 Babcock, *The Psychomachia Codex*, chap. 5.

52 Leclercq-Marx, "L'illustration du Physiologus," 151.

Figure 5.2. Zoomorphic initial D. Paris, Bibliothèque nationale de France, MS lat. 13159, fol. 13v. Courtesy of gallica.bnf.fr / Bibliothèque nationale de France.

A similar mermaid appears in a late eighth-century psalter as a zoomorphic initial D (Figure 5.2). The earliest known fish-siren is described in the seventh-century *Liber monstrorum de diuersis generibus*, in which the storyteller paints "a little picture of a sea-girl or siren, which if it has a head of reason is followed by all kinds of shaggy and scaly tales."[53] Fish-tailed beings proliferated in antiquity, but it remains unclear how the early medieval siren went from bird to fish.[54]

The *Physiologus* illustrations could also represent snake or dragon-women, however, following Jerome's description. This possibility has rarely been recognized, though it is a plausible outcome of the illustration of a classical text by Christian art-

53 "Marinae puellae quandam formulam sirenae depingam, ut sit capite rationis quod tamen diuersorum generum hispidae squamosaeque sequuntur fabulae"; Orchard, *Pride and Prodigies*, 88. Lapidge, "Beowulf," gave the *terminus post quem* for the composition of the *Liber monstrorum* as 636, based on the fact that it borrows extensively from the *Etymologiae*, which were published after Isidore's death in 636. He believed that it can therefore be dated to ca. 650–750. Two copies of the *Liber* were made at Rheims, and one at Fleury, in the ninth and tenth centuries. Of the others, St. Gallen, Stiftsbibliothek, Cod. Sang. 237 is contemporaneous with St. Gallen, Stiftsbibliothek, Cod. Sang. 230, while the *Liber monstrorum* in Wolfenbüttel, Herzog August Bibliothek, MS Gud. lat. 148 is itself bound together with a *Physiologus*. See Leclercq, "De l'art antique à l'art médiéval," 62. The possible origin of the sirens in the Bern *Physiologus* is also discussed in Vieillard-Troiekouroff, "Sirènes-poissons carolingiennes"; Pakis, "Sirens and their Victims"; and Holford-Strevens, "Sirens."

54 Tselos, "A Greco-Italian School," 8, suggested that the fish-tailed siren in Bern, Burgerbibliothek, MS 318 results from a series of errors by the miniaturist, but this is unlikely. See also Leclercq-Marx, *La sirène dans la pensée* and "La sirène et l'(ono)centaure," as well as Pakis, "Contextual Duplicity" and "Sirens and Their Victims."

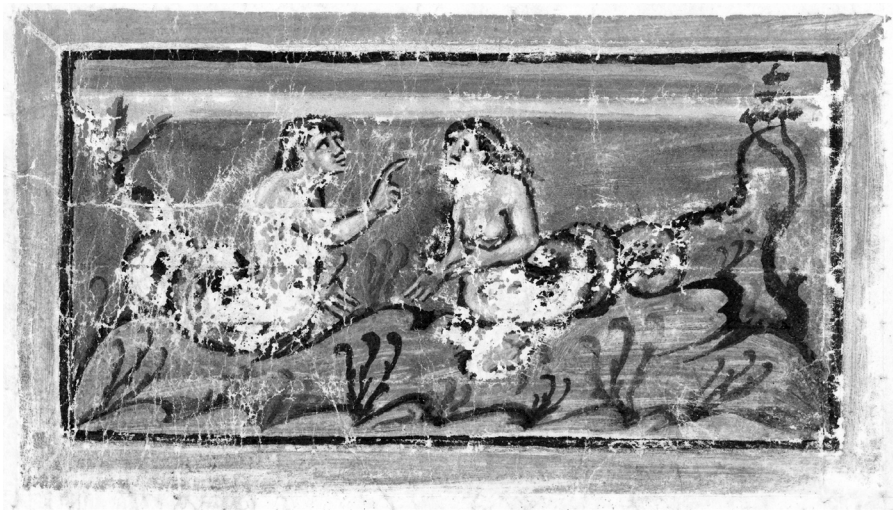

Figure 5.3. The viper in Bern, Burgerbibliothek, MS 318, fol. 11r. Used with permission.

ists. A similar depiction of the viper, a creature that is half woman and half serpent, in Bern, Burgerbibliothek, MS 318 (fol. 11r; Figure 5.3), for example, has similar tail-coils to the Brussels siren. Dragons and serpents were often used interchangeably in Christian writing, though the dragon was also seen as a particularly unpleasant and ferocious member of the serpent family (to which Isidore assigned it).[55] Jerome associated sirens with dragons and so by extension with Satan, who as the snake in the Garden of Eden tricked Eve with his sweet voice and words into eating the forbidden fruit.[56] This idea is reflected in another of Jerome's exegetical works, the commentary on Micah: "And they shall weep like the daughters of sirens, for sweet are the songs of the heretics, and with their pleasant voice they deceive the people. Nor can any pass by their singing, but he who has stopped his ear and as it were gone deaf."[57] The association of sirens and onocentaurs with heretics is new to the *Physiologus* in Bern, Burgerbibliothek, MS 318, and may derive from Jerome's commentary on Micah.[58] This suggests that the fish-tailed siren in Bern, Burgerbibliothek, MS 318 could also derive

55 *Etymologiae* 12.4.4.

56 This re-interpretation of classical mythology in Christian terms is well-attested; as Holford-Strevens ("Sirens," 21–22) noted, Ambrose in his commentary on Luke (*Expositio in euangelium secundum Lucam* 4.2) interpreted Odysseus bound to the mast as a metaphor for Christ on the Cross, an idea also used by Clement of Alexandria some centuries earlier.

57 Jerome, *In Michaeam*: "Et lugebunt quasi filiae Sirenarum, dulcia enim sunt haereticorum carmina, et suaui uoce populos decipientia. Nec potest eorum cantica praeterire, nisi qui obturauerit aurem suam, et quasi surdus euaserit." CCSL 76.

58 Travis, "Of Sirens and Onocentaurs," 34. Version B of the *Physiologus*, for example, describes those lulled by the voices of the sirens as deceived by worldly pleasures; see Carmody, *Physiologus latinus: éditions préliminaires, versio B*.

from Jerome's descriptions, and that the contradiction with the classical description of the siren as a bird-woman in the passage accompanying the illustration arises from the ninth-century miniaturist's knowledge of Jerome's exegetical work, as well as the Vulgate as the standard Bible text.

For the early medieval cultural context of the *Physiologus*, the origins of the siren's different forms are less important than their existence. The illustrations diverge from their text in both manuscripts. The Brussels *glossae collectae*, too, list the siren as both bird and dragon-woman. These glaring divergences are not the result of inattention. They have not been changed or removed because one of the key messages transmitted by the *Physiologus* is that an idea can have more than one meaning. The siren may have been human, fish, bird, dragon or snake, or a combination of these, but what mattered most was that this was recorded: not only so that audiences might learn the siren's different guises and be able to understand biblical passages in which it appears, but also so that they might comprehend its allegorical, moral, and spiritual significance in each incarnation.

The New Cosmography Full-Circle

One other tenth-century *Physiologus*, generally overlooked in scholarship on this text, also contains evidence of a schoolroom context. This is Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455, copied in western France. Extant as an incomplete single quaternion, Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455 begins with the chapter on stars from Isidore of Seville's *De naturis rerum*, followed by an abridged Y recension of the *Physiologus*.[59] The quaternion is part of a longer early medieval compilation (the Paris–Orléans collection), which contains computistical and biblical texts useful for the classroom. This collection has a strong thematic emphasis on the natural world, with most of the individual texts exploring animals, the seasons, astronomy and the human lifespan from different viewpoints, but its primary purpose is clearly didactic. This is particularly evident from the script in Paris, MS Nouv. acq. 455. This quaternion will be the primary focus here, since its place in the Paris–Orléans collection is somewhat doubtful (see entry 11 in Appendix I).

The manuscript was clearly written by three student hands learning Caroline minuscule. It has many of the features of Visigothic minuscule, including but not limited to: very tall ascenders; very tall and narrow initials; an *nt* ligature where the *t* looks like it has been flipped upside-down; the second vowel in a diphthong placed above the first vowel; the letter *e* with an open lobe and rising above the x-height (the height of those letters without ascenders) when in ligature; Visigothic minuscule *g*; *f* with a descender and a top stroke that rises above the x-height; a distinctive majuscule *N* resembling an open box or square *u* shape with a long descender on the first vertical stroke; very tall *i* at the beginnings of words; *Q* and *O* often flattened on the top right; and a horizontal stroke added on the left side of majuscule *L*. There is a further range of transitional features. These include three allographs of *a*—u-shaped, single-lobed,

59 Digitized at https://archivesetmanuscrits.bnf.fr/ark:/12148/cc71179s.

and Caroline (an oblique stroke with a belly on the left); both Visigothic and Caroline *g*; both open and closed lobe of *e*; and an unusual *ur* abbreviation that looks like a wavy macron with a dot underneath (in Visigothic script the dot is more commonly on top). All three scribes are, however, clearly attempting to conform to Caroline minuscule, which is generally evident in the letter morphology and system of abbreviation (including the Caroline 4-shaped abbreviation for *um*).

The manuscript was dated by Delisle to the tenth or eleventh century. The third part of the Paris–Orléans collection in Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 161, was dated by Bischoff to the ninth or tenth century, or to the first half of the tenth century.[60] Given the transitional nature of the script used, a more precise date is not easy to establish. The letters do not observe the lateral compression of pre-Gothic script, and the accompanying division of the page into two or three columns is absent, as is the reduction in ascender and descender height. However, the script also has a range of eleventh-century features. For example, the down-stroke of ascenders is begun with a wedge shape to the left, though this is irregularly applied here—straight or clubbed ascenders are just as common. This may be a result of the shift from Visigothic, which has very clear left-leaning wedge-shaped ends on ascenders and minims. As a result, the finishing of ascenders and minims is an unreliable guide to the date of the manuscript. Other eleventh-century features include a contemporary—to judge by the ink colour—manicule on fol. 6r (manicules are almost entirely unattested in Western manuscripts before the eleventh century);[61] an oval-shaped *o*; shading, which begins to acquire the contrast observed in pre-Gothic script; and strokes on double *i*, to distinguish them from *u*.[62] But the general scarcity of pre-Gothic features, combined with the presence of oval *o*, suggests that this manuscript dates to the last third or last quarter of the tenth century.

The three scribes—A, B, and C—took turns copying the manuscript, but scribe A's hand is by far the most common. Scribes A and C are significantly less experienced with writing than scribe B, who has a better grasp of letter-shape balance: letters are generally evenly spaced and formed, conform uniformly to the x-height as well as the baseline, and have the same length of ascender and descender. Visigothic influence is nevertheless clear in all three hands. The differences in the hands are most clearly visible on fol. 3v (Figure 5.4), where they took turns: scribe A to midway through line 17; scribe B to midway through line 23; and scribe C to the end of the page.

This quaternion is the earliest firm evidence we have that the Latin *Physiologus* was read by students rather than masters. The palaeographical evidence is supported by the collocation with another text often used in schools, Isidore of Seville's *De naturis rerum*, which in this manuscript also has some interlinear annotations with linguistic and interpretative glosses (top third of fol. 1r)—another feature pointing to a school context. Classroom use need not mean that the *Physiologus* was a rudimentary

60 Delisle, *Catalogue des manuscrits*, 80; Bischoff, *Katalog* 3:242.

61 Steinová, *Notam superponere studui*, chap. 6.

62 E.g. fol. 2r, l. 11. Derolez, *The Palaeography of Gothic Manuscript Books*, 59.

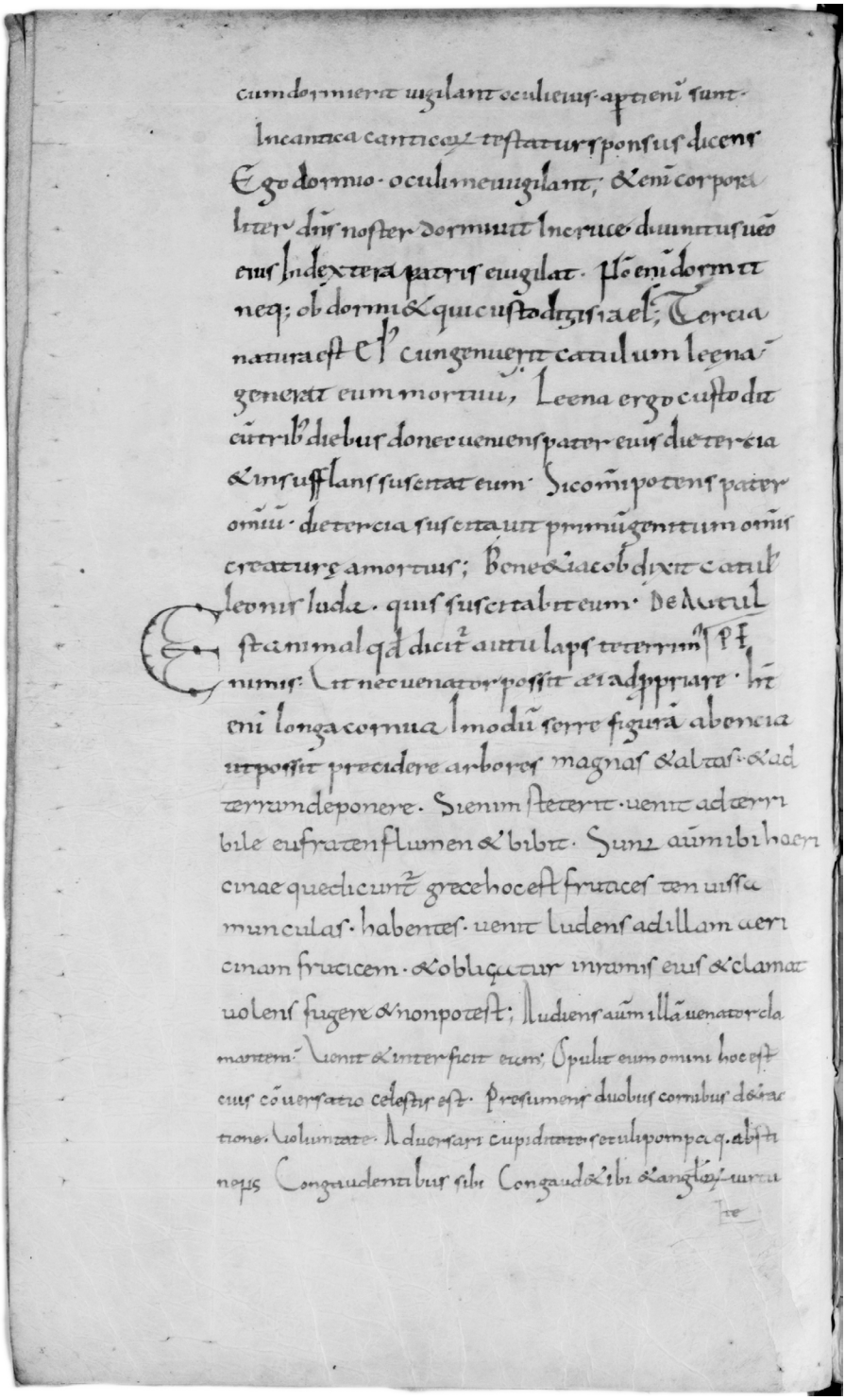

Figure 5.4. All three scribal hands in Paris, Bibliothèque nationale de France, MS nouv. acq. lat. 455, 3v. Reproduced by permission of gallica.bnf.fr / Bibliothèque nationale de France.

text, but rather that it was foundational reading that paved the way for more complex material. The copyists of this quaternion had already been trained to write Visigothic minuscule, which suggests that they were not children; but the difficulties that all three had in maintaining an even ductus indicates that they were still in training. Although poorly developed hands could belong to fully trained priests and even bishops, the fact that these scribes took turns to work on the same quire in a script new to them makes it probable that they were relatively young—perhaps participating in a monastic exchange to learn new skills, as was common in the early Middle Ages. If this quaternion was indeed part of the Paris–Orléans collection, the scribes may have worked in a large centre—such as Fleury, which possessed the collection by the twelfth century—that also had a Breton scribe, and perhaps others from elsewhere in the Carolingian world (see entry 11 in Appendix I). At the very least, the presence of these Visigothic students in a monastic centre in west France associated with Caroline minuscule is a sign of the continued lively intellectual exchange across cultural frontiers that characterized the transmission of the Latin *Physiologus*.

In schoolroom manuscripts like Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455, and in thematic compilations like Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074, and Wolfenbüttel, Herzog-August-Bibliothek, MS Gud. lat. 148, the concept of subject-based knowledge paved the way for the development of the encyclopedia: the all-encompassing compilation, derived from the Greek idea of the circle of knowledge or *enkýklios paideía* (ἐγκύκλιος παιδεία). Such compilations also make clear what "the natural world" had become: a Christian mirror of the world, combining both observation from nature and imagination about nature. Like the *Physiologus*, the chapter on stars from Isidore's *De natura rerum* in Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455 presents verifiable facts alongside Christian morality and cultural literacy. The rise of Orion, for example, signals the beginning of winter and symbolises martyrdom, "for just as they [the Orions] arise in the heavens in wintertime, so martyrs appear in the Church in time of persecution."[63] Thematic miscellanies such as these demonstrate that by the late tenth century, a specific natural semiotics had been fully developed that would continue to exert substantial influence throughout the Middle Ages.

In these texts and their manuscript contexts, the new cosmography discussed in Chapter 1 also came full-circle. It had begun as a diverse range of new texts and objects that amalgamated the Christian worldview with explanations of the structure and function of the physical world. Here, at the turn of the first millennium, the physical world had become fully integrated into the miscellaneous manuscript codex, recognized through thematic compilation as a distinct category of basic knowledge, originally arising out of the liberal arts—especially grammar—and now taught as an important component of those liberal arts, as well as being capable of filling an entire book. The creation of multi-text manuscript volumes on a single theme anticipated the much more ambitious twelfth and thirteenth-century compilations of scholars such as Lambert of Saint-Omer, Bartholomeus Anglicus and Thomas of Cantimpré. This was

63 Isidore of Seville, *On the Nature of Things*, trans. Kendall and Wallis, 153.

itself a natural development from the fusion of natural allegory, biblical exegesis, and the study of *grammatica* during the preceding centuries.

The Natural World and Thematic Compilation

Within the monastic book production context of the early Middle Ages, the new tendency towards thematic compilation is a visible sign of a fundamental change in education, and in intellectual culture more generally. From around the tenth century, the wane in Carolingian cultural dominance resulted in a decrease in the emphasis on the trivium, especially grammar, in schools. The subjects of the quadrivium—arithmetic, astronomy, geometry, and music—gained more prominence. Perhaps most importantly, as Claudio Leonardi noted, "schools ceased to be totally identified with culture and began to take on a preparatory and introductory role which continued through the eleventh and the beginning of the twelfth centuries."[64] The close associations of the monastic and early cathedral schools with the court, and with the court-driven rhetoric of scholarly endeavour for the glory of God, had been a Carolingian phenomenon. With its disappearance, the emphasis on the written word as the principal pathway to divine revelation was also set aside to make room for new ideas.

Crucially, the rhetoric around the role of teachers and scholars was no longer primarily to serve their communities by advancing knowledge of the Bible and God's Creation. Instead, they deliberately aimed to reach for high political and ecclesiastical office as the leading thinkers of their day. These tenth-century *magistri* have been seen as the forerunners of modern intellectuals.[65] And this changing role was reflected in their books. While the early miscellanies (discussed in Chapter 3) had been linguistically focused, practical community books, covering a wide range of subjects useful to a wide range of people, including school-masters, the thematic compilations that began to emerge in the tenth century were a symptom of knowledge accumulation. They were no longer pragmatic tools. This does not mean that they were superfluous, but rather that they signalled a shift away from earlier knowledge selection practices. In the Carolingian period, both inherited and new texts had been mined for their practical utility. Conversely, from the tenth century, the available knowledge began to be codified in more set forms. This is the context in which the *Physiologus* appeared at this time.

By the end of the century, its practical application had moved wholly into the schoolroom, as evidenced by Paris, Bibliothèque nationale de France, MS Nouv. acq. lat. 455 and the eleventh-century additions to Brussels, Bibliothèque royale de Belgique, MS lat. 10066–77. The miscellaneous handbooks in which it had found its place in earlier centuries gradually fell out of use or were transformed into subject-based collections. The natural world, too, came to be seen through the lens of these collections, recognizable to us as early natural encyclopedias—a somewhat anachronistic description that nevertheless conveys the general function of these manuscripts.

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64 Leonardi, "Intellectual Life," 188.

65 Vocino, "Migrant Masters."

In this changing context, it is no surprise that the *Physiologus* text itself began to be adapted to suit new purposes. Both the *Dicta Chrysostomi*, which omits stones and plants as well as dividing the animals into beasts and birds, and its shorter descendant the metrical *Physiologus Theobaldi*, were novel eleventh-century versions of the text. They (particularly the *Physiologus Theobaldi*, which was glossed and commented) were popular schoolroom reading.[66] *Physiologus* material continued to be used in schools throughout the later Middle Ages, as attested by the *Aviarium* or *Book of Birds*, composed by Hugh of Fouilloy ca. 1132–52 to teach illiterate lay brothers.[67] From the twelfth century, the *Dicta Chrysostomi* became the foundation of numerous redactions and expansions of the text, whose recensions—which continued to develop until the sixteenth century—are collectively called the bestiary.[68] As noted in the introduction to this book, bestiary material derived largely from Isidore of Seville but also from a wide range of other sources (including the *Aviarium*), and contained as many as 150 chapters, in contrast to the maximum 40–48 chapters of the Greek and Latin *Physiologus*. These bestiaries were encyclopaedic, or else highly decorated texts for courtly entertainment or moral instruction. They did not replace the *Physiologus*, which continued to be copied in the Latin and in various vernaculars; but in the second millennium these *Physiologus* copies were often based on the versions of the Latin text adapted from the eleventh century onwards. The *Dicta Chrysostomi*, for example, was the foundation of the vernacular German *Physiologus*.[69] The first vernacular French version was the *Bestiaire*, a rhymed translation of the *Physiologus* made by Philippe de Thaon ca. 1121.

Other authors writing in French, among them Gervaise (using the *Dicta*), Guillaume le Clerc, and Pierre de Beauvais, continued to popularize *Physiologus* material into the central and late Middle Ages. Further vernacular translations, among them Old Norse and Middle English, also appeared in the period from the eleventh to the fifteenth centuries. These numerous adaptations, reworkings and translations indicate that the cultural context of the *Physiologus* had thoroughly changed from what it had been in the eighth and ninth centuries. The text was no longer read as a companion to the Bible, or as an introduction to natural allegoresis. While it continued to be copied alongside bestiaries even into the early modern period, the later medieval *Physiologus* was a diminished and entirely different beast.

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66 The *Physiologus Theobaldi* was printed in Morris, *An Old English Miscellany* (in Bibliography under *Physiologus*). See also Curley, trans., *Physiologus*, xxviii.

67 Clark, *The Medieval Book of Birds*, 2.

68 A wide range of scholarship on the bestiary has been published, but there is still much disagreement about the relationship of the bestiary families to each other and to the *Physiologus*. The introductory literature includes Dines, "The Problem"; Stewart, "The Mediaeval Bestiary"; Clark, *A Medieval Book of Beasts*; Faraci, "The Bestiary"; Clark and McMunn, *Beasts and Birds*.

69 Henkel, *Studien zum Physiologus*.