Introduction

THE *PHYSIOLOGUS* BETWEEN EAST AND WEST

CONCEPTIONS OF THE natural world have often resisted definition and categorization. This is particularly the case for the period from ca. 700 to ca. 1000 in the Latin West, when Roman culture ceased to dominate, but before the rise of scholastic natural philosophy and the proliferation of encyclopedias about the natural world. There was no single clear statement about nature during this time, and written sources from this period largely rely on the classical tradition. Many histories have therefore glossed over the early Middle Ages as contributing little to the medieval understanding of nature. But the problem with this interpretation, as this book will show, is that the early Middle Ages were in fact an essential period of re-contextualisation, using complex textual approaches, of an inherited relationship between the physical world and the human imagination of it. As Walter Pohl put it, referring to historiography, "fact continually threatens to subvert fiction and to break up its coherence, so that all sorts of textual strategies are required to impose significance and narrative unity upon resistant material."[1] Early medieval texts, both newly composed and copied from older sources, are in the process of trying to impose narrative unity on a daunting subject: the mental, physical, and spiritual worlds represented in the concept of "nature." At the same time, the whole idea of what constitutes a text is in flux, blurring the lines between language, the thing that it describes, and the description itself. The *Physiologus* and the manuscripts in which it was copied serve as a lens on this early medieval semiotics, and on the processes by which it re-shaped an inherited discourse about nature along new lines.

The *Physiologus* and its manuscript context also highlights the distinctiveness of early medieval intellectual practices. The unrecorded lived experience of nature in the early Middle Ages—across diverse ecological zones, changing modes of governance and agricultural regimes—was quite different from the practice of abstract debate of the concept of nature and the ideas about it. It's vitally important to understand the cultural choices that were made by early medieval thinkers over a long period of knowledge acquisition and network-building, and through the very slow process called "Christianisation," which profoundly changed political, economic, agrarian, and intellectual worlds. At the same time, the manuscripts themselves represent an obvious transitional point between nature and thinking about nature, containing as they do texts copied on animal membrane. The sheets of membrane, in turn, represent hundreds—thousands—of animals, raised, fed, and slaughtered. This is not a new point, but surely, for literate early medieval people, the physical world was encapsulated in the physical manuscript.

1 Pohl, "History in Fragments," 347.

Manuscript context is, then, the crucial component of an early medieval natural history that has until now remained absent from most studies on the subject. The early Middle Ages saw a proliferation of books that contained multiple texts—a continuation of a late antique trend. The lack of standardisation in manuscript descriptions makes it difficult to assess numbers, but multi-text manuscripts were almost certainly the norm rather than the exception.[2] In these books, excerpts were copied alongside full texts; unrelated works, both full and partial, were linked by being copied in groups, or within the same quire or set of quires; features of layout were used either to homogenise or to distinguish between various texts, sometimes in surprising ways; and new cultural contexts were created for both old and new works, simply by copying them together in a single volume whose unique early medieval uses can be traced from its script, materiality, and paratext. Although early medieval literary and intellectual activity was substantially dependent on inherited knowledge—and has therefore often been dismissed as unoriginal—the selection, organization and re-structuring of that knowledge, as evident in multi-text books, was both intelligent and innovative. The resulting re-contextualization of existing knowledge, together with a substantial amount of new (if anonymous) writing, set the course of post-Roman learning. Even more fundamentally, the production of multi-text manuscripts enacted a belief, deeply rooted in centuries of Christian and Neoplatonic thought, that there was an essential relationship between words and God's Creation.

This book explores that imagined relationship, using the manuscripts of the *Physiologus* as a case-study. The *Physiologus* is an important text within this framework because it quickly became part of the medieval knowledge corpus, at first through its connections to works by well-known authors like Ambrose and Isidore of Seville, and then as part of the gradual development of the bestiary, which played an important role in the later medieval understanding of nature, from schoolrooms to royal courts. In addition, the miscellanies in which the *Physiologus* is exclusively found are a useful lens through which to examine the impact of early medieval written culture on perceptions of nature, as well as to assess how such perceptions fed into contemporary social and political discourse. Most importantly, the *Physiologus* was the most widely read text on nature that cannot be relegated to a separate, clearly defined field of early medieval learning—astronomy, computus, geography and medicine among them. The *Physiologus* was not entangled with other, specific preoccupations of early medieval intellectuals and it was therefore readily altered, as well as copied with a diverse selection of texts. This makes it particularly well suited for a broad investigation of "nature."

2 Dorofeeva, "Reading Early Medieval Miscellanies."

The Stories of the *Physiologus*

The *Physiologus* consists of short chapters on various beasts, stones, and plants, real and imagined, that explain their "naturae" or particular characteristics, which are given a moral Christian interpretation.[3] The whale, for example, is described as follows:

> Physiologus spoke of a certain whale in the sea called the aspidoceleon that is exceedingly large like an island, heavier than sand, and is a figure of the devil. Ignorant sailors tie their ships to the beast as to an island and plant their anchors and stakes in it. They light their cooking fires on the whale but, when he feels the heat, he urinates and plunges into the depths, sinking all the ships. You also, O man, if you fix and bind yourself to the hope of the devil, he will plunge you along with himself into the hell-fire.[4]

The structure of the chapters generally follows a formula, which, at its most complete, consists of a Biblical citation; a phrase beginning "Physiologus dixit…" followed by a description of the subject; the meaning of this in Christian doctrine with another supporting biblical citation; and a concluding phrase which begins "bene Physiologus dixit…"[5] The stories of the *Physiologus* were very popular in the ancient and medieval world, and some of them are still familiar to us as echoes of anecdotes or symbols. It is from the *Physiologus* that we have heard about the hedgehog which rolls on the ground to spear fruit on its spines, which it then carries to its young; the phoenix, which bursts into flame at the end of its life and is reborn from its own ashes; the unicorn, which can only be tamed by a maiden; and the elephant, which carries houses and even castles on its back. These and other tales are also found in other, earlier texts; but it is through the *Physiologus* that they were popularized and embedded in Latin culture.

For a long time, the simplicity of the *Physiologus* stories impeded any serious attempt to understand its function. They evoke the fables of Aesop and other "stories with a moral" that are often read to children. Such stories seem to have didactic but otherwise no real intellectual value and little historical significance or influence. The editor of the facsimile of the *Physiologus* in Bern, Burgerbibliothek, MS 318, for example, was sure of the text's "kunstlose Naivität" and "Volksbuchcharakter."[6] But this kind of assessment is unjust to the *Physiologus* and especially to fables. None of the variety of forms taken by fables is found in the *Physiologus*.[7] The Greeks had used fables as useful material for the practice of rhetoric: that is, as elements of speech or thought. Writers such as Babrius, Aelian, and Phaedrus, active between the third century BCE and the third century CE, who took up and helped transmit Aesop's material, aimed to entertain and engage audiences as well as to educate them.[8] Priscian, the

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3 See appendix II for a list of *Physiologus* chapters by manuscript and textual family.

4 Curley, trans., *Physiologus*, 45–46.

5 "Physiologus said … well spoke the Physiologus." Vidal, Álvarez, and Osende, "La versión C," 30.

6 "Artless naïveté," "chapbook character". Steiger and Homburger, *Physiologus Bernensis*, 9.

7 Perry, *Babrius and Phaedrus*, xi and xxii–xxiii.

8 Perry, *Babrius and Phaedrus*, xxiv. See also Perry, *Studies in the Text History of the Life and Fables of Aesop*.

sixth-century grammarian (widely read in the early medieval Latin West), said that fable teaches and delights.[9] Historically, fables were much more than simple morality tales. Dismissive views of such stories are in fact grounded in a false dichotomy between "great" and "folk" literature, which until not very long ago affected even the most excellent philological scholarship. It ultimately derives from the antiquated and racist notion that "classical" Graeco-Roman literature is somehow superior to the written output of other cultures.

Setting these views aside, it becomes clear that the *Physiologus* was a new and important kind of text. It made use of the flexibility and interest of its natural material, but combined this with the emerging moral and spiritual character of a relatively new religion—Christianity. The text was copied and translated all over the European and Mediterranean worlds. It was enormously successful.[10] But the Latin manuscripts have never been studied as a corpus. We do not really know, despite extensive research on many aspects of the Latin text, who read it in the Middle Ages, or why it was copied. The period before the eleventh century, when the *Physiologus* gave way to the bestiary, has been especially neglected. Yet this was perhaps one of the most significant periods in the evolution of this text, with wide-ranging implications. What can the *Physiologus* tell us about early medieval intellectual culture? How did it affect the way in which nature was understood in the post-Roman Latin West? What does its hitherto ignored manuscript context reveal about the connections between literacy, faith, and the physical world? The evidence suggests that there are many interesting answers to these questions, which are addressed throughout this book.

In order to situate the manuscript study presented in the following chapters, we need to see how past scholarship has received the Latin *Physiologus*—not only the groundwork it has laid, but also the complications it has introduced.

The Greek *Physiologus*

The term "Physiologus" translates literally as "the naturalist." Rather than referring to an enthusiast for natural history, it invokes a Christian authority on natural philosophy. The Greek *Physiologus* first appeared within this context, between ca. 150 and 200 CE.[11] This dating can be established with relative precision. The Greek text appears to have been known to Clement of Alexandria (ca. 150–215), Tertullian (ca.

9 Delhaye, "'Grammatica' et 'Ethica'," 67–78; Priscian, "Praeexercitamina," 551–2.

10 Among the few in-depth studies that address the function and cultural context of the *Physiologus* in its vernacular medieval forms are Baxter, *Bestiaries and Their Users*; Belli, *Il Physiologus*; Bitterling, "Physiologus und Bestiarien," 153–70; Corrigan, "The Smyrna Physiologos"; Glendinning, *A Critical Study*; Guglielmi, ed., *El Fisiólogo*; Henkel, *Studien zum Physiologus*; Hoek, "Anglo-Saxon Innovation"; Lazic and Kotarcic, *Fisiolog*; Rossi-Reder, "The Physiologus"; Wegera, "Zur Rezeption des Physiologus."

11 McCulloch, *Medieval Latin and French Bestiaries*, 15. For a detailed discussion of the scholarship on the date of the *Physiologus*, see Alpers, "Physiologus," 598–99.

160–220), Hippolytus of Rome (ca. 170–235), and Origen (184/5–253/4).[12] Since it contains a quote from the apocryphal Gospel of James, which dates to ca. 150, the Greek *Physiologus* can be no older.[13] Some scholars have argued that the text's date of composition was ca. 254 or ca. 370, based on the use of the *Physiologus* by other authors, but these dates are much too late in light of the other evidence.[14] Alexandria was almost certainly the place where the text was compiled, to judge from the Coptic names of the month and Egyptian animals present in the Greek text, as well as a possible association with Pantaenus, the teacher of Clement of Alexandria.[15]

The *Physiologus* derives from a number of different antique sources and traditions, which probably included Indian and Hebrew material. These sources were brought to Alexandria, a centre for exchanges of various kinds in the ancient Greek world.[16] The tales derive from texts by authors including Aristotle, Ctesias, Hermes Trismegistos, Herodotus, and Plutarch, as well as Pliny; many of these texts are likely to have entered oral tradition before being brought to Egypt by merchants and other travellers.[17] The *Physiologus* therefore probably has no single author, although different versions of it have at various times been ascribed, in whole or in part, to Ambrose, Athanasius of Alexandria, Basil of Caesarea, Bolos of Mendes, Epiphanius, Jerome, John Chrysostom, John IV Nesteutes Bishop of Constantinople, and Pope Peter of Alexandria.[18] None of these attributions have been proven.

Much work remains to be done on the sources of the Greek *Physiologus*, particularly because the foundational scholarship is now fifty or more years old. Since Francesco Sbordone's work on the seventy-seven medieval Greek copies of the *Physiologus* in 1936, more manuscripts have been discovered. Sbordone was not aware of the ear-

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12 There is some debate about Origen's use of the *Physiologus*, since the Seventeenth Homily on Genesis, which has been attributed to him and which contains the phrase "nam physiologus de catulo leonis haec scribit" ("For Physiologus writes thus about the lion's cub"), is in fact an original work by his Latin translator, Rufinus. See Rowland, "The Relationship," 492; Wellmann, *Der Physiologos*. The list of locations in Origen's text that may derive from the *Physiologus* are listed in Alpers, "Physiologus," 598. See also McCulloch, *Medieval Latin and French Bestiaries*, 19 and Allport, "Three Early Christian Interpretations."

13 See Scott, "The Date of the Physiologus," Lauchert, *Geschichte des Physiologus*, 69, Alpers, "Physiologus," 598, and Alpers, *Untersuchungen zum Griechischen Physiologus*, 53.

14 Wellmann, *Der Physiologus*, 11 and 13; Scott, "The Date of the Physiologus." Wellmann's study is generally problematic and does not take into account some of the evidence, according to Alpers, *Untersuchungen zum Griechischen Physiologus*, 15. See also Treu, "Zur Datierung des Physiologus," 101–4.

15 Not, as Wellmann thought, Syria. See Alpers, "Physiologus," 598.

16 Steiger and Homburger, *Physiologus Bernensis*, 10.

17 Woodruff, "The *Physiologus* of Bern," 234. Wüstefeld, "Catalogue," 190. The exact sources of the *Physiologus* are still not fully documented, though much of the scholarship on the Greek, Armenian, and Coptic texts, and on the animal turn, investigates these sources in a general way. See, for example, Muradyan, *Physiologus: The Greek and Armenian Versions*; Porcier, Ikram, and Pasquali, ed., *Creatures of Earth, Water and Sky*; and Suciu, "Quotations from the Physiologus."

18 Rowland has shown that Basil wrote independently of the compiler of the *Physiologus*; see "The Relationship".

liest known witness of the Greek *Physiologus*, the late tenth-century codex New York, Morgan Library and Museum, MS M.397, from southern Italy.[19] But although Sbordone's study depended on even older (both nineteenth and early-twentieth century) research, particularly the study of the Greek and German versions of the *Physiologus* made by Friedrich Lauchert in 1889, it has still not been superseded.[20] More recent scholarship on the Greek text has included critical editions of three of the text's families and useful historical essays, but this work is essentially a supplement to Sbordone's.[21] The classic studies of the Latin text have also examined its Greek and Alexandrian roots, but these are also either very old or limited in scope.[22] Despite the high quality of much of this scholarship, it needs to be updated and re-evaluated in the light of our current understanding of cultural exchanges around the Mediterranean. This is essential in order to situate the Greek *Physiologus* in its proper place as a new textual product of vibrant multicultural learning and Christian belief in antiquity.

Further work on the Greek transmission would also shed more light on the translation of the *Physiologus* into Latin, which is the language of the largest extant group of *Physiologus* manuscripts (taking into account all copies to ca. 1500). The translation is likely to have taken place in the fourth century. A plausible *terminus ante quem* is based on Ambrose's *Hexaemeron*, composed between 386 and 388, as this text incorporates some of the description of the partridge from the Latin *Physiologus*.[23] However, this resemblance between the two texts may have come about because Ambrose, who knew Greek, independently used the same Greek sources that went into the *Physiologus*.[24] This may also have been the case with the African bishop Verecundus of Junca,

19 Sbordone, *Physiologus*. The manuscript has been partially digitized at http://ica.themorgan.org/manuscript/thumbs/112333. The first published editions of the *Physiologus* by Ponce de Leon in Rome (1587) and Antwerp (1588), and Denis Pétau (1622), were based on Paris, Bibliothèque nationale de France, MS gr. 835. All the editions attribute the authorship of the text to Epiphanius. See Perry, "Physiologus," cols. 1103 and 1111, and Côté, "Un manuscrit oublié."

20 Lauchert, *Geschichte des Physiologus*; Heider, *Der Physiologus*; Cahier and Martin, eds., *Mélanges*; Ahrens, *Zur Geschichte des sogenannten Physiologus*; Goldstaub and Wendriner, *Ein toscovenezianischer Bestiarius*; and Goldstaub, "Der Physiologus."

21 Offermanns, ed., *Der Physiologus nach den Handschriften G und M*; Kaimakis, ed. *Der Physiologus nach der ersten Redaktion*; Muradyan, *Physiologus: The Greek and Armenian Versions*; Curley, "Physiologus"; Curley, trans., *Physiologus*; Lazaris, *Le Physiologus grec*, 1 and 2; Kindschi Garský and Hirsch-Luipold, eds., *Christus in natura*. The historiography of the Greek *Physiologus* beyond the key works already mentioned is too extensive to be given in detail here. For more information, see Henkel, *Studien zum Physiologus*, and the detailed summary of this work by Guglielmi, "Review: Nikolaus Henkel. Studien zum *Physiologus* im Mittelalter."

22 Wellmann, *Der Physiologus*; Carmody, *Physiologus latinus: éditions préliminaires, versio B*; Sbordone, "La tradizione manoscritta"; Woodruff, "The *Physiologus* of Bern"; Carmody, "De bestiis et aliis rebus," *Physiologus latinus versio Y*, and *Quotations in the Latin Physiologus*. On the *Physiologus* as a Christian text, see also Cox, "The Physiologus"; Evdokimova, "Deux traductions"; Gerlach, "Physiologus"; Seel, *Der Physiologus*; and Treu, "Zur biblischen Überlieferung im Physiologus."

23 McCulloch, *Mediaeval Latin and French Bestiaries*, 21; Carmody, "De bestiis et aliis rebus," p. 153, n. 3.

24 Benjamin, "Review: Florence McCulloch. *Mediaeval Latin and French Bestiaries*."

who used the *Physiologus* in the mid-sixth century.[25] Currently, two convincing arguments exist for ascribing the translation to before the fourth century. The first was made by the art historian Helen Woodruff, who pointed out that most of the Latin versions contain a list of heretics condemned at the First Council of Constantinople in 381 in the story of the ant, but do not mention the Nestorians, against whom the First Council of Ephesus was called in 431. She believed that the translation into Latin must therefore have been made before this date.[26] The second argument for a fourth-century date was made by Max Wellmann, who noted that the commentary on the *Hexameron* of Pseudo-Eustathius of Antioch (d. ca. 337) quotes directly from the *Physiologus*.[27] This internal textual evidence is useful, but the lack of a sustained comparison between the Greek and Latin versions, or indeed a proper text critical edition of either, means that we still know very little about the origins of the *Physiologus*.[28] How was it used by early Eastern Christian writers, and what do the circumstances of its origin and translation tell us about late antique Christian culture and intellectual exchange? The popularity of the *Physiologus* across this region is evidenced by its translation into Arabic, Armenian, Coptic, Ge'ez (an Ethiopic language), and Syriac, as well as Latin, but none of these traditions have been extensively compared either.[29] Since no contextual assessment of the function of the *Physiologus* in late antiquity exists, the conclusions of the textual scholarship to date sketch out a broad history that is incomplete and has little to say about the roots of the Latin text.

The Bestiary

By contrast, a great deal of information is available about the later medieval development of the *Physiologus*. Between the tenth and twelfth centuries, the Latin *Physiologus* underwent several transformations. Firstly, it became one of the texts used in the developing cathedral schools. This is suggested by the appearance of a *Physiologus* on an eleventh-century book list from the school of the Cathedral of Le Puy (Haute-Loire).[30] Secondly, different recensions began to appear. These include a metrical ver-

25 Manitius, *Geschichte der lateinischen Literatur*, 1:117.

26 Woodruff, "The *Physiologus* of Bern," 237.

27 Wellmann, *Der Physiologus*, 15.

28 The most recent publication on the Greek *Physiologus* contains comparatively little new research: Lazaris, *Le Physiologus grec*, 2.

29 One exception is Muradyan, *Physiologus: The Greek and Armenian Versions*. A study of the Ge'ez tradition has recently been made by the project "Fra Alessandria e Aksum. La tradizione greco-etiopica del Fisiologo (secoli III–VI)" (2018–20), directed by Prof. Gianfrancesco Lusini at the Università degli Studi di Napoli L'Orientale, supported by the Associazione Internazionale di Studi sul Mediterraneo e l'Oriente (IsMEO). See also Macé and Gippert, *The Multilingual Physiologus*.

30 The book catalogue was copied onto the final bifolium of Paris, Bibliothèque nationale de France, MS lat. 7581 (archivesetmanuscrits.bnf.fr/ark:/12148/cc126140q). The *Physiologus* entry reads "Tunc sequitur phisialogus" (fol. 59r). Clark, *A Medieval Book of Beasts*, 9n20, based on Glauche, *Schullektüre im Mittelalter*, 70. Unlike Glauche, Henkel, *Studien zum Physiologus*, 56, thought this was the *Physiologus Theobaldi*.

sion of twelve chapters, the *Physiologus Theobaldi* attributed to the eleventh-century Abbot Theobaldus of Montecassino—also used in cathedral schools—and the prose *Dicta Chrysostomi*, which formed the basis of the German vernacular families of the text.[31] These versions did not exist before the eleventh century and are therefore not discussed in this book. The later bestiary appears to be based on the B recension of the *Physiologus*, the largest of all the recensions, which had reached England by the twelfth century.[32] There, it received expansions and additions from a large number of different sources, principally the third-century *Collectanea rerum memorabilium* of Solinus (itself an adaptation of Pliny's *Historia naturalis*) and the seventh-century *Etymologiae* of Isidore of Seville. From the twelfth century, its major sources included Hugh of Fouilloy's *Aviarium* and Peter of Cornwall's *Pantheologus*.[33]

The bestiary was a significant central and late-medieval cultural phenomenon, and it has been extensively studied as a result. Its impact, and its gradual development from the Latin *Physiologus*, have meant that the latter has been somewhat marginalised. The difficulty of expressing the exact difference between the bestiary and the *Physiologus* has also contributed to a view of the *Physiologus* as a mere bestiary source text. A precise itemisation of the variant characteristics of the two texts would require a separate study, both because the texts in question vary greatly in their sources and contents across all the manuscripts, and because the line between the two cannot easily be drawn. For instance, the *Physiologus* in the tenth-century manuscript Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074 has been classified as a B-Is bestiary—that is, a B-recension copy of the *Physiologus* which had been expanded from Isidore of Seville's *Etymologiae*. However, the historical context of this codex indicates that the manuscript was read in the same ways as other early medieval miscellanies, and not as a bestiary (see Chapter 5). Variations to the form and structure of a text, on their own, are not enough to make a bestiary or a *Physiologus* in historical, if not in text critical terms.

For this reason, the bestiary cannot be seen as an improvement on the *Physiologus*, although that is how it is represented in some histories of the bestiary. The thorough study by Willene Clark is one example: "[The] new bestiary had much greater breadth than *Physiologus*, a far more rational organization, a lack of monastic ideas and language, and forward looking art…the moral/ethical didacticism and the ancient authority of the text's sources was unquestionably old fashioned."[34] Yet to view the bestiary as more rational, and as having greater breadth, than the *Physiologus*, is to do them both a disservice, as these are relative concepts that depend entirely on cultural context. The bestiary had more content, and was arranged by category—but it does not then follow that the *Physiologus* was its poorer version. The extensive scholarship on

31 Henkel, *Studien zum Physiologus*.

32 On the various textual families of the bestiary, see James, *The Bestiary*; McCulloch, *Mediaeval Latin and French Bestiaries*; Baxter, *Bestiaries and Their Users*; Clark, *A Medieval Book of Beasts*. See also Yapp, "A New Look"; and Dines, "A Critical Edition" and "The Problem."

33 Clason, "Animals, Birds and Fish," p. 22.

34 Clark, *A Medieval Book of Beasts*, 9.

the bestiary has greatly contributed to the history of the *Physiologus*, but also overshadowed its function before the bestiary's rise. As we shall see in later chapters, the success of the *Physiologus* in the eighth, ninth, and tenth centuries indicates that it had important uses of its own.

The Latin *Physiologus* Text

The content and order of the *Physiologus* chapters was frequently modified or expanded, which meant that the early Middle Ages inherited a complex text that lacked a single fixed form. This continued throughout the medieval period: of the approximately 500 extant manuscripts of the *Physiologus* and bestiary, both Western and Eastern, no two are identical in terms of text, chapter order or illustration.[35] Although this seems to make it impossible to assess the *Physiologus* as a single coherent text, each addition or modification actually highlights a different aspect of its reception. The early medieval Latin copies are particularly interesting in this respect, since they not only shaped early medieval ideas about the natural world, but also preserve the evidence of how textual difference and variety, which defined learning at a local level, was a key element of early medieval intellectual culture.

As a consequence of the early scholarly interest in the *Physiologus*, however, this contextual history has been ignored in favour of more traditional philological approaches. Perhaps the greatest part of the scholarship has concentrated on certain aspects of its textual development, manuscript survival and transmission. This was at first essential to establishing the connection between the Greek and Latin texts: although the *Physiologus* was translated into Latin soon after its composition in the second century, the earliest extant copies (in any language) date only from the eighth and ninth centuries. There exists a long historiography of attempts to define the various recensions of the text, beginning with the simple A, B, and C determined by Charles Cahier in his nineteenth-century edition.[36] Subsequent work on the Latin recensions showed that Cahier's divisions were not comprehensive, as some manuscripts fell outside his classification. This led scholars to adopt their own systems: for example, certain of the manuscripts that could not be classified using Cahier's system were referred to by Sbordone as M, N, and E, and by Carmody as Y, Y^2, and Y^3.[37] The systems used by Cahier and Carmody have survived: the Latin *Physiologus* manuscripts are now divided into four main recensions designated A, B, C, and Y (see Appendix II), with several sub-branches (AB, B-Is).[38] But this system is out of date. More manuscripts are now known, and other kinds of evidence are available that suggest a much more complex transmission history. The *Physiologus* used to help compile the *Liber*

35 Muratova, "Problèmes de l'origine," 383. See also Pakis, "A Note in Defense," 732.

36 Cahier and Martin, eds., *Mélanges*, vol. 1. A list of the editions and translations of the Latin *Physiologus* is provided in Schönberger et al., eds., *Repertorium*, 452–53.

37 Sbordone, *Physiologus*; Carmody, *Physiologus latinus versio Y*.

38 There are a few studies of individual versions, but they are rare. For an example, see Villar Vidal and Álvarez, "El Fisiólogo latino."

glossarum, for example, must have represented a different textual version compared to any still extant, and was perhaps older as well.[39] The recensions of the Latin *Physiologus* also shed light on the bestiary, but their initial classification is now generally cited uncritically in bestiary studies. There exists no authoritative study of the manuscript dissemination, nor, until now, a comprehensive handlist of manuscripts. Much more work remains to be done on the history of the text.

Historical scholarship, including the summaries provided in handbooks and encyclopedias, tends to rely upon these earlier, pioneering studies, which appear to have identified the text's applications and traced its development. They often assume that the authority of the antique sources and moral teachings of the *Physiologus* meant that it was a schoolroom textbook, which set out moral Christian principles in a simple, readily accessible format for both the teacher and the pupil. One scholar suggested that it is in fact this very use that accounts for the relative scarcity of extant manuscripts in the eighth to tenth centuries, as they would have been subjected to greater wear and tear than non-didactic texts.[40] Yet, apart from the use of the *Physiologus* in cathedral schools from the eleventh century, and the simplicity of its stories, no evidence has yet been provided that the *Physiologus* was a schoolbook, or that it was used to teach at all in classrooms, during the eighth, ninth, and tenth centuries. That this assessment of the text persists may be due to a propensity on the part of some modern *Physiologus* scholars to defer to the judgement of those who wrote during the nineteenth and early twentieth centuries, the era of definitive scholarship on the Greek and Latin texts.[41] The textual studies of these and other authors remain authoritative, but their judgement of the *Physiologus* is not entirely free of that bias against the fourth to tenth centuries—the period which saw the appearance and widespread use of the Latin *Physiologus*—which viewed them as part of an intellectual "Dark Age." This label is never explicitly used, but its judgement is expressed nonetheless. Writing about the *Physiologus* in Bern, Burgerbibliothek, MS 318 in 1851, Cahier remarked that the scribe was "un copiste patient et attentif, mais de courte intelligence; une espèce *d'homme de peine* dévoué à sa tâche avec une obéissance véritablement aveugle."[42] This statement reflects a tendency in nineteenth-century scholarship to regard early medieval scholars essentially as preservers and copyists, whose work lacked originality and was therefore of limited interest, though instrumental in the transmission of antique learning.

Another important reason for the neglect of the early medieval *Physiologus* is that the text appears to have been regarded by modern scholars as less valuable in itself than as a witness to the transmission of a number of antique intellectual traditions and textual influences. In this respect, the Greek versions have naturally been seen

39 Gorla, "Some Remarks."

40 Orlandi, "La tradizione del Physiologus," 1104.

41 Lauchert, *Geschichte des Physiologus*; Goldstaub, "Der Physiologus"; Wellmann, *Der Physiologus*; Carmody, *Physiologus latinus versio Y*.

42 "A patient and attentive copier, but of limited intelligence; a kind of handyman, devoted to his task with a truly blind obedience." Cahier and Martin, *Mélanges*, 2:98.

as more relevant. Moreover, because the Latin *Physiologus* served as the basis for the expansion of the bestiary, it has been included in most studies of the bestiary's development, where it is of secondary importance. For this reason, among the most important works on the Latin *Physiologus* are those whose primary focus is in fact on the bestiary.[43]

The impression gained from the published scholarship is that interest in the prebestiary *Physiologus* as an independent text has been sporadic. The first study to bring together the results of earlier research on the Latin *Physiologus* families, and the problems of their transmission and classification, was published by Henkel in 1976.[44] He made clear how much work still remains to be done: the family groupings are complex and there is still disagreement over the classification of individual manuscripts. This is partly due to contamination, where groups of chapters overlap across the different versions.[45] No *stemma* of any Latin family exists, despite the historiographical focus on the textual history of the *Physiologus*. Henkel himself dedicated half of his study to the German vernacular families, which derive from the Latin. Perhaps the only scholar to focus exclusively on the Latin *Physiologus* has been Giovanni Orlandi, whose 1984 article is notable for its thorough reference to earlier research and attempt to draw some conclusions about the applications of the Latin text.[46]

There is, however, little incentive for textual scholars, taking into account the current state of knowledge about the function of the *Physiologus*, to publish a critical edition of the text or to work any further on its sources and textual history. It continues to be considered a *Volksbuch* or chapbook. Yet the complexity and interest of the Latin *Physiologus* lie not only in the text itself but also in the use that was made of it by the Latin West in the early Middle Ages. Each translation and change in the text meant an adaptation of its use for the needs of a new audience. In the early medieval period the *Physiologus* began to be copied more frequently, to judge from the pattern of survival: fourteen Latin manuscripts and fragments from between the eighth and tenth or early eleventh centuries are extant. This suggests that the Latin *Physiologus* was considered to be of some significance, in a period characterized by a cultural and intellectual renewal.

The manuscripts of the *Physiologus* themselves corroborate this. The *Physiologus* was collocated with a broad range of other widely read texts: passages from works by Isidore and Augustine, glossaries, riddles, Fredegar's *Chronicle*, Solinus' *Collectanea rerum memorabilium*, the *Psychomachia* of Prudentius, fragments and extracts from Cicero, Boethius, Eucherius, and Jerome, and the *Liber monstrorum*. Twenty-two entries in the great early medieval glossary compilation, the *Liber glossarum*, are taken from the *Physiologus*. It was perhaps used by Ambrose, Gregory of Tours, Isidore of

43 McCulloch, *Mediaeval Latin and French Bestiaries*; Clark and McMunn, *Beasts and Birds*. See also Diekstra, "The Physiologus."

44 Henkel, *Studien zum Physiologus*.

45 Henkel, *Studien zum Physiologus*. See also Kuhry, "Zoological Inconsistency."

46 Orlandi, "La tradizione del Physiologus."

Seville, and Jerome in passages about the meaning of animals and constellations.[47] That it had applications outside the schoolroom is implied by the will of Eberhard, count of Friuli, and his wife Gisela, made in 863 or 864, which lists a *Liber bestiarum* among the private chapel books that were bequeathed to their eldest son Unruoch (see Chapter 2). Such a bequest suggests that the material of the *Physiologus* was of some interest to the educated layman in the Carolingian period. Together these links reveal the *Physiologus* to have been part of an early medieval intellectual tradition that had its roots in the inherited, encyclopaedic knowledge of the late antique and early medieval Christian spheres, and in knowledge about the created world.

The art historical context of the Latin *Physiologus* is equally important. It is a witness to the continuity of Byzantine iconography in medieval Europe.[48] Its earliest extant illustrated copy in the manuscript Bern, Burgerbibliothek, MS 318, created in the second third of the ninth century, contains luxurious pictures that point both to the survival of the illusionistic style of painting found in late antique Greek manuscripts and to the development and use of this style by the Carolingians. More specifically, the manuscript has been studied as an important witness to the "Rheims School": a ninth-century creative and intellectual revival, probably initiated by Archbishop Ebo upon his appointment to the see of Rheims in 816.[49] This manuscript not only provides a rich source of evidence for some of the ways in which antique art and knowledge was received and adapted in the early Middle Ages, but also reveals some of the innovative ways in which pictorial sources could be used for teaching natural allegory (see Chapter 4).[50]

It is clear, therefore, that the uses, recipients, and context of the early medieval Latin *Physiologus* require re-assessment. This is one of the goals of the present book. Through an examination of the manuscripts and their texts, it will consider the relationship between the *Physiologus* and the early medieval understanding of nature. In addition, this book will situate this process in its early medieval political and cultural context. Although the general evidence for the *Physiologus* in the early medieval West is not restricted to continental Europe, all the manuscripts were demonstrably made

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47 Ambrose of Milan, *Hexaemeron*, 6.3.13; Gregory of Tours, *De cursu stellarum ratio*, 12; Isidore of Seville, *Etymologiae* 11.3.36; Jerome, *In Hieremiam prophetam* 17:11. Little serious study has been done on the textual evidence for the use of the *Physiologus* in Latin-speaking Europe before the eighth century, however, and the possibility remains that other sources were used by the authors cited here. On Gregory of Tours and the *Physiologus* see Van den Broek, *The Myth of the Phoenix*, 203.

48 Tselos, "A Greco-Italian School," 1; Muratova, "La production des manuscrits"; Leclercq, "De l'art antique à l'art médiéval." See also Wittkower, "'Physiologus' in Beatus Manuscripts," 253–54, for a more specific iconographical discussion. On art in the Greek *Physiologus*, see the overview volumes Lazaris, *Le Physiologus grec*, 1 and 2.

49 Swarzenski, "Die karolingische Malerei"; Koehler and Mütherich, *Die karolingischen Miniaturen*; Mütherich, "Carolingian Manuscript Illumination"; Nees, *Frankish Manuscripts*.

50 Swarzenski has shown that the *Physiologus* in Bern, Burgerbibliothek, MS 318, influenced some later psalter illustrations; Swarzenski, "Die karolingische Malerei," 88.

in continental centres. They were therefore shaped by the Carolingians and their political, cultural, and intellectual program.

Nature and Reform

The impact of the Carolingian rulers and their activities on early medieval society, culture and economy has been much debated. The eighth and ninth centuries saw a program of changes, many initiated by Charlemagne, which have been described variously as "reform," "renaissance," or "*correctio*."[51] Its earliest (but by no means only) decisive statements are usually considered to be the Capitulary of Herstal in 779, the *Epistola de litteris colendis* in the late 780s and the *Admonitio generalis* in 789. The latter was an extensive piece of legislation in eighty-two clauses that restated previously instituted regulations for the clergy, updated for the Frankish church at the end of the eighth century. Clause 72 of the *Admonitio generalis* is often cited as a summary of the reform aims:

> Let us establish schools that many may be drawn to God's service by their upright way of life and they may gather and associate to themselves not only children of servile condition but also the sons of freemen. And let schools for teaching boys the psalms, the *notae*, singing, computation and grammar be created in every monastery and episcopal residence. And correct catholic books properly, for often, while people want to pray to God in the proper fashion, they yet pray improperly because of uncorrected books. And do not allow your boys to corrupt them, either in reading or in copying; and if there is need to copy the gospel, Psalter, or missal, let men of full age do the writing, with all diligence.[52]

This clause commanded monastery and cathedral schools to teach psalms, *notae*, singing, computation, and grammar, and to correct books.[53] In the list of these subjects we also see the emphasis of learning as a means to an end: monks were to be taught in

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51 A small selection of the most important studies includes *I problemi della civiltà carolingia*; Borst, *Die karolingische Kalenderreform*; Contreni, "The Carolingian Renaissance"; Fried, *Die Formierung Europas*; Kramer, *Rethinking Authority*; McKitterick, *The Carolingians and the Written Word*; Nelson, "On the Limits of the Carolingian Renaissance"; Reuter, "'Kirchenreform' und 'Kirchenpolitik'"; Schramm, "Karl der Große"; Smith, "Emending Evil Ways"; Ullmann, *The Carolingian Renaissance*; and Wormald and Nelson, ed., *Lay Intellectuals*. For a more extensive bibliography, see Noble, "Carolingian Era."

52 "Et ut scolae legentium puerorum fiant. Psalmos, notas, cantus, compotum, grammaticam per singula monasteria vel episcopia et libros catholicos bene emendate; qui saepe, dum bene aliqui Deum rogare cupiunt, sed per inemendatos libros male rogant. Et pueros vestros non sinite eos vel legendo vel scribendo corrumpere; et si opus est uangelium, psalterium et missale scribere, perfectae aetatis homines scribant cum omni diligentia." *Admonitio generalis*, chap. 72, MGH Capit. I, 60. Translated in King, ed., *Charlemagne: Translated Sources*, 217.

53 The word *notae* can be interpreted broadly as "signs in writing"; suggested translations have included "Tironian notes" and "musical notation" (though this is less likely). Critical and abbreviation signs may also have been meant. Given the amount of supra-alphabetic signs involved in early medieval writing, there seems no reason to interrogate the translation "signs in writing" any further. The term "notae" may indeed have been left deliberately open to the interpretation of individual bishops and abbots, depending on their resources. The *Admonitio generalis* itself presents difficulties, as several variants of its Latin text exist and their translation and interpretation are not

order to improve their Latin, ability to participate in liturgy, and time-keeping, so as to understand the calculation of the date of Easter. Obedience to canon law, hierarchy, and order within the Church were set up as essential, together with the education and literacy of the clergy. The ultimate purpose of these changes was to guide populations towards salvation through the Church. Charlemagne presented himself in the tradition of the biblical king Josiah: "For we read in the Books of Kings how the holy Josiah strove to recall the kingdom given to him by God to the worship of true religion, by visitation, by correction, by admonition."[54]

The changes proposed in the *Admonitio generalis* and other texts over the following two hundred years were often put into practice, but it is anachronistic to call them either a "reform" or a "renaissance." Recently, Carine van Rhijn and Rutger Kramer have set out the range of problems associated with the historiography of this "reform history."[55] They have pointed out that, to a large extent, the vocabulary of "reform," "correction," and "renaissance" is rooted in the interests of twentieth-century scholars, and is not especially well reflected in the sources. Wider problems with a discourse of reform include implicit standardisation, which is not at all evident in the early Middle Ages, and an over-emphasis on elite power. A better way to describe the drivers of changes that occurred under the Carolingians is weight given to a Christian idea of betterment for both society and the self, "the centrality of education and learning, and sustained generous patronage." In addition, van Rhijn has called for a new look at the Carolingian "reform" that re-centres the agency of writers who are anonymous to us.[56] Such writers constituted the majority of early medieval scholars producing new books and texts, but their works have rarely been edited or studied, in sharp contrast to named authority figures such as Theodulf of Orléans. The extant sources indicate that the ability of early medieval minority elites like Theodulf to effect top-down transformative change was limited, and that there was significant horizontal knowledge exchange as well.

This view of the transformation that occurred from the late eighth century places books and their contents firmly centre stage, as perhaps the most significant product of the Carolingian period. That is not to say that there was no intellectual activity in previous centuries: the Carolingian scribes selecting and copying texts for the day-to-day work of teaching and securing the Christian faith were continuing a tradition stretching back at least to Vivarium in the sixth century. The difference was, firstly, in extent—there was an explosion in book production under Charlemagne and his successors—and secondly, in a conscious awareness of book-making as a political state-

straightforward. See Steinová, *Notam superponere studui*. For a discussion of musical notation, see Atkinson, *The Critical Nexus*, pp. 49–50, n. 3; and Steinová, "*Psalmos, notas, cantus.*"

54 "Nam legimus in regnorum libris, quomodo sanctus Iosias regnum sibi a Deo datum circumeundo, corrigendo, ammonendo ad cultum veri Dei studuit revocare." Prologue, *Admonitio generalis*, 54.

55 Kramer, *Rethinking Authority*.

56 Van Rhijn, "Introduction," *Rethinking the Carolingian Reforms*. I am grateful to the author for sharing this chapter with me before publication.

ment. Books and script became oriented as the products of centres that projected particular identities, through the cultivation of house or regional styles. There was a great deal of variation and complexity here, as with anything else in the early Middle Ages. In many places, however, books, and script became one of the means through which it was possible to exercise power. This extended to texts as well. They now had a purpose that went beyond practical utility: they were part of a wider statement about faith, within the context of the whole books in which they appeared and as part of the intellectual networks such books represented.

For scholars of early medieval manuscripts, this is not a new idea.[57] But this context is still absent from research on the natural world as an intellectual concept during this period, although it, too, was politicised and made to serve as a tool for achieving the aims of those who controlled the production of writing. This book attempts to set aside the ideas of "correction" and "reform," therefore, focusing instead on education, language, and the exchange of Christian knowledge as the key elements of a conscious cultural shift in which the *Physiologus*, and its statement about nature, participated.[58] It is a history of how the natural world was made to serve the aims of early medieval intellectuals. As such, it takes up a different challenge from that posed by the conceptualization of the Carolingian effort. Instead, it attempts to bring the sources into clear focus, and to accommodate their full range of diverse and problematic readings, as a way to understand the fundamental connection between nature and writing in the early Middle Ages. Each chapter therefore represents a semi-independent study of the relationships between the Church, ruling elites and monastic communities, and the institutions and institutional needs, that formed and directed changing attitudes to the natural world.

The Manuscripts

The early medieval *Physiologus* cannot simply be seen as an indifferent replication of an antique text during a period of such wide-ranging change, and particularly not in the light of scholarship from the past fifty years that has shown how the Carolingians not only inherited but also transformed knowledge. But in precisely what ways did the *Physiologus* participate in this transformation? This question will be answered by an examination of its manuscript context: the alterations and additions to the text, the script and layout of its copies, its textual collocations and production circumstances. This study will particularly focus on manuscripts as evidence for the living human traditions that they embodied, with all their limitations. This includes when these manuscripts were produced and for what discernible purpose. Where relevant, each chapter considers how they were made and using what materials, human resources, and effort. Each chapter looks at what their decoration, marginalia, dimensions, and

57 The research group consisting of Steffen Patzold, Carine van Rhijn and Bastiaan Waagmeester in particular has done groundbreaking research on this subject; see Patzold and van Rhijn, eds., *Men in the Middle*; Patzold, *Presbyter*; Waagmeester, "Pastoral Works."

58 On education in this context, see Contreni, "John Scottus."

other characteristics reveal about the use to which they may have been put—considering that use may not have coincided with purpose of production. At the same time, this study investigates how the texts were put together, what their script may tell us about their origin and status, and what they can reveal about the interests of the compilers and intellectual context of each codex.

The full list of the contents and features of the early medieval manuscripts of the pre-bestiary Latin *Physiologus* is provided in Appendix I. It is one of the new contributions of this study, and underpins the analysis presented here. The historiographical focus on the textual families of the Latin *Physiologus* has, as noted above, contributed to the scholarly neglect of its physical copies. They have never been considered as a group; some have not been examined at all in *Physiologus* scholarship. This is the case for the Montecassino and Chartres manuscripts. Some are not described in any detail in available catalogues. This has meant that many of the texts contained within these books have remained unidentified, beyond a Latin description or *incipit*. Yet the fourteen manuscripts identified in Appendix I represent a definable period in the history of the *Physiologus*, which facilitates their comparison and evaluation. All the codices can be dated to between ca. 700 and ca. 1000. Although the *Physiologus* continued to be copied until at least the sixteenth century, by the end of the eleventh it had already begun to be expanded into the bestiary, while variant versions such as the metrical *Physiologus Theobaldi* had begun to appear by the middle of the eleventh century. Its use appears to have been evolving as the bestiary gradually emerged. Copies from the mid-eleventh century onwards cannot therefore be used as evidence of earlier practice and attitudes alongside the text used by the Carolingians and Ottonians. For this reason, Appendix I does not extend beyond ca. 1000 CE. One of its important functions is to correct many catalogue errors and omissions. In some cases, the origin or palaeography of a codex has been revised, with a fuller discussion provided in the corresponding analysis of that codex elsewhere in the book.

Chapter 1 examines our understanding of nature and science, including the different terms used to describe it both today and in the early Middle Ages. The chapter uses a range of texts to explore the complex ideas about the visible and invisible world, the natural and the supernatural, God and humanity's place in Creation, that informed early medieval thought. It concludes that the early medieval Latin West did not understand the natural world in the modern sense as something that can be investigated by the senses, but rather as a canvas of portents and mysteries to search for order, truth, and signs of God's plan for Creation. This conclusion rejects the adversarial and apocalyptic views of nature in late antique and early medieval Europe that have prevailed in much of the scholarship since being proposed by David Herlihy in 1980. It also questions the prevailing opinion that before the twelfth century, with its attendant view of nature as a logical, scientifically observable physical realm, the incoherent natural world was imbued with symbols whose intelligibility depended only on a higher order. Such a teleological, "Dark Age" dismissal ignores the historical context of early medieval attempts to understand the natural world. This chapter shows that the relationship between humanity and nature in this period was instead shaped by a long discourse rooted in the past which, though sometimes heteroge-

neous, nevertheless emphasized a single idea: the hope of human salvation through divine Creation. Humanity, the physical world and the divine were considered as part of a whole, and this view of "nature," while very different from later medieval and modern conceptions, was nevertheless complex, well-articulated and unifying.

Chapter 2 considers the geographical spread of the *Physiologus* manuscripts and other known mentions of the *Physiologus* from early medieval library catalogues and booklists. Based on this, it considers who the audiences and readers of the *Physiologus* might have been. It then examines the complex contents of the collection that contains the earliest known copy of the *Physiologus* in any language: Bern, Burgerbibliothek, MS 611 + Paris, Bibliothèque nationale de France, MS lat. 10756. This collection dates to the year 727 and situates the *Physiologus* in the context of a dynamic early medieval culture led by monasteries. Some of the folia that make up the manuscript were brought to an eastern French monastery from Italy, where they were cleaned of text and collated with other booklets; the whole was then written over with a very large number of text extracts, among them poetry, administrative templates, and astronomical tables, as well as medical, grammatical and patristic works. Tironian shorthand was used throughout. This important miscellany shows that the *Physiologus* was transmitted very early on in a compilation that sought to collect practically useful texts for a wide variety of purposes, which included the calculation of Easter, public chancery and administrative activity, liturgy, and teaching, among others. The compilatory effort represented here reflects the beginning of early medieval monastery-led attempts to integrate a variety of far-flung intellectual traditions. This process is examined using the historical context of seventh- and eighth-century monastic book production. The *Physiologus* is, in this period, one of a range of practical works required for both the internal and external running of the monastery and its community, but it is not yet used as part of a coherent system of thought on nature. Rather, its function in this manuscript appears to be restricted to its general utility—itself very diverse.

Chapter 3 explores a shift in the way the *Physiologus* was used from the second half of the eighth century onwards. This shift is linked to the eighth- and ninth-century legislative, educational, and ecclesiastical reforms initiated by Pippin the Short and his son Charlemagne, and to the emergence of a new type of book in the early medieval period: the miscellany. This chapter explores the structure and functions of the miscellany using the example of a variety of *Physiologus* manuscripts. In contrast with the Merovingian manuscript discussed in Chapter 2, these Carolingian manuscripts are internally coherent compilations that responded to a contemporary need to understand the Bible better, particularly through language. The definition and role of such miscellanies in early medieval learning reflect the importance of the written word in this period. One result of the Carolingian reform is that texts were brought together to respond to the demand for better education of priests. But priests also needed to teach each other, as well as lay children and adults in a variety of settings. Information on and around core learning subjects therefore appears in the *Physiologus* manuscripts in a variety of forms that could be adapted or used in different contexts. Education and compilation processes are richly represented in St. Gallen, Stiftsbibliothek, Cod. Sang. 230, which is a very long collection of works used for the education

of priests. The range of textual techniques used in this manuscript are examined to explore how the natural material of the *Physiologus* supplemented Christian learning. The material in this manuscript is compared with the similarly large collection represented by Bern, Burgerbibliothek, MS 225 + Bern, Burgerbibliothek, MS 233 + Orléans, Médiathèque, MS 313. These miscellanies demonstrate that from the late eighth century, the *Physiologus* was used to promote a view of the physical, created world as a narrative tapestry—a text that could be read—with language as a means of doing this; and for teaching the mysteries of Scripture, and eternal salvation as the ultimate reward, as a logical consequence of this kind of reading.

The later ninth- and early tenth-century development of the *Physiologus* is examined in Chapter 4. It explores allegory as a moral tool in several other ninth-century manuscripts of the *Physiologus*, and allegoresis as an approach to reading texts in this period. The four-fold method of Christian exegesis, which includes the allegorical, has already been extensively studied, but this chapter explores in more depth the link between spiritual allegory, morality, and nature in the early Middle Ages. Nature can be regarded as the basis of allegorical interpretation, which leads to the moral God and therefore to human salvation. This has implications for good living. The practical way these ideas were disseminated and implemented is evident from three collections containing the *Physiologus*. Montecassino, Archivio dell'Abbazia, MS 316 + MS 323 is one of these books. It is very heavily focused on understanding the Bible, with nearly 150 folios dedicated to glossaries; but it also explains baptism, and natural occurrences (winds, the sun, and thunder). The inclusion of the *Physiologus* in such a focused collection of important introductory texts can only be explained by a strong perceived link between spiritual and physical life. In addition, etymology is shown to have linked the written word with nature and with God: as part of the theory of natural signification, used both before and after the early Middle Ages by the Stoics and William Ockham, sounds imitate the true natures of the things they represent, and, through etymology, can lead humanity to the Creator. Words therefore slot into a spiritually rich and intelligible conception of the created world, as evident in Munich, Bayerische Staatsbibliothek, Clm 14388 and Munich, Bayerische Staatsbibliothek, Clm 19417.

Chapter 5 tracks the developments that may have led to the later medieval modifications in the content and function of the *Physiologus* from the last quarter of the ninth century. Firstly, the manuscripts reflect a growing tendency to assemble texts on natural topics and link them with moral material—a thematic collocation not observable in the earlier ninth-century manuscripts. This is especially clear in Wolfenbüttel, Herzog August Bibliothek, MS Gud. lat. 148. Around half of this manuscript's texts are allegorical and moral interpretations of animal behaviour and appearance, stones, plants, and geographical features. This thematic selection is clearly no accident. Most interestingly, however, the remaining texts—which discuss Paradise, monsters, and morality—give this focus on the natural world an extra dimension by exploring spiritual salvation. A similar dimension is evident in Brussels, Bibliothèque Royale, MS lat. 10066–77. The pictorial cycle in this manuscript, which links the *Physiologus* to the late antique allegorical poem *Psychomachia* (a title that translates as "battle of

the spirit"), emphasizes the importance of living a moral Christian life by resisting vice and embracing virtue. Finally, in Vatican City, Biblioteca Apostolica Vaticana, MS Pal. lat. 1074, the *Physiologus* is presented alongside two other texts on animals and is followed by texts dealing with fundamental credal statements. In all these manuscripts, orthodoxy and salvation are the logical result of observing the natural world. The Carolingian program of Christian and moral education continues to be reflected in this period as well—as shown by the tenth-century Oxford, Bodleian Library, MS Auct. T.2.23—but there is a growing awareness of "nature" as a guiding principle for the collocation of texts. This, in turn, may reflect a new perception of the natural world as a distinct subject.

Secondly, we see that the *Physiologus* was being increasingly used in schools. In the late tenth or early eleventh-century manuscript Paris, Bibliothèque nationale de France, Nouv. acq. lat. 455 (previously only cursorily mentioned in *Physiologus* scholarship), I have found evidence of three inexperienced scribes trained in Visigothic minuscule using the *Physiologus* to practice Caroline minuscule. This manuscript reveals the movement of scribes between France and Spain, and suggests how the *Physiologus* may have reached Catalonia, where the Vatican manuscript Pal. lat. 1074 was produced. This is also the first copy of the *Physiologus* which was demonstrably used in a schoolroom setting. Since, with this manuscript, all the evidence for the use of the Latin *Physiologus* in schools dates from the tenth century at the very earliest, and since this evidence is richest in the eleventh and twelfth centuries, it is clear that the cultural context underwent a major change during the period ca. 950–1100. Overall, the shift of the *Physiologus* to a school setting and the new emphasis on "nature" as a theme paved the way both for the expansion of the *Physiologus*, leading to the bestiary, and for the creation of new didactic versions of the text.

The conclusion briefly draws together the wider strands of the *Physiologus*' history. It unfolds the *Physiologus* as a work which, once it had reached early medieval Latin Europe, was inserted into manuscript collections that represented deliberate compilations of texts used both for a variety of local purposes and for promoting an allegorical understanding of nature as God's moral creation. The *Physiologus* has long deserved to be re-evaluated as an important text on the natural world, which, within its highly innovative early medieval miscellany context, played a significant role in re-shaping inherited thought along new lines. Its simple format, far from reducing it to a collection of childish stories, meant that it plugged easily into the encyclopaedic culture that characterized much early medieval intellectual activity from Isidore of Seville onwards. It must, therefore, be read within its early medieval manuscript and historical context to be fully understood.

In the early Middle Ages, the prestige accorded to the written word blurred the lines between the sacred text, the words on the page, and the real-life objects that these discussed. The whole world was intelligible, if only you knew enough language to read it. This link between the Bible and the natural world ultimately represents a fascination with the surrounding environment, and more particularly, with humanity's place in Creation. It is this fascination that underpins the success of the *Physiologus*, the "authority on nature," in the early Middle Ages.