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INTRODUCTION

At the Limit

Yesterday, when I was about to go to bed, an amanuensis of mine, accustomed to make observations, informed me, that one of the servants of the house, going upon some occasion to the larder, was frightened by something luminous, that she saw (notwithstanding the darkness of the place) where the meat had been hung up before. Whereupon, suspending for a while my going to rest, I presently sent for the meat into my chamber, and caused it to be placed in a corner of a room capable of being made considerably dark, and then I plainly saw, both with wonder and delight, that the joint of meat did, in divers places, shine like rotten wood or stinking fish; which was so uncommon a sight, that I had presently thoughts of inviting you to be a sharer in the pleasure of it.¹

On seeing the glowing veal shank discovered by his terrified servant, Robert Boyle's first response was wonder. His second was immediately to investigate the matter, despite the lateness of the hour and the head cold he had caught trying out a new telescope. Even as he was undressing for bed, he called for another leg of veal "ennobled with this shining faculty" to be brought into his chamber. The pleasure of the "uncommon sight" sustained him into the early morning hours.

Boyle and many of his contemporaries saw wonder as a goad to inquiry, and wonders as prime objects of investigation. René Descartes called wonder the first of the passions, "a sudden surprise of the soul which makes it tend to consider attentively those objects which seem to it rare and extraordinary."² Francis Bacon included a "history of marvels" in his program for reforming natural philosophy.³ Their focus on wonder and wonders in the study of nature marked a unique moment in the history of European natural philosophy, unprecedented and unrepeated. But before and after this moment, wonder and wonders hovered at the edges of scientific inquiry. Indeed, they defined those edges, both objectively and subjectively. Wonders as objects marked the outermost limits of the natural. Wonder as a passion registered the line between the known and the unknown. This book is about setting the limits of the natural and the limits of

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the known, wonders and wonder, from the High Middle Ages through the Enlightenment. A history of wonders as objects of natural inquiry is therefore also a history of the orders of nature.⁴ A history of wonder as a passion of natural inquiry is also a history of the evolving collective sensibility of naturalists. Pursued in tandem, these interwoven histories show how the two sides of knowledge, objective order and subjective sensibility, were obverse and reverse of the same coin rather than opposed to one another.

To study how naturalists over some six centuries have used wonders to chart nature's farthest reaches reveals how variously they construed its heartland. Medieval and early modern naturalists invoked an order of nature's customs rather than natural laws, defined by marvels as well as by miracles. Although highly ordered, this nature was neither unexceptionably uniform nor homogeneous over space and time. Wonders tended to cluster at the margins rather than at the center of the known world, and they constituted a distinct ontological category, the preternatural, suspended between the mundane and the miraculous. In contrast, the natural order moderns inherited from the late seventeenth and eighteenth centuries is one of uniform, inviolable laws. On this view, nature is everywhere and always the same, and its regularities are ironclad. Wonders may occasionally happen, but they occupy no special geographical region, nor can they lay claim to any special ontological status outside the strictly natural. Only a miracle – a divine suspension of natural laws – can in principle break this order. To tell the history of the study of nature from the standpoint of wonders is to historicize the order of nature and thereby to pose new questions about how and why one order succeeds another.

As theorized by medieval and early modern intellectuals, wonder was a cognitive passion, as much about knowing as about feeling. To register wonder was to register a breached boundary, a classification subverted. The making and breaking of categories – sacred and profane; natural and artificial; animal, vegetable and mineral; sublunar and celestial – is the Ur-act of cognition, underpinning all pursuit of regularities and discovery of causes. The passion of wonder had a mixed reception among late medieval and Renaissance natural inquirers, scorned by some as a token of ignorance and praised by others, following Aristotle, as “the beginning of philosophy.”⁵ All, however, agreed that wonder was not simply a private emotional experience but rather, depending on context, a prelude to divine contemplation, a shaming admission of ignorance, a cowardly flight into fear of the unknown, or a plunge into energetic investigation. Such states were charged with meaning for the image and conduct of naturalists as a group. Since the Enlightenment, however, wonder has become a

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disreputable passion in workaday science, redolent of the popular, the amateurish, and the childish. Scientists now reserve expressions of wonder for their personal memoirs, not their professional publications. They may acknowledge wonder as a motivation, but they no longer consider it part of doing science.

The history of wonder, however, extends beyond the history of its role in the study of nature and its positive or negative valuation therein. Wonder has its own history, one tightly bound up with the history of other cognitive passions such as horror and curiosity—passions that also traditionally shaped and guided inquiry into the natural world. Not only the valuation of these emotions, but also their proximity and distance from one another, and even their texture as felt experience, have changed with context and over time. The domain of wonder was broad, and its contexts were as various as the annual fair, the nave of a cathedral, the princely banquet hall, the philosopher's study, or the contemplative's cell. Context colored emotion. Wonder fused with fear (for example, at a monstrous birth taken as a portent of divine wrath) was akin but not identical to wonder fused with pleasure (at the same monstrous birth displayed in a *Wunderkammer*). In the High Middle Ages wonder existed apart from curiosity; in the sixteenth and seventeenth centuries, wonder and curiosity interlocked. Estrangement and alliance shaped the distinctive objects and the subjective coloring of both passions. Thus in writing a history of wonder as a passion, we have attempted to historicize the passions themselves.

To this end, we have adopted one fundamental principle: to attend as precisely as possible to what our sources meant by the passion of wonder and by wonders as objects. We here diverge from most recent students of the pre-modern marvelous, who have tended to define their subject in terms of "what we *now* call marvels," in the words of Jacques Le Goff.⁶ This corresponds to a loose category coextensive with what might in English be called the fictional or fantastic and is defined mainly in privative terms as that which is excluded by modern views of the rational, the credible, and the tasteful: the products of imagination, the inventions of folklore and fairy tales, fabulous beasts of legend, freaks of sideshows and the popular press, and, more recently, the uncanny in all its forms. Because this view of wonders was a creation of Enlightenment thinkers, it is hardly surprising that, as Le Goff himself notes, medieval writers "did not possess a psychological, literary, or intellectual category" corresponding to the modern *merveilleux*.⁷ Accounts of the subject based on this anachronistic definition are evocative for modern readers, but they lack historical coherence and precision.

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What words did medieval and early modern Europeans use for the modern English “wonder” and “wonders”? In Latin, the emotion itself was called *admiratio* and the objects, *mirabilia*, *miracula*, or occasionally *ammi-randa*. These terms, like the verb *miror* and the adjective *mirus*, seem to have their roots in an Indo-European word for “smile.”⁸ (The Greek *thauma*, on the other hand, found its origin in a verb “to see.”)⁹ The etymological ties between wonder and smiling persisted in the romance languages (*merveille* in French, *meraviglia* in Italian, *marvel* in English from c. 1300), though not in the German *Wunder* – a word of mysterious origin that may have to do with intricacy or complexity – or the English *wonder*.¹⁰ We have followed late medieval and early modern English writers in employing the Germanic *wonder* and the romance *marvel* interchangeably in our translations and in our own prose.

Except for this difference between the Germanic and the romance roots, however, the vocabulary of wonder had a unified profile from at least the twelfth or thirteenth century in all the linguistic traditions we have studied. This argues for a strong common understanding. First, the words for passion and objects were, if not identical, then closely related, signaling the tight links between subjective experience and objective referents. Second, these languages all blurred the sacred and the secular objects of wonder – the miraculous and the marvelous. This suggests the impossibility of wholly divorcing these two kinds of wonders in the dominant Christian culture, although theologians and philosophers upheld an analytical distinction between them; the realms of the supernatural and preternatural can be differentiated in order to focus on the latter, as we have done in this study, but only with considerable care. Despite this difficulty, we have restricted this study to natural wonders, marvels rather than miracles. Finally, from at least the twelfth century the vernacular terms for wonder, like the Latin, admitted a spectrum of emotional tones or valences, including fear, reverence, pleasure, approbation, and bewilderment. Beginning in the late fifteenth or sixteenth centuries, these different flavors of wonder acquired different names: *admiration* and *astonishment* in English, for example, *Bewunderung* and *Staunen* in German, and *étonnement* and *admiration* in French. This multiplication and refinement of vocabulary signals the prominence of the passion and its nuances in the early modern period. Thus wonder was from at least the High Middle Ages a well-defined but also an extraordinarily rich and complex emotion, with associations that crystallized into separate terms over the course of time.

The tradition had a strong coherence, which rested in both the objects of wonder and the passion that they inspired. The canon of natural won-

ders had a stable core throughout the period we have studied (and indeed back into the Hellenistic period), with a penumbra that expanded and contracted as ideas, experiences, and sensibilities changed. At the center lay the most enduring marvels, like African pygmies, the mysterious lodestone, the glowing carbuncle, or the properties of petrifying springs. Over the course of time, some objects dropped out of this canon for various reasons. The basilisk was debunked, comets were explained, and unicorn horns became too common, even before they were reclassified as narwhal tusks: wonders had to be rare, mysterious, and real. At the same time, such new objects joined the canon of wonders as monstrous births, recuperated from the canon of horrors, and the louse, a marvel only under the microscope. Reassessing the meaning (and thus the emotional import) of an object or revealing a previously hidden characteristic could make it grounds for wonder. The passion and the objects mutually defined each other, a process in which neither remained static.

In placing wonder and wonders at the center of our narrative, we have had to challenge the traditional historiography of science and philosophy in fundamental ways. Most obviously, we have let go of not only the usual periodization, which divorces the medieval from the early modern study of nature, but also the much more basic ideas of distinct stages, watersheds, new beginnings, and punctual or decisive change. These narrative conventions, imported into intellectual history from eighteenth- and nineteenth-century political historiography, only distort the nonlinear and nonprogressive cultural phenomena we describe. For the most part our story is not punctuated by clearly distinguished epistemes or turning points, but is instead undulatory, continuous, sometimes cyclical.

It is not that the six hundred years we discuss saw no changes or that we are talking of the stasis of the *longue durée*. In our story, individuals change their minds, have remarkable experiences, and make extraordinary discoveries, which dramatically alter the known world. Social and intellectual communities and institutions appear and disappear or develop new allegiances and agendas over a decade or a generation. Since our study encompasses much of western Europe and spans a range of cultural environments, change was always happening somewhere: from the beginning of our period to the end, the canon of wonders was constantly shifting its contents and its meaning in innumerable ways. But change happened smoothly and continuously in its general outlines. The multiplicity of approaches in the interpretation of nature, the layering of cultural levels, the differences between national or linguistic traditions, the gap between the rear guard (usually) at the periphery and the avant-garde (usually) at the center — all acted to smooth out the watersheds and blur the borders

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between epistemes that are often projected onto this more complicated historical reality. As a result, our readers must be willing to abandon conventional periodization and a strictly linear narrative. In order to follow the substantive and chronological contours of the history of wonder and wonders we have integrated both periods and topics usually kept asunder – collecting and romances, travel and court spectacle, medical practice and popular prophecy, natural philosophy and aesthetic theory.

Despite these departures from historical convention, our story interweaves and intersects with many important and familiar narratives of high medieval and early modern European historiography: the rise of universities, the age of European exploration, the course of the Scientific Revolution, secularization, the rise of absolutism, and the like. Rather than rejecting or supplanting such narratives, we have used our sometimes unfamiliar material as seventeenth-century philosophers used marvels: to “break up our familiarities,” as Foucault put it in our epigraph, “and to regard otherwise the same things.” We do not propose wonders as the newest key to early modern science and philosophy, nor do we offer our own story as an alternative grand narrative for the Scientific Revolution, as Frances Yates did for magical Hermeticism.¹¹ But the history of science does look different when organized around ontology and affects rather than around disciplines and institutions.

Our study is in some ways unusually broad – contextually, chronologically, and geographically – but we have set limits as to who and when. Our book focuses on wonder and wonders as an elite tradition, engaging the attention of princes, clerical administrators, preachers, teachers, court artists and storytellers, naturalists, and theologians. We have begun with the mid-twelfth century for two related reasons. First, the dramatic increase in the number of ancient sources available provided the base for a rich ramification and elaboration of the ancient tradition of writing on wonders. Second, the coeval rise of cities and of royal and imperial bureaucracies, the creation of courts as centers of literary, artistic, and philosophical culture, the emergence of schools and, later, universities as centers of formal learning – all combined to create literate, wealthy, and powerful audiences for wonder and wonders. At the other terminus, we have taken our study well into the eighteenth century in order to trace and analyze the process by which wonder and wonders faded from prominence in elite circles as favored objects of contemplation and appreciation. How marvels fell from grace in European high culture has less to do with some triumph of rationality – whether celebrated as enlightenment or decried as disenchantment – than with a profound mutation in the self-definition of intellectuals. For them wonder and wonders became simply

vulgar, the very antithesis of what it meant to be an *homme de lumières*, or for that matter a member of any elite.

This marked the end of the long history of wonder and wonders as cherished elements of European elite culture, and therefore also the one sharp rupture in our narrative. During the period from the twelfth through the late seventeenth century, wonder and wonders – far from being primarily an element of “popular” culture, much less a site of popular resistance to elite culture¹² – were partly constitutive of what it meant to be a cultural elite in Europe. In the hands of medieval abbots and princes, natural wonders such as ostrich eggs, magnets, and carbuncles represented the wealth of their possessors and their power over the natural and the human world. In the hands of philosophers, theologians, and physicians, they were recondite objects of specialized knowledge that transcended prosaic experience. In the hands of sixteenth- and seventeenth-century virtuosi and collectors, they became occasions for elaborate exercises in taste and connoisseurship. All of these groups separated themselves from the vulgar in their physical access to marvels, in their knowledge of the nature and properties of these marvels, and in their ability to distinguish things that were truly wonderful from things that were not. When marvels themselves became vulgar, an epoch had closed.

In laying out this long, sinuous history of wonders, we have organized our book along only roughly chronological lines. Key themes such as the shaping role of court culture, the lure of the exotic, the practices of collecting, the forms of scientific experience, the unstable boundary between marvels and miracles, recur throughout. Chapter One discusses writing on extraordinary natural phenomena in the literature of travel and topography, chronicles, and encyclopedias, which, we argue, constituted the core tradition of medieval reflection on wonders. Chapter Two treats wonders as objects, both textual and material, and describes the way in which they were used for purposes ranging from religious meditation to court ritual, while Chapter Three turns to the culture of thirteenth- and fourteenth-century natural philosophy and its rejection of both wonder and wonders as an integral part of the study of the natural order. Chapter Four shows how various groups of intellectuals, especially court physicians, professors of medicine and natural history, apothecaries, and authors of texts in popular philosophy, rehabilitated wonders for both natural philosophical contemplation and empirical investigation.

Chapter Five, on monstrous births, is our only extended case study. The pivot of the book’s argument, it spans the period from the late Middle Ages through the Enlightenment and rehearses the multiple meanings of wonders as religious portents, popular entertainment, philosophical

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challenge, and aesthetic affront. Monsters elicited wonder at its most iridescent, linked sometimes to horror, sometimes to pleasure, and sometimes to repugnance.

Chapter Six describes how the preternatural became a central element in the reform of natural history and natural philosophy in seventeenth-century scientific societies, while Chapter Seven examines how the early modern *Wunderkammern*, in blurring the ancient opposition between art and nature, served as an inspiration for the union of these ontological categories in the natural philosophy of Bacon and Descartes. Chapter Eight charts the shifting relationships between the two cognitive passions of wonder and curiosity, showing how they briefly meshed into a psychology of scientific inquiry in the seventeenth century – given triumphant expression in the passage from Boyle with which we began this Introduction – only to drift rapidly apart thereafter. Chapter Nine, finally, recounts how wonder and wonders became vulgar, at once metaphysically implausible, politically suspect, and aesthetically distasteful.

All of the chapters are the products of joint research, discussions, and writing, but Park had primary responsibility for Chapters One through Four, and Daston for Chapters Six through Nine. We wrote Chapter Five together.

The enduring fascination exerted by wonders cries out for explanation. How did a miscellany of objects become and remain so emotionally charged? Wonders and wonder limned cognitive boundaries between the natural and the unnatural and between the known and the unknown. They also set cultural boundaries between the domestic and the exotic and between the cultivated and the vulgar. All of these boundaries were electric, thrilling those who approached them with strong passions; to run up against any of these limits was necessarily to challenge the assumptions that ruled ordinary life. No one was ever indifferent to wonders and wonder. Neither the medieval and Renaissance princes who coveted them, nor the readers of romances and travelogues who dreamed with them, nor the Enlightenment philosophes who despised them could be neutral about wonders: markers of the outermost limits of what they knew, who they were, or what they might become.

CHAPTER ONE

The Topography of Wonder

When high medieval European writers invoked wonders, what exactly did they have in mind? Gervase of Tilbury, an early thirteenth-century English noble and imperial counselor resident at Arles, was eager to explain. He devoted the third and longest section of his *Otia imperialia*, written around 1210 and dedicated to Emperor Otto IV, to what he called “the marvels of every province – not all of them, but something from each one” (fig. 1.1).¹ After some introductory remarks, he set out a catalogue of a hundred and twenty-nine such marvels, beginning with the magnet, an Indian stone with the mysterious property of attracting iron, and ending with a spring near Narbonne that changed place whenever something dirty was put into it. In between, he wrote of a garden planted by Vergil in Naples that contained an herb that restored sight to blind sheep; Veronica’s napkin, still imprinted with Christ’s likeness, in St. Peter’s; the portents at the death of Caesar; the sagacity of dolphins; a race of Egyptian people twelve feet high with white arms and red feet, who metamorphosed into storks; the phoenix; *dracs*, who lived in the Rhone and lured women and children by taking the form of gold rings; and werewolves, whose sighting Gervase described as “a daily event in these parts.” Gervase protested the truth of all these phenomena, noting he had tested or witnessed many of them himself.

At first glance, this list appears incoherent. It included plants, animals, and minerals; specific events and exotic places; miracles and natural phenomena; the distant and the local; the threatening and the benign. Furthermore, Gervase had compiled his wonders from a wide range of sources. Many (the dolphins, the phoenix, the portents) came from classical texts, while others were obviously biblical or belonged to the capacious Christian corpus of wonder-working sites, images, and relics. Still others, like the werewolves and *dracs*, had their roots in Germanic, Celtic, or other local oral traditions. Yet for all their diversity, Gervase stressed the coherence of this catalogue of wonders, locating it in the emotion

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Figure 1.1. The marvels of Naples

Jouvenel des Ursins group, *Livre des merveilles du monde*, trans. and comp. Harent of Antioch, Acc. no. MS 461, fol. 15v, Pierpont Morgan Library, New York (c. 1460).¹

This illustration to the French translation of Gervase's *Otia imperialia* shows the wonders of Naples, in the province of Campania. These included several magical inventions attributed to Vergil, notably a bronze fly that prevented any other flies from entering the city and a bronze statue of a man with a trumpet that repulsed the south wind, so that the ash and cinders from Vesuvius (shown in the background with a flaming top) were blown away from the fields surrounding the city. Notable among the natural marvels of the region, in addition to Vesuvius itself, were the thermal and therapeutic baths of Pozzuoli, shown as two square basins on the flank of the volcano (see also fig. 4.1), and a bean plant (before the city gate) that caused anyone who ate its fruit to experience the feelings of the person who had picked the beans.

THE TOPOGRAPHY OF WONDER

evoked by all of them. “And since the human mind always burns to hear and take in novelties,” he wrote in his preface,

old things must be exchanged for new, natural things for marvels [*mirabilia*], and (among most people) familiar things for the unheard of. . . . Those things that are newly created please naturally; those things that have happened recently are more marvelous if they are rare, less so if they are frequent. We embrace things we consider unheard of, first on account of the variation in the course of nature, at which we marvel [*quem admiramur*]; then on account of our ignorance of the cause, which is inscrutable to us; and finally on account of our customary experience, which we know differs from others’ From these conditions proceed both miracles [*miracula*] and marvels [*mirabilia*], since both culminate in wonder [*admiratio*].²

In this passage, Gervase summarized the principal commonplaces of the high medieval understanding of wonder. First, he traced the emotion to two roots: experience of the novel or unexpected, and ignorance of cause. Marvels were either rare phenomena, astounding by their unfamiliarity (for example, the phoenix of the Atlas Mountains, which immolated itself periodically only to rise again), or more common but puzzling, counterintuitive, or unexplained phenomena (for example, the attractive properties of the magnet or ghostly appearances of the dead). As a result, Gervase emphasized in his reference to “customary experience,” wonder was always relative to the beholder; what was novel to one person might be familiar to another, and what was mysterious to one might be causally transparent to someone better informed.³ For this reason, Gervase continued in a passage cribbed from Augustine, we do not find it marvelous that lime catches fire in cold water, because it forms part of our everyday experience, but if we were told that some stone from India behaved in exactly the same way, we would either dismiss the story as incredible or be “stupefied with wonder.”⁴ Throughout this passage, finally, Gervase emphasized the tight links between wonder, pleasure, and the insatiable human appetite for the rare, the novel, and the strange. It is certainly for this reason that he placed wonders at the apex of a work designed ostensibly for the emperor’s entertainment and relaxation.

Like his analysis of wonder, Gervase’s list of marvels was broadly typical of contemporary learned literature. It represented, if not a fixed canon of individual phenomena, then certainly a canon of the *types* of things that thirteenth-century readers would expect to find in such a list. This canon was not a medieval invention. Gervase’s wonders were for the most part the classic wonders of Greek and Roman paradoxography, a literary genre

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that had grown out of the Aristotelian project of compiling descriptive histories of natural phenomena and had coalesced in the third century B.C.E. in the form of catalogues of things that were surprising, inexplicable, or bizarre.⁵ The purpose of the original Greek texts is unclear, but they may have served as commonplace books for rhetoricians. In any case, paradoxographical material later made its way into Roman encyclopedic writing, including the works of the Pliny the Elder and Solinus, who were well known in the medieval Latin West.

Gervase of Tilbury's account of the world's wonders took the form of a catalogue made up of extremely brief and descriptive entries, with no attempt to relate them either spatially or chronologically or to analyze or explain them in any way. The wonders themselves were overwhelmingly topographical in nature; that is to say, they were linked to particular places (the "provinces" of Gervase's subtitle) and often to particular topographical features, such as caves and springs, rocks and lakes. The magnet was indigenous to India, for example, and the phoenix to the Atlas Mountains, while there were mountains in Wales so wet that the land moved under travelers' feet.⁶ Such wonders were, in other words, particular, localized, and concrete. Yet despite these similarities to ancient paradoxography, Gervase's work differed from it in important ways. He introduced his discussion by analyzing the emotion of wonder: its association with novelty, its pleasurable nature, its causes, and its universal appeal. Even more striking, he did not simply repeat the canonical marvels he found in earlier writers – a signal feature of ancient paradoxography – but sought to supplement them with wonders of his own. Many of these came from personal experience, which explains the strong showing of the region around Arles.⁷ These differences mark an important feature of the later medieval tradition of what we will call topographical wonder: its emphasis on verification through personal experience and oral report. Less a purely erudite tradition than its ancient forebear, it had more room for development and growth.

Wonders of this sort were not confined to catalogues of *mirabilia* like Gervase's but appeared in recognizable clusters in medieval works of many different sorts: encyclopedias (together with the related genres of bestiary, lapidary, and herbal), chronicles, topographical treatises, travel narratives, and the literature of romance. The variety of this literature reflects the growing medieval audience for wonders. In the early thirteenth century, when Gervase was writing, marvels were largely confined to Latin culture, with the important exception of vernacular romance. The authors of this material were for the most part clerics, often in the employ of princely patrons, secular and ecclesiastical. Gervase himself

claimed to be writing for the emperor, having previously served as courtier and counselor to England's Henry II, another European monarch with a taste for natural wonders. Henry was the dedicatee of another of the earliest Latin works to take up the topic, Gerald of Wales's topography of Ireland, which its author presented to Archbishop Baldwin in 1188.⁸

From the twelfth century on, marvels also figured prominently in vernacular romances. This signals a growing audience for wonders that included not only clerics and princes but also the knightly and eventually the bourgeois readers of that genre. By the middle of the fourteenth century, various earlier Latin books of marvels, including Gervase's and Gerald's, had been translated into the vernacular, and other writers had begun to produce original vernacular topographical books of wonders, culminating in the spectacularly popular *Mandeville's Travels*.⁹ Some of these, like *Mandeville's Travels* and the book of Marco Polo, were in turn translated into Latin. Indeed, as a sign of the growing appetite for wonders, earlier books with no reference to wonders in their titles were renamed to underscore the marvels they contained. One example was Polo's originally rather prosaically titled *Devisament dou Monde* (*Description of the World*), repackaged in Latin as *Liber Milionis de magnis mirabilibus mundi* ("Million's" *Book of the Great Wonders of the World*); the author's nickname reflected his reputation for exaggeration.¹⁰ This chapter and the one that follows focus on the diverse environments in which wonders, in all their myriad incarnations, were enthusiastically compiled, collated, analyzed, and multiplied in monasteries and convents, the households of urban lay readers, and the high and late medieval courts.

Marvels on the Margins

Like the ancient paradoxographers, medieval writers on topographical wonders depicted the margins of the world as a privileged place of novelty, variety, and exuberant natural transgression. In the circular mental map of medieval geography, the central territories—the Holy Land, Europe, and the Mediterranean—had their marvels, but they were far outstripped in this respect by the periphery: the territories and islands bathed by the great ocean thought to cover most of the globe. As the fourteenth-century English monk Ranulph Higden put it in his world history, "At the farthest reaches of the world often occur new marvels and wonders, as though Nature plays with greater freedom secretly at the edges of the world than she does openly and nearer us in the middle of it."¹¹ Gerald of Wales was of the same opinion: "Just as the countries of the East are remarkable and distinguished for certain prodigies [*ostentis*] peculiar and native to themselves, so the boundaries of the West also are made remark-

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able by their own wonders of Nature [*naturae miraculis*]. For sometimes tired, as it were, of the true and the serious, [Nature] draws aside and goes away, and in these remote parts indulges herself in these shy and hidden excesses.”¹²

Gerald and Ranulph both had Ireland in mind, but most other medieval writers agreed that the most wonderful wonders lay in the far South and East, in Africa and India. Richard of Holdingham’s great Hereford map, produced in England in the 1280s, illustrated the extraordinary fauna of these regions in vivid detail (fig. 1.2). Although these “marvels of the East,” as they are usually called by modern scholars, had a long and rich history reaching to Hellenistic times and beyond, medieval authors and mapmakers knew the tradition largely through a variety of later Roman writers, notably Pliny, Solinus, Augustine of Hippo, Isidore of Seville, and the authors of a large body of literature associated with the figure of Alexander the Great.¹³ The Islamic world had its own well-developed tradition of paradoxography, also shaped by Greek sources, but its central texts were never translated into Latin, and it had relatively little influence in the West.¹⁴

Up to this point we have emphasized general characteristics of the high and late medieval literature of topography and travel, but the genre also shifted and changed over the course of the Middle Ages. The exotic Eastern races had not always elicited the enthusiastic and appreciative response found among Gervase and his contemporaries. Early medieval writers tended to follow the Alexander tradition, which reflected the imperialist aims of its hero by portraying the East as adversary and prey.¹⁵ The two most widely copied early medieval treatises on the eastern races, the *Liber monstrorum* and *Tractatus monstrorum*, both probably written in the eighth century, stressed the threatening nature of their material. The anonymous author of the first described his subject as the “three types of things on earth that provoke the greatest terror in the human race, monstrous human births, the horrible [*horribilibus*] and innumerable types of wild beasts, and the most terrible [*dirissimis*] kinds of serpents and vipers,” and he compared his task in writing to diving, terror-struck, into a dark sea full of monsters.¹⁶ The creatures in his catalogue included cannibals, harpies, crocodiles, boa constrictors, and enormous ants. One entry will suffice to give the flavor of this work: “There is a certain people of mixed nature who live on an island in the Red Sea. They are said to be able to speak in the tongues of all nations; in this way they astonish men who come from far away, by naming their acquaintances, so that they may surprise them and eat them raw.”¹⁷

This tone of suspicion, if not outright paranoia, also marked various

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