

The Evolution of Dragons: From Living Serpents to Mythical Beasts

Thesis by
Sierra Lopezalles

In Partial Fulfillment of the Requirements for the Degree of History

CALIFORNIA INSTITUTE OF TECHNOLOGY
Pasadena, California
2020

Table of Contents

Table of Contents 2

List of Illustrations 3

Acknowledgements 4

Introduction 5

Humble Beginnings: Classical Dragons..... 6

Late Antiquity: The Transition from Classical to Medieval..... 17

The Medieval Dragon..... 20

Early Modern Dragons..... 34

Athanasius Kircher: The Last Believer..... 37

The Dragon Slayer: Carl Linnaeus..... 44

Conclusion 51

Works Cited 53

List of Illustrations

Figure 1. Rod of Asclepius in the center of the logo for the World Health Organization.	9
Figure 2. Detail of a dragon in a medieval English bestiary c.1236..	21
Figure 3. Depiction of a dragon in medieval English heraldry.	23
Figure 4. Detail of a miniature of a dragon attacking an elephant.....	24
Figure 5. Detail of a miniature of a dragon attacking and suffocating an elephant.	25
Figure 6. Detail of a miniature of St Margaret emerging from the side of a lion-like dragon.	30
Figure 7. Trio of illustrations of dragons from Edward Topsell’s History of Serpents (1608).....	34
Figure 8. Linnaeus’ first taxonomy of animals, including the category Paradoxa.	44
Figure 9. Drawing of a hydra specimen from Albert Seba’s Thesaurus (1734).	47

Acknowledgements

I would like to begin by thanking my thesis advisor, Professor Warren Brown, for his guidance and assistance throughout this entire process. His classes encouraged my interest in history, inspired me to pursue a second degree in History, and ultimately led me to write this thesis. I want to thank the Caltech library for their efficiency and dedication to locating sources for me, especially at a time like this when access to physical library resources was so limited. Finally, I would like to thank my friends and family who supported me and put up with me randomly spouting dragon facts for the past nine months.

Introduction

We, at least in the modern West, tend to think of dragons as mythical beasts; they inhabit medieval epics and romances, as well as the modern fantasy stories and movies inspired by them. As such, they have been around for centuries. However, at the beginning of their life dragons were not mythical; they were in fact quite real. But the original dragons were not dragons at all – they were serpents. The modern image of dragons with legs, wings, and fire-breathing capabilities emerged in the course of the European Middle Ages. It has no place in the Classical world and would have been unrecognizable to the ancient Romans or Greeks. The evolution of dragons from simple snakes did not happen all at once. It occurred slowly over the course of three thousand years (~900BC-1700AD). Further, it did not even happen in the same order everywhere. Dragons were associated with fire and venom in ancient Greek myths and stories but lacked wings until Roman late antiquity. They failed to have their fire-breathing powers confirmed in natural history until the seventeenth century. And across the board, the number of legs attributed to dragons varied greatly between time periods, and even between different depictions in the same time period. Natural histories did not describe dragons as quadrupeds until Athanasius Kircher in the seventeenth century.

That dragons existed, however, remained uncontested until the Early Modern period, and believers persisted well into the eighteenth century. Carl Linnaeus, the father of modern taxonomy, was the person to finally cast them from the real world and firmly trap them in the realm of folklore and legends. It was their strong connection with the world of the gods, a connection that they had enjoyed from the beginning, that led dragons to develop from the real to the unreal, and finally allowed Linnaeus to slay them. Nevertheless, though the dragons that Linnaeus actually met – and he did meet some – were undoubtedly the stuff of myth, the dragons of Ancient Greece were as real as Linnaeus' dragons were fake.

Humble Beginnings: Classical Dragons

Scholars who have traced the evolution of the dragon have only done so in parts: from Greece to the early Middle Ages,¹ or from the Middle Ages to Linnaeus² or across the tradition of natural history from Homer to Gessner,³ but no one has previously endeavored to trace their entire history from the earliest Greek references all the way through to when Linnaeus finally put them to rest. In order to understand why dragons are the way they are, and what happened to them, we need to follow the full path they took to become that way from the beginning through to its end.

The origin of the modern dragon can be traced backwards through history using the etymology of the word *dragon*. The English word *dragon* was derived from the Latin *draco* (plural: *dracones*), which in turn came from the Ancient Greek word *drakōn* (δράκων, plural: *drakōntes*).⁴ While the Ancient Greek *drakōntes* would eventually become the great mythological dragons, they started out looking much different.

At their core *drakōntes* were large snakes. At one extreme they were the large everyday snakes of the real world, while at the other extreme they were serpents of supernatural size and nature.⁵ Along with *drakōn*, the Ancient Greeks had another word for ordinary snakes: *ophis*. Though the two words are often used interchangeably within Greek texts, *drakōn* was generally reserved for snakes in mythological or religious contexts while *ophis* was more common in ordinary situations.⁶ This distinction is described by historian Phil Senter as being similar to the modern-day difference in English between snake and serpent.⁷ While both snakes and serpents are limbless vertebrates of the group Ophidia, *serpent* is chiefly used in literary or rhetorical situations to refer to the larger or more venomous species of snakes.⁸ Though the same snake might be described as both a *snake* and a *serpent*, context determines which is more appropriate

¹ Ogden, *Drakōn*.

² Honegger, *Introducing the Medieval Dragon*.

³ Senter, Mattox, and Haddad, "Snake to Monster."

⁴ Ogden, *Drakōn*.

⁵ Ogden.

⁶ Senter, Mattox, and Haddad, "Snake to Monster," 2.

⁷ Senter, Mattox, and Haddad.

⁸ "Serpent, n."

and holds that serpent belongs to the more fantastical world of sea-serpents and the monstrous snakes found in literature.

Serpents are more than snakes, and so are *drakōntes*. In the same manner as serpents, the *drakōn* snake-dragons were separated from the *ophis* ordinary-snakes and placed closer to the realm of stories. Though *drakōn* at this time still described living snakes, these snakes were elevated above the others and have greater connections to the gods and folklore.

The oldest known written work to use the word *drakōn* is Homer's Iliad, likely written in the ninth century BC. Homer mentions the *drakōn* in six passages.⁹ In one of these passages, he describes a *drakōn* as an *ophis* as well.¹⁰ This reinforces the connection between the two terms and confirms the characterization of *drakōntes* as snakes. Two other descriptions of *drakōntes* refer to the hind of the Chimera, and hair of the Gorgons. The Chimera is a two-headed beast, where one head is that of a lion and the other is that of a goat. The tail of the Chimera is a serpent, as is the hair of the Gorgons, both of which are oft represented in classical art as snakes. This again highlights the serpent nature of *drakōntes*, while also reinforcing the connection to fantastical creatures.

Another passage in the Iliad describes an eagle seen flying above the Trojans carrying a red *drakōn* which is then dropped by the eagle. This is taken as a portent of the Trojans success in defeating the Achaeans but also of their failure to return home unscathed and without loss. Homer's red dragons are portents of war and bloodshed. Furthermore, since there are no solid-red snakes native to Europe, any description of a red *drakōn* is by necessity further removed from reality.

Running parallel to the tradition of dragons in folklore exemplified by Homer was the Greco-Roman natural history tradition. The first mention of a *drakōn* within the context of a natural history text is made by Aristotle (384-322 BC). In his *History of Animals*, Aristotle makes a passing reference of *drakōntes* where he describes eagles as the enemies of the *drakōn*. Eagles are predators of snakes, so it is logical that Aristotle would also believe that eagles prey on

⁹ Iliad 2.301-320; 3.33-37; 6.181; 11.38-40; 12.195-229; 22.93-97

¹⁰ Senter, Mattox, and Haddad, "Snake to Monster," Iliad 12.208.

*drakōntes*¹¹ Again, this reinforces the connection between *drakōntes* and snakes and also reflects the antagonistic relationship between eagles and *drakōntes*/snakes described by Homer.

Following Aristotle, the second century Greek physician and poet Nicander of Kolophon provides a description of a *drakōn* in a verse natural history titled *Theriaca* (“Of Venomous Animals”). Title notwithstanding, he includes the *drakōn* in a section on nonvenomous snake species. Based on his description, his dragon appears to have been the local snake *Zamenis longissimus* which can grow to a length of seven feet. Clearly, for Nicander, the dragon was something real. Nicander also relates that *drakōntes* are associated with the Greek god Asclepius, who will be discussed below.¹²

With the transition from Greece to Rome, the dominant language of scholars in the West switched from Greek to Latin. This transition to Latin led to a semantic and “scientific” differentiation in natural history texts between the huge dragon (*draco*) and the more ordinary snakes (*coluber*, *anguis*, and *serpens*).

One of the most important Roman natural historians was Pliny the Elder (AD 23/24–79). Building on the Greek tradition, Pliny’s *Natural History* describes dragons as hailing from Ethiopia and India and reaching twenty cubits in length (thirty feet).¹³ Pliny then further describes how the dragons lace themselves together into a raft to sail across the sea, using their heads as sails.¹⁴ It is possible that this belief is based on the way that cobras flare the scales on their neck.¹⁵

Drawing heavily on the work of Pliny, the natural historian Aelian (175-235 AD) also wrote of dragons. Though a Roman author, his text, *On the Characteristics of Animals*, was nevertheless written in Greek and still refers to dragons as *drakōntes*. He builds on the descriptions of Pliny and adds that dragons are enemies with elephants, a rivalry that would become important in the Middle Ages.¹⁶ Aelian also further extends the size of dragons. Where Pliny cited a length of thirty feet, Aelian asserts that they can grow to one hundred and eighty

¹¹ Senter, Mattox, and Haddad, *History of Animals* 9.2.3.

¹² Senter, Mattox, and Haddad.

¹³ Pliny the Elder, *The Natural History*, VIII 13.

¹⁴ Pliny the Elder, VIII 33.

¹⁵ Senter, Mattox, and Haddad, “Snake to Monster.”

¹⁶ Aelian, *On the Characteristics of Animals*, V. 48

feet in length, which is far beyond the length of any living snakes.¹⁷ Alongside this marvelous description though, Aelian also maintains that *drakōntes* flee from eagles.¹⁸

The traditions of natural history and folklore are blended in the Greek god Asclepius. His cult combines the fantastical aspects of dragon mythology with real serpents. Asclepius was a Greek god of medicine and was strongly associated with *drakōntes*. He carried a serpent-entwined staff known as the Rod of Asclepius which is still considered a symbol of medicine today (Figure 1). Asclepius was also capable of manifesting in the form of a *drakōn* and surviving Greek art depicts him both as a man and a *drakōn*. It was believed that when a new temple was built, he would travel to the new sanctuary in the form of an enormous *drakōn*.¹⁹ Both the serpents of Asclepius, and indeed, Asclepius himself when in serpent form, were often referred to as *drakōntes*.²⁰



Figure 1. Rod of Asclepius in the center of the logo for the World Health Organization.²¹

The temples and sanctuaries of Asclepius were places of healing. His main sanctuary at Epidaurus, called the Asklepieion, was the most important healing center in the ancient world. Patients would travel to the shrine from all over to be treated. Once there, they would stay overnight to receive divine dreams of Asclepius, as well as herbal cures administered by the resident priests. His temples also contained sacred serpents. Within the temples, the serpents

¹⁷ Aelian, II 21.

¹⁸ Aelian, II 26.

¹⁹ Ogden, *Drakōn*.

²⁰ Ogden, 377.

²¹ "WHO | World Health Organization."

served as both guardians of the sanctuaries and as intermediaries in Asclepius' healing miracles. The serpents would be encouraged to lick patients and their wounds in order to aid in the healing process.²² There is some uncertainty regarding how many and which of Asclepius' temples contained sacred serpents. That said, there is good evidence to support the presence of groves within the sanctuaries where the serpents were allowed to roam free at least in the Asklepieion, itself.²³ Especially at the Alexandrian Asklepieion in Egypt, these massive snakes were likely imported pythons or boas.²⁴ Furthermore, even the temples that did not contain living serpents maintained the illusion since their presence was expected. With over nine hundred known shrines in the second century AD, Asclepius was a well-known and respected god of medicine.²⁵ Given his strong connection to serpents, this also illustrates the positive association between *drakōntes* and healing.

Ancient serpents, both the snakes and the *dracones/drakōntes*, were strongly associated with both healing and regeneration. Pliny asserts that snake's bodies offered healing properties when properly prepared, which he says explains why they were sacred to Asclepius. Snake flesh was also considered an antidote to snake venom.²⁶ Furthermore, the process by which a snake sloughs off its skin was believed to represent the snake shedding its old age and emerging young again, thus associating snakes with rebirth and renewal.²⁷

The *drakōn* was also a symbol of the attentiveness required for medical care.²⁸ The word *drakōn* itself in the Ancient Greek was etymologized with reference to *derkomai* (aorist participle: *drakōn*), meaning "see" or "look at."²⁹ Thus, the *drakōn* is a "starer" by definition and logically associated with watching and guarding. This fits with the fact that many myths portray *drakōntes* as guardians of treasure or water sources. These associations make serpents particularly apt symbols of healing.

²² Ogden, 382

²³ Ogden, 351

²⁴ Ogden, 372

²⁵ Ogden, 417.

²⁶ Ogden, 346.

²⁷ Ogden, 343.

²⁸ Ogden, 344.

²⁹ Ogden, 173.

The *drakōntes* of Asclepius fill a different role than most *drakōntes* in Ancient Greece, as represented by those that Homer described. Asclepius' *drakōntes* were associated with ideas of rebirth and considered symbols of healing. However, they are still very similar to the other *drakōntes* in that they were strongly associated with great power and differentiated from ordinary snakes in this manner.

Asclepius was not the only Greek god associated with *drakōntes*, nor was his cult the only context where *drakōntes* were seen in a positive light. The Greek gods Zeus Meilichios and Agathos Daimon were gods of wealth and protection, respectively, and both were connected to *drakōntes*.

Zeus Meilichios was a Greek god associated with bringing wealth and plenty. He was often depicted with a cornucopia and a *drakōn*.³⁰ His name, "Meilichios" means gentle and was folk-etymologized as a derivation of *meli* for honey and *meilia* for figs. His name was also related to the offerings or appeasements called *meiligmata* that were offered to serpents in Ancient Greece, particularly the *drakōntes* inhabiting the temples of Asclepius.³¹

The legend of the great Agathos Daimon is the foundation myth of the city of Alexandria from the fourth century BC. Agathos Daimon was an enormous *drakōn*; he guarded a river and frightened workmen near the site where Alexander intended to build the city that would bear his name. Alexander sent men to slay the *drakōn* in order to gain access to the water. After killing the serpent, they buried his body and from his grave arose a host of serpents. The serpents ran into the nearby houses that had already been built. These snakes were not venomous and seemed to defend the city from those that were venomous. From that day forward, the snakes were considered guardians of the houses and were given gifts of porridge. These plural Agathoi Daimones were protectors of individual homes, as Agathos Daimon was the special protector of Alexandria.³² His cult spread and persisted throughout the Mediterranean world for centuries; the image of Agathos Daimon was common and displayed prominently in houses across the Roman empire as a symbol of protection.³³

³⁰ Ogden.

³¹ Ogden, 281.

³² Ogden, 287.

³³ Ogden, 417.

It has been suggested that the Agathoi Daimones started the trend of keeping snakes as pets. It was common in countries that were rich in snakes like Europe, India, and the Far East that local snakes would choose to live close to human settlements in order to feast on rats and mice. These serpents were regarded as good fortune and it was considered bad luck to kill one.³⁴ This culture of house snakes fits comfortably with the idea of *drakōntes* as attentive guardians and positive influences on Greco-Roman society.

The classical dragons were not only associated with healing and fortune, however, but also combat and destruction. Within the many myths that contain *drakōntes*, they filled a consistent role as the enemy in battle narratives. Perhaps the most well-known is the Lernaean Hydra, a massive multi-headed *drakōn*. Hera commanded Heracles to defeat and kill the Hydra as his second labor of penance to King Eurystheus. In its canonical form, chopping off one of the Hydra's many heads caused two more to grow in its place. The only way to bypass this was to use fire to cauterize the wound before more heads could spring into existence.³⁵

Another great *drakōn* was Ladon. He was charged with guarding the golden apples that were Hera's wedding gifts from the Earth. Heracles was sent as one of his final labors to steal three of the apples from the tree. In order to do so though, he had to first defeat Ladon.³⁶ This fight is immortalized in the stars as the constellation of Draco.³⁷

The Serpent of Ares was a *drakōn* sent by Ares to guard a spring. Cadmus, the first King of Thebes, slew the serpent in order gain access to the spring and was sentenced to eight years of indentured service to Ares for killing the serpent. Of all creatures in Classical Greek literature, the Serpent of Ares is the one for which the term *drakōn* is most consistently and frequently applied.³⁸

Python was another large *drakōn* found in Greek Myths. The *drakōn* was also considered to be the guardian of the Oracle of Delphi but was also known to terrorize a local population. Together, these led Apollo to finally slay the beast.³⁹

³⁴ Ogden, 303.

³⁵ Ogden, 26.

³⁶ Ogden, 36.

³⁷ Ogden, 38.

³⁸ Ogden, 50.

³⁹ Ogden, 40.

Other examples of *drakōntes* slain by heroes in Greek myths include the Serpent of Nemea slain by the Seven against Thebes, the serpent-pair slain by baby Heracles, the Serpent of Thespieae slain by Menestratus, and the Serpent of the river Bagrada slain by Regulus.⁴⁰ This *drakōn*-fight tradition was also applied to creatures in Greek myths that were only part-*drakōn*, like the Chimera, slain by Bellerophon; Typhon, slain by Zeus; Medusa, slain by Perseus; and Echidna, slain by Argus.⁴¹ Overall, the *drakōntes* of Greek culture filled a common narrative role as guardians of treasure and served as the foils for a long tradition of *drakōn*-slayers.

Influenced by the Greco-Roman *drakōn* tradition but developing independently, a second tradition of dragons, culminating in the Judeo-Christian Bible, would influence and come to nurture the perception of dragons in the West. In the Hebrew original, the word used is שָׂרָפ, meaning snake.⁴² The Hebrew scriptures had their largest impact on the West, however, in the form of the Greek Septuagint. Serpents are prevalent throughout this Greek Bible both in their more everyday form as *ophis* and as the fantastical *drakōn*.

In the first book of the Septuagint, Genesis, God places humans in the Garden of Eden. The garden is a paradise where they are free to do whatever they please, with a singular exception. God forbids Adam and Eve from eating from the tree at the center of the garden, telling them that to do so would spell their deaths. However, a snake tempts Eve to taste the fruit, saying that it will grant her godlike knowledge and the ability to know good from evil. Eve is persuaded and further persuades Adam to eat the fruit as well. In return, God forces Adam and Eve from the garden and curses men and serpents to be forever at odds with each other: "Man will be wary of your head, and you will be wary of his heel."⁴³

The word used for the serpent in this story is *ophis*. While the reptilian tempter in this tale is thus not a *drakōn*, the story sets up the serpent's future moral character: he is clearly aligned with evil and in opposition to God.

This trend continues with the sea-monsters, Leviathan and Rahab, who fought with God. In the Septuagint translation, their names were eliminated, and they were denoted most

⁴⁰ Ogden, 26.

⁴¹ Ogden, 68.

⁴² Brenton, *The Septuagint with Apocrypha*.

⁴³ Ogden, *Drakōn*, 384.; Brenton, *The Septuagint with Apocrypha*, Genesis 3:15.

commonly as *drakōn*, followed by *ketos* (sea-*drakōn*) and *ophis*.⁴⁴ The Leviathan was a fire-breathing multi-headed sea serpent that appears throughout the Old Testament.⁴⁵ In Isaiah 27:1, the Leviathan is a symbol of Israel's enemies who will be slain by God.⁴⁶ In Psalms 73:14, it is said that God "didst break to pieces the heads of the dragons (*drakōntes*) in the water" and give the meat to the Jews in the wilderness.

Additionally, the apocryphal book *Bel and the Dragon* describes Daniel defeating the *drakōn* worshipped by the Babylonians under the Persian king Cyprus. Daniel tricks the dragon into eating cakes made of fat, pitch, and hair that cause the dragon to burst apart upon consumption.⁴⁷

The transition from the Old Testament world of the Jews to the New Testament world of the Christians coincides (roughly) with the transition in the West between a religion dominated by the Greeks and their language to one dominated by the Romans and Latin. The Christian scriptural tradition, which combined the Jewish holy books with texts about the life and teachings of Christ, comes together in the West in its first official form as the Latin Vulgate, represented here in the Douay-Reims translation.⁴⁸

It is in the last book of the Vulgate that we find one final dragon. This apocalyptic book, called *Revelations*, gives a prophesy for the end days. In it, Satan returns in the form of a great *draco*. It is the logical completion of an arc that Satan, who took the humble form of *ophis* in *Genesis*, would be represented in the final battle as a great *draco*:

And there was seen another sign in heaven: and behold a great red dragon (*draco*), having seven heads, and ten horns: and on his heads seven diadems: And his tail drew the third part of the stars of heaven, and cast them to the earth: and the dragon stood before the woman who was ready to be delivered; that, when she should be delivered, he might devour her son ... And there was a great battle in heaven, Michael and his angels fought with the dragon, and the dragon fought and his angels: And they prevailed not, neither was their place found any more in heaven. And that great dragon was cast out, that old serpent, who is called the devil and Satan, who seduceth the

⁴⁴ Ogden, *Drakōn*, 384.

⁴⁵ Senter, Mattox, and Haddad, "Snake to Monster."

⁴⁶ "Leviathan | Middle Eastern Mythology."

⁴⁷ Brenton, *The Septuagint with Apocrypha*.

⁴⁸ *The Holy Bible*.

whole world; and he was cast unto the earth, and his angels were thrown down with him.⁴⁹

Although this is a true *draco*, it would still not have possessed wings nor legs. This text does not tell us explicitly one way or the other, but the pattern of descriptions by other authors of the Greco-Roman period imply that these *dracones* still looked like large serpents, albeit with seven heads in this case. The dragon of Revelations is reminiscent of the Hydra killed by Heracles with its seven heads. This story also fits comfortably alongside the Greek tradition of *drakōn*-slayers, with the Archangel Michael taking the role normally filled by Greek heroes. The dragon of Revelations is presented as the ultimate enemy of God and this story would set the tone for how Christians perceived and interacted with dragons moving forward.

The dragons of Antiquity, both Greco-Roman and Judeo-Christian, were paradoxically symbols both of great adversity and of great healing. It was their prominent place in folklore and mythology that led dragons to diverge farther from the snakes they originally were. The original dragons described by Pliny in his natural history were said to grow to thirty feet which is a large but non unreasonable length for an African or Indian rock python.⁵⁰ Aelian took this description and extended it to one hundred and eighty feet, a clearly fantastic length. Though it could be expected that the Greeks would have familiarity with real *drakōntes* due to the real snakes living in Asclepius' temples, the rise of Christianity saw these temples closed by the end of the fourth century AD by imperial decree. Furthermore, there are no records of the importation of pythons into Europe after the first century AD.⁵¹ Together, this reduced familiarity with the natural *drakōntes* would allow folkloric beliefs to flourish unchecked.

Additionally, Greek myth commonly exaggerated the size of *drakōntes*, likely to make them more fearsome enemies. Within a story this exaggeration is not unexpected but taking these myths as a source for natural histories would lead to St. Augustine's later statement that dragons were the largest of all animals on earth (see below).

⁴⁹ *The Holy Bible*, Revelations 12:3-4,7-9.

⁵⁰ Senter, Mattox, and Haddad, "Snake to Monster."

⁵¹ Senter, Mattox, and Haddad.

While the Greek dragons did not normally have wings, the Greek myths recorded by Apollodorus (c. 180-after 120 BC) did contain winged-dragons. These winged-serpents pulled the chariots of Triptolemos and Medea. However, based on the other classical writings and art, the Greeks did not consider wings and flight to be the norm for dragons.⁵² These winged dragons were composite creatures. In the same way that a Pegasus is a horse with wings but not a real creature on its own, the winged dragon was a real creature that wings had been attached to in order to elevate it.

The Greek sophist Philostratus (c. 171-c. 248) provides an example of how folkloric descriptions can be exaggerated and taken out of context. Philostratus describes all dragons as red based on the dragons in Homer's *Iliad* and the two sea serpents in Virgil's *Aeneid*, even though there were no red snakes in the region.⁵³ For Homer, the red color was symbolic, yet Philostratus presented it as an honest descriptor of dragons. Philostratus also misinterprets Nicander's description of dragons. A poetic statement by Nicander that the dragon's eyes gleamed beneath its brows is literalized by Philostratus to mean that dragons have overhanging brows. He also mistranslates "sinuously curved backs" as "serrated backs."⁵⁴

Dragons thus began to evolve due to misunderstandings, willful exaggeration to either entertain or frighten, and a relative lack of familiarity with real snakes. The strong ties between dragons and the marvelous opened them up to change and allowed them to diverge from the large serpents from which they had descended.

⁵² Senter, Mattox, and Haddad.

⁵³ Stothers, "Ancient Scientific Basis of the 'Great Serpent' from Historical Evidence."

⁵⁴ Senter, Mattox, and Haddad, "Snake to Monster."

Late Antiquity: The Transition from Classical to Medieval

Trained in the tradition of Greco-Roman writing and rhetoric, St. Augustine of Hippo (354-430 AD) would build on the cultural understanding of dragons and influence how they would be perceived. Though it was not his goal, Augustine would be the first to legitimately suggest that dragons had wings. Augustine was an early Christian theologian, later recognized as a saint, whose works would go on to profoundly shape western thought. In a work expounding on Psalm 148 that was not intended to be a work of natural history, Augustine suggests that dragons are capable of flight. The Psalm in question is 148:7, which Augustine quotes as “Praise ye the Lord from heaven: dragons (*dracones*) and all abysses.”⁵⁵ Augustine first discusses how this relates to praising the Lord. He then continues: “Dragons live about the water, come out from caverns, fly through the air; the air is set in motion by them: dragons are a huge kind of living creatures, greater there are not upon the earth.”⁵⁶ It is unclear how Augustine concluded that dragons possessed the power of flight since the psalm itself does not suggest flight in dragons.⁵⁷ It is possible that Augustine is drawing on the dragon fight in Revelations, which takes place in the sky and thus, may suggest that dragons fly. This singular statement is the source for all later statements that dragons are capable of flight and are the largest animals on Earth – no previous works had made these claims.⁵⁸

This passage is cited as authoritative by subsequent natural historians including, most prominently, Isidore of Seville. Isidore (560 – 636) was a Spanish bishop and scholar. His most famous work, *Etymologiae*, was a massive encyclopedia covering a wide variety of subjects that compiled the works and knowledge of many previous authorities with some of Isidore’s own interpretations; it would become the standard reference work in the Latin West for the next thousand years. Among his sources, Isidore cites Aristotle, Augustine, Solinus, and Pliny.⁵⁹ In his section on animals, he describes the etymology by which the Latin words for snakes arose. Snakes are called *serpens* from *serpere* meaning “to creep,” as well as *anguis* from *angulosus*

⁵⁵ Brenton, *The Septuagint with Apocrypha*.

⁵⁶ Tweed and Schaff, *Nicene and Post-Nicene Fathers*.

⁵⁷ Senter, Mattox, and Haddad, “Snake to Monster.”

⁵⁸ Senter, Mattox, and Haddad.

⁵⁹ Isidore, *The Etymologies of Isidore of Seville*.

meaning “turned at angles,” *coluber* from both *colit ubras* meaning “inhabits the shadows,” and *libricus* meaning “slippery.” Isidore also explicitly points out that animals that support themselves on four feet, like the lizard and the newt, are not snakes. He further states that dragons (*dracones*) are the largest of all snakes and of all animals on earth.⁶⁰ Based on his previous statement about lizards, this directly implies that Isidore’s dragons do not have legs. Isidore does not mention wings directly but says that the dragon “soars aloft” and “disturbs the air” which could imply flight. Yet, wings could also contradict Isidore’s assertion that dragons creep and crawl along the ground. Isidore describes the hydra as dragon with many heads: “this kind of dragon was in the Lernean swamp in the province of Arcadia. It is called *excetra* in Latin, because when one head is ‘cut off, three’ (*caesus tria*) more grow back. But this is only a story.”⁶¹

Isidore also discusses the idea of “fables,” which he defines as an event that did not actually take place but was invented in words for the sake of entertainment. Isidore distinguishes the Chimera as a “fable” where this part-dragon creature is meant to serve as a metaphor for human life. The lion represents youth, the goat, the midpart of life; and the dragon, old age.⁶² Importantly, this shows that Isidore cared to distinguish between mythical beasts and actual ones and further; that he considered dragons to be one of the actual ones.

The natural history texts written by Isidore and Pliny, as well as Augustine’s off-handed comment, form the basis of knowledge about dragons that was transmitted from the classical period into the Middle Ages. Pliny’s *Natural History* above all formed the starting point for the natural history texts that would be written during Late Antiquity and the early Middle Ages; later authors simply copied or paraphrased what he said.⁶³ This pattern of imitation illustrates the start of a trend that would continue into the Middle Ages. Authors would copy bits of authoritative texts into their own work and thereby propagate information from classical authorities forward without alteration or revision. Pliny’s work as mediated by Isidore in particular stands as the link between the natural science knowledge of antiquity and the

⁶⁰ Isidore, 255.

⁶¹ Isidore, 256.

⁶² Isidore, 66.

⁶³ Honegger, *Introducing the Medieval Dragon*, 24.

medieval tradition of bestiaries; his section on dragons is used as the starting point, whether directly or indirectly, for many bestiary entries in the Middle Ages.⁶⁴

⁶⁴ Honegger, 26.

The Medieval Dragon

Dragons are prevalent in a variety of contexts during the Middle Ages (ca. 500-1500 CE), from scholarship to religion to literature. Though dragons could fill many symbolic roles depending on the situation, they were not seen as especially evil or divine. Instead, they were exotic, marvelous, and dangerous, which makes them interesting.

The bestiary tradition of the Middle Ages comes out of the classical natural histories, with an added twist. Bestiaries were encyclopedias of animals; however, they were not entirely focused on legitimate observations or knowledge of animal traits. Instead, bestiaries combined genuine information with abstract ideas to reinforce biblical teachings and guide moral conduct. This was based on the principle that the characteristics of animals had been determined by God in order to serve as a moral lesson.⁶⁵ Most bestiaries were fairly similar to each other and contained the same information and stories with only minor changes. Most of the knowledge about animal behavior that they contain can be traced back to Pliny and Isidore.⁶⁶ Dragons were a staple of the Medieval bestiary, where they were generally included in the section on serpents.

Dragons also appeared commonly on coats of arms or in the practice of heraldry. Heraldry began as a way to identify medieval warriors on a battlefield who would otherwise be unrecognizable in their armor. The practice became particularly popular from the twelfth century on. Coats of arms are highly symbolic representations of personal identity and family lineage. They were thus strongly influenced by the bestiary tradition, which provided plenty of information about symbolically useful creatures. The use of dragons in heraldry provides another means by which to understand the perception of dragons in the Middle Ages.⁶⁷

As with the ancient Greeks, dragons were also popular in the folk stories and legends of the Middle Ages, as well as in histories. They of course also appear in religious literature of the Middle Ages, especially in hagiography. Hagiography offers stories about the lives of Christian saints with an emphasis on the miracles they performed. These miracles were often modeled after miracles described in the Bible. Among the more common of these are stories of saints

⁶⁵ Page, "Good Creation and Demonic Illusions," 20.

⁶⁶ Honegger, *Introducing the Medieval Dragon*, 24.

⁶⁷ Dennys, *The Heraldic Imagination*.

defeating dragons, a tradition that was derived from the account in Revelations of the Archangel Michael slaying the dragon.

Dragons were thus present in a wide variety of medieval sources. Their depiction, however, was highly dependent on the person doing the depicting and on the context. Though the medieval dragon looked much closer to the modern idea of dragon, it was by no means the same. The depiction of dragons as winged serpents without legs persisted into the Middle Ages, as did the image of dragons without wings. Additionally, even when dragons were depicted with legs, they generally had two – not four. European artists only began to portray dragons with wings beginning in the eighth century.⁶⁸



Figure 2. Detail of a dragon in a medieval English bestiary c.1236..⁶⁹

The oldest recognizable depiction of a winged, four-legged dragon is from an illustration in the bestiary MS Harley 3244, produced around 1236 (Figure 2). This dragon contains many of the

⁶⁸ Senter, Mattox, and Haddad, “Snake to Monster.”

⁶⁹ Peraldus, “Theological miscellany, including the Summa de vitiiis.”

distinctive features of modern dragon depictions, including four-legs, wings, and fire-breathing. Strangely, though, it has two sets of wings, rather than the normal singular pair.⁷⁰

Despite this, depictions of dragons without wings and legs were common throughout the medieval period. The thirteenth century natural historian Albertus Magnus (before 1200-1280) reiterated the ideas of Isidore and after placing dragons within the category of serpents, stated that “no genus of serpent whatsoever has feet.”⁷¹ A contemporary of Albertus and an important encyclopedist, Vincent of Beauvais (1190-1264), said that some dragons have feet, “but this is rare.”⁷²

In contrast to the natural histories, the dragons in heraldry were always depicted with both legs and wings. Dragons were first mentioned in the context of arms in a heraldic treatise by John de Bado Aureo in 1394.⁷³ Originally, these dragons could have any number of legs, however in the sixteenth century some European countries began to recognize a distinction between the four-legged dragon and the two-legged wyvern.⁷⁴ In English heraldry, dragons were depicted with four clawed legs, barbed tongues, and the wings of a bat, with the long bones of the wing carried to the base (Figure 3). The entire body was scaled, with wider rolls on the under-side of the body.⁷⁵

Dragons were common in heraldry. A dragon was used in full or in part in the arms of at least 200 English families and 300 European families.⁷⁶ Dragons were also seen as the standard of Wessex in the Bayeux tapestry and by King Richard the Lionheart in 1191.⁷⁷ Within heraldry, the dragon was seen as a fierce guardian, with their terror- and awe-inspiring qualities making them suitable as emblems of war. In particular, one heraldic treatise states that “a dragon borne in arms signifies a strong, mighty and fierce man, eager for battle.”⁷⁸

⁷⁰ Morrison and Grollemond, *Book of Beasts*.

⁷¹ Senter, Mattox, and Haddad, “Snake to Monster.”

⁷² Dennys, *The Heraldic Imagination*, 188.

⁷³ Dennys, 191.

⁷⁴ Dennys, 186. This distinction was recognized in England, Scotland, and Ireland but not in other European countries

⁷⁵ Fox-Davies, *A Complete Guide to Heraldry*, XIII.

⁷⁶ Dennys, *The Heraldic Imagination*, 188.

⁷⁷ Dennys, 189-190.

⁷⁸ Dennys, 191.



Figure 3. Depiction of a dragon in medieval English heraldry.⁷⁹

The image of dragons presented by medieval bestiaries, in contrast, does not include their wings and legs, and is not as favorable as to their character. A common bestiary entry on dragons would read much like this example:

The dragon is larger than all serpents or than all animals on the earth; the Greeks call him *draconta*, whence the name is derived in Latin, so that he is called *draco*. Often drawn from caves, he is borne into the air, and the air is stirred up because of him. Moreover, he is created, with a small mouth, and with narrow pipes through which he draws breath and thrusts out his tongue. His power, however, is not in his teeth but in his tail, and he wounds with a lash of the tail rather than with a bite. Nevertheless, he is harmless in terms of position, and for that reason they say he has no need to poison for killing, because if he wraps about someone, he kills him. Nor is the elephant, with the enormity of its body, safe from the dragon, for hiding near the paths through which elephants are accustomed to walk, he binds their legs with knots and kills them by strangling them.⁸⁰

Most bestiary descriptions are just like this one above.⁸¹ The description of dragons here does not explicitly mention wings or legs, yet it is still clear that they are just large serpents. Not only is the text very similar to what was described by Pliny, who imagined dragons as serpents, it also focuses on the dragon's tail-based fighting style. It specifies that its strength is "not in its

⁷⁹ Fox-Davies, *A Complete Guide to Heraldry*, XIII.

⁸⁰ Morrison and Grollemond, *Book of Beasts*.

⁸¹ Morrison and Grollemond.

teeth, but in its tail,” thus ignoring the possibility of claws.⁸² Flight is implied, as the dragon is “roused from his cave into the air,” but wings are never mentioned explicitly.⁸³

Despite what such descriptions imply however, the illustrations of dragons in medieval bestiaries generally included wings.⁸⁴ It was common for the pictures in a bestiary to not match the written descriptions.⁸⁵ This is could be due to differences in the perception of dragons between the original author of the bestiary and the illustrator. Medieval manuscripts were generally copied in two separate steps. First, the scribe would fill in all of the text, leaving space for where the images would go along with a quick description of what picture should go there – either a short phrase or a small drawing. Then a separate illuminator would go through and draw the image, often using a separate pattern book as a reference.⁸⁶ He would not have read the text himself.



Figure 4. Detail of a miniature of a dragon attacking an elephant.⁸⁷

⁸² Morrison and Grollemond.

⁸³ Morrison and Grollemond.

⁸⁴ Senter, Mattox, and Haddad, “Snake to Monster.”

⁸⁵ Beckhofer-Fialho, “Medieval Bestiaries and the Birth of Zoology.”

⁸⁶ Hamel and Library, *The British Library Guide to Manuscript Illumination*, 56.

⁸⁷ “Bestiary with theological texts.”

As a consequence, there is a tendency for the pictures to have only vague connections to the text. The images would not have been purpose-drawn illustrations, but rather the artist filling in what they believed a dragon to look like. This variability is exemplified in the various illustrations of what should otherwise be identical scenes, such as the ones depicting the fight between the dragon and the elephant. An example of this would be MS Harley 3244 versus MS Harley 4751 (Figures 4 and 5).



Figure 5. Detail of a miniature of a dragon attacking and suffocating an elephant.⁸⁸

Both show the dragon facing off with the elephant, but the dragons are depicted quite differently.⁸⁹ High variability in the depiction of dragons was also common within a single manuscript.⁹⁰ The text of bestiaries would be more highly constrained than the images, since the text would be copied more or less word for word while the illuminator had more freedom for interpretation. This allowed the for high variability in how dragons were visually imagined, regardless of how they were spoken of in natural histories.

⁸⁸ "Bestiary, with Extracts from Giraldus Cambrensis on Irish Birds."

⁸⁹ Honegger, "The Sea-Dragon – in Search of an Elusive Creature."

⁹⁰ "The Anatomy of a Dragon - Medieval Manuscripts Blog." This article also provides a variety of illustrations of dragons from a large selection of medieval manuscripts and highlights the great diversity of forms available to dragons.

Other descriptions of dragons come from the writings of historians and monks. In particular, a monk of the Bavarian monastery of St. Emmeran of Regensburg named Arnold, described seeing a dragon in the air as he was traveling to become an abbot around 1030. The historian Patrick J. Geary summarizes his account: “the monster was suspended in the air and stretched for a distance of almost one mile. It had a plumed head the height of a mountain and a body covered with scales that protected it like armor or shields of iron. Its sides and back were blackened as by soot; its belly was a lighter color, similar to that of sulfur.”⁹¹ Arnold’s story focuses on the size and the scales, and without explicitly mentioning it, suggests the lack of legs and wings. Despite not alluding to wings though, the dragon is clearly capable of flight.

Beyond the more standard dragons, medieval sources use the term to denote even more fantastical beasts. In particular, the multi-headed hydra and leviathan were also considered to be dragons despite the differences in appearance. Overall, depictions of dragons in the Middle Ages were variable and inconsistent. There was not one idea of a dragon, but many.

Though dragons were considered real, they were still marvelous creatures that played a large part in mediating fantastic encounters. Among the roles they played was serving as harbingers of war and destruction. This belief in dragons as portents of danger may have been built upon on the presentation of *drakōntes* by Homer in the Iliad.

The Anglo-Saxon Chronicle record for the year 793 describes a “dire portent” that appeared in the sky. It consisted of “immense whirlwinds and flashes of lightning, and fiery dragons were seen flying in the air.” This was followed by a great famine and the destruction of the Church on Lindisfarne by heathen men – the first recorded attack on England by the Vikings.⁹² The author of the chronicle clearly sees a correlation between the destruction wrought by the Vikings and the presence of dragons.

Farther east, around the year 1000, the French chronicler Rodulfus Glaber reported “A wonderful portent appeared in the sky. It had the shape of (or perhaps it simply was) a huge dragon, and it traveled from north to south, shimmering with a great light. This portent

⁹¹ Geary, “Archival Memory and the Destruction of the Past.”

⁹² Ingram and Giles, *The Anglo-Saxon Chronicle*.

terrified almost all the men in Gaul who saw it."⁹³ Again, the dragon is a cause for fear.

Additionally, this portent was also interpreted as a sign of the End. The dragon is associated with the dragon of Revelations and interpreted as a warning of the coming apocalypse.

Another example comes from an account written by the twelfth century Armenian chronicler Matthew of Edessa. While narrating the conquest of Byzantine Anatolia by the Seljuk Turks in the century before, he writes that "a fatal dragon with deadly fires rose up and struck those faithful to the holy Trinity" and that "in this period the very foundations of the apostles and prophets were shaken, because winged serpents came forth and were intent on spreading like fire over all the lands of the Christian faithful." This appearance is followed by the Seljuk Turks gathering their forces and mercilessly slaughtering the faithful Christians.⁹⁴ As before, the dragon foreshadows terrible destruction.

During the Middle Ages, the sight of dragons flying in the sky inspired fear. These were rare sightings that obviously meant something very important to those who experienced them. Furthermore, the way the above authors describe these events implies that both they and their contemporaries saw dragons as dire portents. These authors are relying on or expecting their readers to interpret a dragon sighting in the same way.

Beyond their place as a harbinger of danger, dragons also served a symbolic purpose as antagonists in their own right. The tradition of Greek *drakōn*-slaying myths is continued in legends and stories of the Middle Ages. The earliest surviving dragon in medieval English literature is the dragon of Beowulf, which is referred to using the Old English *draca*.⁹⁵ Surviving in an eleventh century manuscript but dating as far back as the sixth century, this Old English poem culminates in a fatal battle between Beowulf and the dragon.⁹⁶ This dragon has wings and is the guardian of a great treasure hoard, following the pattern of dragons as guardians that began in Ancient Greece. After defeating the dragon, Beowulf succumbs to the dragon's poison and dies.⁹⁷

⁹³ Geary, "Archival Memory and the Destruction of the Past," 164.

⁹⁴ Allen and Amt, *The Crusades*, 31.

⁹⁵ Honegger, *Introducing the Medieval Dragon*, 3-6.

⁹⁶ Honegger, 84.

⁹⁷ Honegger, 92.

The most famous Germanic dragon is Fafnir, from the Islandic *Völsunga* saga. In the original Old Norse, the word used for the beast is *ormr* which translates to serpent or dragon. It stems from the Indo-European root *wrmi-* “worm” which forms the basis for the Old English *wyrm* as well and which was occasionally used to refer to Beowulf’s dragon.⁹⁸ While Fafnir does not have wings, he is still guardian of treasure. He is slain by Sigurd who outsmarted the dragon by digging large trenches and hiding in them, then when Fafnir crawled over the pit, Sigurd stabbed his sword upwards into the belly and killed him.⁹⁹

Another medieval dragon-slayer was Eglamour of Artois, from the Middle English romance by the same name. Sir Eglamour was given three tasks to complete by the father of his beloved Christabella in order to win her hand in marriage. The third task required him to slay a dragon, which had been terrorizing Rome. He was successful and thus appeased Christabella’s father.¹⁰⁰

Bevis of Hampton was a knight from a Middle English romance based on an earlier Anglo-Norman romance named *Boeve de Haumton* which did not contain a dragon-fight at all. The dragon fight was added during the translation and thus elevated Bevis to the ranks of dragon-slayers.¹⁰¹ Bevis’ dragon is described in great detail with particular reference to wings that shone like glass and the great strength of its tail. It is also said that the dragon reached a length from the shoulder to the tip of the tail of forty feet.¹⁰² The dragon strikes Bevis’ horse dead with a blow from its tail and wounds Bevis by spitting poison and further hits with its tail. They fight through the night and into morning until finally Bevis pleads to God for divine assistance. With this aid, Bevis slays the dragon, taking the tongue as a trophy.¹⁰³

Dragons were a staple of medieval literature and were perceived as the greatest and final enemy for a hero to defeat. Notable dragon-slayers include Tristan, Yvain, Lancelot, Guy of Warwick, Torrent of Portingale, Wigalois, and Wolfdietrich.¹⁰⁴ Indeed, Thomas Honegger

⁹⁸ Honegger, 6.

⁹⁹ Honegger, 76.

¹⁰⁰ Honegger, 93-94.

¹⁰¹ Honegger, 99.

¹⁰² Honegger, 103.

¹⁰³ Honegger, 108-109.

¹⁰⁴ Honegger, 89.

suggests that to an extent, a hero *needed* to defeat a dragon in order to be considered among the other great heroes. Some older narratives such as *Bevis of Hampton*, were even edited to add dragons to them in order to bring the heroes up to the same level. In these stories, the dragon is the last and fiercest foe the hero faces.¹⁰⁵

The dragon-slayer motif further manifests itself in hagiographies. As noted above, the first saint to slay a dragon is St. Michael the Archangel who slays the dragon of Revelations. Overall, more than 100 late antique and medieval saints were credited with slaying dragons.¹⁰⁶

The medieval tradition of dragon-slaying saints in hagiography was based on an older tradition of dragon-slayers in late antiquity. In AD 203, the North African martyr St. Perpetua had a vision while in prison of seeing a bronze ladder to heaven, guarded by an enormous *drakōn* who attacked any that attempted to ascend the ladder. Recorded in her saint's life, which is generally thought to be in her own (either written or spoken) words, the story continues with Perpetua calling on Jesus and declaring that the dragon will not harm her. This intimidated the *drakōn* into submission and it then allows Perpetua to use its head as the first step up the ladder.¹⁰⁷

Another saint well known to have dealt with a dragon is Saint Margaret of Antioch, who lived around AD 300. She refused to marry a Roman governor and was thus sent to prison. There she was attacked multiple times by a dragon. In each case, she made the sign of the Cross and the dragon fled. In one version, she is swallowed by the dragon and makes the sign of the cross to escape.¹⁰⁸ She is often depicted in illustrations at this moment, partially emerged from the belly of the beast (Figure 6).

St. Hilarion lived in Epidauros during the fourth century and is remembered by his life recorded by Jerome. His life tells of a massive *draco* laying waste to the province, devouring both the livestock and the farmers. To defeat it, Hilarion prayed to God and prepared a pyre.

¹⁰⁵ Honegger.

¹⁰⁶ Stace, *St George*, 39.

¹⁰⁷ Ogden, *Drakōn*, 386.

¹⁰⁸ Honegger, *Introducing the Medieval Dragon*, 50.

Then he commanded the dragon to mount the pile of wood and once it had done so, he set fire to it.¹⁰⁹



Figure 6. Detail of a miniature of St Margaret emerging from the side of a lion-like dragon.¹¹⁰

St. Donatus was described by Sozomen in his Greek *Ecclesiastical History* around AD 440. Similar to Hilarion's dragon, this *drakōn* was attacking herds, flocks, and humans. Donatus

¹⁰⁹ Ogden, *Drakōn*, 394.

¹¹⁰ "Book of Hours, Use of Sarum."

approached the beast unarmed, spit into its mouth, and made the sign of the Cross in the air. It was killed instantly.¹¹¹

The Life of St. Marcellus of Paris composed by Venantius Fortunatus in the sixth century describes how a massive *draco* appeared in the tomb of a high-born adulteress and began to devour her body. One day, the serpent burst from the tomb and was confronted by Marcellus. Marcellus prayed, causing the dragon to beg for forgiveness. Marcellus then struck it on the head three times, fashioned a leash for it, and dragged it around the town for three miles before commanding it to leave and never return.

This tradition of saints defeating dragons in Late Antiquity persisted into the Middle Ages with both new dragon-slaying saints and older saints who added dragon-slaying to their list of miracles much later. Saint William of Maleval and Saint Theodore of Amasea are two such saints. St. William of Maleval died in 1157 and was commonly attributed with having defeated a dragon.¹¹² It was said that he drove off a dragon that lived in Maleval and then chose to live in the dragon's cave.¹¹³ St. Theodore of Amasea was originally a martyr saint who died in the fourth century but beginning in the ninth century, he was often depicted slaying a dragon.¹¹⁴

Another saint to have acquired a dragon slaying tradition posthumously was St. Romanus, Bishop of Rouen. He was originally known for his destruction of pagan temples but beginning in 1394, a new story of dragon-slaying became popular. In this version, a great water-breathing dragon emerged from the Seine to attack Rouen in the year 620. The dragon was known as the gargouille ('gargler'). St. Romanus decided to confront the dragon in its lair. He tried and failed to find anyone willing to assist him until he encountered a prisoner on death row, who agreed to help since his life was forfeit already. When they reached the dragon, St. Romanus made the sign of the Cross and the dragon sank down and allowed itself to be bound and led passively back to Rouen where the townspeople burned it to ash. This story became the

¹¹¹ Ogden, 395.

¹¹² Holweck, *A Biographical Dictionary of the Saints*.

¹¹³ Nougaret, "De Guillaume d'Orange à Saint Guilhem de Gellone : essai sur une iconographie à définir."

¹¹⁴ Kuehn, *The Dragon in Medieval East Christian and Islamic Art*, 108.

starting point for the idea of gargoyles which adorn the roofs of churches and buildings in France and spout water.¹¹⁵

Perhaps the most well-known dragon-slaying saint, beyond St. Michael, is Saint George. St. George was originally a martyr saint who was only attributed with killing a dragon in the tenth century. According to the standard medieval version of the legend, St. George was a knight that defeated the dragon in order to save a town from its noxious breath, which was killing the citizens. However, St. George did not immediately kill the dragon; rather, he dragged it before the townspeople and demanded that they convert to Christianity and be baptized before he would slay it. The people agreed and so the dragon died.¹¹⁶ Here the slaying of the dragon is unequivocally tied to the eradication of paganism.

As is clear from the many hagiographies, dragons were representations of evil and defeated through the power of God. During the fourth and fifth centuries Michael slaying the devil came to represent the general battle of Good versus Evil, where the dragon became a stand in for evil, rather than the literal devil. Similarly, depictions of defeated dragons represented Christianity's defeat of paganism.¹¹⁷

With this, the dragons of the Middle Ages were strongly associated with the Devil. This moral connection was attached to the physical description of dragons found in bestiaries. The lesson centers on the dragon's affiliation with the Devil:

The dragon is likened to the Devil, who is the most monstrous serpent, often roused from his cave into the air, and the air shines because of him, because the Devil, arising from the depths, transfigures himself into an angel of light and deceives the foolish with the hope of vainglory and human beauty. They say the dragon is crested because the Devil is the king of pride; the dragon's power is not in his teeth but in his tail, because the Devil's powers having been lost, with falsehood he deceives those who draw near him. The dragon hides near the paths through which elephants walk, because the Devil follows mighty men. The dragon entangles the elephant's legs, because the Devil binds the way of sinners to Heaven by the knots of their sins and kills them by strangling them, because if anyone by a chain of offenses dies, beyond doubt is damned to hell.¹¹⁸

¹¹⁵ Shuker, "Spouting Forth About the Gargoyle -- A Lethal Water-Spurting Dragon from the Seine."

¹¹⁶ Honegger, *Introducing the Medieval Dragon*, 42-44.

¹¹⁷ Honegger; Page, "Good Creation and Demonic Illusions," 42.

¹¹⁸ Morrison and Grollemond, *Book of Beasts*.

From the story of the dragon, the readers of the bestiary can learn about the Devil and his terrible ways, while reinforcing the idea that dragons are evil. The description of the dragon and the elephant is further taken as a metaphor for Adam and Eve in the Garden of Eden. Adam and Eve are oft represented as elephants, and the development of the serpent in the garden into a dragon was already well underway. In many bestiaries, including Isidore's, the story ends with the dragon killing the elephant by constriction and the dragon is then crushed to death when the elephant dies and falls on it.¹¹⁹ This reflects the eternal enmity God placed between snakes and man and the fact that neither ever wins.¹²⁰

The Greco-Roman world had allowed for a nuanced view of serpents. Serpents were allowed to be both adversaries and protectors. The newly Christian world latched onto the evil dragons portrayed in Greek myth and the Bible and amplified this aspect of their character, to the exclusion of the peaceful and kindly serpent gods of healing and fortune. Though these dragons were good, they were pagan and in a world that is quickly becoming aggressively Christian, even the peaceful *drakōn*-gods became a symbol of the devilish non-Christian gods. While dragons maintained their symbol of power in heraldic crests, the archetype of the dragon-slayer flourished throughout the Middle Ages while the idea of dragons as great guardians faded into myth.

¹¹⁹ Isidore, *The Etymologies of Isidore of Seville*.

¹²⁰ Honegger, *Introducing the Medieval Dragon*. 29

Early Modern Dragons

With the end of the Middle Ages came a change in the kinds of sources that referred to dragons. The bestiary became less prevalent and was replaced with the encyclopedia. The sixteenth century saw a change in how scholarship was perceived; greater attention was given to direct observations and to establishing the credentials of past authorities, and doubts began to arise about the validity of medieval zoology.¹²¹ Accordingly, alongside the encyclopedias a new tradition sprang up in the sixteenth century of creating taxidermic hoaxes of dragons; these dragons were no longer legless but rather bipedal and winged.¹²² During this time the possession of specimens would have been a mark of prestige; some hoaxers therefore went to great lengths to fabricate “dragon” specimens. For example, some specimens were made by carving skates, a family of fish that includes the stingray, and drying them in contorted configurations.



Figure 7. Trio of illustrations of dragons from Edward Topsell's *History of Serpents* (1608).¹²³

¹²¹ Beckhofer-Fialho, “Medieval Bestiaries and the Birth of Zoology.”

¹²² Senter, Mattox, and Haddad, “Snake to Monster.”

¹²³ Topsell et al., *The History of Four-Footed Beasts and Serpents*.

Though standards of evidence changed, dragons still remained a steady facet of natural science. Edward Topsell (1572-1625), a popular early modern encyclopedist, dedicated an entire chapter to dragons in his *History of Serpents* (1608). The illustrations accompanying this chapter depict three different versions. One with wings and two legs, one with only wings, and one with neither; thus, maintaining the full range dragon forms (Figure 7).¹²⁴

The encyclopedia *Historiae animalium* by Conrad Gessner (1516 -1565) is considered by modern scholars to be the first modern zoological work, and it too contained dragons.¹²⁵ Gessner was a Swiss physician and one of several European naturalists of the Renaissance who wrote encyclopedic treatises in an attempt to compile all previous writings about the natural world. He produced a comprehensive review of dragon lore, including Homer, Pliny, and contemporary descriptions. Gessner's compilation of sources was more complete and better referenced than any previous sources on dragons. His work was recognized in its own day as outstanding, and Gessner's immediate successors cited him as an authority. Gessner's description of dragons set the standard for dragon descriptions and was imitated by subsequent encyclopedists including Topsell (1608), Aldrovandi (1640), and Kircher (1678).¹²⁶

Gessner begins his entry on dragons by asserting that "one should call dragons especially those snakes with bodies so big and heavy that surpass all others in size."¹²⁷ This echoes Augustine's statement claiming that dragons were the largest of all creatures, and indeed, Gessner quotes Augustine a few lines later. Additionally, it confirms that though dragons had gained many non-serpentine traits since their origin in classical times, they were still considered serpents, still as closely tied to snakes as a wolf is to a domestic dog. With this, Gessner confirmed that some crawl along the ground on their stomach, while many had legs. Similarly, he also recognized that while many dragons had wings, many did not.¹²⁸

Gessner was the first encyclopedist to include the contemporary hoax specimens of bipedal snakes manufactured by taxidermists as dragons. Gessner accepted the specimens

¹²⁴ Topsell et al., *The History of Four-Footed Beasts and Serpents*, 705.

¹²⁵ Beckhofer-Fialho, "Medieval Bestiaries and the Birth of Zoology."

¹²⁶ Senter, Mattox, and Haddad, "Snake to Monster."

¹²⁷ Senter, Mattox, and Haddad.

¹²⁸ Senter, Mattox, and Haddad.

described by Gerolamo Cardano (1501-76) and Pierre Belon (1517-64) as true dragons, even though Cardano himself believed that ones he saw were fake. The five dragon specimens of Cardano had two feet and small wings, such that Cardano did not believe them to be capable of flight. Gessner remarks that “no human could have created or cut these figures of bodies so identically” and that “one would have given them larger wings without a doubt, so that the figure would cause less suspicion.”¹²⁹ These statements illustrate Gessner’s firm belief in dragons as well as the air of suspicion that was beginning to surround them at this time.

¹²⁹ Senter, Mattox, and Haddad.

Athanasius Kircher: The Last Believer

The first recognizably modern dragon appears in the works of the Athanasius Kircher (1602-1680). He was one of the most prolific writers of his time, publishing around forty major works in his life and producing more books in the 1660's than the entire membership of the Royal Society.¹³⁰ Kircher had vast interests, writing encyclopedias on a variety of subjects including geology, Egyptology, and music theory. He has been considered a "Master of a Hundred Arts," "The Last Man Who Knew Everything," and "The Last Renaissance Man."¹³¹ Kircher was well-respected during his time and his works were often cited. Altogether, these give the impression of a man whose scholarship was trusted and who had a multitude of information at his fingertips.

However, when it comes to dragons – specifically the chapter on dragons in Kircher's cumulative work on geology, *The Mundus Subterraneus* – both his beliefs and his use of sources come into question. From a modern vantage point looking back, Kircher's certainty that dragons existed seems to contradict the assertion that his scholarship was trustworthy. Given the assumptions of his age, however, his use of sources makes sense.

Kircher is aware that he is writing in support of dragons at a time where their existence at all is in question. He references a "great deal of debate" among scholars surrounding dragons.¹³² This makes it all the more important for him to be convincing and present strong evidence for the existence of dragons. He does this both through the sources he uses and sheer number of them. Kircher explicitly includes many sources since he believes that "those who scoff will require more than one factual account to be convinced".¹³³ From this it is clear that Kircher thinks that the more sources there are that mention dragons, the more likely they are to be real (which could be true if natural history were not an echo chamber for misinformation).

Kircher focuses on three types of sources: well-known natural historians from the past; books and eye-witness accounts from contemporary natural historians; and religious sources, such as Saint's Lives and the Bible. Beginning with Kircher's more historical sources, he focuses

¹³⁰ Findlen, *Athanasius Kircher. The Last Man Who Knew Everything, Ed, 38.*

¹³¹ Findlen.

¹³² Klein, "Athanasius Kircher's Natural History of Dragons."

¹³³ Klein.

on “authoritative” and “established” authors, though we must take his word for it that they were in fact “authoritative” and “established.” For some of his sources this is easier to believe than it is for others. Kircher references Aristotle, Pliny, Solinus, and Aelian all of which are actually well-known and established. Additionally, all four of these had also been cited by Gessner in his natural history of dragons that was written in 1589. This shows that Kircher was correctly referencing and supporting some of his assertions and that other scholars around his time trusted the same sources on which Kircher relied. This lends Kircher’s source choice some credibility. Based on this, it is not too farfetched to extrapolate that Kircher might be accurately citing the other sources that he references despite the fact there is no evidence, for example, of a Sozomenus, Fulgosius, and Panfanta ever existing or writing about dragons.

The second type of source that Kircher uses are accounts of dragons from contemporary authorities. To a larger degree than with the more historical sources, we must take Kircher’s word for the trustworthiness of these sources since their works have not been well studied. For some of these sources, it is clear what drew Kircher to them and why they may have been considered reputable. The “authoritative account of Bellon (*Belloni*)” that Kircher cites was likely Pierce Belon, a French natural historian who wrote about dragons in 1588,¹³⁴ and the Aldeovarius (*Aldrovandus*) whose annals he references was likely Ulisse Aldrovandi (1522-1605), another natural historian who cultivated his own museum.¹³⁵ Additionally, there was Cardinal Francis Barberini who also had his own personal museum, whom Kircher was known to have interacted with.¹³⁶ In each of these cases, the men enjoyed an authority associated with their stations that lends them an air of credibility.

That said, Kircher does try to describe the credentials of all his eyewitnesses. Kircher describes an account of a dragon sighting made by a Roman named Lanio that was narrated to him by Lord Jerome Lancta. Jerome was a curator for Cardinal Barberini’s museum which Kircher uses to prove that he is trustworthy and knowledgeable. However, a cynic could also

¹³⁴ Senter, Mattox, and Haddad, “Snake to Monster.”

¹³⁵ “Ulisse Aldrovandi | Italian Naturalist.”

¹³⁶ Jones, Wisch, and Ditchfield, *A Companion to Early Modern Rome, 1492-1692*. 510. Findlen, *Athanasius Kircher. The Last Man Who Knew Everything*, Ed, 15.

argue that as a curator for the museum, Jerome would have the motivation to lie about the veracity of the dragon specimen in order to increase the prestige of the museum.

There are also a few cases where Kircher includes how he attempted to verify the truth of the source. Kircher recounts a dragon sighting published in John Cysatus' *Description of the Four Swiss Sylvanian Cities* (of which I can find no record) and describes how he corresponded with Christopher Schorer to check the validity of the account. Kircher describes Schorer as a "worthy gentleman" and notes that he was prefect of the Soliduranum Canton. Though these statements lack any context they do show an attempt to prove the trustworthiness of this source.

There is also a second account related by Cysatus that even Kircher himself found so fantastical that he had difficulty believing it. Cysatus describes how a man named Victor fell into large pit that contained two dragons. Victor prayed to God for protection and though the dragons wrapped their long tails and necks around him, they did him no harm. Victor spent a total of six months trapped in the pit, eating only the salty liquid extruded from the walls. In the spring when the dragons left the pit, Victor seized the tail of one of them and was thus carried to freedom. Though Victor died two months later since he was unable to readjust to real food, he was treated as a hero upon his return to town and his story was looked upon as a symbol of God's power. Though initially suspicious, Kircher was eventually convinced of the veracity of this account. The deciding factors for his belief were the great number of personal testimonies and "the surviving public devotion in the Church of Saint Leodegard at Lucerne."¹³⁷ The proof of this story is also found as a pictorial testament depicted in needlework. Interestingly, a surprising number of Kircher's sources are pictorial. For another account, Schorer describes how a dragon sighting he saw with his own eyes is recorded in pictorial form at the Chapel of Saint Margaret of Berne. There is also a third pictorial account that will be discussed later.

Overall, the contemporary sources that Kircher choose show what he was looking for in a source and suggest that he was choosing what he would consider to be reputable sources.

¹³⁷ Klein, "Athanasius Kircher's Natural History of Dragons."

However, it is difficult to tell what others during his time thought of these sources even though Kircher does attempt to describe why he thinks they are trustworthy.

The last group of sources that Kircher uses are the religious ones. It is clear from very early in Kircher's writing that he holds religious texts in very high esteem. Kircher treats the Bible as one of his most important sources and considers questioning it to be "itself an unspeakable act."¹³⁸ Within his mindset, there is no room to doubt anything within the Bible. Along this vein, Kircher relies heavily on saint's lives. These sources draw their credibility from God who Kircher already believed was infallible. Therefore, his choice to take saints' lives at face value is consistent with his other beliefs.

Kircher describes in detail Saint Mary Magdalene's encounter with a dragon that can be found in her saint's life. He goes further than just reciting it from the book, however, and supports the story with his own eyewitness account of a pictorial representation of the same story that he saw in a Cathedral in Tarascus, which the town claimed to be near the location where the dragon was killed. Kircher also references other saints' lives, including Saint Marcellus, St. Hilarion, and St. Donatus the Bishop, which were described above.

While Kircher clearly trusts these religious sources, it is impossible to know if other scholars at the time would have treated them the same. Gessner, for example, does not cite any saint's lives, though he does include the Biblical dragons in his section on "Several Stories, Fables, and Saying Based on Dragons."¹³⁹ However, one explanation for this is that Gessner was a Protestant and thus, would not have the same confidence in saints' lives as a Catholic such as Kircher.¹⁴⁰

While saints' lives may be considered works of fiction by some, Kircher does steer clear of well-known folk tales and myths. Though the people of his time would likely know the stories of St. George and Beowulf, Kircher avoids using these as evidence. This fits with his assertion that dragons were not beasts that can "only be found in fables and fairy tales."¹⁴¹ Since

¹³⁸ Klein.

¹³⁹ Senter, Mattox, and Haddad, "Snake to Monster."

¹⁴⁰ Hendriks, "Monstrosities from the Sea. Taxonomy and Tradition in Conrad Gessner's (1516-1565) Discussion of Cetaceans and Sea-Monsters."

¹⁴¹ Klein, "Athanasius Kircher's Natural History of Dragons."

he is trying to prove that dragons exist in nature, it holds that he would only choose sources that he considers to be based on fact rather than fable.

Following the discussion of which sources Kircher chose to use, the question remains as to whether all the sources he relied on actually existed. Kircher was well-respected in his own time and was well-known to correspond with many scholars, popes, and emperors.¹⁴² Umberto Eco went so far as to name him as a possible source of quotations from Brother Adso of Melk's description of the medieval labyrinth of a library containing Aristotle's lost book on laughter in the introduction to his novel *The Name of the Rose*.¹⁴³ This was not because of any concrete evidence that Kircher had once possessed this translation, but rather because "Kircher seemed to possess so many fragments of ancient wisdom that it was entirely plausible to imagine that he had once owned and partially transcribed every lost manuscript of any significance."¹⁴⁴ Kircher's writings contained so many tidbits of information and passages from scattered forgotten texts, that it was easy to believe that he had read everything at least once. On top of this, Kircher never published all of his wisdom in print – whether because he was unable or unwilling is not clear – which gave the impression that he possessed much more information than was actually penned under his name.

However, while the general and persistent image of Kircher as a renowned and conscientious scholar supports the validity of his sources and his source choices across his works, we are only interested in the sources he uses in the dragon portion of the *Mundus subterraneus*. Thus, the possibility remains that this section is different than Kircher's other works and is based on sources that his contemporaries would have found less respectable. It is possible that Kircher's reliance in particular on saints' lives in his treatment of dragons shows him diverging from his normal attitude of strict reliance on facts. However, this view can only work if we treat saint's lives as less reputable sources, which it is clear that Kircher did not believe.

¹⁴² Findlen, *Athanasius Kircher. The Last Man Who Knew Everything, Ed*, 37.

¹⁴³ Findlen, 3.

¹⁴⁴ Findlen, 3.

Kircher believed in dragons partially because of the ancient sources, but also because of eye-witness accounts, and because others he trusted had seen them. Though Kircher does reference many accounts written previously by authorities, it is more than the uncritical compilation of information that we saw in medieval bestiaries. Kircher is aware of the suspicion that hung over many of these accounts and augments them with new sources and specimens. Though these specimens have since been proven to be hoaxes, Kircher's use of them shows a new focus on direct observation that is also manifest in his interest in pictorial evidence of dragons. Kircher describes a whole host of specimens that he had been told of by reliable sources, including the one described by Belon and one specimen that Kircher claims to have had on display in his own museum.¹⁴⁵

Kircher valued dragons because having information about them increased his prestige. As a natural historian, he would be remiss in not including dragons. Especially since he was writing in a time where dragons are the center of much debate, taking a stance on them brought him to the forefront of the discussion. Just as having a specimen of a marvelous thing gives prestige, having new information about it would do the same. This is likely even more true given that this was a controversial topic.

Kircher identified and described two types of dragons, one winged and one without. It can be inferred that the wingless dragons that Kircher referred to are large serpents, though he only explicitly described dragons with legs. Kircher persisted in the description of dragons as serpents, continuing the imagery that begun with the Greeks. For the winged dragon, Kircher described both a four-footed and two-footed type. Kircher was the first natural historian to describe dragons as quadrupedal and to assert that they can breathe fire.¹⁴⁶ Previously, fire was common only to folklore and not natural history. Similarly, though dragons were often depicted in art with four legs, Kircher was the first to attribute this to them in a work of science.

For Kircher, dragons act entirely in the role of an enemy to be defeated by saints and heroes. His descriptions of dragons focus on their monstrous qualities and always cast dragons as the antagonist. They are terrible and vicious, they afflict hardship on towns, they are

¹⁴⁵ Klein, "Athanasius Kircher's Natural History of Dragons."

¹⁴⁶ Senter, Mattox, and Haddad, "Snake to Monster."

threatening and poisonous and responsible for lots of death. However, despite this, they are not described as being knowingly evil like the devil. Unlike medieval authors, Kircher casts dragons as great beasts that are dangerous only in that they are powerful animals. He does not see them as portents of evil, nor does he see them as manifestations of the devil.

Ultimately, Kircher was firm in his belief that dragons had existed in the past and continued to exist in his present time.

The Dragon Slayer: Carl Linnaeus

The dragon tradition was still alive and well at the turn of the eighteenth century, though it had become more controversial. When Carl Linnaeus (1707-1778) published his first taxonomy of all living things he included dragons. However, it was not in with the serpents as earlier bestiary authors and natural historians had done, but rather in a new category he called *Animalia Paradoxa*: the paradoxes.

Linnaeus was a Swedish botanist, zoologist, and physician and is known as the father of modern taxonomy. The tenth edition of *Systema Naturae* (1758) forms the basis for the modern system of classification of living things and popularized the use of binominal nomenclature.¹⁴⁷ Linnaeus was not the only scholar of his time to attempt to create lasting organization system – his was just the one that stuck, partially due to its consistency and talented marketing.¹⁴⁸

The image shows the title page of Carl Linnaeus's *Systema Naturae*, 10th edition (1760). The page is organized into six main columns representing animal classes, with a central section for 'PARADOXA' (Paradoxes). The columns are:

- I. QUADRUPEDIA** (Mammals): Lists various orders and genera such as Equus, Felis, Canis, Ursus, etc.
- II. AVES** (Birds): Lists various orders and genera such as Falco, Corvus, Columba, etc.
- III. AMPHIBIA** (Amphibians): Lists various orders and genera such as Salamandra, Testudo, etc.
- IV. PISCES** (Fish): Lists various orders and genera such as Salmon, Corax, etc.
- V. INSECTA** (Insects): Lists various orders and genera such as Libellula, Cicada, etc.
- VI. VERMES** (Worms): Lists various orders and genera such as Gordius, Testudo, etc.

The central section, **PARADOXA**, is titled 'Draco' and 'Manticora'. It contains a detailed Latin description of the dragon, including its mythical characteristics and its classification as a 'serpens' (serpent) with 'pedes' (feet) and 'aures' (ears). The text describes the dragon as a creature with the body of a serpent, the tail of a scorpion, and the wings of an eagle. It is said to breathe fire and to be slain by a young man named Saint George.

Figure 8. Linnaeus' first taxonomy of animals, including the category Paradoxa.¹⁴⁹

¹⁴⁷ Wahlgren, "Carl Linnaeus and the Amphibia."
¹⁴⁸ Wahlgren.
¹⁴⁹ Linné, Engel-Ledeboer, and Engel, "Systema Naturae, 1735."

The first edition of *Systema Naturae* was published in 1735 and amounted to single very large page containing every species Linnaeus had organized (Figure 8). Linnaeus, though, was primarily a botanist at heart, so when he undertook to organize all of life on Earth, he enlisted the help of his close friend Peter Artedi. In particular, Artedi focused on fishes and amphibians, while Linnaeus was supposed to restrict himself to plants and the other animals.¹⁵⁰ Unfortunately, Artedi died in the same year that the first edition of *Systema Naturae* was published. It is therefore difficult to know how large of an influence Artedi's ideas had, either on the finished product in general or on the treatment of dragons in particular.

In *Systema Naturae*, Linnaeus uses the term "Amphibia" to refer to both of what modern scholars would refer to as amphibians and reptiles. Within Amphibia, Linnaeus established two orders, "Reptilia" for the Amphibia with legs and "Serpentia" for the limbless Amphibia.¹⁵¹ Beneath the Amphibia column Linnaeus noted: "The Creator in his benignity has not wanted to continue any further the Class of Amphibians; for, if it should enjoy itself in as many Genera as the other Classes of Animals, or if those things were true that the Tetralogists have fabricated about Dragons, Basilisks, and such monsters, the human genus would hardly be able to inhabit the earth."¹⁵² This statement has many implications for the fate of dragons in the Early Modern period. First, Linnaeus recognizes dragons and basilisks belong within Amphibia (if they had been real). However, he does not specify whether they would belong in Serpentia or Reptilia, which makes it difficult to pinpoint whether he still thought dragons were serpents despite the variation in their number of limbs. Second, Linnaeus makes it clear that he does not believe any of the things that have been said about dragons. Thirdly, he declares dragons to be monsters and implies that if they were to exist, they would be the bane of humanity. The Amphibia column is the only one to get such a such comment, which emphasizes the strength of Linnaeus' feelings about reptiles and amphibians. Though Linnaeus cites a different reason than most

¹⁵⁰ Wahlgren, "Carl Linnaeus and the Amphibia."

¹⁵¹ Wahlgren.

¹⁵² Linné, Engel-Ledeboer, and Engel, "Systema Naturae, 1735." In the original Latin: "Amphibiorum classem ulterius continuare noluit Optimus Creator; Ea enim si tot Generibus, quot reliquae Animalium Classes comprehendunt, gauderet; vel si vera essent, quae de Draconibus, Basiliscis, ac ejusmodi monstris οι τετραλόγοι fabulantur, certe humanum genus terram inhabitare vix posset." Linné, *Systema Naturae, Sive, Regna Tria Naturae Systematice Proposita per Classes, Ordines, Genera, & Species*.

Christians for disliking dragons, he perpetuates the same negative associations that were pervasive in the Middle Ages.

Though Linnaeus talks about dragons beneath the column on Amphibia, however, he does not include them as a species there. Though it is not a true dragon, he does include the “winged” lizard from East India as the species *Draco volans*, meaning “flying dragon”. This lizard has four legs and small flaps of skin that extend from their sides that allow them to glide short distances. They are not capable of powered flight and they only grow to ten inches in length, but they are still known today as the common flying dragon.¹⁵³

Rather than place the “mythical” dragons in Amphibia, Linnaeus established the section called *Paradoxa* which contained all the species he found problematic in some way. This section included creatures such as the phoenix which arises from the ashes of fire, the satyr which was tall, hairy, bearded, with a manlike body, and the pelican which pierced its chest to feed blood to its young.¹⁵⁴ It also included the species Linnaeus called *draco*. He attached this description: “DRACO with a serpent body, two feet and two wings like a bat is *Lacerta alata* [=winged lizard] or a *Ray* artificially shaped and dried as a monster.”¹⁵⁵ While this dragon does fit some depictions of dragons, it does not fit all of them. In his attempt to align and recategorize all living creatures, Linnaeus has oversimplified dragons and confined them to one shape which ignores the great variation in their historical depictions.

Recorded as a separate species in *Paradoxa* is the *hydra*. On the hydra he writes: “The HYDRA, with eel-like body, two feet, seven necks and as many heads, without wings, is preserved in Hamburg, bearing similitude to ST. John's Apocalyptic Hydra described in CHAPTERS XII and XID. By most people it is considered a quasi-real animal species but wrongly so. Nature, always remaining true itself, has never in a natural way produced several heads on one body. As we ourselves have seen, the teeth of the carnivorous weasel which differ from the teeth of Amphibians, have easily revealed the fraud and artifice.”¹⁵⁶

This was in reference to a hydra specimen he saw for sale in Hamburg prior to 1735.

¹⁵³ Musters, “Taxonomy of the Genus *Draco* L. (Agamidae, Lacertilia, Reptilia).”

¹⁵⁴ Linné, Engel-Ledeboer, and Engel, “Systema Naturae, 1735.”

¹⁵⁵ Linné, Engel-Ledeboer, and Engel.

¹⁵⁶ Linné, Engel-Ledeboer, and Engel.

The hydra had seven-heads, was over two feet in length, and was likely modeled on the dragon of Revelations. It had been looted from an altar in Prague in 1648 and Linnaeus presumed that it had been manufactured by monks in order to represent the dragon of Revelations.¹⁵⁷ Upon seeing the specimen, Linnaeus declared that it was a hoax. He claimed that the skin was made of snake skins that had been carefully glued together with jaws and feet from a weasel.¹⁵⁸

However, the very existence of this specimens points to the fact that even in this time, many people still thought dragons were real. Albert Seba, a zoologist and collector and a contemporary of Linnaeus, had included a drawing of this specimen in the first volume of his *Thesaurus* (Treasury) of natural history that was published in 1734 (Figure 9). Though Seba had not seen the specimen in person, he described it as a genuine natural specimen and never doubted that it was legitimate.¹⁵⁹



Figure 9. Drawing of a hydra specimen from Albert Seba's *Thesaurus* (1734).¹⁶⁰

¹⁵⁷ Blunt, *The Compleat Naturalist*, 93.

¹⁵⁸ Wahlgren, "Carl Linnaeus and the Amphibia."

¹⁵⁹ Blunt, *The Compleat Naturalist*, 93.

¹⁶⁰ Blunt.

Beyond what Linnaeus says about dragons in *Systema Naturae*, there are also copies of lecture notes taken by students who participated in Linnaeus' courses at Uppsala university that further illuminate his thoughts on dragons. One student recorded that the class of Amphibia is the "ugliest, cruelest and most poisonous, it would have done the other Genera too much harm if they were many."¹⁶¹ This was clearly a repetition of Linnaeus' own views on the matter, which highlights his animosity for the group.

On the topic of *Draco volans* a student records Linnaeus saying: "On the dragon are maybe as many stories as there are old women, but all equally false for no dragon exists in the world than this small one, having neither treasures to rest on nor fire in the tail for lighting." This makes it clear that Linnaeus very much did not believe in dragons the way that Kircher did only one hundred years prior.

Despite his intense dislike for the creatures of Amphibia and his skepticism regarding the existence of dragons, Linnaeus nevertheless included them in his first edition and indeed in the second edition as well. In fact, Linnaeus even added more marvelous creatures to *Paradoxa* in the second edition, including the siren and manticore.¹⁶² Thus, Linnaeus was honestly considering the creatures in *Paradoxa* during the intervening years and made the conscious decision between the first and second editions to keep them.

Linnaeus included dragons (and other marvelous creatures) even though he found them unnatural. This could be because they were still so entrenched in the culture that to ignore them would again have been out of place. The Hamburg Hydra illustrates how much a part of the culture dragons still were even at this time. It was a representation of wealth and prestige to own a dragon specimen and the general public still believed in them. So much so that it was said that King of Denmark had bid on the Hamburg specimen before Linnaeus outed it as a fake.¹⁶³

Linnaeus did eventually remove dragons and the other marvelous creatures in the third edition (1748) that he himself authored (though it is technically the sixth edition since the third

¹⁶¹ Wahlgren, "Carl Linnaeus and the Amphibia."

¹⁶² Linné, *Systema naturae in quo naturae regna tria secundum classes, ordines, genera, species, systematice proponuntur*.

¹⁶³ Blunt, *The Compleat Naturalist*. 93

(1740), fourth (1744), and fifth (1747) edition were published by others with Linnaeus' permission). He does not offer a direct explanation for why he suddenly dropped them.

For Linnaeus, dragons had become so far removed from snakes as to no longer be considered the same beast. Losing this connection to living creatures placed them even more squarely in the realm of fiction. Furthermore, their variability would not fit with Linnaeus model of organization. Medieval and Early Modern dragons enjoyed high variability in how they were depicted. They would be found with or without wings and with no legs, two legs, or four legs; stories claimed they were enormous, and specimens showed them to be two meters in length. The most recent natural historian before Linnaeus, Kircher, had said that dragons had four legs, and the Middle Ages had dragons with no legs and sometimes even no wings. While this variability is interesting for folklore and stories, it is fundamentally opposed to the strict idea of species that Linnaeus aimed for. Dragons as they existed at the time could not be constrained to a single form. That Linnaeus wanted to do this anyway is seen in the fact that he describes dragons as only winged bipeds. Moreover, Linnaeus describes the hydra and the dragon separately even though previous writers considered them together. Within Linnaeus' system, the differences between the different depictions of dragons cannot be reconciled. Their variability would have been incompatible with Linnaeus' rigorous models and might have contributed to his decision to remove them altogether.

Their marvelous traits that once brought them greater attention, now caused them to be assigned strictly to the realm of myth. Linnaeus originally discredited the hydra because it had too many heads. In the *Systema Naturae* he claims that it is unnatural for any creature to have more than one head and that God would never create such a creature. If it is true that Linnaeus suspected the hydra of being a hoax before seeing it based on this fact, then it suggests that Linnaeus had a deeper suspicion of marvelous creatures that was based on the characteristics of the creature themselves rather than on examples of false specimens.

In one of his autobiographies, Linnaeus describes his pride in his discovery of the fraud: "The dragon in Hamburg had fooled all curieusa [Curious observers] in the world until Archiater Linnaeus arrived and found him made by art". In another one of his autobiographies, he proudly claims that "he was the first who discovered from the teeth that this monster was

not by nature but an *artis miraculum*.”¹⁶⁴ This satisfaction at disproving their existence suggests a deeper desire to disprove dragons.

In his Observations section preceding his section on animals in *Systema Naturae*, Linnaeus claims that most of what had been so far published in natural history on zoology was “for the greater part nothing but fabulous stories, a vague way of writing, pictures by the copper engravers and descriptions which are imperfect and often too extensive.”¹⁶⁵ In his *Species plantarum* (1753) he states that “Species NOT SEEN by me I have excluded here, since so many times I have been fooled by authors, this so as not to mix the doubtful with those entirely surely known.”¹⁶⁶ Together, these statements illustrate Linnaeus’ disdain for stories and his focus on direct observations. Linnaeus may have chosen to remove dragons since he could find no honest specimens nor make any true sighting of them.

Linnaeus is the culmination of the dragon-slayer tradition. However, he accomplished more than what any previous hero would have thought possible. Linnaeus did not just slay a single dragon; he slew them all. By removing dragons from his taxonomy, Linnaeus cast them into extinction and locked them firmly in the realm of mythology.

¹⁶⁴ Broberg, “The Dragonslayer.”

¹⁶⁵ Linné, Engel-Ledeboer, and Engel, “Systema Naturae, 1735.”

¹⁶⁶ Koerner, *Linnaeus*, 39.

Conclusion

That dragons are a real feature of the natural world is not nearly so ancient an idea as people would believe. And it is not solely a feature of the Middle Ages either. The dragon of the West was a fixture of life for hundreds of years longer than it has been dead. Up until the middle of the eighteenth century, dragons were rare but still real – they were attested in every respected bestiary and encyclopedia and specimens could be found collections across Europe.

The dragons of Ancient Greece were the large serpents of myth devised only to be slain, but they were also the snakes you could see in the temple, licking wounds and guarding homes and storehouses from nothing more fearsome than rats.

These serpents became the dragons of the Modern age slowly; in skips and starts. While some dragons gained wings from Augustine, and limbs from somewhere else, some dragons never lost their serpentine form. It is possible that the tendency of bestiaries to borrow directly from earlier natural histories led to this incredible variety of forms. The books maintained the old descriptions even as the imagery and symbolism around them shifted and evolved, leading to a contradiction that later authors needed to resolve. Gessner went the route of attesting that each variation was still just a dragon, while Kircher picked only those with legs and wings, and Linnaeus ignored all but the winged bipeds.

It was Christianity that amplified the dragons' appearance as an enemy of mankind and focused on their connection to the Devil at the expense of their connection to healing. The dragons in hagiographies and bestiaries emphasized how dragons were evil beasts and magnified the idea of the dragon slayer; thus, replacing the positive image of dragons as guardians and healers. Long gone was the belief that dragons were good luck, but rather they were harbingers of destruction and the apocalypse. Only heraldry saw a positive side to dragons, though it was still focused on dragons as symbols of power and destruction.

Dragons and the idea of them has always been prey to the whims of the dragon-slayers; from Heracles, to the Archangel Michael, to Beowulf, to St. George, and finally to Linnaeus. While Linnaeus spelled the end for dragons in natural history, they have remained a fixture of folklore. The modern dragons of Tolkien's *Lord of the Rings*, J.K. Rowling's *Harry Potter*, and George R.R. Martin's *Game of Thrones* are testaments to the place and power dragons still hold

in our culture. Looking back to the ancient *drakōntes* of Greece and wingless, legless dragons of Gessner, there is very little separating these ideas from the snakes of today. Dragons are as alive as the snakes we keep as pets and as the beasts populating our entertainment.

Works Cited

- Aelian. *On the Characteristics of Animals*. Translated by Alwyn Faber Scholfield. Vol. 1. Cambridge, Massachusetts: Harvard University Press, 1971.
- Allen, S. J., and Emilie Amt. *The Crusades: A Reader, Second Edition*. University of Toronto Press, 2014.
- Beckhofer-Fialho, Aura. "Medieval Bestiaries and the Birth of Zoology." *The Antlion Pit*, 1996. <https://www.antlionpit.com/aura.html>.
- "Bestiary, with Extracts from Giraldus Cambrensis on Irish Birds." England, 2nd quarter of the 13th century. Harley MS 4751 f. 58v. British Library.
- "Bestiary with theological texts," c -c 1210 1200. Royal MS 12 C XIX f.62r. British Library.
- Blunt, Wilfrid. *The Compleat Naturalist: A Life of Linnaeus*. Frances Lincoln, 2001.
- "Book of Hours, Use of Sarum." Netherlands, 3rd quarter of the 15th century. Harley MS 2985, f. 37v. British Library.
- Brenton, Lancelot Charles Lee. *The Septuagint with Apocrypha: Greek and English*. Peabody, Massachusetts: Hendrickson Publishers, 2018.
- Broberg, Gunnar. "The Dragonslayer." *Tijdschrift Voor Skandinavistiek* 29 (2008). <http://archive.ph/y4jbA>.
- Dennys, Rodney. *The Heraldic Imagination*. London : Barrie & Jenkins ; Toronto : Anson-Cartwright Editions, 1976. <http://archive.org/details/heraldicimagination0000denn>.
- Findlen, Paula, ed. *Athanasius Kircher. The Last Man Who Knew Everything, Ed.* London: Taylor and Francis Books, Inc, 2004.
- Fox-Davies, Arthur Charles. *A Complete Guide to Heraldry*. Edinburgh: Good Press, 1909.
- Geary, Patrick J. "Archival Memory and the Destruction of the Past." In *Phantoms of Remembrance. Memory and Oblivion at the End of the First Millennium*, 81–114, 1994.
- Hamel, Christopher De, and British Library. *The British Library Guide to Manuscript Illumination: History and Techniques*. University of Toronto Press, 2001.
- Hendrikx, Sophia. "Monstrosities from the Sea. Taxonomy and Tradition in Conrad Gessner's (1516-1565) Discussion of Cetaceans and Sea-Monsters." *Anthropozoologica* 53, no. 1 (2018): 125–137.
- Holweck, Frederick George. *A Biographical Dictionary of the Saints: With a General Introduction on Hagiology*. B. Herder Book Company, 1924.
- Honegger, Thomas. *Introducing the Medieval Dragon*. University of Wales Press, 2019.
- . "The Sea-Dragon – in Search of an Elusive Creature." *Wasser in Der Mittelalterlichen Kultur / Water in Medieval Culture*, March 2015. https://www.academia.edu/18703479/The_Sea-dragon_in_Search_of_an_Elusive_Creature.
- Ingram, James, and John Allen Giles. *The Anglo-Saxon Chronicle*. J. M. Dent & sons, Limited, 1938.
- Isidore. *The Etymologies of Isidore of Seville*. Edited by Wendy J. Lewis, Jennifer A. Beach, and Oliver Berghof. Translated by Stephen A. Barney. Cambridge University Press, 2006.
- Jones, Pamela, Barbara Wisch, and Simon Ditchfield, eds. *A Companion to Early Modern Rome, 1492-1692*. Vol. 17. BRILL, 2019.

- Klein, Darius Matthias. "Athanasius Kircher's Natural History of Dragons." *Christian Latin* (blog), August 26, 2008. <http://christianlatin.blogspot.com/>.
- Koerner, Lisbet. *Linnaeus: Nature and Nation*. Harvard University Press, 2009.
- Kuehn, Sara. *The Dragon in Medieval East Christian and Islamic Art: With a Foreword by Robert Hillenbrand*. BRILL, 2011.
- Encyclopedia Britannica. "Leviathan | Middle Eastern Mythology," September 26, 2017. <https://www.britannica.com/topic/Leviathan-Middle-Eastern-mythology>.
- Linné, Carl von. *Systema naturae in quo naturae regna tria secundum classes, ordines, genera, species, systematice proponuntur*. Apud G. Kiesewetter, 1740. http://archive.org/details/bub_gb_oXsZAAAAYAAJ.
- . *Systema Naturae, Sive, Regna Tria Naturae Systematicè Proposita per Classes, Ordines, Genera, & Species*. Lugduni Batavorum [Leiden, the Netherlands] : Apud Theodorum Haak :Ex Typographia Joannis Wilhelmi de Groot, 1735. <https://www.biodiversitylibrary.org/item/15373>.
- Linné, Carl von, M. S. J. Engel-Ledeboer, and Hendrik Engel. "Systema Naturae, 1735." Nieuwkoop, Holland : De Graaf, 1964. <https://trove.nla.gov.au/version/21159109>.
- Morrison, Elizabeth, and Larisa Grollemond. *Book of Beasts: The Bestiary in the Medieval World*. Getty Publications, 2019.
- Musters, C J M. "Taxonomy of the Genus Draco L. (Agamidae, Lacertilia, Reptilia)." *Zoologische Verhandelingen*, no. 199 (1983): 1–120.
- Nougaret, Jean. "De Guillaume d'Orange à Saint Guilhem de Gellone : essai sur une iconographie à définir." *Etudes Héraultaises*, no. 35 (2005): 18.
- Ogden, Daniel. *Drakōn: Dragon Myth and Serpent Cult in the Greek and Roman Worlds*. Oxford University Press, 2013.
- Page, Sophie. "Good Creation and Demonic Illusions." In *A Cultural History of Animals in the Medieval Age*, 2:27. Berg Publishers, 2009.
- Peraldus. "Theological miscellany, including the Summa de vitiis." England, c 1236. Harley MS 3244 f. 59. British Library.
- Pliny the Elder. *The Natural History*. Edited by John Bostock. London: Taylor and Francis Books, Inc, 1855.
- Senter, Phil, Uta Mattox, and Eid E. Haddad. "Snake to Monster: Conrad Gessner's Schlangenbuch and the Evolution of the Dragon in the Literature of Natural History." *Journal of Folklore Research: An International Journal of Folklore and Ethnomusicology* 53, no. 1 (2016): 67–124.
- "Serpent, n." In *OED Online*. Oxford University Press. Accessed April 10, 2020. <http://www.oed.com/view/Entry/176538>.
- Shuker, Dr Karl. "Spouting Forth About the Gargoille -- A Lethal Water-Spurting Dragon from the Seine." Medium, August 13, 2017. <https://medium.com/@karlshuker/spouting-forth-about-the-gargouille-a-lethal-water-spurting-dragon-from-the-seine-9c8f346203fb>.
- Stace, Christopher. *St George : Patron Saint of England*. London : Triangle, 2002. <http://archive.org/details/stgeorgepatronsa00stac>.
- Stothers, Richard B. "Ancient Scientific Basis of the 'Great Serpent' from Historical Evidence." *Isis* 95, no. 2 (2004): 220–238.

- British Library. "The Anatomy of a Dragon - Medieval Manuscripts Blog," April 23, 2014.
<https://blogs.bl.uk/digitisedmanuscripts/2014/04/the-anatomy-of-a-dragon.html>.
- The Holy Bible: Translated from the Latin Vulgate, Diligently Compared with the Hebrew, Greek, and Other Editions in Divers Languages : The Old Testament First Published by the English College at Douay, A.D. 1609, and the New Testament First Published by the English College at Rheims, A.D. 1582 ; with Annotations, References, and an Historical and Chronological Table.* Baltimore, Md.: J. Murphy, 1914.
<https://archive.org/details/holybibletransl00balt>.
- Topsell, Edward, Conrad Gessner, Thomas Moffett, and John Rowland. *The History of Four-Footed Beasts and Serpents.* London, Printed by E. Cotes, for G. Sawbridge [etc.], 1658.
<http://archive.org/details/historyoffourfoo00tops>.
- Tweed, J.E., and Philip Schaff, trans. *Nicene and Post-Nicene Fathers.* Vol. 8. 1. Buffalo, New York: Christian Literature Publishing Co., 1888.
- Encyclopedia Britannica. "Ulisse Aldrovandi | Italian Naturalist." Accessed May 20, 2020.
<https://www.britannica.com/biography/Ulisse-Aldrovandi>.
- Wahlgren, Richard. "Carl Linnaeus and the Amphibia." *Bibliotheca Herpetologica* 9, no. 1–2 (2011).
- "WHO | World Health Organization." Accessed May 28, 2020. <https://www.who.int/>.