

“Mounting up to the Heavens”: Astronomical Events and Their Interpretations in the
Carolingian Era

Contents

I.	Introduction	3
II.	Astronomy as a Discipline in the Carolingian Empire	11
III.	Eclipses and the Royal Death	21
IV.	Comets: Changes on the Sky and the Earthly World	33
V.	Air and Atmospheric Phenomena	46
VI.	Conclusion	53

Chapter I

Introduction

In the spring of 837, Emperor Louis the Pious called one of his courtiers, known by modern historians as the Astronomer, to his royal chamber to examine the appearance of a comet in the night sky over his palace at Aachen. The comet, which later turned out to be Halley's Comet, came within just short of three million miles of the earth. Louis and his courtier discussed the comet at length and concluded that it was a potential sign of the emperor's approaching death. Remarkably, this event became the centre of attention of the scholars in the Carolingian world, both lay and ecclesiastical alike. Believing that the heavens contained God's messages about the future, Carolingian scholars scrutinised the stars and attempted to discover what God had in mind for the world.

The chronicles from the Carolingian period are filled with strange phenomena occurring in the sky, including mysterious fireballs, bloody rain, and cosmic battling armies. Indeed, the Carolingians and the authors around them continually studied the stars and heavens, and debated the messages they contained. For example, Einhard

reported in his *Life of Charlemagne* that his emperor bequeathed to his son Louis the Pious a precious silver table resembling the world and the universe.¹ The silver table was later described in greater detail in the *Annals of St-Bertin* as “a map of the whole world and it also showed the stars and the various movements of the planets at proportionate distances from each other, with the more important signs of the Zodiac.”² The description of the table provides a vivid illustration of the continued study of ancient astronomical science and learning in the early medieval period—a period traditionally associated with the decline of classical literary cultures and the rise of Christian superstition. This thesis will examine the records of astronomical observation written by various authors in order to understand why rulers like Charlemagne and Louis the Pious as well as the writers of the Carolingian period were interested in the stars, and how their interpretation of the heavens was shaped by both classical learning and Christianity.

The era of the Carolingians was indeed a remarkable time within the early medieval period for its political achievements and cultural complexity. This era is named after the Carolingian royal dynasty, which ruled Continental Europe between 751 and 888, and until 987 in some regions. The rise of the Carolingians began in the early eight-century as the preceding dynasty, the Merovingians (ruled 481-751), was declining. Pepin the Short, the first Carolingian king, deposed the last Merovingian king Chideric III in 751. With a

¹ Einhard, *Life of Charlemagne*, c. 33, in D. Ganz, ed., *Two Lives of Charlemagne* (London, 2008), pp. 43-44.

²*The Annals of St-Bertin*, s.a. 842, in J. Nelson, ed., *The Annals of St-Bertin: Ninth-century Histories, volume I*, (Manchester, 1991), pp. 52-53.

growing alliance with the papacy, the Carolingians expanded the kingdom of the Franks through military conquests and transformed it into a vast multi-ethnic empire. Charlemagne's imperial coronation on Christmas day in the year 800 recognised this fact and revived the imperial title in the West after a three-century hiatus.

Widely known for his political and military achievements, Charlemagne was also a patron of education. He increased the number of schools and scriptoria, and the emperor called for the standardisation of Latin as the common written language of Europe. This educational and spiritual reform of the Frankish empire, known as the Carolingian Renaissance, united the classical learning of Rome with Christian education and the ideology of the Carolingian dynasty. The Carolingian curriculum consisted of the seven liberal arts: grammar, logic, rhetoric, arithmetic, geometry, music, and astronomy.

Charlemagne himself was also a learner, as his courtier and biographer Einhard praised him for his interest in education and learning.³ In his old age, Charlemagne was probably interested in the art of reading the sky in the same manner that his son Louis was overly concerned with the predicament that came with the comet. His and his son's curiosity concerning the appearance of the heavens was correlated with the rise of science education. And, perhaps, it is not to our surprise that the records of astronomical phenomena first appeared in the *Royal Frankish Annals* in the year of 798, following Charlemagne's and Alcuin's letter exchange concerning the disappearance of the planet

³ Einhard, *Life*, c. 25, p. 36.

Mars.⁴ Before the Carolingian period, the study of astronomy, especially its geometrical aspect, had been absent from the written record since it had lost its significance at the late Roman imperial courts.⁵

The momentous revival of astronomy in the Carolingian court was brought into the attention of modern scholars. The historian of science Stephen McCluskey argues that the early medieval monastic communities used the celestial movements to facilitate timekeepings.⁶ Their primary applications through the *computus* were to standardise the yearly calendar for feast dates and to indicate time for prayer at night.⁷ Therefore, McCluskey's analyses propose the function of astronomy as strictly limited to the monastic society and thus removed it from the royal court. The implication of the renewal of astronomy, however, was seen in a broader sense beyond the computations of date and time. Through the examinations of cosmological diagrams and the marginal glosses in early medieval astronomy texts, another historian of science, Bruce Eastwood, points out the development of cosmological models compiled from previous classical knowledge.⁸ Eastwood shows varieties of Carolingian approaches and observations on the studies of planetary motions, and he argues that "conceptual material for a rationalized view of

⁴ *Royal Frankish Annals*, s.a. 798, in B. W. Scholz and B. Rogers, ed., *Carolingian Chronicles: Royal Frankish Annals and Nihard's Histories* (Ann Arbor, 1972), p. 77.

⁵ Bruce Eastwood, *The Revival of Planetary Astronomy in Carolingian and Post-Carolingian Europe* (Aldershot, 2002), 235.

⁶ Albert Van Helden, "Astronomies and Cultures in Early Medieval Europe," *The American Historical Review* 104, no. 5 (1999): 1726.

⁷ Van Helden, "Astronomies," 1726.

⁸ Eastwood, *Revival*, 238.

much of the heavens” was the result from the “rebirth” of classical astronomy in the Carolingian era.⁹

As opposed to McCluskey’s and Eastwood’s view on practical uses of astronomy and their application on *computus* in the context of monastic lives, Paul Dutton approaches Carolingian astronomy by looking at its significance in the secular world, especially to the royal court and nobility. Dutton primarily perceives astronomy as tools of the Carolingian kings in their public affairs. In an era of dramatic political changes, the stars offered a sense of comfort as a sign of permanence and stability.¹⁰ To the Carolingian kings, as Dutton argues, the stars in the heavens were the “reflection of God’s judgement.”¹¹ In this regard, to study the sky was to attempt to understand what God had in mind for the earthly world, while other scientific developments were merely a side product of the scholars’ attempt to understand God.¹²

Another approach scholars have taken to understand Carolingian astronomy is through the perspective of art history. The art historian Eric Ramírez-Weaver carefully analyses the iconography of a medieval astronomy text, the *Madrid 3307*, an early copy of a compilation of astronomy texts composed at the Carolingian royal court known as the *Aachen Compilation of 809–812*. Through the examination of the illuminated

⁹ Eastwood, *Revival*, 250.

¹⁰ Paul Edward Dutton, “Of Carolingian Kings and Their Stars,” *Charlemagne’s Mustache and Other Cultural Clusters of a Dark Age* (New York, 2004), 125.

¹¹ Dutton, “Of Carolingian Kings,” p. 126.

¹² Dutton, “Of Carolingian Kings,” p. 126.

manuscript along with its context, Ramírez-Weaver highlights the significance of the relationship between art and science, as well as the relationship between astronomy and philosophy.¹³ Not only did the Carolingian interest in astronomy preserve classical learning, but studying the sky brought them closer to salvation.¹⁴

Yet the scope of astronomy in the early Middle Ages is more complicated than how we understand the field of studies today. The difference between the disciplines of astronomy and astrology was rather ambiguous. In Carolingian manuscripts, the terms *astronomia* and *astrologia* were used synonymously.¹⁵ However, the profession of astrologer was condemned heretical,¹⁶ while the Carolingian scholars were free to conduct astronomical studies of the heavens as long as the practice did not involve the “active divination.”¹⁷ In this context, “active divination” meant the act of channeling the stars in an attempt to learn the future, in contrast to a passive observation. Thus, the Carolingian scholars tended to avoid this sin by keeping their readings of the sky vague and open for interpretation.¹⁸ In this thesis, I restrict the term “astronomy” to the scientific and observational studies of the sky, while the term “astrology” is reserved for the pseudoscientific studies.

¹³ Thomas F. X. Noble, “A Saving Science: Capturing the Heavens in Carolingian Manuscripts,”

CAA.Reviews, January 31, 2018, 1.

¹⁴ Noble, “A Saving Science,” 1.

¹⁵ Dutton, “Of Carolingian Kings,” 103.

¹⁶ Augustine, *Confessions, Volume I: Books 1-8*, c. 4.3, in C. J. B. Hammond, ed., *Loeb Classical Library* (Cambridge, 2014), p. 137.

¹⁷ Dutton, “Of Carolingian Kings,” 103.

¹⁸ Dutton, “Of Carolingian Kings,” 111.

This study will explore the early medieval views on astronomical phenomena and their relations to Carolingian culture. The organisation of the thesis will be as follows. Chapter Two will examine the scope of the studies of astronomy taught in Carolingian schools and the Christian view of the relationship between the sky and the earthly world. Then, the thesis will turn from the body of knowledge to the accounts that the medieval writers wrote about astronomical events. Chapter Three will cover the analyses on eclipses as recorded in various annals to understand how the record had changed over time. Chapter Four will delve into the observations of comets as a portentous sign. Finally, Chapter Five will turn from the astronomical phenomena to the events in the atmosphere, as they occurred in the intermediate area between heaven and earth.

The sources for the study of astronomy from the Carolingian time are rich and diverse. This thesis will examine varieties of English translations of written records from classical antiquity and early medieval Francia. The types of evidence analysed in this study include textbooks, theological works, chronicles, royal biographies, and letters. The first type of evidence this thesis is going to present is the major textbooks that were likely to be available in the Carolingian Empire. This includes Pliny the Elder's *Natural History*, Martianus Capella's *On the Marriage of Philology and Mercury*, Isidore of Seville's *Etymologies*, and Hrabanus Muarus's *De universo*.

*Natural History*¹⁹ was an encyclopedia written in the latter half of the first century by Pliny the Elder (AD 23-79), a philosopher from classical antiquity. The work was divided into 37 books, ten of which were published by Pliny himself, while the rest were published by his nephew after his death. *Natural History*, written in the dedication to the contemporary Roman Emperor Vespasian, contains a wide range of descriptions of nature from astronomy to botany to mineralogy. Although *Natural History* was written from the perspective of a classical pagan author, it became a major influence for later medieval texts including Isidore's *Etymologies*. Pliny's work, moreover, was reproduced in the Frankish empire and was studied in Carolingian schools. Thus, *Natural History* served as a medium that passed on classical learning to the Carolingian world.

Another important textbook from antiquity is *On the Marriage of Philology and Mercury*.²⁰ Written by Martianus Minneus Felix Capella in the fifth century, the marriage in the book's title is an allegory of the joining between intellectual knowledge and texts. The wedding gifts Philology received includes the seven servants, each of whom narrates one discipline from the seven liberal arts in great detail. In his eighth book, concerning astronomy, Martianus discusses the movement of celestial objects. Martianus's work eventually became a foundation of the seven liberal arts curriculum taught in medieval schools, including Carolingian ones.

¹⁹ Pliny, *Natural History, Volume I: Books 1-2*, in H. Rackham, ed., *Loeb Classical Library* (Cambridge, 1938).

²⁰ Martianus Capella, *On Marriage of Philology and Mercury*, in W. H. Stahl, ed., *Martianus Capella and the Seven Liberal Arts, Vol. 2* (New York City, 1971).

Another encyclopedic work from late antiquity is Isidore of Seville's *Etymologies*.²¹ Isidore (560-636) was the bishop of Seville in the Visigothic kingdom, in present-day Spain. Isidore composed the *Etymologies* in accordance with the idea that the true meaning of a word can be understood from its linguistic origin.²² The work, divided into twenty books by the topics, is a compilation of other works by previous Christian and pagan authors. One of the principal sources of the *Etymologies*, especially for the books that cover the topic related to nature, was actually *Natural History* by Pliny, whom he sometimes acknowledged by name.²³ Isidore's work, in turn, became an important influence on Hrabanus Maurus's *De universo*,²⁴ which will also be examined in this study. Written in the ninth-century to King Louis the German (840-876) and Bishop Haimo of Halberstadt, *De universo* was both an encyclopedia and a commentary on the Holy Scriptures. The purpose of the work not only to offer the etymologies or the historical significance of words, but also their interpretations as the words or themes recurred throughout the Bible. In this regard, *De universo* was a manual to assist with the interpretation of the Bible, and thus could provide insights on the Christian view of the cosmos and the world.

The second category of evidence used in this study are chronicles recorded by contemporary writers. Beginning from Charlemagne's reign, the writing system began to

²¹ Isidore, *Etymologies*, in S. A. Barney, W. J. Lewis, J. A. Beach, and O. Berghof, ed., *The Etymologies of Isidore of Seville* (Cambridge, 2006).

²² Stephen A. Barney, W. J. Lewis, J. A. Beach, and Oliver Berghof, "Introduction," *The Etymologies of Isidore of Seville* (Cambridge, 2006), 11.

²³ Barney, Lewis, Beach, and Berghof, "Introduction" 23.

²⁴ Hrabanus Maurus, *De universo*, in P. Throop, ed., *Hrabanus Maurus: De Universo, Words and their Mystical Significant I* (Charlotte, 2009).

play an important role in legislative administration. Along with it was the record of histories and notable events in the form of annals and royal biographies. The observations of astronomical phenomena, especially comets and eclipses, can be found throughout the annals across the Carolingian empire. The annals were the yearly record written by annalists from the royal courts or monasteries, although most of them were preserved in monasteries. The most notable annals is the *Royal Frankish Annals*,²⁵ yearly records of significant events in Europe spanned from 741 to 829. The surviving manuscripts are believed to be a compilation of records by several unidentifiable authors. Another annals composed in west Francia is the *Annals of Saint Bertin*,²⁶ which are a continuation of the *Royal Frankish Annals* from 830 to 882. The annals were written by scribes at Louis the Pious's court and later by Bishop Prudentius of Troyes and Archbishop Hincmar of Reims. In addition to the annals from the West, the *Annals of Fulda*²⁷ was composed around the same period (838-900) at Fulda in Germany. Finally, I will look at *Histories*,²⁸ the account of the period in which the Carolingian Civil War between Louis the Pious's sons broke out, which was written by Nithard, a lay abbot and a historian who served under Charles the Bald.

²⁵ *Royal Frankish Annals*, in B. W. Scholz and B. Rogers, ed., *Carolingian Chronicles: Royal Frankish Annals and Nihard's Histories* (Ann Arbor, 1972).

²⁶ *The Annals of St-Bertin*, in J. Nelson, ed., *The Annals of St-Bertin: Ninth-century Histories, volume I*, (Manchester, 1991).

²⁷ *The Annals of Fulda*, in T. Reuter, ed., *The Annals of Fulda: Ninth-century Histories, volume 2*, (Manchester, 1991).

²⁸ Nidhard, *Histories*, in P. Dutton, ed., *The Carolingian Civilization: A Reader* (Toronto, 2004).

Another category of primary sources this thesis will investigate is royal biographies, primarily the biographies of Charlemagne and of Louis the Pious. One of the biographies full of astronomical references is the *Life of Charlemagne*²⁹ by the ninth-century Frankish scholar and courtier Einhard. The work not only describes the important events from the rise of the Carolingian to Charlemagne's death and his inheritance, but also mentions Charlemagne's personal life. The biography of Louis the Pious that will be examined in this study is the *Life of Emperor Louis*.³⁰ Written by the Astronomer, the courtier who was summoned to interpret the meaning of the comet in 837, the biography is believed to be written down shortly after Louis's death in 840. The two works contain various remarks of the sky and the stars, and thus reflect the views of the Carolingian authors on the heavens and their influences on their kingdom.

A final category of evidence is letters. Many letter collections survive from the Carolingian period, including those of Alcuin, Einhard, and Lupus of Ferrieres, which will be examined in this thesis. These sources are significant because, unlike the annals and royal biographies that were written in retrospect, the letters expressed their authors' immediate reflection and concern on recent situations without the knowledge of the consecutive events.

²⁹ Einhard, *Life of Charlemagne*, in D. Ganz, ed., *Two Lives of Charlemagne* (London, 2008).

³⁰ The Astronomer, *The Life of Emperor Louis*, in T. Noble, ed., *Charlemagne and Louis the Pious: the Lives by Einhard, Notker, Ermoldus, Thegan, and the Astronomer*, (University Park, 2009).

Chapter II

Astronomy as a Discipline in the Carolingian Empire

During the reign of Charlemagne, the Carolingian Empire underwent an important reformation in its education system that resulted in the flowering of Latin learning and literature known as the Carolingian Renaissance. Charlemagne was aware of the lack of literacy education in classical Latin and the seven liberal arts, both of which he deemed the necessity to build a substantial foundation for Christianity in the Frankish kingdom. In 789, he ordered the establishment of schools in order to educate free men at young age along with scriptoria to produce books for schools and churches.³¹ Manuscripts from classical antiquity were reproduced, and classical knowledge flourished through the curriculum of the seven liberal arts. Along with the other quadrivium, astronomy was revived and went through the transition from a classical Roman discipline to fit into the

³¹ “The General Admonition, 789” in Dutton, ed., *Carolingian Civilization*, p. 92.

Christian world. This chapter will analyse the intellectual product on astronomy from antiquity that was preserved through the rise of Carolingian Renaissance which includes Pliny's *Natural History*, Martianus Capella's *On the Marriage of Philology and Mercury*, Augustine's *Confessions*, and Isidore of Seville's *Etymologies*. Then, the chapter will briefly examine *De universo*, the work of the ninth-century monk Hrabanus Maurus as the example of how the classical and late antique texts had shaped the Carolingian view on the world and the stars.

Pliny the Elder's only surviving work, *Natural History*, was probably one of the most influential scientific texts from classical antiquity that circulated in the Carolingian empire. The Roman natural philosopher composed his work in the mid first century, during Emperor Vespasian's reign (AD 69-79), which was centuries preceding the Christianisation of the Roman Empire. *Natural History* is a remarkable encyclopedia addressing the nature of the world. Given Carolingian scriptoria largely reproduced the classical texts, Carolingian authors should have been familiar with Pliny texts. In fact, despite being based on classical pantheistic belief, *Natural History* later became the major source for the writings of many Christian authors over the next centuries including Isidore of Seville and Hrabanus Maurus.³² Moreover, in addition to its influence on the later

³² Barney, Lewis, Beach, and Berghof, "Introduction" 11.

works, Pliny's work was so popular that some of its surviving copies are believed to be produced at Louis the Pious's court.³³

Pliny begins the second book of his encyclopedia with a description of the universe. Plinian cosmology is geocentric with the world being encompassed by the sky that is "sacred, eternal, immeasurable, wholly within the whole," and is "at once the work of nature and nature herself."³⁴ In other words, the region above the earth belongs to the divinity, which Pliny claimed to be nature. Pliny also criticised humans' attempt to understand the outside of the universe and to invent the intermediate beings between God and them.³⁵ The stars are attached to the dome of the sky called firmament, and they rise and fall independently from the life of mankind.³⁶ Between the earth and the stars are the seven planets: Saturn, Jupiter, Mars, the sun, Mercury, Venus, and the moon. In addition to the macroscopic view on the universe, Pliny also compiled the observations by previous astronomers such as the movement of the celestial body and the measurement on the size of the earth.

Throughout his work, Pliny describes the content primarily in a scientific tone. For example, he discusses quantitatively the movement and orbital period of planets.³⁷ Perhaps this scientific tone was also one of the reasons Pliny's encyclopedia was so popular

³³ Bernhard Bischoff, *Manuscripts and Libraries in the Age of Charlemagne*, in M. Groman, ed., (Cambridge, 1994), 97-98.

³⁴ Pliny, *Natural History*, c. 2.2, p. 171.

³⁵ Pliny, *Natural History*, c. 2.5, p. 179.

³⁶ Pliny, *Natural History*, c. 2.6, pp. 187-89.

³⁷ Pliny, *Natural History*, c. 2.13, pp. 213-15.

among the Christian writers from the late antiquity to the early Middle Ages. Most of the content is the description of the natural phenomena, while he never relies on superstition as the reasoning of the unusual occurrences. In the case of the events that are not well-understood, Pliny simply admits that “they are hidden away in the grandeur of nature.”³⁸ Moreover, Pliny presents nature, rather a divinity, as the highest authority of his cosmological model. Again, his representation of nature opens the possibilities for the audience to associate the highest authority of the universe with other figures such as God.

Another prominent text that would have circulated Carolingian schools was *On the Marriage of Philology and Mercury* by the Roman writer Martianus Minneus Felix Capella (fl. 410-429). Little is known about Martianus’s life beyond the fact that he lived in Roman province in north Africa during the early fifth century. Martianus’s text consists of nine books. The first two introductory books discuss the engagement and the marriage of Philology and Mercury as an allegory for the union between the acquisition of knowledge and the fluency of communications.³⁹ In this allegorical marriage, Mercury presents Philology with seven maidens as a part of the wedding gifts. The rest of the book each focuses on a maiden narrating the content of a discipline from the seven liberal arts while constantly reminding the readers of the contiguous relationship between the trivium and the quadrivium.⁴⁰

³⁸ Pliny, *Natural History*, c. 2.37, p. 245.

³⁹ William H. Stahl, Richard Johnson, and E. L. Burge, *Martianus Capella and the Seven Liberal Arts*, vol. 1 (New York City, 1971), 24.

⁴⁰ Stahl, Johnson, and Burge, *Martianus Capella*, 25.

In the eighth book devoted to astronomy, Martianus states that the purpose of the book was to “discuss the precepts of the discipline.”⁴¹ Martianus divided the content of this book into two main parts, the former concerning the celestial sphere and the latter concerning the planetary motions. The planetary motions, including the planets’ path and distance from the earth, are similar to what Pliny described. However, Martianus gave further explanation on the peculiar paths of Mercury and Venus: unlike other planets that move in orbits around the earth, Mercury and Venus that travel around the sun, so they always appear close to the sun in the sky.⁴² Furthermore, unlike Pliny’s text, the sky in Martianus’s narrative is told exclusively from the perspective of the human observer on earth. The text makes no mention of God or representation of divinity that governs the universe. Martianus, moreover, introduced ten circles which are references for stellar and planetary movement observed from earth.⁴³ The author describes these circles, fixated to the celestial sphere, in reference to the constellations they pass through. Thus, the descriptions suggest that the readers must have been familiar with the configuration of stars in the night sky.

Another physical model of the universe also appears in a famous illuminated manuscript known as the Leiden Aratea, which is based entirely on another ancient encyclopedia. The Leiden Aratea is a ninth-century copy of the Latin translation of Aratus

⁴¹ Martianus, *On Marriage*, 320.

⁴² Martianus, *On Marriage*, 332-33.

⁴³ Martianus, *On Marriage*, 320.

of Soli's *Phenomena*, which is a poem on the celestial sphere, constellations, and planets from the second century BC. Due to the quality of Leiden Aratea, namely the 39 miniatures of constellations and planets with vivid colour, scholars believed that it was made at the royal court or commissioned by the people close to the court.⁴⁴ Although the content is based on Aratus's work, the manuscript also contains a picture of the model of the universe which Aratus failed to describe. The planetarium shows that the planetary orbits are geocentric, except for those of Mercury and Venus which are around the sun. This model is consistent with the description by Martinus in *Marriage*. The incorporation of a recent insight into the more traditional work suggests that Franks did not simply reproduce the antique texts, but the Carolingian scholars also reviewed and revised when it was necessary.

From the three texts, it appears that astronomy as a scientific discipline in Carolingian curriculum primarily focused on the investigation of the movement of celestial bodies. Understanding the stars is to understand one's place in the universe. The natural philosophers then turned their attempt to explain the movement of the celestial bodies into the planetary diagrams. In other words, the planetary diagrams became the physical visualisation of the abstract universe. Yet how wholesomely they described the universe differed, along with how far they allowed for the interpretation of the sky in relation to the earth and the divinity. In the same manner, the scope of astronomy varied from time

⁴⁴ Birschoff, *Manuscripts*, 87.

to time throughout the history of Western Europe. However, it is undeniable that the transition from classical paganism to Christianity significantly shaped the limitation of the discipline.

In fact, not all Roman authors embraced the study of astronomy as Pliny and Martianus did. Some late antique writers even criticised astronomy—the study of the movements of the celestial bodies—for its inherent connection with astrology, which is the art of using the sky to predict the future. In *Confessions*, for example, Saint Augustine of Hippo (354-430) recounts his impious life from earlier years, including his association with astrologers or *mathematicos*. The young Augustine, too, was well educated in the liberal arts, which he later deemed a deception,⁴⁵ especially astrology, which he viewed as an offense toward God.⁴⁶ Augustine’s rationale lies in the assumption that the sky belongs to God, who was the creator of the universe and the universal laws. As the astrological art of reading the stars works under the premise that one’s future is dictated by the stars which God ordained, it would imply that humans commit a sin because God made them do so.⁴⁷ For this reason, to accept the idea of astrological divination is to place the blame for sins and adversities on God, which is, according to Augustine, a serious offense. Therefore, Augustine’s *Confessions* demonstrates a negative view on the liberal arts, along with a rejection of astrology by a Christian author.

⁴⁵ Augustine, *Confessions*, c. 4.1, p. 133.

⁴⁶ Augustine, *Confessions*, c. 4.3, p. 139.

⁴⁷ Augustine, *Confessions*, c. 4.3, p. 139.

To justify his view, in case that some events were accurately predicted by the astrological prediction, Augustine added that the predictions were either correct or incorrect because of chance.⁴⁸ This idea is comparable to Pliny's interpretation of unusual phenomena such as fireball, which he viewed as the results from the "natural force."⁴⁹ Augustine further provides another explanation to disprove the falsified art of astrology: that the prediction is casted based on a prior knowledge of the situation.⁵⁰ That is, an astrologer could simply make a prediction on one's future based on his background. The fabricated augury ultimately led Augustine to dismiss astrology as a false art.

Augustine, however, was not the only clerical writer who took some troubles addressing his concern on the practice of the astrologers. Isidore of Seville's *Etymologies* poses one of a few instances that the late antique or medieval authors underlined the differences between astronomy and astrology. The massive encyclopedia is a compilation of the knowledge from classical and Christian sources, with the section of astronomy drawn from Pliny's *Natural History*. Despite its classical pagan source, the author constantly denies pagan superstitions.⁵¹ Additionally, in contrast to the source text which does not discuss the origin of the celestial bodies, Isidore modelled his sky after the narrative from Genesis: God decorated the sky with light during the Creation.⁵² This is,

⁴⁸ Augustine, *Confessions*, c. 4.3, p. 141.

⁴⁹ Pliny, *Natural History* c. 2.27, p. 241.

⁵⁰ Augustine, *Confessions* 7.6.10, p. 315-17.

⁵¹ Barney, Lewis, Beach, and Berghof, "Introduction" 19.

⁵² Isidore, *Etymologies*, c. 12.4.1, p. 272.

however, just one of many instances of the bishop's insertions of orthodox Christianity into this compilation of classical texts.

In the third book, concerning the quadrivium, Isidore defined the discipline of astronomy as the investigation of the movement of the celestial objects and the origins of the names of the constellations.⁵³ The topics that the book covers range from the components of the celestial sphere to the movement of the bodies to the celestial phenomena. In contrast, astrology is the augury of the sky including the readings of zodiac in relation to one's future.⁵⁴ In Isidore's view, the stars are attached to the sky by God for the purpose of indicating seasons of the year, while he asserts that relating the stars to one's fate is contradictory to Christian faith.⁵⁵ Isidore supports his view by claiming that should people believe that one's future is dictated by the appearance of the sky at any specific moment, it would not be sensible to reward someone for their good deeds nor to punish someone for their bad.⁵⁶ Again, this is an assertion that men act on their own accord, following the idea of free will in accordance with the orthodoxy. To calculate a man's fate by consulting the star, or to believe that an astrologer could do so, would therefore put one at the risk of heresy.

As previously described, the texts from classical and late antiquity offer diverse views on astronomy. While some of them strictly describe astronomy as a scientific

⁵³ Isidore, *Etymologies*, c. 3.27.1, p. 99.

⁵⁴ Isidore, *Etymologies*, c. 3.27.2, p. 99.

⁵⁵ Isidore, *Etymologies*, c.3.71.38, p. 106.

⁵⁶ Isidore, *Etymologies*, c. 3.71.40, p. 107.

observation, some of them related astronomical observations to astrological predictions in an inimical way. Despite the apparent risk of heresy, the authors from the Carolingian period did not simply scrutinise the heavens to advance their understanding of the physical functionality of the sky. The visible roof of the world, created and decorated by God, was the direction the Carolingian scholars had to look when they attempted to comprehend God's plan for the world below.

The successful revival of liberal arts education, and thus the study of astronomy, at the Carolingian court was partially because of the influence of foreign scholars. In 781 at Parma, Charlemagne met the English scholar Alcuin of York.⁵⁷ In his early years, Alcuin received his education from a school in York, Northumbria, where he was a student of Archbishop Egbert, who was in turn a disciple of the great scholar Bede (d. 735). Upon Charlemagne's invitation, Alcuin travelled to Francia and later became the teacher of Charlemagne and his sons.⁵⁸ The royal teacher eventually moved to the monastery of Saint Martin at Tours.⁵⁹ In his later years, Alcuin still kept his relationship with the king through letter exchanges, while he also engaged in teaching, including Bible, ancient learnings, grammars, and astronomy.⁶⁰ In his letter to Charlemagne in 796, not long after Alcuin became the abbot at Saint Martin monastery, he wrote "to some I propose to

⁵⁷ Paul Edward Dutton, "Letters of Alcuin," *Carolingian Civilization*, 120.

⁵⁸ Alcuin, "Letters," in P. Dutton, ed., *Carolingian Civilization*, 120.

⁵⁹ Alcuin, "Letters," 120.

⁶⁰ Alcuin, "Letters," 120.

reveal the order of the stars, like the painted roof of a great man's house."⁶¹ During his abbacy, Alcuin was the teacher to many pupils, including Hrabanus Maurus who would eventually become a prominent biblical scholar in the Carolingian empire.

Hrabanus Maurus Magnentius was the abbot at the monastery of Fulda during Louis the Pious's reign. Fulda was one of the leading schools in east Francia, and Hrabanus himself used to be its schoolmaster.⁶² After leaving the monastery, Hrabanus composed his encyclopedic work *De universo*. In his work, which is primarily built upon Isidore's *Etymologies*, Hrabanus extensively cites Christian authorities as the exegeses such that his encyclopedia could serve as "both the historical and the allegorical explanation" of words and themes that appear in the Holy Scriptures.⁶³

Hrabanus's *De universo* can be viewed as one instance on Carolingian receptions of ancient astronomical learning. In each chapter of *De universo*, Hrabanus compiled biblical passages relating to the topic to give a comprehensive view on how it was characterised by the Bible. Being famous for his biblical commentaries and homilies, was another ecclesiastical author who constantly criticised the practitioners of astrological auguries and the superstition derived from the unusual celestial phenomena. This is not surprising, since in the ninth book of *De universo*, Hrabanus described the parts of the world as an allegory for God's ordering of the world. Most of the time, one aspect of the

⁶¹ Alcuin, "Letters," 121.

⁶² Frederick S. Paxton, "Curing Bodies—Curing Souls: Hrabanus Maurus, Medical Education, and the Clergy in Ninth-Century Francia," *Journal of the History of Medicine and Allied Sciences* 50, no. 2 (1995): 230.

⁶³ Hrabanus Maurus, "Preface," *De Universo*, xv.

world could represent many. Stars, for instance, can signify “holy people,” “orders of clergy,” or “angels,” depending on the context.⁶⁴ By citing passages from various books of the Holy Scripture, Hrabanus highlights how the prophets had displayed a vast array of interpretations on the same celestial object. As a result, the cited passages altogether underline the consensus that the sky was a spiritual realm belonging to God. Then, the beginning of the ninth book, in which Hrabanus recounted the event from the Exodus when God speaks to Moses with light, sound, and smoke, while the others fail “to penetrate the cloud of allegory,”⁶⁵ could carry both historical and allegorical significance as well. In other words, while the book mostly asserts the idea that the sky is a religious allegory, Hrabanus did not deny the possibility that the sky could reveal the meaning communicated by God Himself, although not in the same way the astrologers saw it.

As we have seen from the content of the two classical texts, Pliny’s *Natural History* and Matianus Capella’s *On Marriage of Philology and Mercury*, the basis of astronomy as a scientific discipline is built on the inquiries on the nature of the celestial bodies. With the Christianisation of Europe, the supreme authority of the heavenly realm was given to God, and thus further limited the borderline of the discipline. Augustine completely rejected the art of celestial auguries, while Isidore of Seville allowed for the study of the heavens for scientific purposes. Hrabanus Maurus, however, saw the heavens as an act of contemplation according to the Psalm, that people “‘mount up to the heaven’ when [they]

⁶⁴ Hrabanus, *De universo*, c. 9.12, p. 295.

⁶⁵ Hrabanus, *De universo*, c. 9.1, p. 279.

penetrate the highest things.”⁶⁶ In other words, even Hrabanus could not deny that scrutinising the heavens would spiritually bring one closer to the heavens. The diverse views on God’s influence over the celestial sphere among the eccleastical writers, in turn, would give the lay scholars at the Carolingian court the freedom of reading the sky, which shall be discussed in the subsequent chapters.

⁶⁶ Hrabanus, *De universo*, c. 9.4, pp. 285-86.

Chapter III

Eclipses and the Royal Death

In the *Life of Charlemagne*, Einhard reports many unfortunate portents including the frequent occurrences of eclipses prior to Charlemagne's death in 814.⁶⁷ The royal biography was not the only document that contains the record of such observations. As the Carolingians had carefully studied the movement of the sky and the celestial objects, irregular occurrences were taken as events worthy to be recorded in official documents such as the *Royal Frankish Annals*. Their interest in the sky, however, lay beyond the search for factual and scientific explanation. To the Carolingians, an eclipse was not only a momentarily disappearance of heavenly bodies, but also an abnormality that distorted the order of heaven and foreshadowed a momentous change on earth.

An eclipse is the event where the sun, the moon, and the earth are aligned in a straight line. The middle object, blocking the light from the sun, casts a shadow onto the other object. As a result, either the sun or the moon is obscured from the observers on

⁶⁷ Einhard, *Life*, c. 32, p. 40.

earth. An eclipse, however, does not occur twice a month, as the three bodies are not always perfectly aligned during the full moon or the new moon. As we have seen in the previous chapters, heaven was ruled by God who maintained and stabilised the order of the firmament. As a result, the irregularity of the dimmings of the sun and the moon posed a real concern among the people of classical antiquity and early Middle Ages.

By the ninth century, the Carolingians' interest in the stars primarily lied in the understanding of the stars' spiritual significance rather than their physical nature. Yet what exactly stimulated the revival of astronomy was more obscured. Paul Dutton speculates that the rise of astronomy in the late eighth century initially correlated with Charlemagne's personal interest in stargazing in his old age.⁶⁸ As mentioned in the previous chapter, the earliest record of astronomical observation by Carolingian authors was the disappearance of Mars in the year 798.⁶⁹ This record from the *Royal Frankish Annals* is in agreement with Einhard's emphasis on the emperor's interest in astronomy: "He learned the art of calculation and with concentrated learning and precision he investigated the movement of the stars."⁷⁰ Moreover, Dutton sees the stargazing and the study of astronomy at Charlemagne's royal court as a political instrument.⁷¹ According to the Psalm, God has established the tie between the royal dynasty and the sun and the

⁶⁸ Dutton, "Of Carolingian Kings," 97.

⁶⁹ *Royal Frankish Annals*, s.a. 798, p. 77. According to the *RFA*, Mars had disappeared from Jul 797 to Jul 798.

⁷⁰ Einhard, *Life*, c. 25, p. 36.

⁷¹ Dutton, "Of Carolingian Kings," 100.

moon: “His dynasty will continue forever, his throne, like the sun before me. Like the moon, it will stand eternal, forever firm like the sky.”⁷² With the belief that God was able to cease sunlight, overseeing the regular orders of the sky became the king’s responsibility.⁷³ An irregularity like an eclipse thus became the affirmation of God’s power over the heavens, and the sky was the channel that God communicated with humans.⁷⁴ Still, as Dutton argues, seeing the stars as the portents does not mean the resignation of fate, while believing that such occurrences were relaying some kind of uncertain messages was an accepted standard.⁷⁵

Nevertheless, Carolingian authors knew that the alignment between the Earth, the sun, and the moon was the cause of eclipses. Pliny, in his *Natural History* (AD 77), notes that such events had been well explained since the second century BC by Sulpicius Gallus and Marcus Marcellus.⁷⁶ Under the assumption that the universe is geocentric, Pliny used the observation of the Earth’s and the moon’s shadow during eclipses to deduce the relative size of the Earth and the two bodies.⁷⁷ Martianus Capella also described such a procedure in his book, starting with the estimation of the shadow size and then inferring its size from the fact that the actual size of the moon is larger than its shadow.⁷⁸ As a

⁷² Ps. 88:37-38 quoted in Dutton, “Of Carolingian Kings,” 101.

⁷³ Dutton, “Of Carolingian Kings,” 101.

⁷⁴ Dutton, “Of Carolingian Kings,” 103.

⁷⁵ Dutton, “Of Carolingian Kings,” 126.

⁷⁶ Pliny, *Natural History*, c. 2.9, p. 203.

⁷⁷ Pliny, *Natural History*, c. 2.8, pp. 199-201.

⁷⁸ Martianus, *On Marriage*, 334.

result, Martianus concluded that the moon was six times smaller than Earth.⁷⁹ Despite Martianus' rudimentary scientific method and his inaccurate conclusion that the Earth is smaller than the sun and moon, his approach demonstrates the instance how astronomical observations and logic were integrated in the Classical Roman school. Again, one should keep in mind that Pliny's and Martianus's texts were two important scientific texts studied in Carolingian schools.

Apart from the measurement of the size of the heavenly bodies, the irregularity of eclipses drove the scholars to deduce the pattern of these occurrences. Eclipses at the time had been known to happen every 223 months.⁸⁰ Martianus somewhat accurately explained that the reason behind the 223-month cycle was the result of the moon's oblique orbit. ¶Because in reality the moon's orbit is tilted six degrees from the earth's orbital plane around the sun, it would not always be on the ecliptic during full moon or new moon.⁸¹ In addition to the regular 223-month cycle, there were also attempts to speculate on the pattern of the other types of eclipses, such as Hipparchus's prediction of the four-month and six-month cycles.⁸² Moreover, if the eclipse was not observed in the anticipated month, it was deducted that the eclipse occurred when the sun or the moon were not visible in the sky.⁸³

⁷⁹ Martianus, *On Marriage*, 334.

⁸⁰ Pliny, *Natural History*, c. 2.10, p. 205. The duration was later known as the Saros cycle.

⁸¹ Martianus, *On Marriage*, 337.

⁸² Pliny, *Natural History*, c. 2.10, pp. 205-207.

⁸³ Pliny, *Natural History*, c. 2.10, p. 207.

The sun and the moon being covered in shadow had troubled the people of Europe for a long time before Charlemagne's reign. Both Pliny and Martianus highlighted previous scholars' efforts to predict aberrant occurrences of the eclipses. Pliny also criticises the superstitious interpretation of eclipses:

all hail to your genius, ye that interpret the heavens and grasp the facts of nature, discoverers of a theory whereby you have vanquished gods and men! for who beholding these truths and the regularity of the stars' periods of trouble (for so it has pleased you to call them), would not forgive his own destiny for the generation of mortals?⁸⁴

It is impossible to overlook Pliny's sarcasm here. As a believer of natural forces, Pliny mocked those who made illogical decisions based on astronomical events. Such superstitions that Pliny cited are, for instance, the belief that the moon was poisoned, and thus humans had to aid the moon by making loud noises.⁸⁵ Pliny further illustrates a dramatic consequence of this trivial practice: one Athenian general refused to depart from the harbour after hearing people shouting at the eclipsed moon, and, as a result, the whole Athenian fleet was destroyed by the enemy.⁸⁶

Despite the efforts to standardise Christianity in Carolingian Europe, superstition concerning the eclipses had not died out. Even though the cause of an eclipse had already been described by Martianus Capella and also by Isidore of Seville,⁸⁷ both of whose works

⁸⁴ Pliny, *Natural History*, c. 2.9, p. 205.

⁸⁵ Pliny, *Natural History*, c. 2.9, p. 203.

⁸⁶ Pliny, *Natural History*, c. 2.9, pp. 203-205.

⁸⁷ Isidore's brief explanation of solar and lunar eclipses is in accordance with modern scientific explanation.

circulated Carolingian scholarly society, it seems that the concept did not reach the awareness of the general public. Hrabanus Maurus, in one of his homilies, admonished the practice of people shouting at the moon during an eclipse for their submission to “pagan error.”⁸⁸ From Hrabanus’s perspective, eclipses, or the “failure [of light],”⁸⁹ were done by God, since God created light on the first day of the creation.⁹⁰ For this reason, to believe that the moon needs men’s assistance to overpower an eclipse meant that one doubted the power of God, which was a serious offense.⁹¹

Since God was expected to maintain the sky in its regular order, irregularity was interpreted as a sign of the day of Judgement.⁹² The signs that appear in “unusual manner” that Hrabanus describes here are rather vague. In fact, he did not give further explanation. Yet in the same homily, Hrabanus acknowledges that eclipses occur because of “a natural power” before providing the scientific explanation for the phenomena. Since it has been well established that eclipses follow specific patterns and the patterns could be deduced, he reasoned a predicted eclipse should not be considered unusual. Likewise, if eclipses were not rare events for observation purposes, they would also not be unusual and therefore should not cause Carolingian authors’ unease. With Hrabanus’s argument,

⁸⁸ Hrabanus Maurus, “Homilies,” in P. Dutton, ed., *Carolingian Civilization*, 366.

⁸⁹ Hrabanus, “Homilies,” 366.

⁹⁰ Hrabanus, *De universo*, c. 9.8, p. 288.

⁹¹ Hrabanus, “Homilies,” 366.

⁹² Hrabanus, “Homilies,” 367.

one can look back at the eclipses that were recorded across the Carolingian period and how the authors related them to the ongoing events in the empire.

The earliest record of eclipses in Carolingian chronicles is in the account in 807 in the *Royal Frankish Annals* about lunar and solar eclipses. Unlike other years where the inclusion of the astronomical events are at the very end of the yearly accounts, the account of 807 begins with the lists of such events. The account of 807 was indeed remarkable; almost one-third of the 807 account was a detailed record of astronomical events. In this account, the four eclipses, one of which was from the previous year, were recorded in great detail: “On February 11 at noon there was an eclipse of the sun, during which both stars stood in the twenty-fifth degree of Aquarius.”⁹³ Not only was the date of the occurrence recorded, but so were the specific time and the position to the nearest degree.

While this particular account did not relate the frequent eclipses to the ongoing political situations of the empire, the detailed record, especially on the position of the sun, does shed some interesting light onto astronomy as a scientific discipline. Since the sky is bright when the sun is above the horizon, the nearby constellations would be invisible. Thus, unless there is a total solar eclipse, directly measuring the sun’s relative position to the zodiac to the precision of a degree would have been impossible. This degree of accuracy therefore suggests that the position recorded in the annals was not from an observation

⁹³ *Royal Frankish Annals*, s.a. 807, p. 86.

but rather from a calculation. Considering the widespread use of computus in the timekeeping,⁹⁴ it was possible to calculate the position of the two bodies using a simple geocentric model. Thus, the author taking the trouble of calculating such idle numbers and recording them in the annals suggests that not only that they carefully kept track of the position of the planets, but also that the planets' positions were to some extent crucial to their interpretation of the astronomical occurrences.

Unlike the annalist of the *Royal Frankish Annals*, not all Carolingian writers kept their anxieties concerning the heavenly omens implicit. Einhard, for example, writes in the *Life of Charlemagne*, regarding the death of the emperor that “There were so many portents of his approaching death that not only others but even he himself felt it was threatening. For three successive years near the end of his life there were frequent eclipses of the sun and moon and a dark spot was seen on the sun for seven days.”⁹⁵ It should be noted that Einhard modelled the *Life of Charlemagne* after Suetonius's *Lives of the Caesars*, including the chapter on the omens.⁹⁶ Considering Dutton's argument on the ruler's personal belief and public posture,⁹⁷ Einhard's description of Charlemagne's feeling threatened by celestial signs underlines the image of a pious king who feared God's influence over the sky. It is possible that the aforementioned portents hardly troubled Charlemagne as much as Einhard claimed. Einhard himself later states in the same

⁹⁴ Van Helden, “Astronomies,” 1726.

⁹⁵ Einhard, *Life*, c. 32, p. 40.

⁹⁶ David Ganz, “Introduction to the Life of Charlemagne,” *Two Lives of Charlemagne*, 8.

⁹⁷ Dutton, “Of Carolingian Kings,” 102.

chapter that his emperor “either rejected all these things or acted as if none of them were related to his affairs in any ways.”⁹⁸ Regardless of the emperor’s personal belief, it is important to acknowledge that Einhard genuinely believed in the heavenly signals enough that he conveys his belief through the king’s conflicting feelings. Yet, this portrait of the God-fearing king was the one Einhard wanted his king to be remembered by, and was probably the same portrait he expected Charlemagne’s heir to look up to.

It is important to further investigate the details on the “frequent eclipses” that Einhard considered the portents. The dark spot on the sun corresponds to the Mercury transit mentioned in the *Royal Frankish Annals* account of 807.⁹⁹ Thus the frequent eclipses in three successive years would likely start from 807, in which a solar eclipse and two lunar eclipses occurred.¹⁰⁰ No eclipses actually occurred in 808. However, the *Royal Frankish Annals* recorded one lunar eclipse in 809.¹⁰¹ In 810, there were two solar and two lunar eclipses.¹⁰² Finally, there was a solar eclipse in 812.¹⁰³ Additionally, there was an annular eclipse visible over continental Europe on July 16, 809, which was not recorded in the annals.¹⁰⁴ These frequent eclipses surprisingly coincided with the deaths of

⁹⁸ Einhard, *Life*, c. 32, p. 41.

⁹⁹ *Royal Frankish Annals*, s.a. 807, p. 86. Although the annalist claims that the dark spot was Mercury, in reality Mercury during the transit in front of the sun is small to be seen by naked eyes.

¹⁰⁰ *Royal Frankish Annals*, s.a. 807, p. 86. There were one solar eclipse on Feb 11 and three lunar eclipses on Sep 2 of the previous year, Feb 26, and Aug 22.

¹⁰¹ *Royal Frankish Annals*, s.a. 809, p. 91. The lunar eclipse occurred on Dec 26.

¹⁰² *Royal Frankish Annals*, s.a. 810, p. 92. The annalist records the solar eclipses on Jun 7 and Nov 20, and the lunar eclipses on Jun 21 and Dec 15.

¹⁰³ *Royal Frankish Annals*, s.a. 812, p. 95. The solar eclipse occurred on May 15.

¹⁰⁴ Fred Espenak and Jean Meeus, “Five Millennium Canon of solar Eclipses: –1999 to +3000 (2000 BCE to 3000 CE),” NASA, accessed May 5, 2020.

Charlemagne's children: Pepin of Italy and Hruodtrude in 810, and Charles the Younger in 811. Thus, one could argue that Charlemagne feeling threatened by the eclipses was natural. After all, the eclipses in the previous years somewhat foretold the deaths of his family members.

Interestingly, the account of 810 also records one eclipse that should not have been visible in Europe. NASA's *Five Millennium Canon of solar Eclipses* recognised three solar eclipses in 810. Apart from the November solar eclipse that was correctly recorded in the *Royal Frankish Annals*, the other two occurred on June 5 above Antarctica and on July 5 in Northern Canada and Russia.¹⁰⁵ Although neither of them could have been observable in continental Europe, the author claimed that there was a solar eclipse on June 7.¹⁰⁶ Even if the eclipse was seen outside of Francia, the annalist's effort to highlight its significance is hard to overlook. Specifically, the recorded date of the occurrence conveniently predated the death of Charlemagne's son Pepin by a month.¹⁰⁷ Therefore, one interpretation of this mysterious solar eclipse is that, regardless of whether it was observed by the people outside the empire, this eclipse was recorded in the *Royal Frankish Annals* as a portent of Pepin's imminent death.

There was, of course, no clear assertion of fatalism. In fact, it would be more surprising if such an unorthodox view had been voiced in an official document. Again, this

¹⁰⁵ Espenak and Meeus, "Five Millennium."

¹⁰⁶ *Royal Frankish Annals*, s.a. 810, p. 92.

¹⁰⁷ *Royal Frankish Annals*, s.a. 810, p. 92.

does not mean the annalist did not attempt to relate the eclipse to the ongoing adversities in Francia. Another good example of loosely drawing a relationship between a celestial phenomenon and the death of a royal family member is in the account of 818: “Queen Irmengardis, his wife, whom he had left behind sick, died of her ailments two days after his return on October 3. On July 8 there was an eclipse of the sun.”¹⁰⁸ Unlike Einhard, the annalist of the *Royal Frankish Annals* did not connect the eclipses to the royal deaths beyond placing the two sentences next to each other without any explicit connection. The literary device that the annalist uses here is known by modern scholars as the parataxis. Often, the parataxis would suggest some kind of relationship between the two sentences or clauses. Considering the *Life of Charlemagne*, in which Einhard brings up Charlemagne’s death before listing the portents, we can interpret the account of 818 in the same way. In this case, it underlines the connection between Ermengard’s death and the preceding eclipse as the sign of bad omen.

Yet the “sign of a bad omen” does not fully capture the Carolingian view on solar eclipse. Notably, there is a slight difference on how the annalists record the lunar and the solar eclipses. While the annalists of the *Royal Frankish Annals* constantly record the lunar eclipses in the yearly account, they failed to record four solar eclipses between 814 to 829,¹⁰⁹ when the *Royal Frankish Annals* was discontinued.¹¹⁰ The 818 eclipse was, in

¹⁰⁸ *Royal Frankish Annals*, s.a. 818, p. 104. The actual date of the eclipse was Jul 7.

¹⁰⁹ In comparison to the Five Millennium Canon of solar Eclipses, the solar eclipses visible in Western Europe that were not recorded occurred on Sep 14 of 817, Jun 26 of 819, Dec 9 of 820, and Sep 26 of 824.

¹¹⁰ Janet Nelson, “Introduction,” *The Annals of St-Bertin*, 5. The discontinuation of the Royal Frankish Annals in 830 was a result of Lothar I’s rebellion against Louis the Pious.

fact, the only solar eclipse on record after Charlemagne's death. One could argue that the failure to record the remaining solar eclipses was because they were not observed, possibly due to the location or the weather.¹¹¹ However, we should keep in mind that the annals recount collections of events from various places in Francia rather than what the authors had personally seen. In this regard, the astronomical observations did not necessarily come from the same observer. Apart from an exceptionally rare chance that the weather conditions above the whole continental Europe were unfavourable, some regions in Francia should have been able to observe the solar eclipse when it occurred. Therefore, the failure to record an eclipse in the annals should be considered as intentional omission as opposed to observational failure.

Under this assumption, we should look more closely into how the annalists choose to include or omit an eclipse in the record. Looking at what we have at hand, the accounts from 807 to 813 correctly record all the solar eclipses observable in Francia. After Charlemagne's death, however, the annalists were likely to omit the solar eclipses if they were not followed by the death of Carolingian princes. On the other hand, if a solar eclipse was followed by such a death, it would be recorded, like the eclipse of 818. Additionally, the inexplicable solar eclipse in June 809 reinforces the idea that Pepin's death was warned in advance by the occurrence.

¹¹¹ Unlike a lunar eclipse, the duration of a solar eclipse is in the order of minutes. For this reason, if the weather was unfavourable, the observers could easily fail to observe the event.

Due to the nature of the annals, each yearly account was usually written down at the end of the year. Hence, the annalists would have known all the important events that happened in that particular year. This prior knowledge, again, allowed the annalists to shape the narrative of the annals, including the choice of omission of details that did not fit well with their narrative. It has been accepted among the historians of the early medieval period that the *Royal Frankish Annals* was, in addition to being an official year-by-year record, a political tool to strengthen the legitimacy of the newly-found Carolingian dynasty.¹¹² Here we see the attempt from the royal court to elevate the status of the Carolingian family by bringing them closer to heaven. Starting from the frequent eclipses, Einhard and the annalists of the *Royal Frankish Annals* underline the link between the celestial phenomena and the royal family. To them, the solar eclipses were sent by God to forewarn the deaths of Emperor Charlemagne and of his son and daughter. Again, we will never know how widespread the belief in the celestial portents was among the Carolingian authors at the beginning of the ninth century. Nonetheless, the belief did not die out with the death of the emperor who had brought classical astronomy back to life in medieval Europe.

The two continuations of the *Royal Frankish Annals*, the *Annals of St-Bertin* from West Francia and the *Annals of Fulda* from East Francia, display a similar pattern as

¹¹² Scholz and Rogers, "Introduction," *Carolingian Chronicles*, 4-5.

their predecessor, at least up to the middle of the ninth century.¹¹³ The only solar eclipse that both annals record is the total eclipse on May 5, 840, during Louis the Pious's conflict with his son Louis the German.¹¹⁴ As the 840 eclipse was the first and only total eclipse visible in Europe during the Carolingian Empire, it inevitably posed a real concern among the educated and uneducated circles. After all, two years earlier, Francia had suffered the loss of Pepin of Aquitaine whose death had been preceded by a lunar eclipse in December of 838.¹¹⁵

Both the *Annals of St-Bertin* and the *Annals of Fulda* associated the 840 eclipse with Louis's illness and eventual death on June 29, again by using parataxis.¹¹⁶ A more detailed account of the 840 eclipses was recounted in the *Life of Emperor Louis* by the Astronomer not long after the emperor's death. Regarding the solar eclipse of 840 Astronomer writes:

Although this prodigy is rightly ascribed in nature, nevertheless it was completed with an awful result. For it portended that the great light of mortals, which shone before all like a candelabrum placed in God's house—I am referring to the emperor of most pious memory—would very soon be withdrawn from human affairs, leaving the world in the darkness of tribulation by his departure. He therefore began to waste away by refusing food.¹¹⁷

¹¹³ In comparison to the Five Millennium Canon of solar Eclipses, the solar eclipses visible in Western Europe that were not recorded occurred on May 15 of 831, Sep 17 of 833, Mar 14 of 834, Jul 17 of 836, Oct 18 of 841, Mar 24 of 852, Mar 15 of 861, Mar 4 of 862, Aug 18 of 863, Jan 1 of 865, Jun 16 of 866, and Oct 19 of 868.

¹¹⁴ *The Annals of Fulda*, s.a. 840, p. 17. *The Annals of St-Bertin*, s.a. 840, pp. 48-49.

¹¹⁵ *The Annals of St-Bertin*, s.a. 838, p. 40.

¹¹⁶ *The Annals of Fulda*, s.a. 840, p. 17; *The Annals of St-Bertin*, s.a. 840, p. 49.

¹¹⁷ Astronomer, *Life*, c. 62, p. 299.

In contrast the two annals that implicitly relate the two events, the Astronomer declares that the eclipse was indeed the portent of Louis's death in the same way Einhard did with various signs portending Charlemagne's death.¹¹⁸ However, here the Astronomer took a step further: he portrays Louis's declining health as a causal effect of the troublesome event. The rest of the work deals largely with how the emperor prepared for his impending death in vivid details including the inheritance, succession, and reconciliation with his son.¹¹⁹ Louis's preparations for his end after having fallen ill, at least in the way the Astronomer puts it, insinuates that he too believed in the omen that God sent through the sky.

Louis's death is presented in parallel with the extinguished "great light," similar to the eclipsed sun. As Thomas Noble argues, the depiction of Louis the Pious in the Astronomer's *Life of Emperor Louis* was to be a "mirror for future princes."¹²⁰ Louis was portrayed as pious, virtuous, and merciful, all of which Noble regards as the portrait of an ideal emperor as seen by the courtiers after the time of Charlemagne.¹²¹ Then, symbolically, Louis's death would leave the empire in a metaphorical darkness in absence of a virtuous ruler. Since the Astronomer composed the royal biography prior to the civil

¹¹⁸ As Thomas Noble points out, the Astronomer must have been familiar with Einhard's *Life of Charlemagne* and possibly known Einhard.

¹¹⁹ Astronomer, *Life*, c. 62, pp. 300-01..

¹²⁰ Thomas F. X. Noble, "The Astronomer, Introduction," *Charlemagne and Louis the Pious*, 223.

¹²¹ Noble, "The Astronomer, Introduction," 222-24.

war, had he perhaps envisioned the forthcoming conflicts between Louis's three surviving sons?

From Classical Antiquity to the Carolingian Renaissance, we see the transition and transformation of how the authors thought when they witnessed a shadow over the sun and the moon. Beginning from an observation, eclipses became a window onto the understanding of the configuration of the Earth in relation to the two brightest celestial bodies. Through the narrative of the *Royal Frankish Annals*, the intimate relationship between the Carolingian rulers and the sky began to form. The irregularity of the celestial sphere such as an eclipse was, as the authors put it, an obscure message meant for the emperor. And, by the time of Louis the Pious, the eclipse was seen as both the sign of the emperor's imminent end and the end itself.

Chapter IV

Comets: Changes on the Sky and the Earthly World

In April of 837, a comet that appeared in the sky over Europe stirred up anxieties among the writers of the Carolingian court. “Its fiery blaze was menacing,” Einhard writes in his letter to Emperor Louis the Pious, “I suspect that this [comet] supplies [us] with fitting signs of our just deserts and announces an approaching disaster that we deserve.”¹²² The appearance of comets, unlike eclipses, were not common phenomena seen or recorded by Carolingian authors. The observations of comets in Europe dated back to the ancient Greeks, while the scholars of the subsequent period attempted to theorise not only how they emerged in the sky but also why. The Carolingian writers, influenced by the classical texts, continued the observations of the peculiar stars and their apparent effects on the empire through the lens of Christian theology.

¹²² Einhard, “Letters,” no. 61, in P. Dutton, ed., *Charlemagne’s Courtier: The Complete Einhard* (Toronto, 1998), p. 160.

It is essential to distinguish a comet from a shooting star, as the two objects are somewhat similar in appearances. The Carolingians seemed to be able to tell the differences. A comet is a small solar-system body with an icy composition and an eccentric orbit. When a comet is far away from the sun, it appears to be similar to rocky objects like an asteroid, and thus mostly invisible to observers on the earth. When it moves toward the sun, however, the surface becomes warmer due to sunlight, so that the icy particles evaporate and eventually form the bright and fuzzy tail. The movement of a comet follows its trajectory in the solar system, so it would approximately stay in the same position in the sky for a few weeks. In contrast, a shooting star occurs when a small piece of rock or metal from space enters the earth's atmosphere. When it is heated up and burns, the rock momentarily leaves fire-like sparkles along its path, and therefore sometimes appears to have a long tail. However, a shooting star can only stay in the sky in the order of seconds.

To the pre-modern world, comets were differentiated from other stars not only because of their elongated shapes but also due to their behaviours. In *Natural History*, Pliny defines comets as “stars that suddenly come to birth in the heaven itself.”¹²³ Here the term “stars” is referred to in the general sense, which are any spots of light fixed on the firmament. As we shall later see, writers from the Carolingian period also referred to

¹²³ Pliny, *Natural History*, c. 2.22. p. 231.

comets as “stars” as well. In contrast to other stars that are “engraved”¹²⁴ onto the sky and thus appear to be permanent, a comet comes into existence and vanishes after a period of time. In this sense, a comet is a star that is temporary and changeable. As a result, its existence eventually seemed to contradict the notion of the eternity of the universe. Therefore, an appearance of a comet deserved public attention, especially in a society such as classical Roman and the Carolingian worlds, where God or the gods were often associated with the sky.

This concern over the appearance of a comet was further reinforced by the fact that the characteristics of comets were not well-understood until the eighteenth century. Pliny was aware that there was no consensus on the origin of the comets; some people believed that comets followed non-circular trajectories (as in the modern explanation), while some believed that comets came into existence when they were visible “out of chance moisture and fiery force.”¹²⁵ Moreover, Pliny recounts that the periods in which comets are visible span from seven to eighty days, while most of them tend to move northward.¹²⁶ Because of the lack of answers on comets’ origin, durations of visibility, and movements, an appearance of a comet left room for uncertainties and unpredictabilities.

The diversity of comets’ appearances, moreover, led to varieties of interpretations by classical authors. Pliny lists various names that the people in antiquity had called

¹²⁴ Pliny, *Natural History*, c. 2.3, pp. 174-75. Pliny cites Marcus Varro who associated the term *caelum* with the term *caelati*, meaning “engraved.”

¹²⁵ Pliny, *Natural History*, c. 2.23, pp. 237-39.

¹²⁶ Pliny, *Natural History*, cc. 2.22-23, pp. 233-35.

comets according to their shapes and colours along with important events that occurred around the time that each comet was observed.¹²⁷ Of this list, only the “Javelin-star” observed in AD 76 was considered an unfortunate portent.¹²⁸ Meanwhile, the temple at Rome considered a comet an object of worship. The comet that arrived in AD 44 at the beginning of Caesar Augustus’s reign, which would later be known by modern scholars as “Caesar’s comet,” was believed to signify the soul of Julius Caesar who was brought to heaven.¹²⁹ However, Pliny also claims that Augustus himself privately believed that the same comet was, rather than signifying the elevation of his predecessor’s soul, a fortunate signal for his reign, which Pliny does not hesitate to add that “it did have a healthgiving influence over the world.”¹³⁰

Unlike Pliny’s dismissal of superstitions relating to solar and lunar eclipses, he presents the portents of comets to be real. They were studied, categorised, and revered by the people of the classical world. Comets became the portents of many things to come, which depended on their positions, their nearby stars, and the directions of their tails.¹³¹ Due to a large number of parameters involved, it would not be unexpected if some people happened to correctly predict the consequences following an appearance of a comet. But, again, for the people of the antiquity, these portents were omens hinting at the events

¹²⁷ Pliny, *Natural History*, c. 2.22, pp. 231-33.

¹²⁸ Pliny, *Natural History*, c. 2.22, p. 233. Pliny does not give any further information beyond that it was mentioned in Titus in his poem.

¹²⁹ Pliny, *Natural History*, c. 2.23, p. 237.

¹³⁰ Pliny, *Natural History*, c. 2.23, p. 237.

¹³¹ Pliny, *Natural History*, c. 2.23, pp. 235-37.

that were yet to unfold, although their occurrences were too infrequent to extrapolate their exact outcomes.

Pliny's vague interpretation of comets was later dismissed by Christian writers. Isidore of Seville, in his *Etymologies*, briefly discusses the appearance of comets that they are indicators of plague, famine, and war.¹³² Here Isidore altogether rules out the possibility that they might be a sign of fortunate events. Additionally, Isidore labels the categorisation of comets by their characteristics and the prospective results as an astrological practice and thus heretical.¹³³ However, in Book IX of Hrabanus Maurus's *De Universo*, which was primarily based on Isidore's *Etymologies*, Hrabanus does not make any remark on comets, since they were not mentioned in the Holy Scriptures.¹³⁴

The comet of April of 837 marked the most phenomenal observation recorded by the Carolingian authors. This comet was Halley's Comet at its closest approach to the Earth in history. The *Annals of Fulda* and the *Annals of Xanten* record the appearance of the comet, which they both put in parataxis with the Northmen's attack at Walcheren in the same year.¹³⁵ The *Annals of Fulda* also gives further details that the comet was in the zodiacal constellation Libra and was visible for three nights from April 11.¹³⁶ The *Annal of St-Bertin*, however, does not mention the comet, although it recounts several

¹³² Isidore, *Etymologies*, c. 3.71.16, p. 105.

¹³³ Isidore, *Etymologies*, c. 3.71.16, p.105.

¹³⁴ The closest reference to a comet is the Star of Bethlehem in the Gospel of Matthew. However, it is referred to as a star.

¹³⁵ *Annales Fuldenses*, s.a. 837, in F. Kurze, ed., *MGH SRG 7* (Hanover, 1891), p. 28; *Annales Xantenses*, s.a. 837, in B. von Simson, ed., *MGH SRG 12* (Hanover, 1909) p. 10.

¹³⁶ *Annales Fuldenses*, s.a. 837, p. 28.

Northmen's attacks in that same year.¹³⁷ Dutton speculates that the annalist at St-Bertin did not include the observation of the 837 comet since it did not precede any royal or papal death.¹³⁸ The three annals, thus, display different views on the relationship between the Carolingian empire and the comet. The Annals of St-Bertin associates comets with the prominent figures, while the others see them as omens for the overall state of the empire.

In addition to the records in the three annals, Lupus Servatus, a monk who later became the abbot of Ferrieres in 840, also made note of his observation of Halley's Comet in 837. Before being elected the abbot, Lupus received education in theology from Hrabanus Maurus at the monastery of Fulda.¹³⁹ During this time, he also became an acquaintance of Einhard who had retired to his monastery at Seligenstadt.¹⁴⁰ Among Carolingian scholars, Lupus was a particular devotee of the studies of classical humanistic literature.¹⁴¹ As Lupus was invited to Louis the Pious's court twice, he should have been familiar with the other writers and their concerns about the political landscape.¹⁴²

Lupus's letter to his fellow monk Altuin at St-Alban's Abbey was the only Carolingian account of the Halley's Comet in 837 that can be considered to be written by an eyewitness, as the description of the comet agrees with the contemporary account by

¹³⁷ *The Annals of St-Bertin*, s.a. 837, p. 37.

¹³⁸ Dutton, "Of Carolingian Kings," 110.

¹³⁹ Graydon W. Regenos, "Introduction," *The Letters of Lupus of Ferrieres* (Netherlands, 1966), vii.

¹⁴⁰ Regenos, "Introduction," viii.

¹⁴¹ Regenos, "Introduction," ix.

¹⁴² Regenos, "Introduction," xiii.

Chinese astronomers.¹⁴³ In his letter, it appears that many people including his letter correspondent had observed the comet and deemed that it was troublesome. One reason that it disturbed the Franks was the lack of passages from the Bible that ever discusses comets.¹⁴⁴ Lupus, too, believed that the comet was a sign of pestilence, famine, and war,¹⁴⁵ all of which Isidore mentions in *Etymologies*. Again, this should not surprise us, since Isidore's work was widespread in the Carolingian world.

In his letter, Lupus envisions the potential disasters that the comet may have brought along with it. As a scholar of classical literature, Lupus cites the Roman poet Virgil on Julius Caesar's death and the Romano-Jewish historian Josephus on the destruction of Jerusalem.¹⁴⁶ Although Caesar's death was foretold by many aside from comets, the dreadfulness of the portents was much more intense than the "terrible comets ever blaze forth."¹⁴⁷ The comparison would only sound rational if the idea of a comet as a dangerous portent had been well-established in Virgil's time. Also, Lupus citing Virgil would be convincing if his scholarly circle were to believe in a comparable interpretation. After all, there was no reason not to assume otherwise, since the study of classical texts were a part of the Carolingian curriculum. Lupus's letter, therefore, is yet another demonstration of an ecclesiastical Christian writer influenced by classical pagan cosmology.

¹⁴³ Scott Ashley, "What did Louis the Pious see in the night sky? A new interpretation of the Astronomer's account of Halley's Comet, 837," *Early Medieval Europe*, no. 21 (January 2013), 30.

¹⁴⁴ Lupus, "Letters," no. 8, in G. Regenos, ed., *The Letters of Lupus of Ferrieres* (Netherlands, 1966), p. 23.

¹⁴⁵ Lupus, "Letters," no. 8, p. 23.

¹⁴⁶ Lupus, "Letters," no. 8, p. 23.

¹⁴⁷ Lupus, "Letters," no. 8, p. 23.

On the other hand, Lupus offers an alternative reading of the comet. This alternative is what he calls the “hope of meeting a kindlier fate.”¹⁴⁸ Here Lupus drew from the account of another Roman historian Pompeius Trogus, who writes about the Kingdom of Pontus. The Pontus King Mithridates IV, otherwise known as Mithridates the Great, was born in the year that a great comet was visible in the sky for two months.¹⁴⁹ The comet was seen to be an indication of Mithridates’s prominent achievements in the future, while Pompeius’s vivid description of the comet, which Lupus includes in his letter, is remarkably positive.¹⁵⁰ Thus, Lupus’s letter presents both negative and positive interpretations of Halley’s Comet in 837. In other words, the author left out the answer to the question of what exactly would follow the premonition. Again, assuming that only one outcome exists requires that one believes that consequence remains the same regardless of the actions humans have made. Lupus, however, assumed otherwise. He did not conclude from the appearance of the comet, and thus made no prediction. In this regard, the content of his letter do not contradict Augustine’s and Isidore’s views on the heretical astrological divinations. We saw from Augustine’s *Confessions* and Isidore’s *Etymologies* that the two authors argued against the idea that one could read his deterministic future from the stars. Lupus’s letter, therefore, demonstrates another Carolingian interpretation of a celestial phenomenon with an apparent hesitation to

¹⁴⁸ Lupus, “Letters,” no. 8, p. 23.

¹⁴⁹ Lupus, “Letters,” no. 8, p. 23.

¹⁵⁰ Lupus, “Letters,” no. 8, p. 23.

provide a definite answer, probably with the intention to avoid any accusation of unorthodoxy idea.

If providing many possible outcomes was Lupus's approach to alleviate anxiety, the authors of the royal court then took another step to ensure that disaster would not fall on Francia. Following the appearance of the comet in April and the Northmen's attack in July of the same year, Einhard wrote to Louis the Pious to supply a means to prevent further losses. In his letter, he did not explicitly identify the star as a comet. Einhard only refers to the event as the "appearance of the star."¹⁵¹ He did not, furthermore, completely refute that such an appearance could be a favourable sign, as he alludes to its similarities to the Star of Bethlehem that led the three kings to Jesus.¹⁵² However, in spite of this possibility, Einhard still strongly believed that this comet was a warning of God's anger.¹⁵³

For Einhard, Halley's Comet in 837 was as portentous as the frequent eclipses and a dark spot on the sun that had preceded Charlemagne's death a few decades earlier. The reason was that, although Einhard did not see the comet by himself, others who had observed it deemed that the comet's visible features were horrifying.¹⁵⁴ This remark reminds us of Pliny's vague interpretation of comets that they could signify countless prospects. Thus Einhard, judging from the second-hand appearance of this particular star, concludes that it foreshadowed an adversity:

¹⁵¹ Einhard, "Letters," no. 61, p. 160.

¹⁵² Einhard, "Letters," no. 61, p. 160. Einhard refers to Matt. 2:2.

¹⁵³ Einhard, "Letters," no. 61, p. 160.

¹⁵⁴ Einhard, "Letters," no. 61, p. 160.

For what does it matter whether humans are forewarned of [God's] impending anger by a human, by an angel, or by a star announcing [it]? Only this is necessary: to understand that the appearance of the star was not without meaning, but warned humans that by being penitent and calling upon the mercy of God they may work toward avoiding future danger.¹⁵⁵

What Einhard saw as the foundation of misfortune was not the events that were going to happen but the fact that God was angered by humans' impenitence. In this regard, although he made the assumption that God was angered, Einhard did not claim that some certain events in the future must occur. In other words, he still believed that the comet foretold a misfortune, but whether the misfortune would fall onto humans depended on how humans responded to the warning. Similar to Lupus, Einhard did not view that the future disaster was deterministic. This would therefore not contradict the idea that the future is governed by humans' action. In other words, the subsequent outcome of the comet was the result of humans' choices.

Einhard further supports his view by claiming that the attacks by the Northmen a few months after the comet were just the beginning of the catastrophe that the Franks deserved.¹⁵⁶ What to come was uncertain, but because of the possibility of severe punishment in the future, he urged the emperor to pray for God's mercy in the same manner as the people of Nineveh who, through the act of penance, were able to avoid the destruction of their city.¹⁵⁷ To put it differently, from Einhard's view, the comet was not

¹⁵⁵ Einhard, "Letters," no. 61, pp. 160-61.

¹⁵⁶ Einhard, "Letters," no. 61, p. 161.

¹⁵⁷ Einhard, "Letters," no. 61, p. 161.

the portent of future events but that God was angry at humans' sinful conduct. From God's anger, a comet was sent through the sky as a warning. And, in the end, the outcome would entirely depend on the Franks' decision on how to answer such warning.

The last Carolingian account of Halley's Comet in 837, and perhaps the most illustrious one, was recorded by Louis's courtier and biographer in *Life of Emperor Louis*. Modern scholars gave the nickname "Astronomer" to the anonymous author of *Life of Emperor Louis*, since there was no other identification beside the author's own remark that he was knowledgeable in astronomy. The Astronomer claims that the comet was visible for twenty five days, beginning at the middle of Easter.¹⁵⁸ During the aforesaid time, the comet moved westward along the zodiacal sign from Virgo to Leo, Cancer, Gemini, and Taurus respectively.¹⁵⁹ As the Astronomer claims, Emperor Louis called him to inquire about the comet after it "finally dropped its fiery mass and abundant brilliance, which it used to spread everywhere."¹⁶⁰ In short, the comet had disappeared. In the account by Lupus, the same comet disappeared around April 18, but when it was in Virgo. Scott Ashley explains this discrepancy by suggesting that the Astronomer did not observe the movement of the comet as he claimed and that what Louis and the Astronomer observed at Aachen was a completely different object.¹⁶¹

¹⁵⁸ Astronomer, *Life*, c. 58, p. 292. Noble estimates the period in which the comet was visible, according to the Astronomer, to be from March 22 to April 28.

¹⁵⁹ Astronomer, *Life*, c. 58, p. 292.

¹⁶⁰ Astronomer, *Life*, c. 58, p. 292.

¹⁶¹ Ashley, "What did Louis the Pious see," 27-49.

Considering Einhard's letter and Pliny's definition of comets, what troubled the Franks was the sudden appearance of a celestial object. It is true that the Astronomer acknowledged that the comet was an ominous portent since it first appeared.¹⁶² Yet it was only after the comet stopped moving and started to fade away, as the biographer claims, that Louis began to worry. Furthermore, according to the Astronomer, Louis claimed that he had not seen the object on the day before: "For I know I did not see that star last evening, and you did not point it out to me, but I do know that it is a sign of the comet of which we have spoken in the past days."¹⁶³ While Louis's claim suggests that the object just appeared in the sky, it seems that the two had previously discussed the emperor's concern about the comet, most likely when the comet had first become visible. Thus, the Astronomer's account implies that there were two appearances of stars in April of 837. One was the same Halley's Comet that Lupus observed on April 11. Another star was the one that Louis the Pious and the Astronomer saw at Aachen. Its identity still remains a mystery, although Ashley offers two potential candidates: either an inner planet or a nova.¹⁶⁴

Regardless of what the mysterious object was, its appearance disturbed Louis enough that he could not wait until the next day for the Astronomer to supply him with

¹⁶² Astronomer, *Life*, c. 58, p. 292. The Astronomer writes that "In the middle of the Easter celebration a dire and sad portent, a comet, appeared in the sign of Virgo."

¹⁶³ Astronomer, *Life*, c. 58, p. 293.

¹⁶⁴ Ashley, "What did Louis the Pious see," 46-47.

the answer.¹⁶⁵ Louis's inquiry about the celestial object, as Dutton points out, was to learn the significance of the object rather than what it actually was.¹⁶⁶ The courtier was hesitant to answer Louis's question, as he believed the comet signaled "something sad."¹⁶⁷ The emperor saw his reaction and immediately understood the Astronomer's meaning, because Louis also knew that the star signified "a great change in the realm, and the death of the prince."¹⁶⁸ The Astronomer does not explicitly include his own interpretation of the occurrence, but he adds, in Louis's voice, that the comet is the sign of warning from God that humans are sinful and impenitent.¹⁶⁹

One should keep in mind that the Astronomer's account was written down after Louis's death in 840, a few years after Halley's Comet. Thus, Louis's dialogues, although they were reported in direct speech, should be regarded as the Astronomer's view rather than Louis's. This includes not only the interpretation of the comet as a warning, but also the idea that they ought to appeal to God's mercy.¹⁷⁰ Louis the Pious took his courtier's advice by praying, making donations, and arranging a mass within the next day.¹⁷¹ In the end, the consequence of Halley's Comet turned out to be not so disastrous as the

¹⁶⁵ Astronomer, *Life*, c. 58, p. 293.

¹⁶⁶ Dutton, "Of Carolingian Kings," 104.

¹⁶⁷ Astronomer, *Life*, c. 58, p. 293.

¹⁶⁸ Astronomer, *Life*, c. 58, p. 293.

¹⁶⁹ Astronomer, *Life*, c. 58, p. 293.

¹⁷⁰ Astronomer, *Life*, c. 58, p. 293.

¹⁷¹ Astronomer, *Life*, c. 58, p. 293.

Astronomer had worried. The emperor, after seeing that all of his orders had been carried out, went on a hunting trip, which the Astronomer concludes as “a happy end.”¹⁷²

In other circumstances, however, the outcomes might not have been so pleasing. The Astronomer saw another comet that appeared in Francia in January of the following year as a “threatening apparition” for the death of Louis’s second son, Pippin of Aquitaine.¹⁷³ It should be noted that Pippin actually died on December 13, almost a year after the time the Astronomer claims that the comet appeared.¹⁷⁴ Moreover, no other source records the 838 comet, which casts doubt onto the Astronomer’s account.¹⁷⁵ Besides, from Ashley’s analysis of the Astronomer account’s of Halley’s Comet, it appears that the Astronomer’s work was not so reliable in terms of accuracy in astronomical observations.¹⁷⁶ Despite the error of the record, one may wonder why the royal court did not call for another penance to delay the punishments from heaven after they were warned by the comet. Perhaps they did, but the penance was left out from the Astronomer’s account due to the subsequent death of Pippin.

Another noteworthy comet that deserves some attention was in the time of the civil war between Louis’s successors. In the account of 841, the *Annals of Fulda* records

¹⁷² Astronomer, *Life*, c. 58, p. 293.

¹⁷³ Astronomer, *Life*, c. 58, p. 295.

¹⁷⁴ *The Annals of St-Bertin*, s.a. 838, p. 40.

¹⁷⁵ *The Annals of Xanten* and *the Annals of St-Bertin* do not mention any comet in 838. *The Annals of Fulda*, however, records a comet in 839.

¹⁷⁶ Ashley, “What did Louis the Pious see,” 47-49. In the case of Halley’s Comet, Ashley proposes that the Astronomer extrapolated the path of the comet on the sky from Virgo to Taurus in accordance with Pliny’s text. Ashley also believes that the 838 comet in the Astronomer’s account is an error that the Astronomer mistakenly merged the November 838 comet with the April 839 comet.

the appearance of a comet in Aquarius on December 25, half a year after the battle of Fontenoy.¹⁷⁷ The bloody battle, as recorded by various sources, was just a part of a series of battles fought over the disagreement in the division of the kingdoms among Louis's three surviving sons. Late in 841, both Charles the Bald and Louis the German found the necessity to form an alliance against Lothar for the second time. This necessity led to the famous Oath of Strasbourg in the February of 842.¹⁷⁸ The Oath, transcribed by Nithard in his famous *Histories*, was sworn by Charles in Old High German and by Louis in Romance language.¹⁷⁹ According to Nithard, the meeting between the two brothers at Strasbourg also coincided with the disappearance of the comet which had been visible over Francia since December of the following year.¹⁸⁰

If an appearance of a comet was a warning of upcoming tragedies, Nithard saw its departure as an encouraging sign. Prior to the Oath of Strasbourg, the *Annals of St-Bertin* records Lothar's violent invasion into West Francia "with such acts of devastation, burning, rape, sacrilege and blasphemy."¹⁸¹ Like Nithard, the author of the *Annals of St-Bertin* was a supporter of Charles the Bald, so the remark of Lothar's violent attack would further justify the alliance between Charles and Louis. The oath sworn in 842, moreover, suggests a high level of distrust between the two armies. The two kings swore

¹⁷⁷ *The Annals of Fulda*, s.a. 840, p. 20.

¹⁷⁸ Nidhard, *Histories*, 322.

¹⁷⁹ Nidhard, *Histories*, 321-22.

¹⁸⁰ Nidhard, *Histories*, 322.

¹⁸¹ *The Annals of St-Bertin*, s.a. 841, p. 52. *The Annals of Fulda* does not mention Lothar's invasion into West Francia.

in the language that the other army understood, while the soldiers swore that they would abandon their kings if the kings broke the oath.¹⁸² Due to the apprehension at the beginning of the meeting, Charles's and Louis's success in driving Lothar out of his kingdom in the following month was an auspicious outcome. The aftermath, then, could be seen as the favourable circumstance since the harbinger of misfortunes disappeared.

A comet, or a "star" that suddenly shows up in the sky with a peculiar appearance, was not a well understood phenomenon. This does not mean that the scholars of the ancient world did not try to surmise its nature. Influenced by the text such as Isidore's, comets became a sign of misery to the Carolingians. Yet the ambiguity of interpretations left by the authors of the ancient world gave Carolingian authors some hope to avoid imminent disaster. To Einhard and the Astronomer, the concept of divine mercy was not so farfetched. Einhard wrote to Emperor Louis in 837, urging the emperor to do penance in order to avoid further damage to the empire. And, in retrospect, the Astronomer saw Louis's acts of piety as a proper response for God's warning. Thus, they shaped their narrative. Certain details were omitted and altered, just like in the case of the Astronomer's account of Pippin's death and West Francia's chronicles on the civil war. In the end, comets turned into, as the Astronomer puts it, the presage of the "great change in the realm,"¹⁸³ unsettled and uncertain.

¹⁸² Nidhard, *Histories*, 321-22.2

¹⁸³ The Astronomer, *Life*, c. 58, p. 293.

Chapter V

Air and Atmospheric Phenomena

Closer to us than the vault of the sky is the atmosphere that maintains the air for humans to breath. To classical and Carolingians authors, this layer between heaven and earth was no less fascinating than the firmament above. The atmosphere is the origin of rain, wind, and thunder, all of which was relevant to their lives, and at the same time is influenced by heaven. If the firmament is the realm of God and the earth belongs to humans, what lies between the two is the channel through which the stars can directly cast their effects on the world below. This chapter explores varieties of events that occurred in the atmosphere as recorded by Carolingian annalists, along with the relevant texts that constituted to their understanding of the atmosphere.

The air, as Pliny the Elder saw it, was the empty region between the earth and the moon, the lowest celestial body.¹⁸⁴ It was, therefore, the mixture between celestial and

¹⁸⁴ Pliny, *Natural History*, c. 2.38, p. 247.

terrestrial substances, and was the cause of meteorological phenomena.¹⁸⁵ In Pliny's view, the world is held stationary by the interlacing between substances that prevent each other from moving up and down.¹⁸⁶ The stars, hence, constantly exert their force on the air, induce its movement, and transform it into atmospheric phenomena.¹⁸⁷

The most obvious occurrence driven by the stars was none other than the seasons: “For who can doubt that summer and winter and the yearly vicissitudes observed in the seasons are caused by the motion of the heavenly bodies?”¹⁸⁸ Pliny did not try to justify his argument. Perhaps it was not necessary to do so, as it was evident from astronomical observations that the sun always returns to the same zodiac position at the beginning of the same season every year. Thus, Pliny concluded that it was the sun which regulated the seasons.¹⁸⁹ And, in the same manner, other stars were able to influence the air and thus the earth, especially when they were rising or when they were adjacent to another planet.¹⁹⁰ Another example is that the heat from the sun grows stronger “at the rising of the Lesser Dog-star,” resulting in the tremor of the sea.¹⁹¹

Pliny's idea may sound strange to us who live in a world with spacecrafts and satellites, but his idea was not so illogical for the people in a geocentric universe. From an observer on the earth, the sun appears to be closer to the constellation Canis Minor or

¹⁸⁵ Pliny, *Natural History*, c. 2.38, p. 247.

¹⁸⁶ Pliny, *Natural History*, c. 2.4, p. 177.

¹⁸⁷ Pliny, *Natural History*, c. 2.38, p. 247.

¹⁸⁸ Pliny, *Natural History*, c. 2.39, p. 249.

¹⁸⁹ Pliny, *Natural History*, c. 2.39, p. 249.

¹⁹⁰ Pliny, *Natural History*, cc. 2.39-40, pp. 249-51.

¹⁹¹ Pliny, *Natural History*, c. 2.40, p. 251.

the Lesser-Dog star in the summer. Thus, the sun and Canis Minor rising together would naturally be associated with warmer weather. The disturbance of the sea, moreover, is the result of the seasonal climate. Yet, despite available scientific explanations, Pliny puts the relationship in terms of cause-and-effect to emphasise the influence of the stars on the air and thus on the earthly world too.

More irregular events such as thunders, likewise, were “prophetical and sent from on high, they come by fixed causes and from their own stars.”¹⁹² Although Pliny believed that thunder was caused by the reactions between celestial and terrestrial forces, he admitted that the phenomena were not yet well-understood.¹⁹³ Regardless, he certainly did not see meteorological phenomena simply as portents like eclipses or comets. Because clouds, thunder, storms, and other phenomena of the air were the results of the fusion of the elements from the celestial and terrestrial realms, they were seen as “the warfare between the elements of nature,” while the air became the source of “most of mortals’ misfortunes.”¹⁹⁴ In other words, they were not the warnings of impending disasters but the disasters themselves.

Later Christian authors, however, did not agree with Pliny’s idea on the universal effects of the stars on the earthly world. In Book V of the *Etymologies*, Isidore of Seville succinctly explains that the seasons are the result of “the sun’s course,” that is the

¹⁹² Pliny, *Natural History*, c. 2.43, p. 255.

¹⁹³ Pliny, *Natural History*, c. 2.45, pp. 257-59.

¹⁹⁴ Pliny, *Natural History*, c. 2.39, p. 247.

movement of the sun over a year.¹⁹⁵ In his description of the “Dog Star,” Isidore writes “When the sun ascends to it, and it is in conjunction with the sun, the sun’s heat is doubled.”¹⁹⁶ Like Pliny, Isidore relates the summer season to the course of the sun and the constellation. Yet, the relationship between the position of the celestial bodies and the climate is presented to be coincidental and not causal. After all, Isidore saw the stars as the works of God; “he set them in order that they might define the seasons by their particular motions.”¹⁹⁷

Nevertheless, Isidore emphasized that the air maintained the continuity between heaven and earth. The term “air” carries the notion of “lifting,” and thus displays its characteristic as a supporting medium between the two region.¹⁹⁸ Under the influence of the celestial and terrestrial components, other phenomena emerged in the atmosphere.¹⁹⁹ The turbulent movement of the air caused thunder and lightning, both of which Isidore tried to make sense of scientifically. The terrifying sound of thunder, he explains, is similar to an explosion, while lightning flashes are similar to the spark from a collision between two objects.²⁰⁰ Ever concerned with the interpretation of the Holy Scriptures, Hrabanus Maurus in his *De universo* saw the air as an allegory for human minds. Its emptiness

¹⁹⁵ Isidore, *Etymologies*, c. 5.35, p. 129.

¹⁹⁶ Isidore, *Etymologies*, c.3.71.14, p.105.

¹⁹⁷ Isidore, *Etymologies*, c.3.71.37, p.106.

¹⁹⁸ Isidore, *Etymologies*, c.13.7, p.273. Isidore associates the term “air” with the term “αἰρεῖν,” which means “to raise.”

¹⁹⁹ Isidore, *Etymologies*, c.13.7, p.273.

²⁰⁰ Isidore, *Etymologies*, c.13.8, p.273.

represented the worldly minds that were spiritually disorganised.²⁰¹ The mind thus required guidance by “the solidity of virtue,” the process which was compared to the formation of clouds under the heavenly force.²⁰² Hrabanus furthermore related thunder to the voice of God and lightning to the miracles.²⁰³

Despite Isidore’s and Hrabanus’s attempts to explain the occurrences in the air with natural causes, the superstitions over lightning and thunder still circulated the Carolingian Empire throughout the ninth century. In 815, Bishop Agobard of Lyon reported the non-Christian practice of weather magic, which involved the use of incantation to manipulate the weather.²⁰⁴ According to the bishop, some people exploited the belief by pretending to be able to conjure favourable weather in exchange for a fee.²⁰⁵ The bishop did not hesitate to declare the weather magic false: “And all of this is accomplished without any preaching, any admonishment, any exhortation, except the seduction of the Devil.”²⁰⁶ Since the weather was ordained by God alone, claiming a storm or a rain was the result of humans was a serious offense against Him.²⁰⁷ The belief in weather magic seems to have been popular among the people throughout Francia, not strictly among those who lived in Agobard’s diocese. In late 820s, Archbishop Ebbo of

²⁰¹ Hrabanus, *De universo*, c. 9.18, p. 299.

²⁰² Hrabanus, *De universo*, c. 9.18, p. 299.

²⁰³ Hrabanus, *De universo*, c. 9.20, p. 301.

²⁰⁴ Agobard, “Agobard of Lyon and the Popular Belief in Weather Magic,” in P. Dutton, ed., *The Carolingian Civilization*, 220. Pliny the Elder also mentions the conjuring of thunder by the people of Etruria in *Natural History* c. 2.53.

²⁰⁵ Agobard, “Popular Belief,” 220.

²⁰⁶ Agobard, “Popular Belief,” 223.

²⁰⁷ Agobard, “Popular Belief,” 220.

Rheims asked Bishop Haligar of Cambrai to compose a manual for penitential practices. In the section on magic, the manual lists the penitential punishments only for magic that causes death, love, and storm.²⁰⁸ Haligar assigns the duration of penance for the conjurer of storms to be seven years, which is the same as the duration of penitence for a layman who commits a homicide.²⁰⁹ The penitential instructions therefore indicate that weather sorcery was not only one type of the popular magic, but also one of the most sinful as can be seen from the severity of the punishment.

In some other cases, superstition over thunder and lightning were less evident. A few decades after Haligar's manual, the monk Herefrid requested that Hrabanus Maurus compile a non-Christian belief on thunder into Latin text. In his preface, Hrabanus states that the purpose of his work is for "something of the discourse, which is known to have been lacking on both sides about what thunder mystically portends."²¹⁰ Although one may argue that Hrabanus could have seen the thunder as analogous to the voice of God as he proposes in *De universo*, the interpretation can be dismissed after one takes a close look at Hrabanus's overall tone in the preface. In the preface, Hrabanus constantly appeals for Herefrid's support in case that others attack him for composing a work of unorthodoxy against his will.²¹¹ Furthermore, for Hrabanus to "undertake a small, but extremely onerous and dangerous little work," it appears that the superstition over thunder and

²⁰⁸ Haliga, "The Penitential of Haliga," in P. Dutton. ed., *The Carolingian Civilization*, 243.

²⁰⁹ Haliga, "Penitential," 240-43.

²¹⁰ Hrabanus, "The Little Book on Thunder," in P. Dutton. ed., *The Carolingian Civilization*, 367.

²¹¹ Hrabanus, "Little Book," 367.

lightning must have attracted the attention of the ecclesiastical order. The majority of the texts do not involve active divination, as the weather witchcraft like Agobard's case. Instead, they relate thunder to other events they are thought to have caused, in accordance with the time and direction in which they are observed. Some of them indeed sound superstitious; for example, thunder on Monday foresees the deaths of married people, while thunder on Saturday indicates plague and war.²¹² However, some of them could have a plausible explanation. An April thunder, for instance, which allegedly suggests the danger of sea voyage, could simply be corresponded to seasonal weather hazards.²¹³ Moreover, most of the predictions are common events that could have happened simply by chance, such as an abundance of agricultural products or a mass death of fish.²¹⁴

Even so, Carolingian authors still sometimes attempted to relate the observed occurrence to future events. Unlike eclipses that occurred in the celestial realm, they were able to draw the relationship between meteorological terrestrial events and beyond the use of parataxis. Take the account of 823 from the *Royal Frankish Annals*, for example. Here the annalist recounts that "everywhere men and animals were killed with unusual frequency by strokes of lightning. There followed a great pestilence and mortality which raged furiously throughout Francia."²¹⁵ Although the annalist did not put them in a casual

²¹² Hrabanus, "Little Book," 370-71.

²¹³ Hrabanus, "Little Book," 369.

²¹⁴ Hrabanus, "Little Book," 368-69.

²¹⁵ *Royal Frankish Annals*, s.a. 823, p. 115.

relationship, he highlighted that one followed the other. In another case, the annalist explicitly wrote that “portents were seen in the heavens,” one of which was lightning.²¹⁶ The people at Mainz who observed the portents were afraid, and so they prayed to God so that “monstrous things might be turned to good.”²¹⁷

We could try to make sense of the account by asking why the people at Mainz were so afraid, and why the annalist made mention of their fear in the first place. Also, we should keep in mind that in the annals rarely reported how people reacted to astronomical events. Looking at other instances the atmospheric occurrences came up in the annals would indeed help us see the comprehensive picture. Some of the most notable ones are as follows. In the account of 824, the *Royal Frankish Annals* mentions a cold and long winter which led to a famine.²¹⁸ In the following summer there was a hailstorm with a 15-foot-long slab of ice falling from the sky.²¹⁹ Another notable event was in 857, in which the *Annals of Fulda* and the *Annals of St-Bertin* report that three men were killed by lightning bursting through the church at Cologne.²²⁰ Some of these events do sound unbelievable. Yet we can see a pattern when the events are pieced together. Lightning killed people. A harsh winter ravaged the fields. A hailstorm left a brutal trace on the earth. Wind, storm, and thunder were, after all, influenced by celestial forces. The

²¹⁶ *The Annals of Fulda*, s.a. 870, p. 63.

²¹⁷ *The Annals of Fulda*, s.a. 870, p. 63.

²¹⁸ *Royal Frankish Annals*, s.a. 824, p. 115.

²¹⁹ *Royal Frankish Annals*, s.a. 824, p. 116.

²²⁰ *The Annals of Fulda*, s.a. 857, p. 40; *The Annals of St-Bertin*, s.a. 857, p. 84.

atmosphere was the intermediate between the earthly and heavenly world. And as a result, the air became the medium in which that divinity manifested itself to humans in tangible forms.

To the people of Francia where economics primarily depended on agriculture, how the weather changed, either by the season or through the irregularities, was crucial to their lives. Thus one should not find it surprising that the people of Lyon were willing to pay weather wizards for protection from violent storms, even at the risk of deviating from orthodox Christianity into heretical superstition. Unlike the stars in the firmament that foretell uncertainty in the future, atmospheric phenomena had immediate consequences. Often, they left their footprints on the earthly world in forms of physical hardship and death. In the end, when the people of Francia look up onto the emptiness under the vault of the sky, they would have agreed with Pliny that, “from it come most of the mortals’ misfortunes.”²²¹

²²¹ Pliny, *Natural History*, c. 2.39, p. 247.

Chapter VI

Conclusion

In the year 810, the elderly Charlemagne decided to march to Frisia after hearing news of a Norse fleet ravaging the coast. This last campaign seemed to be in vain, for the Northmen had already left Frisia before Charlemagne's army arrived. During the campaign, his elephant, a gift sent by the Abbasid caliph Harun al-Rashid, suddenly died.²²² And, after the failed military campaign, a severe cattle epidemic broke out. In that same year, in which the *Royal Frankish Annals* recorded four eclipses, the emperor also lost his son Pippin and his daughter Hruodtrude.²²³

The eclipses themselves suggested the unrest of the state of the kingdom in 810. But there was more to the expedition that the *Royal Frankish Annals* does not record. In Einhard's *Life of Charlemagne*, the author lists many kinds of portents that had signalled

²²² *Royal Frankish Annals*, s.a. 810, p. 92.

²²³ *Royal Frankish Annals*, s.a. 810, pp. 91-92.

Charlemagne's impending end: eclipses, a shooting star, lightning, among others.²²⁴ Despite all that Einhard deemed portentous, the emperor denied that they were the signs for his end.²²⁵ Nevertheless, Charlemagne apparently was aware of his imminent death, since he drafted his will in order to distribute his treasure.²²⁶ As Dutton points out, both statements can be true: the former was Charlemagne's personal reflection, while the latter was for his public posture.²²⁷

Carolingian annals and royal biographies likewise are filled with strange phenomena in the sky. They were, as Einhard says, not without meaning. Some events are more obvious and regular than others, but it is undeniable that in some ways, those occurrences in the heavens had an impact on the earthly world, either directly or indirectly. In the same manner that lightning burnt down houses and harsh winters starved the populace, eclipses and comets threatened to carry away their kings and princes.

This thesis has argued that the Carolingians' interests in the stars rested on the continuation of classical knowledge in the early medieval period. The study of astronomy was one among other Roman traditions that the Carolingians inherited. However, they did not simply reproduce classical pagan texts, but instead they constantly innovated along with them. From Pliny the Elder to Isidore of Seville to Hrabanus Maurus, we see reinterpretations of the same celestial and meteorological phenomena. Carolingian

²²⁴ Einhard, *Life*, c. 32, pp. 40-41.

²²⁵ Einhard, *Life*, c. 32, p. 41.

²²⁶ Einhard, *Life*, c. 33, p. 41.

²²⁷ Dutton, "Of Carolingian Kings," 102.

interpretations shifted away from detailed observations and attempts to understand the scientific causation to the discovery of their deeper spiritual meanings. In the end, we might be left wondering what was the true nature of the blazing shields in the sky over the Saxon camp at Syburg,²²⁸ or what exactly were the armies and the battle lines in the sky that came up repeatedly in the annals.²²⁹ But the annalists did not deem it necessary to explain or to justify their reports beyond the fact that they were signs from heaven. Similar to eclipses and comets, those strange events would indeed have affected the mentalities of the Carolingians.

Throughout the annals, the occurrences of strange phenomena appear to be remarkably frequent. And, for most part, they were associated with deaths or disasters. To us, the concept of portents and omens seems superstitious and bizarre. Eclipses, comets, lightning, and shooting stars did happen in the Carolingian period, similar to what we observe nowadays. Thus, we should not find it so surprising if a celestial phenomenon happened to coincide with another major event in the empire. After all, military campaigns were annual activities in the Frankish Empire, so defeats and losses are to be expected regardless of any occurring natural phenomena.

Nevertheless, from a close examination of the annals and royal biographies, we witness a subtle change in how early medieval people viewed and interpreted the sky.

²²⁸ *Royal Frankish Annals*, s.a. 776, pp. 53-55.

²²⁹ The *Royal Frankish Annals* reported that the “battle lines in the sky” were seen in 807 in 827. The *Annals of St-Bertin* reported the observation of “an army” in the sky in 839 and 859.

Through choices of omission and inclusion of portentous events in the sky and their consequences on earth, Carolingian authors shaped their narratives. In other words, they established a profound relationship between the stars and their kingdom, especially their kings. Thus, we may recall what Einhard wrote about the shooting star that Charlemagne saw during the 810 expedition in Saxony:

[H]e saw a shooting star with a great light fall from the sky from right to left through clear air, and while everyone was wondering what this sign might mean the horse he was riding suddenly lowered its head and fell, throwing him to the ground so hard that the brooch of his cloak broke and his sword-belt came off. His servant hurried up and raised him, disarmed and without cloak.²³⁰

Once again, it was not just the fact that the shooting star appears but how it plays in Einhard's narrative. Here, we see how a Carolingian author placed his emphasis, not on the heavenly phenomenon itself, but on its significance for worldly politics. Charlemagne, the war-like emperor, was thrown off a startled horse. His cloak and sword belt—symbols of status and power—were torn off. As his servants helped the emperor get up from the ground, everyone knew Charlemagne's death was imminent. All of this because of the shooting star.

²³⁰ Einhard, *Life*, c. 32, pp. 40-41.