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WEATHER OR NOT: FIRST CRUSADER CONCEPTIONS OF METEOROLOGY AND THE MIRACULOUS

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Abstract

Recent historians of the First Crusade have written that appearances in the sky were important to crusaders because they were signs of divine approval, served a narrative function, and indicated God's plan of an upcoming apocalypse, but a comprehensive explanation of what these phenomena reveal about crusader beliefs of the natural world beyond a narrative explanation remains up for debate. While twelfth-century narrative writers often used meteorological phenomena as a narrative support, it is possible to explain how crusaders understood the role and function of both ordinary and unusual phenomena within their view of the natural world by examining the descriptions and explanations of meteorological events in accounts of the First Crusade. Crusaders' perspectives on meteorological phenomena can be understood by examining whether writers perceived and catalogued events as rare or regular, and if writers interpreted and understood these events as meaningful or insignificant. Understanding how crusaders and chroniclers perceived and described meteorological phenomena and appearances in the sky through a comparison of the combinations of these four attributes reveals that crusaders did not have a universal understanding or interpretation of meteorological events. Rather, this incongruity demonstrates that some of these early twelfth-century writers viewed the acquisition of knowledge of the natural world as a worthwhile endeavor.

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Introduction

The series of holy wars that began as a penitential pilgrimage to the Holy Sepulcher in Jerusalem stands out because of the wealth of surviving narrative accounts. More than ten authors wrote full narratives of the First Crusade (1095-1099) in the first decades of the twelfth century, making it one of the most documented events in the history of the Middle Ages.[1] The narratives recount noble men and impoverished peasants humbling themselves and setting off in groups toward the holy land, dressed in garments with a sewn cross that signaled them as pilgrims. These accounts emphasized divine intervention and the appearances of prodigies, often in the form of astounding meteorological phenomena. The number of those signed with the cross (*crucesignati*) thinned as thirst, disease, and the outnumbering Saracen armies claimed lives and actualized God's punishment for wonton behavior. But the trembling earth and fire blazing in the sky later signified God's divine approval during the decisive battle of Antioch that preceded the crusader capture of the Holy City in 1099. Some writers of the crusade narrated their own experiences, many integrated their own accounts with information gleaned from interviews with other eyewitnesses, and others sought to write more linguistically satisfying and pious renderings of existing accounts in what Jonathan Riley-Smith calls a "theological refinement."[2] Common to all of these accounts is the notion that God enacted his divine will through his chosen people, the Franks, through miracles.

Medieval and modern interpretations have emphasized that crusade participants believed that God worked miraculously through them for the sake of his heavenly and earthly kingdoms.[3]

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[1] The texts considered in this paper include eyewitness accounts, narratives, chronicles, and histories from the following: *Gesta Francorum*, Peter Tudebode, Fulcher of Chartres, Raymond of Aguilers, Ekkehard of Aura, Ralph of Caen, William Caffaro, Albert of Aachen, Guibert of Nogent, Baldric of Bourgueil, Robert the Monk, Gilo of Paris, Matthew of Edessa, Anna Comnena, Ibn al-Athīr, Ibn al-Qalānisī, various letters.

[2] Jonathan Riley-Smith, *The First Crusade and the Idea of Crusading*, 1st ed. (London: Athlone, 1986), 132–52.

[3] Ibn al-Athīr, *Arab Historians of the Crusades*, trans. Francesco Gabrielli and E. J. Costello (Berkeley: University of California Press, 1969), 15. Muslims also believed that God was working through them to defeat the Christians.

This idea, which served as the namesake for Guibert of Nogent's *Gesta Dei per Francos* and other similar histories written in the first decades of the twelfth century, percolated through monastic and other Christian accounts. In these accounts, various kinds of miracles and signs accompanied the Franks to victory. Robert the Monk described the pilgrimage as the third most miraculous event in all human history. Others considered the destination and layout of the city of Jerusalem itself to be a miracle.[4] Battles between Christians and Muslims led the crusaders to see God controlling the outcome of the crusade, given their perception of the unlikelihood of prevailing against the vastly larger Muslim armies. Crusaders and chroniclers believed that saints intervened at the battle of Antioch and that sky signs accompanied miraculous warfare.[5]

Recent historians of the First Crusade have examined meteorological phenomena and signs in the sky that occurred on crusade within contexts such as miraculous warfare, divine intervention, and forewarnings of an apocalypse, but what chroniclers' views were on meteorology in relation to their understandings of the natural world remains open for discussion.[6] Twelfth-century narrative writers often used meteorological phenomena for a narrative function, but comparing descriptions and explanations of meteorological events on the crusade can help explain how crusaders understood the role and function of both ordinary and unusual phenomena within their view of the natural world. Rather than conceiving of meteorological phenomena in a framework that functions within a dichotomy of "miraculous" and "natural" occurrences, a model

[4] Robert the Monk, *History of the First Crusade: Historia Iherosolimitana*, trans. Carol Sweetenham (Aldershot: Ashgate, 2005), 77; Sylvia Schein, *Gateway to the Heavenly City: Crusader Jerusalem and the Catholic West, 1099-1187* (Aldershot: Ashgate, 2005), 1–20. The other two most miraculous events according to Robert the Monk were the creation of the world and the resurrection of Christ.

[5] Elizabeth Lapina, *Warfare and the Miraculous in the Chronicles of the First Crusade* (University Park, PA: Pennsylvania State University Press, 2015), 4, 39.

[6] For signs, narrative, and apocalypse, respectively, see: Bernard Hamilton, "'God Wills It': Signs of Divine Approval in the Crusade Movement," in *Signs, Wonders, Miracles: Representations of Divine Power in the Life of the Church*, by Ecclesiastical History Society, ed. Kate Cooper and Jeremy Gregory (Woodbridge: The Boydell Press, 2005), 88–98; Lapina, *Warfare and the Miraculous*; Jay Rubenstein, *Armies of Heaven: The First Crusade and the Quest for Apocalypse* (New York: Basic Books, 2011).

that places events on a continuum in which all phenomena retain some degree of wonder can better explain events in a range of diverse accounts. A study of meteorological occurrences and signs in the sky across a multitude of narratives and chronicles reveals that crusaders did not have a universal interpretation or means of description for phenomena, but rather this variety in descriptions can be explained in terms of diverse crusader goals. Assessing these interpretations of meteorological phenomena within a frame of narrative goals reveals that crusader worldviews valued a philosophy of knowledge.

Marcus Bull aptly remarks that a historian's interpretation of events in the crusading era hinges on a construction of the First Crusade because it was, in hindsight, foundational. My employment of meteorological events as a way to interpret how crusaders understood the natural world accepts the historiographical groundwork of crusader motivations of piety as genuine and earnest, of which Riley-Smith is one of the most influential proponents.[7] With his view of authentic crusader enthusiasm, Riley-Smith accounts for meteorological phenomena as manifestations of crusading zeal in what he calls a "magical penumbra" that enveloped the crusaders beginning with a meteor shower in April 1095 and climaxing with an earthquake in July 1099 with the capture of Jerusalem.[8] He offers that crusaders saw even natural (by which he means ordinary) meteorological events, like rain or wind, as providential because of the general astonishment the crusaders had at their success in warfare, which they attributed to God's favor.[9] Unusual manifestations of sky phenomena interpreted as miraculous or portentous is also valid using Riley-Smith's groundwork. Bernard Hamilton argues that crusaders interpreted signs in the sky as a sort of "news bulletin" from God that could inform people from geographically disparate

[7] For more on Riley-Smith's discussion of crusader motivations, see especially: Jonathan Riley-Smith, "Crusading as an Act of Love," *History* 65, no. 214 (1980): 177–92.
[8] Riley-Smith, *Idea of Crusading*, 33–34, 91–119.
[9] Ibid., 98-99.

areas on the development of the crusade.[10] That crusaders believed signs in the sky or unusual instances of weather to be portentous or providential is supported by narrative evidence, but not universally or without caveats. Thus far, historians' analyses of the role of meteorological phenomena in narratives rely on a crusader collective view and as such do not adequately account for situations when crusaders had multiple interpretations of a single event, nor do these analyses strictly distinguish between different cultural groups that wrote about meteorological phenomena during the crusade years.[11]

Chroniclers and narrative writers of the First Crusade sometimes interpreted divine intervention as the cause of meteorological phenomena and appearances in the sky that occurred on the crusade because it placed crusaders into a narrative of God's divine work. The idea that divine intent was present in the manifestation of meteorological phenomena supports Elizabeth Lapina's interpretation that descriptors of direction for phenomena such as comets, meteors, and wind as the West overtaking or illuminating the East were significant as part of a narrative retelling.[12] In situations where meteorological occurrences caused active harm rather than serving as wondrous visual displays or as justified punishment for sinful acts, crusaders were less likely to attribute an explicit divine cause to a situation. This type of portrayal is perhaps most evident when comparing wind-swept fire at Civetot and Antioch that caused immense destruction to both enemy and friendly forces. But even more than divine or conspicuously-not-divine interventions, writers often perceived meteorological phenomena as innocuous, as is evident both in visual description and in writers' understanding of what role phenomena should

[10] Hamilton, "God Wills It," 95.
[11] The First Crusade lends itself most easily to different cultural groups distinguished by religion (Christians, Muslims, and Jews) and location (east and west, broadly speaking). But these groupings ignore others, like Chinese chroniclers, who wrote about some of the same phenomena. For a comparison of comets between disparate geographic regions, see: Gary W. Kronk, *Cometography: Volume 1, Ancient-1799 (A Catalog of Comets)*, 1st ed., vol. 1 (Cambridge: Cambridge University Press, 1999).
[12] Lapina, *Warfare and the Miraculous*, 122–42.

have in the story. Considering that crusaders could perceive one type of phenomenon as both mundane and miraculous means that something like rain, for example, was not universally helpful or harmful to crusaders, but was rather an experience likely to be encountered as part of a long journey like a pilgrimage. Even in theologically refined accounts written to achieve religious goals, writers explained meteorological phenomena with a diverse range of interpretations that perhaps reveals more about how writers viewed the natural world than has been explored by historians thus far. Understanding that crusaders described meteorological and astronomical events on a spectrum ranging from very unusual or "particular" to very regular or "ordinary" reveals that writing about meteorological events on the pilgrimage was one way crusaders and writers attempted to understand and explain the natural world. In this view, miraculous or particular occurrences of meteorology are not at odds with natural or ordinary ones, which can account for the entire range of descriptions seen in the narratives.

Educational experiences of twelfth-century writers that informed views on the natural world are explored by examining modes of education in the early twelfth century, self-identified attitudes toward education and learning in crusader texts, and references to authorities that crusaders made in their accounts to engage with ideas on natural philosophy that writers of the First Crusade encountered. Formal education at the end of the twelfth century significantly shifted with the establishment of universities, but the fluidity in schooling before the twelfth-century renaissance is more pertinent to an understanding of the well-known narratives written within the first decade of the twelfth century.[13] Thus it is the change from monastic schools with

[13] For the most part, these writers included what C. J. Tyerman calls the "Benedictine Mafia" of Robert the Monk, Guibert of Nogent, and Baldric of Bourgueil. Another well-known text was the *libellus* or "little book" that historians believe might have been the *Gesta Francorum* or some prototypical version of it. Nirmal Dass presents a different view on the origins of this book; see Dass in: Anonymous, *The Deeds of the Franks and Other Jerusalem-Bound Pilgrims: The Earliest Chronicle of the First Crusades*, ed. and trans. Nirmal Dass (Lanham, MD: Rowman and Littlefield, 2011), 1–24.

a focus on theology to cathedral schools with higher integration of natural philosophy that influenced how writers chose to convey and describe meteorological phenomena on the crusade. Examining attitudes toward this educational shift and learning by using references found in the narratives enables a more focused analysis of the effects that changes to education had that is specific to the chroniclers. Taking an individual approach to these authors reveals that some writers were more (or differently) educated than some historians have previously believed, allowing us to form groupings or possible collective ideas within this sampling of authors more accurately.[14] Examining references to authorities or authoritative texts is another approach for understanding how authors were educated, what ideas they believed, and how we might understand the learnedness of authors. Writers often used the Bible and the *Gesta Francorum* as a template for recounting the crusader pilgrimage, but taking classical literature as well as non-western sources into account allows a consideration of material that more directly addressed understandings of meteorological phenomena. Crusade narratives and chronicles were a product of the writers' experiences, and it is through an understanding of that background that we might be able to interpret why writers described phenomena as unusual or ordinary.

Knowing crusaders' attitudes toward the miraculous is important for understanding conceptions of meteorology in this time, and examining how crusaders wrote about miraculous events provides a foundation on which to base crusader descriptions and explanations of rare and meaningful meteorological phenomena. Examining crusader context of the miraculous, accounts of events that medieval and modern readers could reasonably consider as miraculous, and an explanation of miracles that occurred in most narrative accounts of the crusade informs the way historians might interpret meteorological phenomena. Church fathers like Augustine and miracle

[14] Fulcher of Chartres, *Fulcher of Chartres: Chronicle of the First Crusade (Fulcheri Carnotensis Historia Hierosolymitana)*, trans. Martha Evelyn McGinty, vol. 1, Translations and Reprints from the Original Sources of History 3 (Philadelphia: University of Pennsylvania Press, 1941), 5–7.

stories like hagiographies influenced the way crusade writers formulated their thoughts on miracles and how they chose to present them to an audience who was reading about the colossal miracle of the First Crusade. Described aside from a construction of *mira* were instances of divine intervention in the crusades, such as events that crusaders believed to be providential, unusual, or the will of God. These occurrences, which might seem "supernatural" to a modern reader, are actually more simply part of "nature" generally, as can be seen in narrative descriptions that preclude these categorizations. It is more useful to think of these events in terms of the way crusaders described them, crusaders' emphasis on verification, and the way that they factor into the larger narrative goals of the crusaders. Narrative miracles, or instances of the miraculous that appear in most accounts of the crusade in relation to their relevance to the success of the crusaders, demonstrate the aforementioned attributes of miracles and supports clear comparisons between multiple accounts and authors. Based on the inability to form neat categories with distinct characterizations, we might conclude that while crusaders had ideas of the function of the miraculous and even a template for how they might write miracle stories, there was not a definite distinction made between things that were miraculous and things that were ordinary. Rather, crusaders might describe all events as "natural," with differing degrees of wonder or unusualness.

Chroniclers and other writers of the First Crusade narrated the pilgrimage story through the lens of eyewitnesses and secondary accounts to capture and recount miraculous occurrences and place ordinary people into a narrative of God's work. Following the simple narrative of the *Gesta Francorum* and highlighting meteorological events as a storytelling feature enables us to see different ways that the weather and sky signs functioned as part of a story. Exploring events from this pointed focus suggests that writers found meteorological events as important to

storytelling that helped propel a narrative agenda. Narratives, chronicles, and letters are the most relevant types of writings for comparing and contrasting accounts of the First Crusade in a historical endeavor, while other types of writings and stories were important to how medieval writers crafted their narratives of the pilgrimage. Understanding authors as individuals allows us to sort a multitude of accounts into groupings that more easily make sense of how writers chose to write about events and incorporate meteorological phenomena into their retellings. Forming a hierarchy of accounts based on the eyewitness source of the *Gesta Francorum* into first generation *Gesta* based sources and second-generation sources, as well as sources distinguished by cultural and literary categories, helps make sense of what information was copied from different accounts and how we might go about interpreting additions or omissions to sources. Understanding the authors and works produced gives us a basis for examining the way meteorological phenomena were discussed in the chronicles, which is something that has yet to be united comprehensively into a secondary work.

Comparing descriptions of meteorological phenomena between accounts facilitates an understanding of writers' views on meteorology as a narrative device and as part of the natural world through the text they wrote. Much like accounts of the miraculous, meteorological phenomena described on the crusade varied in narrative importance as well as level of detail. Often it is possible to isolate a way that phenomena were described that is representative of multiple accounts, allowing the exploration of different and non-representative ways that writers wrote about a phenomenon. Approaching events as singularities and authors as individuals allows us to conceive of writers' narrative goals more accurately. While there are comparative trends among descriptions, it is clear that there are not universal interpretations of events for crusade authors. Through explicit description and context, a modern reader can determine

whether a writer considered an event a regular or a rare occurrence. And based on explicit description, a modern reader can determine whether a writer considered an event to be meaningful or mundane. Combining these attributes allows a modern interpreter to ascertain whether crusaders believed an event to be regular and meaningful (such as an eclipse), rare and meaningful (such as a comet), regular and not meaningful (such as a rainy season), and rare and not meaningful (such as a mock sun).

Modern crusade historians interpret medieval descriptions of meteorological phenomena based on evidence provided by the narratives, chronicles, and letters, but understanding why writers described groups of phenomena in a particular way has not been deeply explored thus far. Historians have analyzed meteorology during crusades with diverse criteria for analysis.[15] Rather than considering meteorological phenomena as cohesive unit, maintaining an indistinct categorization of the way medieval writers perceived meteorology is more accurate than aiming to formulate what would be medieval writers' collective interpretations. While universalizing collective attitudes is inaccurate, it is possible to ascertain some trends and extrapolate crusader goals. Agency for crusaders--the ability to influence events of the crusade seemingly beyond their control--was made possible through the weather and morality. As the crusaders pursued immoral acts, God's favor toward them waned and manifested in a visible way through the weather. Likewise, as the crusaders shifted toward repentance and moral acts, visible approval through the weather showed the crusaders they were favored. Agency was achieved in other ways as well, such as through the acquisition of relics and through crusaders' perceived ability to

[15] Elizabeth Lapina uses Guibert of Nogent to examine accounts of the miraculous; Jonathan Riley-Smith uses the *Gesta*-based sources of the Benedictine monks to examine theological refinement; Jay Rubenstein examines sky signs in the context of medieval views of the apocalypse; Bernard Hamilton uses meteorological phenomena as a way to examine crusader views of divine approval in warfare.

accurately predict outcomes of the crusade.[16] As there was not one singular interpretation of meteorological phenomena, there was not one particular narrative goal for the crusaders.

Descriptions of meteorological phenomena reveal hints of crusader worldviews of the natural world. In part, this can be assessed through the ways crusaders sought and viewed knowledge and truth. The crusaders emphasized the verification of events on the crusade journey. These included meteorological events like meteor showers and the narrative itself as a story. One reason crusaders sought the verification of events was because of trickery or intentional lies. The clearest account of verification, skepticism, and possible trickery is told through the acquisition of the Holy Lance and the ordeal by fire. This experiment was used to test the veracity of the lance. While the results of the trial were subject to debate among the crusaders, we can see reasons for belief manifest even in the disputes. This leads us to consider what crusaders believed were valid ways of knowing. Through the accounts, we see that astrology, astronomy, and medicine were practical ways of acquiring knowledge about the natural world. It is by thinking about these ways of knowing that we can also consider another way in which crusaders described meteorological phenomena.

The narratives of the first penitential pilgrimage to Jerusalem were steeped in accounts of miraculous encounters imbued by the perspectives of their writers. Crusade participants interpreted actions of individuals and the plan of the crusade itself as miraculous, and meteorological phenomena were a miraculous part in the telling of that story. In addition to propelling the narrative forward or acting as events in a larger story, the way that crusaders wrote about meteorological phenomena can tell us about how they viewed the natural world. Narrative

[16] For example, Raymond of Aguilers discussed when crusaders should travel in order to have a particular outcome (and how this was a failure on account of a lack of trust in God). Raymond also discussed predictability through the visions some crusaders received, some of which promised help within a certain number of days if the crusaders performed an particular action (the unearthing of the Holy Lance).

goals coincided with crusaders' educational backgrounds, views on the miraculous, and choices in conveying written information. Interest in the weather before the twelfth century existed apart from trying to predict it in the case of astrometeorology, writing commentaries on Aristotle's *Meteorology*, and outside of an Aristotelian-Platonic dichotomy of available texts that had been translated into Latin. Despite what some accounts integrating "science" into the crusader narratives have focused on, the application of knowledge during the crusades was not limited to war medicine.[17] Rather, these narratives demonstrate an opportunity to integrate other types of knowledge, including what pilgrims learned by traveling in the Islamicate world, into the way that Western Europe was experiencing natural philosophy in the early decades of the twelfth century.

[17] Piers Mitchell, *Medicine in the Crusades: Warfare, Wounds and the Medieval Surgeon* (Cambridge: Cambridge University Press, 2004).

1. Attitudes and Perspectives on Natural Philosophy

The idea of a twelfth-century renaissance is a helpful tool to conceptualize the effects of a translation movement where texts by certain Greek authors, particularly Aristotle, were translated into Latin; however, its broad characterization and focus on the availability of the *libri naturales* distorts the intellectual endeavors of participants of the First Crusade. As represented in scholarship, the twelfth-century renaissance was a movement similar to the Renaissance of the fifteenth century as both were characterized by an interest in the "rediscovery" of texts from antiquity with a particular focus on ancient knowledge, literary mastery, and humanism.[18] A focus on medieval intellectual endeavors can be seen as developed in part as an antithetical narrative to the "Dark Ages" as a time where Western Europe was intellectually stagnant because ancient knowledge had been lost.[19] As scholarship of the later twentieth century has shown, the idea of lost knowledge is not accurate. A major translation movement centered at the monastery of Monte Cassino predating the translation of Aristotle's natural philosophy texts, as well as the "Carolingian Renaissance" of the ninth century, is ample evidence to the contrary. Despite the apt rebuttal of a dark period in intellectual activity, there remain some gaps in scholarship of late eleventh- and early twelfth-century natural philosophy, particularly relating to meteorology.

Taking into consideration experiences of crusade authors and their relationship with gaining knowledge through formal education and texts of authorities offers a plausible worldview where authors used the pilgrimage to understand and interpret the natural world. Writers' relationships with education, learnedness, and authority give an avenue of constructing attitudes and perspectives on natural philosophy. Educational institutions provided a foundation for studying natural philosophy that was, for some, fundamental for the understanding and

[18] An idea for which Charles Homer Haskins was very influential.
[19] R. N. Swanson, *The Twelfth-Century Renaissance* (New York: Manchester University Press, 1999).

description of the world as written in these texts. Erudition or learnedness as referenced directly or indirectly in the narratives contributed to how writers wished for others to interpret their texts, and views of others' learning influenced how they interpreted certain types of meteorological and astronomical phenomena. References or allusions to particular authorities suggests which texts writers were reading or studying and consequently what worldviews authors might have held--with the caveat that some mentions of authorities were a result of secondhand references from copied texts. Nevertheless, some of these influences on crusade writers persist in explanations of phenomena that were available in educational and religious institutions during the period as well as those writers who composed texts during the migratory movement that the pilgrimage facilitated.

The sampling of authors considered in this project is only a small fraction of the population of Western Europe in the early twelfth century and thus does not attempt to speak comprehensively; however, this set allows us to consider shared attitudes in a case group of people who wrote about the crusades. The authors considered represent a small population of literate people who came from different backgrounds, and that they wrote about the same event gives a basic baseline and therefore something from which we can compare differences. The collective attitudes here thus do encompass a wide population of people from disparate educational backgrounds, but rather give a sample of a group of people, from which it is possible to extrapolate other trends.[20]

Education as an Institution

Changes to educational efforts in the Middle Ages are relevant for understanding texts produced by the authors of First Crusade narratives because approaches to teaching natural

[20] An example of a trend we might extrapolate is what attitudes about natural philosophy Benedictine monks might have had, since there is a relatively high concentration of three authors coming from this background.

philosophy and theology, which are pertinent for writing about wondrous phenomena, underwent a shift in this period. The early Middle Ages saw alterations in education first as a move away from Roman schooling and toward monastic schools. During the Carolingian period, pupils in monastic schools learned skills to perform the works of God (*opera Dei*) and focused mostly on reading and writing, where the most important text for these endeavors was the Bible. While there were sometimes other educational efforts in monastic schools, an expansion of learning that incorporated the seven liberal arts was mostly to be found in the next tier of education, cathedral schools, which taught *scientia* rather than *sapientia*.[21] Training in the arts of the *quadrivium* (arithmetic, geometry, harmonics, astronomy) and *trivium* (grammar, rhetoric, logic) comprised the basic foundation for studying natural philosophy. Important loci for cathedral schools that were stronger and earlier developed correlate with areas that writers of First Crusade narratives lived and received education, such as Reims and Chartres.[22]

The move from monastic schools to cathedral schools in this period is important because many of the narrative writers were educated at these places that emphasized theology and natural philosophy together, rather than separately.[23] But that cathedral schools were theologically motivated does not necessarily mean that all learners at the school, or writers of the narratives, wrote in a way that exclusively catered to theology.[24] Because crusade chroniclers were not necessarily inclined to write theological compositions in their work, it is worth exploring the works in their own context rather than taking for granted that writings were always theologically motivated or minded in their nature. As the number of universities increased decades later shows,

[21] Roger French and Andrew Cunningham, *Before Science: The Invention of the Friars' Natural Philosophy* (Vermont: Scolar Press, 1996).
[22] Robert the Monk is of course also called Robert of Reims.
[23] This separation would be more distinct in universities.
[24] For example, transubstantiation, while a theological topic, had broader implications about matter theory that could be applied to understandings of natural philosophy more generally. In the chronicles, we see this in Robert the Monk's view of the saints. In years following, we see this in alchemical texts like those from Thomas Aquinas.

the twelfth century represents a period of change in education, and thus should not be looked at as a monolithic entity.

Curriculum was not standardized in cathedral schools in the way that it was in universities that came later, however examining the particulars of what writers generally learned in these institutions can reveal insight into how and why phenomena were described in particular ways. Taking a dynamic rather than static view of how the narrative writers were educated and how their education influenced their writings offers an avenue by which we might understand the integration of natural philosophy and theology. Schooling outside of Western Europe, such as in the Byzantine Empire, also contributed to how other authors wrote about phenomena during the crusade. More advanced knowledge that Islamicate chroniclers had concerning astronomy and interpretations of stars changed the way western writers perceived certain phenomena like eclipses and comets.[25]

Attitude toward Education in the Narratives

Writers of narratives were quick to denounce their education as a show of humility in the task of writing about one of God's most important works acted through the Franks, but this rhetorical device is not representative of crusaders' views on learnedness and educational prowess. Writers praised education through other ways in their works. Since the late eleventh century, literacy in Western Europe was growing, and there was an increasing interest in writing, education, and natural philosophy.[26] While some of the peculiarities of meteorological phenomena in chronicles and narratives might be an effort to embellish a narrative, their

[25] Guibert de Nogent, *The Deeds of God Through the Franks: A Translation of Guibert de Nogent's Gesta Dei per Francos*, trans. Robert Levine (Woodbridge: The Boydell Press, 1997), 149.
[26] Christopher Brooke, *Europe in the Central Middle Ages: 662-1154*, 2nd ed. (London: Longman, 1987).

descriptions and significances reveal aspects of the collective thought at the time.[27] Many historians believe the anonymous writer of the *Gesta Francorum* to be a southern Italian, who was literate unlike many of his counterparts to the north.[28] While the writings from the First Crusade come from different demographics of people--monks, soldiers, clergy--they shared the common characteristics that they received an education and were capable of producing written work. That the written work from these authors survives suggests that there was a wide reading public for their writings, or at least an effort to preserve their writings for posterity.

Writers lived and operated in worlds that were conducive for their education. The differences in how the writers of the First Crusade wrote in part reflect their own education and the traditions in place where they lived and studied. The major Benedictine writers of the First Crusade--Robert of Reims, Baldric of Bourgueil, and Guibert of Nogent--correlate with cities where education was emphasized in the Carolingian period and throughout the early twelfth century. Other such centers are revealed in authors unaffiliated with monastic patronage, such as Albert of Aachen and Fulcher of Chartres. Aside from authors who conveniently had places of education associated with their names, writers of the First Crusade without a formal or noteworthy education were important writers as well. For example, the southern Italian soldiers such as Bohemond of Antioch and the anonymous writer of the *Gesta Francorum* reflect an education and basic understanding and competency in writing letters and narratives.[29] Writers

[27] The idea of embellishing a narrative with meteorological phenomena as a way to make writing more interesting does not seem to be accurate to crusade chroniclers, but this idea has interesting implications that are explored in a different context in Daniël den Hengst, *Emperors and Historiography: Essays on the Literature of the Roman Empire by DaniëlDen Hengst*, ed. D. Burgersdijk and J. Van Waarden (Leiden: Brill, 2010).
[28] Anonymous, *Gesta Francorum*, 2011.
[29] Dass puts forth a thesis of alternate authors as the authorship of the *Gesta Francorum*. The idea of a ghostwriter for Bohemond seems unlikely in secondary scholarship, and the type of collaborative letter authored by Bohemond suggests that at least someone on crusade (i.e. an eyewitness) must have written it. It also appears likely that Bohemond had some sort of education.

outside of Western Europe show a great degree of literary style and education in their writings.[30] Anna Comnena's *Alexiad* serves as an example of Greek education and thought among the elite classes in the east. As the daughter of Emperor Alexios I, Anna had an elite circle of colleagues who worked to write commentaries on some of Aristotle's works on philosophy, notably the *Nicomachean Ethics*. While Aristotle's *Meteorology* was not part of Anna's study at this time, this emphasis on philosophy and intellectual exploration demonstrates the type of education and thought that people were doing. Much of First Crusade scholarship has focused on the Benedictine monks in part because of their approach to and relationship with the *Gesta Francorum* that places them in a network with each other. But another reason that makes the three narratives worth more attention in a study of natural philosophy is that there is a higher degree of confidence of what the education of these monks might have been and what kinds of synthesis of natural philosophy education they might have been making in their works.

Narrative writers of the First Crusade seldom discussed their viewpoints on education in their writings explicitly; however, mentions of educational prowess and other nods to special knowledge give some hints about how crusaders used education in promoting their contemporaries, which parts of natural philosophy were interesting to them, and different ways that education could be described. In writings on the crusade, authors would draw attention to levels of education of their peers or contemporaries as a way of description, flattery, or conveying information. The way of description as an unembellished fact can be seen in some Muslim accounts of the crusade. In the portion of miscellaneous events of 1098, Ibn al-Athīr noted that a "learned and eloquent scholar" died, which is the same phrasing that Ralph of Caen

[30] Such as Matthew of Edessa and Islamicate authors, for example.

used to describe Daimbert.[31] Guibert of Nogent discussed his education at length in his autobiography, where he recounted that an abusive and strange tutor taught him.[32] He also discussed the viewpoints of his friends and acquaintances dealing with natural philosophy. The historian Martha McGinty wrote about the education of Fulcher of Chartres in an effort to assure readers of his learnedness against the dominant views and "Because popular belief presents the Crusaders as ignorant and credulous, the fact must be emphasized that such is not a true picture."[33] There are several other references to education elsewhere in the narratives.

Another influence to the intellectual makeup of this period of education was Neo-Platonism, where writers found texts from Plotinus and Dionysius useful.[34] Plato's *Timaeus* was available in Latin during this time, and its discussions of the nature of the world and forms were influential to people writing in this time. Plato's text does not discuss meteorology (aside from casual references to the weather), and the corpuscularism that could possibly apply to meteorology do not seem to have a significant impact in this area. One of Platonism's influences was the use of microcosm and macrocosm, and the chain of being especially as described in Plotinus, was a common way of thinking about nature and causation. We can see this borne out in writers of the early twelfth century like Bernardus Silvestris and the *Cosmographia* as well as others who tackled the *Timaeus* in a Christian context.

Westerners viewed some aspects of eastern Muslim knowledge as superior to their own western ways of thinking, especially in matters relating to astronomy and the stars. These

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[31] Ibn al-Athīr, *The Chronicle of Ibn Al-Athir for the Crusading Period from al-Kamil Fil-Ta'rikh: The Years 491-541/1097-1146, The Coming of the Franks and the Muslim Response*, trans. D. S. Richards (England: Ashgate, 2006), 19; When discussing events near the fall of Edessa in the 1140s, Ibn al-Athir also discusses a "learned, God-fearing Muslim" who was greatly respected: Ibn al-Athīr, *Chronicle*, 1969, 52–53; Ralph of Caen, *The Gesta Tancredi of Ralph of Caen: A history of the Normans on the First Crusade*, trans. Bernard S. Bachrach and David S. Bachrach (Aldershot: Ashgate, 2005), 156.

[32] Guibert de Nogent, *The Autobiography of Guibert, Abbot of Nogent Sous Coucy*, trans. C. C. Swinton Bland (London: George Routledge, 1925).

[33] Fulcher of Chartres, *Historia Hierosolymitana*, 1:5.

[34] This would be pseudo-Dionysius as thought of today.

western views of eastern education influenced the way westerners interpreted sky phenomena, like comets, stars, and eclipses because westerners perceived and described that knowledge as more certain than their own interpretations. Guibert of Nogent wrote about astrology at length in his narrative because he viewed it as a legitimate form of knowing and a way that one could obtain knowledge. This view colors both medieval and modern interpretation of the conversation between Kerbogha and his mother over the fate of the Franks in warfare because the practice of astrology is not only legitimate in Guibert's eyes, but also is given other credence elsewhere in his narrative.

Authorities in Natural Philosophy

Non-eyewitnesses who write about the First Crusade often had specific texts that served as a base text, or at least a text that was significantly influential.[35] For second-generation accounts, this base text was usually the *Gesta Francorum*. For texts like the *Gesta Francorum*, however, there was less direct influence for one particular narrative account. But the *Gesta Francorum* and other first generation and eyewitness accounts shared similar influences in the form of authorities, both in the doctrine of a particular person as well as texts. The text most commonly cited in each of these First Crusade narratives was the Bible, as seen in particular quotations, themes, and even episodes. In addition to the Bible, other religious texts such as the Nicene Creed were considered, and references to letters from clerical and papal authorities like Symeon II show that crusaders felt authority coming from the contemporary church leaders. Since translations of many texts from antiquity were unavailable when the monks were writing their accounts, their interpretations of the miraculous and natural philosophical phenomena primarily came from texts that were already available in Latin. Medieval interpretations of

[35] See Susan Edgington's "Introduction" in Albert of Aachen, *Albert of Aachen's History of the Journey to Jerusalem: Volume 1, Books 1-6. The First Crusade, 1095-1099*, trans. Susan B. Edgington (England: Ashgate, 2013), 1–14.

meteorological phenomena are largely dependent on the context of each chronicler and the source of information that they were drawing from. Many of the influences and references within the text came from sources other than the Bible, notably from antiquity or from late antique thinkers who were religiously affiliated. For example, Augustine was a major religious authority for matters concerning views on natural and miraculous events. Other figures who were religiously affiliated were late antique encyclopedists, such as Isidore of Seville.[36] Texts like the *Etymologies* were used as reference material and reflect the inclusion of natural philosophy and theology as entities that were intertwined rather than separated. Another example of religious texts that were used as influences or direct copying came from the lives of saints. Nonwestern writers used comparable authorities in their writings. For example, as Christian authors often used the Bible as a base text, Muslim writers used the Koran as parallel stories similar to how Christians used the Old Testament. There are other references to authorities in these nonwestern sources.

Writers commonly referenced texts from classical antiquity, such as Vergil's *Aeneid* and *Georgics* as well as Ovid's *Metamorphoses*. Others were less common to be referenced by chroniclers explicitly, but nonetheless appear in several chronicles in some capacity. These include authors like Lucan, Livy, and Caesar. In addition to these named authors, translators of the chronicles, like Susan Edgington, note that there are some "classicalisms" that appear in the chronicles, such as phrases that are common to classical literature (for example, phrases from Caesar's *Gallic Wars)* and hexameter poetry. Another common reference for certain works were songs, which were texts that highlighted glory in battles. The *Song of Roland*, which was written before the First Crusade, served as an influence for songs about the crusade such as the *Chanson d'Antioche*. Referencing writers from antiquity was an attribute of medieval writing at this time,

[36] Writings from Boethius were also popular.

especially in narrative accounts, however this consistency and enumeration of times citing antique authors in one particular account suggests that writers were reading antique texts, or at least texts that had sections of text influenced by antiquity.

In addition to citations within narrative accounts, references to antiquity and contemporary philosophy in other works by First Crusade writers in different literary genres give further insight into intellectual underpinnings. Guibert of Nogent's extensive corpus displays a wide array of literature outside of biblical references. Other writers referenced authorities, such as Ralph of Caen and his references to Ovid's *Metamorphoses*.

References to authorities were often implicit and thus authors did not explain what they felt made someone a reliable authority for their work. But we might understand that factors like copying from texts, schooling, and personal beliefs contributed to how crusaders thought of authorities as reliable. For example, Lapina writes about how Isidore's construction of eyewitness accounts influenced how the crusaders thought about it in their own writing and thus justified their need for veracity in the prologues of so many accounts. Authors that were more educated tended to use texts and authorities from classical antiquity. Authors who were less educated at least used the Bible.

Conclusion

There were explanations available for what crusaders might have believed the causes of meteorological phenomena were. After the First Crusade and interactions with the Latin west into the east began to occur, we can see explanations of the weather in writings like *Quaestiones Naturales* from Adelard of Bath, which is written in a dialectic Platonic fashion. The explanations of meteorology are near the end of the treatise in Adelard's self-identified "more important" section of the work. These explanations rely on the distinction between microcosm

and macrocosm proffered in Platonic texts and do not incorporate the theory of exhalations in the way that Arabic writers at this time were doing. While Plato's texts offered natural explanations that were adopted into some Christian doctrines, there was not an inherent theological underlying explanation of the causes for the weather in the work.

Given that some works about meteorology describe other causes like the formal and final causes as Pliny does, or that Seneca describes meteorology and the weather in terms of morality, we might expect to see these authorities cited, especially in someone like Raymond d'Aguilers, but we do not. The fact that these texts that we might have expected to see did not feature could be because they did not have access to those texts. This is important to the overall discussion because these Roman authors were influential and sources of Aristotelian meteorology, however indirectly.

Education, learnedness, and authorities are relevant and important for ascertaining the views the writers of these narratives had on natural philosophy because it allows us to use the wider context of education in tandem with specific information that can be found in the chronicles. The information in the chronicles is important because it is a public manifestation of what the writers wanted to convey to their audience or what their patrons found important or worthy of approval. The things that writers experienced in their lives contributed to the way that they described meteorological phenomena, and the acquisition of knowledge in a formal setting as well as training on how to convey that information through written and elegant prose, sometimes with religious overtones, is an integral part of that.

2. Attitudes and Perspectives on the Miraculous

The narratives of the First Crusade are inundated with stories of miracles. There is the large miracle of the crusaders prevailing over Muslim armies as Robert the Monk writes, there is the layout of Jerusalem as miraculous to some, and there are the miracles of day-to-day, simply of creation as a whole. But beyond these global miraculous events, accounts of the crusade portrayed some narratively consistent miracles like the appearance of the armies of saints and discovery of the Holy Lance, some unusual occurrences like Bohemond cutting a candle and birds miraculously warning the crusaders of enemies, and examples of God's providence on the crusade, such as crusaders performing well in battle and the occurrence of temperate weather. These occurrences of miracles and divine intervention reveal through their seamless integration into the narratives that chroniclers thought about the miraculous as part of regular occurrences. There was an emphasis on verifying miraculous events in the narratives, which shows that crusaders thought about ascertaining and recording truth.

Historians have said that first crusaders viewed most events on the crusade as miraculous.[37] We can contextualize miracles that occurred on the first crusade within by looking at authors that influenced the way medieval writers conveyed stories of the miraculous, such as widely available texts from authors like Augustine, Bede, and Isidore. Examining the way crusaders described and wrote about miracles in the narratives through explicit references gives a reference point for interpreting other interpretations, such as allegorical ones, or other events that do not use the word "miracle" as a descriptor, such as certain occurrences of meteorological phenomena. Assessing narrative miracles that occurred in multiple accounts, such as the discovery of the Holy Lance and the appearance of saintly armies, allows multiple perspectives

[37] Yvonne Friedman, "Miracle, Meaning, and Narrative in the Latin East," in *Signs, Wonders, Miracles: Representations of Divine Power in the Life of the Church*, by Ecclesiastical History Society, ed. Kate Cooper and Jeremy Gregory (Woodbridge: The Boydell Press, 2005), 123–34.

on a singular event that can give a more consistent picture of the way chroniclers were describing miracles.

Authorities of the miraculous

For crusade writers and those educated in cathedral schools, major authorities and influences for their work were writings from church fathers. Augustine's *City of God* was an authoritative source for perspectives on the miraculous that authors turned to in their writings, as were others like Isidore of Seville's *Etymologies*. Guibert of Nogent references the *Etymologies* in his text as well as *City of God*. Elizabeth Lapina and Robert Levine have charted a direct influence of Isidore's view of eyewitness testimony on narratives of the First Crusade, particularly from Guibert. While there do not seem to be direct references to Bede in crusade narratives, his works were also authoritative at the time. Islamicate writers used different spiritual authoritative texts in their writings, such as the Quran.

The project of writing about miracles was a common endeavor in hagiographies and translation narratives that discussed the saints and relics. In this way, these types of texts might have been seen as authoritative because they acted as templates for crusaders to write about the colossal miracle of the First Crusade itself. Many of the narrative accounts of the First Crusade share characteristics with hagiographies from earlier times and places.[38] These miracle stories were written in part to vet the truth of the events described in addition to preserving them for posterity. For example, it was common in hagiographies to verify the eyewitness evidence of a source.

Notions of Godliness and the divine were not monolithic conceptions to crusaders, where even the miraculous Holy City came with its share of troubles and defilements. Sylvia Schein's

[38] Michael E. Goodich, *Miracles and Wonders: The Development of the Concept of Miracle, 1150-1350* (Hampshire: Ashgate, 2007).

work on Jerusalem provides a rich foundation for grappling with changing concepts of sanctity as well as the way crusade contemporaries interpreted chronicles.[39] Jerusalem's status in the crusade differed from accounts, indicating that crusade chroniclers and participants held different views on Jerusalem's role in the crusade.[40] Chroniclers were willing to understand biblical passages as allegorical; however, this view shifted as monks encouraged others to interpret events described in the bible in a literal way.[41] Guibert of Nogent writes, "Truth prevents us from going astray in belief" and notes that readers should take events like the Muslims becoming "stuck with blindness and overcome with astonishment at the swords which threatened them" as literal events.[42]

The miraculous in First Crusade accounts

Christian narratives of the First Crusade tell the story of crusaders besieging cities on the way to the Holy Sepulcher in Jerusalem, but God's will, providence, and divine intervention play lead roles in this retelling. In addition to forces beyond crusaders' own power contributing to success and favor on the journey, accounts of strange and unusual occurrences find a prominent place in these accounts. The lines between what counts for these occurrences are blurry and cannot be easily distinguished by the consequences or outcomes, but rather they can only attempt to be sorted by explicit descriptions and classifications made by the narrative writers themselves, which do not seem to have a cohesive pattern or consistent attributes. Moreover, descriptions of providential or divine actions are described similarly between writers holding different religious beliefs. Despite the blurry lines in distinguishing between classes of divine activity, it is clear

[39] Schein, *Gateway to the Heavenly City*, 2.
[40] Schein, 13-14.
[41] Schein, 24-27.
[42] Guibert de Nogent, *Gesta Dei Per Francos*; Guibert de Nogent, *Guibert de Nogent: Dei Gesta Per Francos et Cinq Autres Textes*, trans. R. B. C. Huygens, vol. 127A (Turnhout, Belgium: Brepols, 1996), 303.Sed quo per verborum lacinias allegoriae libertas excurrit, cum historialis nos veritas ne per opiniones passim evagari videamur astringat? Nonne superius hostes diximus cecitate percussos et gladiis imminentibus stupore suffusos?

that divine interventions played an important role in the telling of this story as evidenced by frequency of occurrence and place in the stories.

The well-known war cry "Deus vult!" or "God wills it!" appears as a motif in the narratives of the First Crusade to show that crusaders believed God sanctioned the outcomes and their actions on crusade. The words as spoken appear in the *Gesta Francorum* during the successful capture of Antioch as a greeting to Bohemond's men who approached the ladders on the fortification.[43] This idea and event is described in most accounts at the siege in June 1098, but Fulcher of Chartres writes about it eloquently and with an emphasis on the relationship between God's actions with those of the crusaders':

> Then all the Franks shouted together in a loud voice, "God wills it! God wills it!" For this was our signal cry when we were about to accomplish any good enterprise.[44]

Crusaders believed God had a hand in influencing the events of the crusade. Using the *Gesta Francorum* as the most basic version of this,[45] we see crusaders accomplishing tasks by God's will,[46] God's help,[47] God's grace,[48] God's mercy,[49] power of God,[50] and unspecified action of God.[51] Some of these interventions are described as having a miraculous or wondrous component

[43] Anonymous, *Gesta Francorvm et Aliorvm Hierosolimitanorvm: The Deeds of the Franks and the Other Pilgrims to Jerusalem*, ed. Rosalind Hill (London: Thomas Nelson and Sons, 1962), 46–47.
[44] Fulcher of Chartres, *A History of the Expedition to Jerusalem: 1095-1127*, ed. Harold S. Fink, trans. Frances Rita Ryan, 1st ed. (Knoxville: University of Tennessee Press, 1969), 99.
[45] While we are using the *Gesta Francorum* here for the sake of simplicity, these descriptions and types of intervention (and additional others) also appear in other sources like chronicles and letters. Moreover, the ratio of each type of divine intervention (grace, power, etc.) is not necessarily evenly distributed across the accounts (i.e., chronicles may attribute more divine events to God's power than God's grace). The frequency and distribution are not discussed here because they did not stand out as significant.
[46] Anonymous, *Gesta Francorum*, 1962, 37, 39, 74, 96.
[47] Ibid., 6, 70, 73, 77, 83.
[48] Ibid., 20–21, 28, 86, 94.
[49] Ibid., 20–21.
[50] Ibid., 41.
[51] Ibid., 40, 64, 70 One example of this is when enemies of Bohemond were going to attack, but "God did not allow them to do so."

in the same way that other types of events are described.[52] Conversely, some narratives include examples of crusaders achieving results without help from God, as in one battle with the Turks where the crusaders proclaim, "It was only our arms which kept them off us." [53] Rather than provide an example of the crusaders being superior to God, the few references to this type of crusader activity are part of the story without a greater significance.[54] But its existence in the narrative serves as a baseline for comparison, for this indicates that there were events that the crusaders were willing to describe in a way outside of God's actions. A similar occurrence happens when the crusaders were taking cities at the end of 1098 when crusaders were having difficulty prevailing over enemies:

> Bohemond and his army followed the other counts soon afterwards and joined forces with them on a Sunday. On the Monday they attacked the town very bravely from all sides, and pressed on with such eagerness and courage that scaling-ladders were set up against the wall, but such was the power of the pagans that on that day it was not possible to come to grips with them or to do them any harm.[55]

It is clear from the descriptions of divinely influenced events that the crusaders did not believe it impossible for God to prevail over the pagans in this description; however, the phrasing indicates that an unfavorable event occurred without divine influence. From the *Gesta Francorum* and other narratives that recount similar iterations of reasons for interactions like grace and help, there does not seem to be a clear distinction or pattern for when intervention is described these terms. Thus we may conclude that it is not useful to make this distinction when it comes to crusaders' views on God's will and the miraculous.

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[52] Compare: Anonymous, 83 ("mirabiliter superauerunt illos" when describing a battle outcome); 62 ("mirati sunt" when describing fire in the sky).
[53] Ibid., 61.
[54] References to this same type of event (crusaders prevailing by means of their own strength) sound remarkably similar between accounts and are likely another example of copying texts rather than novel inventions.
[55] Anonymous, *Gesta Francorum*, 1962, 78.

Distinguishing between God's will and the providential acts of God on the crusade face similar issues when describing them, but distinguishing between the types of acts can be done with descriptions. A letter from Anselm to the bishop Manasses uses these descriptors when writing about the siege of Antioch in June 1098:

> By God's providence, this king met Bohemond and the Count of Flanders, who had gone to find food with a part of our army, and, God's help prevailing, he was defeated and routed by them.[56]

Acts of God's will as described in these sources describe events as occurring through a concept of providence. Guibert of Nogent writes about this providence, which "prevented anyone from daring to attack" the crusaders.[57] In addition to an ambiguous force, providence might also be thought of as God providing for the crusaders in ways of fair weather or foul weather, perhaps as punishment for sins and thus ultimately a boon for the crusaders. Martha McGinty attempts to distinguish between the miraculous, supernatural, and providential instances of sky phenomena that Fulcher of Chartres observed, where she concludes that the miraculous is not equivalent to the supernatural, but rather to providence.[58] But Fulcher presents few instances of self-proclaimed instances of "providence" on the crusade, where those instances share the elusive characteristics and criteria similar to other writers. Moreover, those phenomena of the sky that Fulcher and so many others wrote about (particularly eclipses) do not universally meet criteria for being exceptionally wondrous, beyond explanation, or even irregular. To do away with distinguishing between the supernatural and the miraculous is perhaps a step in the right

[56] August C. Krey, *The First Crusade: The Accounts of Eye-Witnesses and Participants* (Princeton: Princeton University Press, 1921), 158.
[57] Guibert de Nogent, *Gesta Dei per Francos*, 125.
[58] Fulcher of Chartres, *Historia Hierosolymitana*, 1:6. McGinty also discusses providence in terms of punishment from God, which is discussed in this paper in a later section.

direction, but equating it with an ill-defined "providence" is still problematic, in part because providence was not a universally consistent experience or concept within the crusade writings.[59]

Writers of the crusades acknowledged that sometimes miraculous events were to be interpreted as allegorical rather than literal. Sometimes writers gave explicit direction for when these were to be interpreted in one way or the other.[60] Some events on the crusade are described explicitly as miraculous. A letter from Symeon and Adhemar described a vision that Symeon had as miraculous, where Raymond d'Aguilers described a similar event, neither of which appear as "narrative miracles" consistent through multiple accounts.[61]

Muslim accounts of fighting Christians during the crusade years also feature descriptions of divine will influencing events, where the deity's allegiance expectedly differs from contemporary Christian accounts. Ibn al-Athīr wrote of God "casting down the infidels" during a victorious battle for the Muslims.[62] Like the Christians, Ibn al-Athīr wrote of God's providence to the Muslims through the weather, when Christian supply ships were "delayed, by God's will, by lack of provisions and contrary winds."[63]

Rather than thinking about the miraculous as a separate distinction from regular or expected events, it makes more sense to place meteorological events on a continuum, where some events are more wondrous than others or perhaps might have different or more particular causes. With thinking of events aside from the Boolean of "miraculous" or "natural," it is possible to think of how crusaders used these events--wondrous or ordinary as they were--to gain knowledge (*scientia*) about the world.

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[59] For example, Muslim authors ascribed meteorological occurrences to providence.
[60] Guibert de Nogent, *Gesta Dei per Francos*, 141–42.
[61] Malcolm Barber and Keith Bate, trans., *Letters from the East: Crusaders, Pilgrims, and Settlers in the 12th-13th Centuries* (England: Ashgate, 2010), 17; Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, trans. John Hugh Hill and Laurita L. Hill, vol. 71 (Philadelphia: The American Philosophical Society, 1968), 28.
[62] Ibn al-Athīr, *Chronicle*, 1969, 16.
[63] Ibn al-Qalānisī, *The Damascus Chronicle of the Crusades*, trans. H. A. R. Gibb (London: Luzac and Co., 1932), 89.

Narrative miracles in First Crusade accounts

Some accounts of the miraculous were so ingrained and integral to the telling of the story of the conquest of Jerusalem that we might think of them as "narrative miracles." These may be defined as miracles that consistently occured over several narrative accounts and culminate in the capture of Jerusalem. These include examples such as the acquisition of the Holy Lance and the visions and ordeal that are associated with its tale, as well as the army of saints that accompanied and aided the crusaders during the battle of Antioch.

Relics were important to crusaders over the course of the crusade and were used for making oaths and promises. Christological relics like the Holy Lance had a greater significance in warfare, and pieces of the True Cross featured as boosters to morale. The relics used for swearing oaths to Alexius and Bohemond are unspecified in the narrative, but their important is demonstrated through the effectiveness of the deals that were made, which historians discuss. The Holy Lance, in contrast, was more significant because there were visions preceding its controversial discovery, there was a trial to determine the veracity of the lance, and it was used in warfare and purportedly helped the crusaders succeed in battle. The pieces of the True Cross, aside from their discovery in Jerusalem, are mentioned in other parts of the narrative only by Raymond, who also writes about visions accompanying its acquisition. To contrast, the Holy Lance is mentioned much more frequently, described in more detail, and has a miraculous use in warfare. While the relics that were used to swear oaths and the True Cross were not explicitly mentioned as miraculous, it is clear that relics in general, and especially the Holy Lance, held a special narrative place in the story of the miraculous capture of Jerusalem. The Holy Lance is featured four main times in the narratives: during the visions about its place in the church of Saint Peter, during the acquisition through digging, through its use in warfare to protect the

crusaders, and in its verification of authenticity in the trial by fire. Aside from the ordeal, acquisition of the Holy Lance was controversial because it was first relayed in visions to the crusaders, which some did not believe. There were other visions that occurred on the crusade, which were miraculous because they came from God even though they do not feature the component of wonder that other miracles do.

The intervention of saints at the battle of Antioch is an important miracle in the crusades because it directly influenced the outcome of the battle and inserted the crusaders into biblical narrative miracles. The narrative miracles are unique and feature prominently in the narratives across different accounts, even those that are not related from copying. The ways that crusaders describe these miracles from account to account is roughly similar and does not seem to be much more different than other miracles are described.

Conclusion

There were not clear lines drawn between miracles pertaining to God's will, acts of providence, or divine intervention on the First Crusade, where the distinctions presented here for discussion are based almost solely upon language used by authors. This null result is still important to present because this idea has persisted in the historiography and colors historians' interpretations of meteorological phenomena when making a distinction between "natural" and "miraculous." This dichotomy, which expands to include other unusual descriptive words like "portentous" or "wondrous" seems to have busied historians more than participants of the crusade.

Examining the way that writers of the crusade learned about the miraculous, described the miraculous, and incorporated the miraculous into the narrative of pilgrimage is important to gaining an understanding of what attitudes crusaders had toward the miraculous, and how they

perceived the miraculous generally. It is evident that the crusaders were comfortable with the idea of miracles and used them liberally in their works. While some of these miracles were indeed wondrous or astonishing, they are generally not described as surprising. In this way, we can see that narratives are to be expected. Part of this may be because of the particular text of a crusade narrative, which can be thought of as akin to a hagiography or a story designed to convey something obviously miraculous. Another way we might view these unsurprising miracles is through the narrative goals of the crusader, part of which were to draw parallels between the Old Testament and the acts of crusaders on the pilgrimage. But a final way to think of unsurprising miracles is as something expected and part of everyday life. In this view, even ordinary or expected events can be miracles in the same way that extraordinary or unusual events are. It is in this way that we might be able to interpret portentous meteorological phenomena.

3. The Story and Storytellers

Historians of the crusades have long been captivated with comparing authors and texts, grouping or dividing them based on aspects of similarity of events in accounts. For example, John France uses a particular event (the battle of Antioch) as described in the *Gesta Francorum* and fills in the gaps in the retelling using other narratives, and Elizabeth Lapina uses a particular text (*Gesta Dei per Francos*) as a basis of comparison for accounts of the miraculous on the crusade.[64] Grouping the Benedictine authors as "theological refiners" of the *Gesta Francorum* is probably the most well-known approach and has been discussed by historians at length.[65] The present paper takes a similar approach of fixating on a particular concept (meteorological and atmospheric events) and comparing the descriptions between several authors and accounts. James Naus cautions against grouping accounts together that are painted with too wide a brush while also recognizing the benefit to this type of historical rendition.[66] A grouping of accounts based on similarities or differences in descriptions of these atmospheric events intersects ideas in the crusading historiography like veracity of eyewitness accounts, tradition of copying between accounts, and crossover of monastic theological ideas, but it also allows for an exploration on ways of knowing that do not rely on pre-made groupings on what you might expect to see in tiers of education or theological schooling.

The sources considered here encompass a range of authorship including groups of clergy, soldiers, and historians, as well as a literary style varying from narratives, letters, and chronicles. The most important distinguishing factor they share is the range of dates in which they were

[64] John France, "The Fall of Antioch during the First Crusade," in *Dei Gesta per Francos: Crusade Studies in Honor of Jean Richard*, ed. Michel Balard, Benjamin Kedar, and Jonathan Riley-Smith (Aldershot: Ashgate, 2001), 13–20; Lapina, *Warfare and the Miraculous*.
[65] Jonathan Riley-Smith first put forth the idea of "theological refinement," which is a household term at this point.
[66] James Naus, "The Historia Iherosolimitana of Robert the Monk and the Coronation of Louis VI," in *Writing the Early Crusades: Text, Transmission, and Memory*, ed. Marcus Bull and Damien Kempf (Woodbridge: The Boydell Press, 2014), 105–15.

written and what they encompass. These sources take a focus somewhere within the start of the crusade and before the fall of Edessa and the start of the Second Crusade. The dates of First Crusade narratives are tenuous and remain topics of debate between crusade historians, but generally accepted is the view that contemporaries to the first pilgrimage wrote these narratives between the years 1101 and 1115, all of which are after the successful capture of Jerusalem and before the failures of the subsequent numbered crusades. As large-scale successes or failures were indicators of spiritual health and God's approval or lack thereof, meteorological phenomena were measures of the current state of affairs. Understanding the story of the crusade and what the goals of the storytellers were is important context for thinking about the ways that writers chose to convey meteorological phenomena. Events of meteorology were partially understood through the way of the narrative, where different groups of people had different goals in this retelling of the story.

Chronology of events as told through the Gesta Francorum

The *Gesta Francorum* recounts the penitential pilgrimage from its origins with a sermon and its ending after the sack of Jerusalem. Pope Urban II preached the crusading message at the Council of Clermont on 27 November 1095. Pope Gregory VII first introduced the idea of a penitential pilgrimage to Jerusalem, and after meeting with envoys from the Byzantine Emperor Alexios I in Piacenza, Urban chose to offer a plenary indulgence to pilgrims who wished to make the journey through the lands around Constantinople and on to the Holy Sepulcher. Urban met with noble potential pilgrims when he traveled around France to garner support for the expedition before the council.[67] The *Gesta Francorum* reflects this detail of the traveling pope while other accounts capture the zeitgeist of the crusading message that was signified with

[67] Perhaps Adhemar taking the vow at the council was one of the people that Urban met with previously.

prodigies of worms and glittering appearances in the sky.[68] The first wave of *crucesignati* known in scholarship as the "Peasants Crusade" or the "Peoples Crusade" was led by Peter the Hermit and departed early in 1096. These ill-equipped commoners suffered fatal attacks and massacres from the Turkish army and most of them perished quickly. The notable events in this movement include the massacre at the castle of Civetot. The author of the *Gesta Francorum* was not likely present at Civetot, suggesting information from this event was gathered from oral accounts.

Most of the narrative of the *Gesta Francorum* and other narrative accounts focuses on the siege of Antioch, which began in October 1097 and lasted until June 1098. In the interim, crusaders suffered continual hardships, most notably in the lack of food and water, the former of which famously led the crusaders toward cannibalism. The climactic events of the siege occurred near the end of May and beginning of June 1098, where Bohemond made a deal with Pyrrus to betray Antioch, which resulted in the eventual Christian occupation of the city. Kerbogha's forces invaded Antioch almost immediately after this victory, causing uncertainty and further hardship on account of the Christians before it was decisively kept in crusader hands on June 28. Afterward, the crusaders decided to delay the march to Jerusalem from August until November on account of the hot weather. It is in the winter months that the crusaders took more cities on the route to Jerusalem, eventually capturing the Holy City on July 15, 1095.

After the capture of Jerusalem in 1099 and the opening of pilgrimage routes to the Holy Sepulcher, journeys to the east continued to occur without any new official calls from the pope.[69] The immediate ad hoc journeys to the east like the Crusade of 1101 (*peregrinatio secundus*)

[68] Ekkehard of Aura, *The Chronicle of Ekkehard of Aura*, *Monumenta Germinae [Historica]*, trans. W Pflüger (Leipzig: Dyksche Buchhandlung, 1893) (prodigious worms); Baldric of Bourgueil, *Baldric of Bourgueil, History of the Jerusalemites: A Translation of the Historia Ierosolimitana*, trans. Susan B. Edington (Woodbridge: The Boydell Press, 2020) (appearance in the sky).
[69] The fall of Edessa in 1144 would spark Eugenius III to issue *Quantum Praecedessores*, the encyclical that was the call to the Second Crusade.

were well documented and provided the context for textual renditions of the Popular Crusade. Clerics made efforts to standardize the principles of crusading after the return of crusaders to the west. Bernard of Clairvaux was instrumental in codifying these tenets of the movement through his sermons that preached the crusade. It was important to provide a unified message for those who desired to become *crucesignati* because the popularity of returned crusaders sparked desire for subsequent journeys to be called.[70] In addition to the desire to retell the miraculous narrative of God's chosen people capturing Jerusalem, scholars argue that chroniclers wrote crusading narratives to inspire others to take the crusading vow.[71] The general message remains the same between all of the histories, that the crusade was a miraculous endeavor and that the God was acting through the Franks for the sake of Jerusalem and the Holy Sepulcher. While there are numerous reasons given by monks for their desire to rewrite the narrative account, there are notable points of unity in these accounts that allow a glimpse into what the crusader collective attitude might have been regarding matters of natural philosophy and intellectual exploration.

A narrative of noteworthy meteorological events as told through the *Gesta Francorum* follows a remarkably similar emphasis on the time spent on certain events, where the origins of the crusade feature some attention and the siege of Antioch features more descriptions and occurrences of meteorological events. Part of this is by the nature of what writers chose to spend time on, since it makes less sense to describe a meteorological effect of an insignificant event like the sacking of a minor city when there was less description in the first place. But the placement of meteorological events is noteworthy because it helps propel the story instead of functioning only as a narrative device to propel the story.

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[70] Bohemond famously called for another crusade during his wedding to Constance, the daughter of the king of France.

[71] Robert the Monk, *Historia Iherosolimitana*, 6–7; Naus, "The Historia Iherosolimitana of Robert the Monk and the Coronation of Louis VI." Naus argues that patronage related to kingship contributed to Robert the Monk's account of the First Crusade.

Medieval narratives and accounts of the First Crusade

Genres of writing were less rigidly defined in the early twelfth century when accounts of the First Crusade were beginning to be written than they were a few decades later, in part because of changes in education.[72] However, main accounts of the First Crusade can be sorted into three major genres: letters, chronicles, and narratives. Letters could be private, as was the case for many nobles writing back to their homeland, or public, as in the case of ecclesiastical correspondence. The writers of letters considered here were named, they specified an audience, and they wrote shorter prose than is seen in First Crusade narratives and chronicles. While correspondence between the East and West continued after the return of crusade leaders to their homeland, letters offer a unique opportunity for textual accounts of events before earmarked events on the crusade, such as the battle of Antioch or the sack of Jerusalem. On the First Crusade, letters came from specific fighters (Stephen of Blois), groups of fighters (People of Lucca), and clergymen (Pope Paschal).

Chronicles of the First Crusade are distinguished by chronological demarcations at the beginning of sections of prose. Often these accounts made note of political changes, noteworthy deaths, and remarkable natural phenomena such as comets or earthquakes. Chronicles written in later times often recounted all of time from the origins of the world in a biblical framework to their present moment in time. Using this model, accounts written after the First Crusade would encompass crusading years and thus might reasonably be considered. However, chronicles considered here share two common features: they were written in the twelfth century, and time devoted to discussion of the years of the crusade and the institution of crusader states on the pilgrimage route (1090s-1130s) is significantly longer in proportion to the entire chronicle. This

[72] David Dumville, "What Is a Chronicle?," in *The Medieval Chronicle II: Proceedings of the Second International Converence on the Medieval Chronicle*, ed. Erik S. Kooper (Amsterdam, 2002), 1–27.

criteria filters chronicles that have a narrative focus or interest in the First Crusade. Major chronicles of the First Crusade feature Christian authors from western and eastern Europe (such as Ekkehard of Aura and Matthew of Edessa) as well as Muslim chroniclers (such as Ibn al-Athīr). Because Muslim writers in the East conceived of the First Crusade in a different way than the Christians and thus were not writing narrative accounts of the First Crusade, chronicles offer an opportunity to incorporate viewpoints from different relevant groups. Chronicles also offer an opportunity to compare highly visible and long lasting phenomena in the sky, such as comets, between different authors because accounts came from different places in the world, and the longer breadth of time allowed more opportunities for comets to occur.

Narrative accounts of the First Crusade can be characterized as a group of documents that retold the story of the Christian capture of Jerusalem by recounting a series of noteworthy events, such as the Council of Clermont, the capture of Antioch, the finding of the Holy Lance, and the sack of Jerusalem. Narrative accounts were written by soldiers of the First Crusade (like the *Gesta Francorum*), eyewitnesses to soldiers (as in the case of Ralph of Caen and the *Gesta Tancredi*), monks (like the three Benedictines), and historians (such as Anna Comnena). Narrative accounts often did more than recount personal anecdotes and copy from previous manuscripts. Writers compiled stories from returning crusaders, introduced their own experiences, verified details, and used previous accounts to weave their narrative. Many narratives of the First Crusade shared common features in writing style and rhetoric. For example, many narratives began with a prologue that gave information about the author, the patron, how the account was compiled, and insisted that, though the writer was surely not skilled enough for the task of writing an account, they were nevertheless going to try.

Genres of writing outside of letters, narratives, and chronicles are important for contextualizing the writings of the First Crusade. Writers of the crusade composed other works aside from narrative accounts of the pilgrimage. Guibert of Nogent wrote other accounts, for example, an autobiography. Crusade concepts, like pilgrimage and the Holy City of Jerusalem were treated in narrative accounts aside from crusade narratives. In addition to these specific things, we can see how these narratives fit into what medieval writers were doing generally.

Authors and accounts of the First Crusade

Authorship of the Gesta Francorum has been a heavily debated subject and remains unresolved in the current scholarship.[73] In one of the most commonly used editions of the *Gesta Francorum* from 1962, Rosalind Hill argued that the text had been written in two main parts (books 1-9 in 1099 and book 10 shortly afterward) and that its author was an Italian Norman crusader. Of the mainstream crusade narrative accounts, only a handful are not explicitly religiously affiliated, the most well-known of these being the *Gesta Francorum*.[74] An anonymous participant wrote this account of the crusade as early as 1101, presumably, after they returned to the west.[75] Monks or other clergy wrote most of the other narrative accounts relating to the First Crusade based on the *Gesta Francorum*. These authors typically dedicated their accounts to monasteries or particular abbots.[76] Historians agree that there was much crossover and direct copying from account to account, which is evident from similarities in word choice and style of prose between narrative accounts. Accounts from the literarily refined Benedictine monks (Robert the Monk, Baudric of Bourgueil, Guibert of Nogent) receive a lot of attention by

[73] Conor Kostick, *The Social Structure of the First Crusade* (Leiden: Brill, 2008); Anonymous, *Gesta Francorum*, 2011.
[74] The other popular non-clerical account is from Peter Tudebode. The authorship of the *Gesta Francorum* has been widely debated, but the consensus is that it was written by an Italian Norman who fought alongside Bohemond.
[75] Anonymous, *Gesta Francorum*, 1962, ix.
[76] Some of these dedicated texts dedicated to monasteries and abbots were also commissioned by them.

historians in crusade studies generally.[77] These monks were highly educated and had wide-ranging knowledge including Latin classics and other matters such as a competent command of language and other writing skills. As a result, monks show this high level of education through engagement with scientific arts and practices of the time, as well as attempts at causal explanations for strange phenomena and the cataloguing of others.[78] Unfortunately, this makes evaluating the medieval interpretations of meteorological phenomena more difficult, as it seems to vary on a case-by-case basis. It is tempting then to look only at a single chronicle or to group the chronicles on how they interpret one set of phenomena, but this would obscure the larger picture. We might think about what details were switched from different accounts and what patronage concerns some people might have had.

The *Gesta Francorum* is a crucial source for understanding the narrative accounts of the First Crusade because it was written by an eyewitness, it was probably the first narrative account written about the First Crusade, it served as the basis of second generation narrative accounts, and it was written before crusader kingdoms began to fall in the East.[79] Secondary writers, particularly the Benedictine monks, disliked the Gesta Francorum for its simplistic style, however its timeline serves as the basis for several other accounts.

Accounts of the events of the First Crusade can be categorized into families of sources. First, there are sources written by eyewitnesses of the crusade. These include narrative accounts written by those who accompanied soldiers, such as in Ralph of Caen's *Gesta Tancredi*, written about the nephew to Bohemond, Tancred. Others include narrative accounts written by the

[77] Naus, "The Historia Iherosolimitana of Robert the Monk and the Coronation of Louis VI," 105-115. Naus examines kingship in chronicle writing using Robert the Monk's chronicle; Riley-Smith, *Idea of Crusading*, 135–52; Lapina, *Warfare and the Miraculous*, 9-14. Lapina uses Guibert of Nogent as her main source due to his particular emphasis on the miraculous.
[78] Guibert de Nogent, *Gesta Dei per Francos*, 135.
[79] There is a clerical letter that sums up the events of the First Crusade very concisely.

soldiers themselves, such as in the case of the anonymously written *Gesta Francorum*. The other source of eyewitness accounts come in the form of letters, which were personal (as in the case of Stephen of Blois and Bohemond), or public ecclesiastical letters (such as letters written by the bishop Symeon or Pope Paschal). Some writers of second-generation accounts claimed to be eyewitnesses to events like the Council of Clermont, as in the case of Robert the Monk and Baldric of Bourgueil, however, these accounts fit better into a category we might call *Gesta*-based narratives.

Generally, accounts from eyewitnesses encompass similar events from the First Crusade. All of the sources considered here discuss the capture of Antioch, the retrieval of the Holy Lance, and the sack of Jerusalem. A recounting of meteorological events differs between these narratives likely because eyewitnesses saw different things. For example, instances of rain on crusade were more local than earthquakes, comets, or various appearances in the sky. In contrast, the exclusion of meteorological and marvelous phenomena that were likely to be seen or experienced by many people at the same time lends doubt to the veracity of the phenomenon, as is the case in the solitary account of a comet after the battle of Antioch given in Robert the Monk. There were other narrative events on the crusade that were almost certainly not witnessed by any Christian, such as the astrological prediction made by Kerbogha's mother before the siege of Antioch. This story mimics similar qualities to other brief accounts of the Muslim reactions to Christian soldiers, as is the case in the battle of Ascalon at the end of the First Crusade. Both of these sentiments appear in the *Gesta Francorum*, which reveals Christian attitudes about the Muslims. Despite what C. J. Tyerman's "Benedictine Mafia" might have said, it also suggests creativity on the part of the author.

Gaps or inconsistencies of major crusade events in an account is likely more of a factor of what events were seen (in the case of an eyewitness) or which accounts were used as the base (as in the case of a second generation account). It seems unlikely that missing events were discarded as a matter of choice because writers employed other tactics to avoid disappointing their friends or patrons in the case that an event had bad optics. The most salient example of this is in the case of the desertion of Stephen of Blois, which was viewed poorly by most authors of the crusade except those with whom Stephen's wife, Adela, had a good relationship.[80] Authors employed a few tricks to portray this event in different ways, such as giving relatable reasons for desertion (as was the case in illness), or using other figures (like the Byzantine, Takitos) as a way of discussing shameful desertion on crusade. Another good example is Bohemond's burning of Antioch. The burning of Antioch, which was destructive to Christian churches and holds, was done by different actors depending on the relationship the writer or patron had with Bohemond.

Conclusion

The large number of sources preserved from this time that are all about the same topic has understandably fascinated historians. There are ways that we can group the sources based on how they handled certain narrative events, how they copied from different accounts, and what qualifications the authors had. With these groupings, we can understand different aspects of medieval storytelling and authorship, which is part of the aim of making groups based on how authors chose to describe meteorological phenomena.

Looking at narrative writing can help us understand natural philosophy meteorology more generally because thinking about nature as part of stories, and vice versa, were part of the way that writers understood the natural world. Much of this examination of meteorological phenomena for its own sake has been done not by historians attempting to group phenomena but

[80] Baldric of Bourgueil, *Historia Ierosolimitana*.

rather translators of the chronicles. Thus far it does not seem like there are big historiographical debates over the interpretation of the narrative sources. There has been debate and inconclusive conversations regarding the authorship of certain sources, however many accounts do not have divisive interpretations. Some facts that appear subject to debate, such as the date or description of a meteorological event, for instance, are often discussed in terms of copying from account to account and the original authors having inconclusive facts. Thus we can enter into a discussion of the phenomena without serious misgivings over how medieval historians have previously interpreted these events.

Efforts to transcribe and translate crusading narrative accounts increased in the early twentieth century, where most of the chronicles have been translated into English and are relatively widely available. However, the historiography thus far has prioritized examining the chronicles of three Benedictine monks in what might be called the *Gesta* family of sources. Efforts from translators like August Krey and Dana Murno prioritized certain sources in their published books of extracts. In general, these readers have sources parceled into a timeline of events that can be followed through the narrative of the *Gesta Francorum*.

4. The Phenomena

Comparing and contrasting the way that narrative writers and chroniclers have chosen to convey events of the expedition has been a valuable tool for historians to understand more about the events and writers of the crusade. This chapter seeks to describe and explain the different meteorological phenomena and signs in the sky that crusaders encountered on the pilgrimage to Jerusalem as well as unusual events that occurred on the expeditions to the east afterward as a way to achieve a similar goal. Some chroniclers began their works many years before the launch of the First Crusade, but the writers believed and identified most of the phenomena considered here as having happened from c. 1090-1144. The types of phenomena discussed here include fire in the sky, comets, eclipses, shooting stars, earthquakes, wind, and rain. Situating the meteorological events considered here in the context of other events on the crusade reveals which events were likely copied between accounts, what differences there are in how writers discussed these phenomena, and what other narrative devices were used in the cases where the meteorology is absent from a meteorological event.

Fire in the Sky

Unlike other phenomena that appeared in the sky such as comets, eclipses, and ocular manifestations of a cross, the event of a fire in the sky is the most consistently described event. Most eyewitnesses relate the appearance of a fire in June 1098, and most of the first generation *Gesta*-based sources repeat this.[81] The *Gesta Francorum* provides the simplest account of this fire in the sky (*ignis de caelo*) that traveled from west to east, fell into the Turkish camp, and caused great astonishment (*mirati*).[82] More than offering astonishment or wonder, this fire caused some Turks to become terrified and flee their camps while others, apparently unaffected,

[81] Dass places the date at June 13-14, 1098, which is roughly two weeks after Pyrrus betrayed the city of Antioch to Bohemond and the Christian army.
[82] Anonymous, *Gesta Francorum*, 2011, 80; Anonymous, *Gesta Francorum*, 1962, 62.

continued to attack Antioch. Peter Tudebode's representative account of this event is almost identical to the description in the *Gesta Francorum*:

> At nightfall fire from the heavens appeared from the west and fell in among the Turkish troops, astonishing both Turks and Christians. At daybreak the Turks, terrified by the celestial fire, fled hither and thither.[83]

Like the writer of the *Gesta Francorum*, Peter does not belabor the significance of the fire or ascribe greater meaning to its appearance beyond an event that occurred. In this way of retelling, the fire is simply an account of something that happened, necessary to propel the narrative forward and make sense of the changing number of troops, which is something of interest to a soldier.[84] Modern sensibilities might estimate that this event was more unusual than others were, yet there is nothing to suggest this in Peter's account or in the *Gesta Francorum*. Likewise, these writers describe other events as "astonishing" in their accounts, making a distinction even more difficult. But based on other writers of the crusade, it is clear that the event of a fire in the sky was far from an ordinary or regular occurrence.

The Benedictine monks of the first generation *Gesta* accounts not only mention this fire in the sky and the direction from which it came, but they attempt to offer an interpretation of its meaning. Baldric of Bourgueil writes about a fire that "seemed to threaten" the Turks, and even though it was "harmless and innocuous," it "caused great fear and sorrow" to the Turks and "encouragement and gladness to the Christians."[85] Baldric describes the fire as a sign that caused fear. Guibert of Nogent's account calls this phenomenon a "type of fire" that is a portent of destruction of the Turks and writes that "to both sides the sight of the falling fire seemed

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[83] Peter Tudebode, *Peter Tudebode: Historia de Hierosolymitano Itinere*, trans. John Hugh Hill and Laurita L. Hill (Philadelphia: The American Philosophical Society, 1974), 79.
[84] The sentences immediately following the blockquote are as follows: "However, they surrounded us in Antioch so completely that no one dared enter or leave except stealthily by night. Thus we were besieged and oppressed by the other pagans, enemies of God and Blessed Christianity," Peter Tudebode, 79.
[85] Baldric of Bourgueil, *Historia Ierosolimitana*, 113–14.

miraculous."[86] He also asserts that this was a sign of coming events (*portentum*). In Guibert's version, while the Turks did flee, they were not fearful of the fire because they did not understand what the portent meant. Robert the Monk ascribes more meaning to this fire than the other writers do with his notions of predictability and significance. He notes that with the fire sign (*signum*) the Turks were able to "see glimmerings of what would come to pass" (*vaticinari*) and that the fire itself "represented the anger of God" and the direction of its motion "symbolized the armies of the Franks through whom he would make his anger manifest."[87] Robert's account is the only one that follows up further on this event through the words of the Christian, Herluin, to Kerbogha:

> Who was it who sent you the fire yesterday evening, which frightened you all so much and disturbed you where you had fixed your tents? Let that sign be an omen of evil to you, of salvation to us: it gives us an absolutely clear message direct from God.[88]

The additional information about the fire's significance paired with the similarity to the eyewitness accounts suggests that this type of event was noteworthy because it was unusual. That these writers viewed the fire as something from which other events could be foretold also contributes to its unusualness.[89] This fire in the sky was also a sign of power that the Christians (or at least Herluin) used as a visible manifestation of conveying that God was actively on their side.

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[86] Guibert de Nogent, *Gesta Dei Per Francos*, 102-103; Guibert de Nogent, *Dei Gesta Per Francos,* 224-225. A later excerpt from Guibert's account (on page 170) describing the conditions for the siege of Antioch is translated that the city is "surrounded by signs that augured well" for the siege, but the Latin text does not indicate this as an instance of actual augury. Circa urbem autem ipsam fertilissima huius obsidionis extitere primordia. Here there is neither a reference to signs nor augury; instead, "fruitful" is used to convey the sentiment of a promising siege.
[87] Robert the Monk, *Historia Iherosolimitana,* 164; Damien Kempf and Marcus Bull, eds., *The Historia Iherosolimitana of Robert the Monk* (Woodbridge: The Boydell Press, 2013), 69.
[88] Robert the Monk, *Historia Iherosolimitana*, 166; Kempf and Bull, *The Historia Iherosolimitana of Robert the Monk*, 71. Quis vero vobis transmisit ignem, qui vos omnes ita perterruit, et de loco in quo tentoria fixeratis ita exturbavit? Signum his in portentum venit vobis; nobis in salutem: quoniam ipsius Dei nostri certam inde habemus legationem.
[89] Thus far I have not encountered any accounts of foretelling from events like wind or rain, though perhaps others used these as weather signs.

While the fire at Antioch is the most mentioned meteorological event on the crusade, the appearances of other sky fires populate the other narratives and chronicles. Guibert writes of another fire in the sky in his narrative that occurred in February 1097 when the famous princes were taking the cross. Unlike the fire in the sky seen in the Turkish camp, this fire appeared in the north and was seen by many others who "rushed from their homes" to see what the source of the light was. Guibert compares the fire to a "brilliant red light" that occurred during the siege of Antioch in 1098 that manifested in the shape of a cross. Both of these bright fires in the sky were portentous according to Guibert. The cross was interpreted by wise men as "a sign of salvation and victory to come" that was not "an error, for many witnesses confirm this testimony."[90] The actual fire from 1097 (as opposed to the comparison of the phenomenon at Antioch) was also portentous, but of upcoming war rather than victory.

Guibert takes the time to discuss what he sees as the untrustworthy tale of Fulcher of Chartres in his narrative and correct some of his errors, including the controversial trial by fire of the Holy Lance. One of the addendums Guibert makes is the description of a "brilliant white light, like a fire, [which] shone in the night above the army and it also unmistakably took the form of a cross," which Fulcher writes occurred on December 30, 1097. But instead of condemning Fulcher for fabricating this event, Guibert vouches for its veracity by confirming that there were many eyewitnesses to Fulcher's account and adding that Guibert himself had seen something similar at the beginning of the journey when others were taking the cross. It is unclear why Guibert did not write about the fire in the sky when he was describing eclipses earlier in the narrative. Perhaps it is an artifact of the way that he was using external sources to write his narrative. Guibert treats this excursion out of the main story as a separate thing, as he writes, "And now, having put aside the things that we thought might be treated separately, let us return

[90] Guibert de Nogent, *Gesta Dei per Francos*, 157.

to the order of the narrative," which acts as a different storytelling element than his typical prose.[91]

Some eyewitnesses wrote about the difficult time the crusaders faced in Antioch without mentioning a fire in the heavens. Ekkehard of Aura described flying torches (*fliegende fackeln*) of 1093 and 1099 that treaveled from east to west that could be confirmed by many witnesses in several other places in his chronicle, but he believed that God's providence aided the besieged crusaders in a different way during the mid-June battle of 1098 for Antioch.[92] While God punished the crusaders for their hubris for thinking that Antioch was theirs because of their own strength, punishment gave way to providence when God gave the Holy Lance to the crusaders as a "pledge of victory," leading to the crusader victory at Antioch on June 28th.[93] Raymond d'Aguilers put it differently and explained the punished sin as the crusaders having "gormandized sumptuously and splendidly as they gave heed to dancing girls."[94] Raymond's account emphasized the accounts of relics and visions of saints more than most accounts, but unlike Ekkehard, Raymond attributed the change in fortune at Antioch to the fear of the Turks. He wrote that "because for some unknown reason the Turks became panic stricken while in the act of crossing the moat and overthrowing the wall, and for that reason hurriedly ran away," where later in the same paragraph he alludes to this unknown reason as being "intimidated by God's power."[95] Ralph of Caen wrote about the Turk's siege on Antioch but changed the narrative in two distinct ways. First, he did not account for the Christians' turmoil because of their sin; and secondly, according to Ralph the Christians were the ones who were "stupefied" and "fled in

[91] Guibert de Nogent, 157.
[92] Ekkehard of Aura, *Chronicle*, 37, 50. The flying torch of 1093 likely occurred during the later part of the year (probably before September), while the 1099 torch was seen on February 24th, three years after Ekkehard's account of the comet on October 7, 1096. These torches were easily verified because they apparently occurred "very often" (*sehr oft*). I am grateful to Riley Paxton for helping me decipher the German text of Ekkehard's chronicle.
[93] Ekkehard of Aura, 56.
[94] Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, 71:48.
[95] Raymond d'Aguilers, 71:49.

shock" because of the Turks brandishing their weapons.[96] Ralph of Caen also discussed the divine blinding of the Turks in his account, but he did not attribute it to heavenly fire. Instead, this blinding light came from the sign of the cross of the Christian standard that made the Persians tremble, shake, and lose their sight.[97] While it might make sense to attribute the blinding from the standard as due to a sunlight reflection, and while narrators mention sunlight gleaming on crusader armor and arms several times throughout the narratives and even sometimes with explicit mentions to blinding enemies, the wordings of the narratives do nothing to suggest that this was the cause.[98] Albert of Aachen also does not mention the fire, but there is an event where Kerbogha and his men are "stricken with fear" because of God's will and the Holy Lance that might be a plausible interpretation of this event in lieu of a sky fire.[99]

Not all writers addressed the fire in the sky at Antioch. William Caffaro did not write about this event or the fire in the sky at all in his account, while Fulcher similar to Raymond or Albert wrote about the event without the meteorology, instead purporting that that the outcome

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[96] Ralph of Caen, *Gesta Tancredi*, 100.

[97] Ralph of Caen, 107–8; Fulcher of Chartres, *Expedition to Jerusalem*, 106–10. Ralph mentions a particularly ornate description including blinding eyes along with other vivid imagery. Fulcher mentions a similar reaction of fleeing Turks, but without the mention of any type of miraculous phenomena.

[98] Robert the Monk, *Historia Iherosolimitana*, 105, for the instance of the Turks fleeing from the glittering arms. Other instances of crusader sunlight include: Robert the Monk, *Historia Iherosolimitana*, 90, 92, 114, 155, 168, 200; Guibert de Nogent, *Gesta Dei Per Francos*; 63, 66, 95, 96. See especially *Dei Gesta Per Francos*, 66, where the bishop of Le Puy not only had shining arms, but "ignited the army" multis quibus emicat armis, sed montis precibusque sacris communiit ipsum, sique foret tepidum fervescere compulit, agmen; Ralph of Caen, *Gesta Tancredi*. 66, 82. See also Hill, *Gesta Francorum*, 96, where God himself is attributed as the reason for the blinding and fear of the Turks: Stabant autem inimici Dei exececati et stupefacti, ac uidentes Christi milites apertis oculis nil uidebant, et contra Christianos erigere se non audebant, uirtute Dei tremefacti. There is also a poem that talks about sunlight in *Historia Iherosolimitana* (1997: 121-122, 1996: 35): Phosphorus aurore rutilos precesserat ortus, ipsaque rorifluo cum iam candore vibraret, solque venustaret flammanti lumine mundum. Exsurgunt propere proceres procerumque caterve, armaque corripiunt, et ad urbis menia currunt. Pugna quidem dextra forti fit et intus et extra. Illi defendunt, dum nostri spicula fundunt, telaque cum baculis, necnon lapidesque sudesque. Fit labor inmanis, sed profectus fit inanis. Sique recesserunt, quia sternere non potuerunt turres et muros, vi nulla corruituros. Cumque vident nostri, quia nil sibi proficit, illam dimittunt pugnam; retinent tamen obsidionem. Also interestingly on the topic of sunlight is the contrast in the presentation of blunt and rusty weapons to Kherboga in *Ibid*. 153 (English) with *Ibid*. 189 (Latin). There is also an account in Gesta Dei Per Francos, 128, of the crusaders enduring sunburns. See also: Giselle de Nie, *Views From a Many-Windowed Tower: Studies of Imagination in the Works of Gregory of Tours* (Amsterdam: Rodopi, 1987).

[99] Albert of Aachen, *History of the Journey to Jerusalem*, 172–73.

of these events was due to God's will.[100] There are many plausible reasons why an eyewitness account might not mention a transient event in the sky. For instance, Ralph, Ekkehard, and Raymond may not have witnessed this event. It is also possible that writers were not able to corroborate an account of the fire to their standards, though there seems to be no evidence in the narratives or other writings to suggest this might have been the case. While there is no conclusive answer for why writers may have chosen not to include this event in their narrative retellings, it seems unlikely that writers intentionally left it out.

It is evident that crusaders did not interpret or describe fire in the sky in one unified way. Simple eyewitness accounts of the fire in June 1098 at Antioch use the fire more as an occurrence on the journey rather than as a significant event demonstrating God's power and portending victory as the Benedictine monks did. Even within the group of theological refiners, monks differed on interpretations of whether or not the fire caused fear or simply astonishment. Some accounts use similar ways of describing the behavior of the Turks at Antioch by using a version of "fear" or "terror" as descriptors, yet without its attribution to a fire. Despite these differences, we can understand that this event was significant because writers catalogued it in simple accounts and later embellished it in *Gesta*-based accounts.[101]

Comets

Comets were distinct from fires in the sky because they were observed for longer periods of time, though writers typically wrote about the direction that they traveled as they also did for fire in the sky. Chronicles of the crusade mentioned comets somewhat reliably due to the nature of the work of a chronicle. Ekkehard of Aura wrote about four comets in his chronicle, where

[100] Fulcher of Chartres, *Expedition to Jerusalem*, 98–106 gives an account of Antioch throughout June 1098 where repentance from sins is a very minimal part of the crusader success. William Caffaro leaves out the year 1098 in his account altogether.
[101] But even this distinction is not universal, as is evident in writers and eyewitnesses who do not report this fire.

two of them occurred during the active years of the First Crusade. Characteristic of chroniclers was to mention the date of the comet, identifying characteristics, period of time it was visible, and direction from where it came. Ibn al-Qalānisī gives a representative view of how chroniclers typically catalogued comets when he talked about the comet seen at the end of 1105, which he did in the "miscellaneous events" of his chronicle:

> "In this month also, there appeared in the western sky a comet with a tail resembling a rainbow, extending from the east to the center of the heavens. It had also been seen near the sun in the daytime before it began to appear at night, and it continued for a number of nights and disappeared."[102]

Fulcher of Chartres, who wrote about this comet from a Christian perspective, described its effects in more detail than the chroniclers (Ekkehard of Aura, Ibn al-Athīr, Ibn al-Qalānisī) did. Instead, he notes that the comet "frightened us because we were suspicious of it" and he described it as a portent. But as is characteristic of Fulcher, he did not presume to understand what it signified.

It is difficult to verify meteorological events by using multiple accounts describing the same event because there was much copying of manuscripts between authors; however, historians can have a higher degree of certainty of the occurrence of some comets because there is not evidence of these authors having copied each other based on other parts of the manuscript. In addition, the manuscripts coming from different families or categories of sources make the explanation of copying less likely. A second point of evidence is, based on some modern astronomical evidence, some historians have verified the occurrence of these comets, such as the comet of 1066 that Ekkehard of Aura wrote about, more commonly known as Halley's Comet. This degree of certainty leads one to suspect that, of the eight distinct comets catalogued in

[102] Ibn al-Qalānisī, *Damascus Chronicle*, 72. Ibn al-Athīr, Ekkehard of Aura, and Fulcher of Chartres corroborate this comet.

crusade narratives, of the three comets that occurred during the years 1095-1099, only one is likely to have actually occurred in 1097.[103]

Perhaps more worthy of note than comets that historians can corroborate are those that not only have minimal support for their existence but also seem unlikely based on other evidence. The comet that most fits this description is described in the account from Robert the Monk. Robert the Monk is the only writer who accounts for a comet (*cometa*) at Antioch after the betrayal of the towers by Bohemond's Armenian friend, Pyrrus (29 May 1098). Robert describes the phenomenon as blazing "amongst the other stars in the heavens," notes its location (*septentrionem*), and ascribes meaning to it as "foretelling a change in the kingdom."[104] He mentions multiple signs (*signis*) in the red glowing sky, suggesting that the other noteworthy stars (*orientem*) are amongst this. [105]

Islamic chronicler Ibn al-Qalānisī noted an earlier comet in the west that "continued to rise for a space of about twenty days and then disappeared."[106] Fulcher of Chartres mentioned a comet from a date that matches with that from Ibn al-Qalānisī, but Fulcher's description of the comet is far more spectacular: "When we reached the city of Heraclea, we beheld a certain sign in the sky, which appeared in brilliant whiteness in the shape of a sword with the point toward the East. What it portended for the future we did not know, but we left the present and the future to God."[107] Fulcher also notes a similar aurora phenomenon as a "remarkable reddish glow in the sky" together with a "certain sign in the shape of a cross, whitish in color, moving in a straight

[103] Ekkehard of Aura, *Chronicle*, 40; Ibn al-Qalānisī, *Damascus Chronicle*, 43.
[104] Robert the Monk, *Historia Iherosolimitana,* 146; Kempf and Bull, *The Historia Iherosolimitana of Robert the Monk*, 54-55. It does not appear that this "foretelling" actually indicates augury or other divination. Robert refers to a red sky without any descriptions of significance on 145 (English).
[105] He notes the direction: "The sky glowed fiery red from north to east." Additionally, Robert mentions a red sky one other time (145 English) in reference to the "light of dawn and morning reddening of the sky."
[106] Ibn al-Qalānisī, *The Damascus Chronicle of the Crusades*, trans. H. A. R. Gibb (London: Luzac and Co., 1932), 43. The date provided for the comet is Sha'ban (which would have been in September during that year) of 1097.
[107] Fulcher of Chartres, *Expedition to Jerusalem*, 82-88. A footnote from the translator identifies this sign as a comet and the date as September 30-October 14 of 1097.

path toward the East," but this time coupled with an earthquake.[108] The aurora itself is a portent in Ralph of Caen's chronicle. He writes that this "horrible redness" in the sky was "positioned so that those in the west could see it."[109] Like the other accounts where signs appear within the red sky, Ralph attributes this "vision" of the sky with meaning as indicating "war and blood," but he also mentions that he had seen this particular sign several years earlier when he was living in Caen.[110]

While Ralph of Caen does not write about any particular comets occurring on the crusade, he does talk about how they are significant in the context of other signs in the sky:

> This man had been instructed from childhood about the order of the stars, what they portend, how a comet alters kingdoms or a frozen old man threatens fire and rain, how the savage lion brings fire from Phaeton's chariot, how too much excitement by sword bearing Orion is a sign of war, and finally what was threatened by the present configuration of the stars. A most learned man had instructed many in this art, including Arnulf. He had shown Arnulf that the twin stars of war show how all things have come about. The first showed the fate of Christ's supporters and the latter the fate of the Turks. They were now running in a different order. The first one was the joy of the Franks and the second showed the end for the Turks."[111]

Eclipses

Unusual appearances in the sky were not limited to meteorological phenomena. Writers also accounted for unusual brightness and darkness of the sky, which they often attributed to eclipses. Eclipses differed from other sky phenomena in this time because some could easily predict them. Despite this predictable phenomenon, crusaders often attributed portentous meaning to this occurrence. When describing eclipses, it was common to say which celestial body it affected (sun or moon), when it happened, what it looked like, and what it meant.

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[108] Fulcher of Chartres, 95. The translator notes the date (December 30, 1097) and does not identify this as a comet, but says instead that it "may have been something imagined in the auroral display."
[109] Ralph of Caen, *Gesta Tancredi,* 83.
[110] Ibid., 83.
[111] Ibid., 105.

Fulcher's account of the eclipse in 1113 is representative of the first three common ways of describing an eclipse:

> In the year 1113 of the Incarnation of Our Lord, in the month of March and on the twenty-eighth day of the moon, we saw the sun from early morning to the first hour. More than that we saw it wane by fading in one part. The section which first began to fade, at the top, at length came down like a round shape to the bottom. However, the sun did not lose its brightness, which was not diminished I think except in a fourth part. This part was in the shape of a small crescent. This was an eclipse, which thus caused the sun to fail us.[112]

In this excerpt, Fulcher detailed the date (March 28, 1113), celestial body affected (sun), and visual description (fading section, round shape, small crescent). The eclipse was noteworthy enough to describe in the narrative, however Fulcher did not ascribe a certain meaning to it.

In a separate instance, Fulcher followed what other chroniclers do with respect to the portentous meaning of eclipses that could be predicted. Fulcher writes about a bloody and fiery display in the sky accompanying an eclipse where "thinking that this phenomenon was full of wondrous portents, we marveled greatly."[113] As in the other eclipses, Fulcher catalogs the date (December), names the celestial body (moon), and gives a visual description (white rays rising). But to contrast from his other description, Fulcher and other authors often propose a counterfactual statement about why a particular eclipse was more portentous than others were. Writing about the brightness of the eclipse, Fulcher said:

> If this had happened in the morning we would all have said that the day was bright. Therefore we conjectured that either much blood would be shed in war or that something no less threatening was forecast.[114]

In a different passage, Fulcher noted that if an event in the sky was similar to an eclipse but was not, since it happened on a different day than expected.[115] Likewise, Albert of Aachen wrote that

[112] Fulcher of Chartres, *Expedition to Jerusalem*, 204–5.
[113] Ibid., 220–21.
[114] Ibid., 220–21.
[115] Ibid., 219–20.

since a lunar eclipse was predicted by people who had knowledge of the stars, it was good for the Christians but bad for the Saracens; but if a solar eclipse had occurred, it would have been an "evil portent for the Christians" since it would be unexpected.[116] Guibert of Nogent writes about how some of these unusual events are recorded: "It should be said that, although the moon normally undergoes eclipses when full, nevertheless some of these changes of colors are manifestations of portents, and are customarily recorded in the pontifical books and in the deeds of kings."[117] Writers described many of the eclipses with conforming imagery and included blood red colors and skies of similar gradients.

Some instances of skies darkening in the narratives do not follow the pattern of how some writers describe eclipses. For example, one repeated instance is a comparison to the sky darkening during the biblical crucifixion. Robert the Monk described this event as follows:

> It shone far more gloriously and richly when the Son of God endured the Cross for the salvation of all mankind in it; the sky obscured its stars and the earth shook, the rocks rent; and the graves were opened; and many bodies of the saints which slept arose.[118]

Albert of Aachen wrote of a similar occurrence that more explicitly alluded to the biblical event when the sun was obscured "just as Jerusalem was bereft after a very short time."[119]

Writers often interpreted sky phenomena as portentous even when the wonder evoked was subject to question. Some eclipses that chroniclers described using counterfactuals initially seemed to evoke a sense of extraordinary wonder from viewers, but further observations and reasoning yielded that these eclipses were rare but causally explainable events that happened in the sky, which some historians argue made these sky appearances less important and noteworthy

[116] Albert of Aachen, *History of the Journey to Jerusalem*, 206.
[117] Guibert de Nogent, *Gesta Dei per Francos*, 55.
[118] Robert the Monk, *Historia Iherosolimitana*, 213. He is referencing Matthew 27:51.
[119] Albert of Aachen, *History of the Journey to Jerusalem*, 233.

to the pilgrims.[120] Chroniclers who wrote of eclipses mentioned that some people could predict these types of sky appearances, suggesting the irregularity of other appearances in the sky from the perspective of crusaders. Some writers interpreted regular but rare sky phenomena as *signa* or portents of events as happening in heaven as analogous to events that were occurring on earth as part of the pilgrimage, for example, God's anger or wrath, or heavenly armies and the earthly armies of the crusaders taking over cities in the west.[121]

Falling Stars

The crusaders witnessed and described accounts of stars that seemed to dance and fall in what we might think of as shooting stars or meteor showers. It seems likely that some accounts of falling fire in the sky were similar to these mobile stars, but the distinction made here is self-identified by the crusaders. Writers described most accounts of falling stars as noteworthy and wondrous events. This account from Ekkehard of Aura gives a typical picture of how writers described this phenomenon:

> Some say that on the night that preceded the day of the Lord's supper, while they hurried to evening prayer according to church custom, at the same time innumerable stars fell from the sky, so that by their multitude and their fall they appeared to imitate the raindrops.[122]

Ekkehard refers to time (night preceding a particular day), describes the phenomenon in action (innumerable stars fell from the sky), and compares it to a different meteorological event (raindrops). Other writers use similar modes of description where the biggest change is the meteorological event they compare the stars to.[123]

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[120] Hamilton, "God Wills It," 97.
[121] Schein, *Gateway to the Heavenly City*, 119; Matthew of Edessa, *Armenia and the Crusades, Tenth to Twelfth Centuries: The Chronicle of Matthew of Edessa*, trans. Edmond Dostourian (Lanham, MD: University Press of America, 1993), 172, 178. Guibert of Nogent also wrote about how the predictability of the eclipse.
[122] Ekkehard of Aura, *Chronicle*, 154.
[123] Other common comparisons include showers (of something) and hailstorms.

Baldric of Bourgueil's description of falling stars of April 1095 adds more context and significant to this type of event. He begins his description by discussing the plethora of signs that generally were appearing in the sky by divine inspiration before making the following description:

> Accordingly in the year 1095 from the Lord's incarnation, the day before the nones of April, on the fourth day, the 25th of the lunation, so great a number of shooting stars was seen in Gaul by countless onlookers that because of their density they would have been taken for a hailstorm, had they not been shining.

Baldric's account shares many similarities with Ekkehard's in the way that they carefully recorded the time, there is a visual description of the event, and part of the visual description includes a comparison to a different meteorological event. But unlike the simpler account, Baldric adds detail about how onlookers interpreted the event, ways to verify the event, and what could be said about what the stars portended.[124]

Wind

Events of wind featured often in crusade narratives and chronicles. Unlike many other phenomena, crusaders' descriptions of wind focus mostly on the phenomenon as an event or occurrence rather than a remarkable entity on its own. In many accounts, writers described wind as something that occurred without agent,[125] something that acted as an agent on something else,[126] and something that was created by an agent, with[127] or without[128] a purpose to meet an end goal. Descriptions of typical wind varied throughout accounts, ranging from descriptions as "wind" (*ventus*) or as something "fanned" or "blown." Other accounts mention the direction of

[124] Fulcher writes about multiple star showers differently within his own text. One of those is more similar to Ekkehard; another is more similar to Albert. Baldric is the most interesting because he writes about meteor showers more similar to the way Fulcher writes about eclipses.
[125] Anonymous, *Gesta Francorum*, 1962, 61. As in, "a great storm of wind arose."
[126] Ibn al-Qalānisī, *Damascus Chronicle*, 56. As in, "driven about by changing winds."
[127] Peter Tudebode, *Historia de Hierosolymitano Itinere*, 20. As in, "God caused the shifting winds to backfire against the enemy."
[128] Albert of Aachen, *History of the Journey to Jerusalem*, 148. As in, "God raised a strongly blowing wind that night."

winds, either as named winds (ex. East Wind) or as a direction that the wind blew. Fulcher of Chartres describes wind in terms of sailing in a way that shows some of these writers' tendencies:

> And so when the wind blew gently from the north they expertly cut away from their gangplanks and set course for Methone and then to Rhodes. It was needful for them to travel together and not scattered about. Due to fluctuations in wind they often had to exercise foresight and change course lest they suddenly become separated from each other. For these reasons they sailed short distances and by day rather than by night.[129]

Sailing was one of the most common ways that wind featured in crusade narratives, but its use in warfare also was of particular interest to the chroniclers. Chroniclers who mentioned wind in warfare often expound on its use in kindling siege fires. Sometimes this was explicitly caused by crusaders, as when Albert of Aachen describes a siege fire that was "encouraged by a great breath" by a soldier, but also of strategically placed fire that was "kindled by a gentle breeze" that occurred organically and achieved similar results.[130]

The descriptions of wind in crusade accounts appear to be primarily of a practical function. Unlike descriptions of other phenomena like fire in the sky or eclipses, crusaders usually describe wind as ordinary (regular) and unremarkable (not meaningful). However, chroniclers were more prone to describing the origin or use of wind as divine more than they described the aforementioned more rare or more meaningful phenomena as an account of divine intervention. One possible reason for this discrepancy is that the effect of something like an eclipse was more innocuous than wind. While eclipses might have been the sign of upcoming events, wind actually affected current events. And the current events that wind affected had, necessarily, good, bad, or innocuous outcomes. Generally, events where wind was favorable for the crusaders attributed a divine cause to it, events where wind was harmful for the crusaders did not attribute a divine cause, and events that were innocuous tend to feature descriptions that are

[129] Fulcher of Chartres, *Expedition to Jerusalem*, 239.
[130] Albert of Aachen, *History of the Journey to Jerusalem*, 71, 216.

more mixed. This is an observed trend but not a phenomenon so consistent that it is able to anticipate the way crusaders described or interpreted events without sufficient outside context.

The two events that most clearly illustrate this trend are wind-blown fires at the battle Civetot and during the crusaders' stay at Antioch. At one point of the battle in June 1098, Bohemond ordered that the city of Antioch be burned in order to provoke those under his command to fight.[131] Chroniclers saw this action as a poor choice; the uncontrollable fire spread rapidly due to a "great storm of wind" and burned several thousand homes and churches.[132] Most accounts explicitly note the duration that the fire burned and that it stopped suddenly. There are differences between the cause of the sudden stop of the fire between the narrative accounts, but most plainly state that "the violence of the fire suddenly died down."[133] Robert the Monk's account attributes wind to the cause of the sudden stop of the fire,[134] Guibert of Nogent accounts for wind and storms as the fuel for the fire,[135] while Ralph of Caen's narrative likens the fire itself to the Roman god Vulcan.[136] Chroniclers did not attribute an explicit divine cause of the wind or the sudden ceasing of fire other than the classical reference from Ralph. This lack of divine intervention is consistent across all of the narrative accounts. This is perhaps due to a reluctance to attribute the destruction of churches to God's explicit intervention. An earlier account of this type of phenomenon features in the *Gesta Francorum* and other accounts, where

[131] Most accounts do not specify an agent for Bohemond's orders, but the *Gesta Tancredi* notes that Raymond carried out the command.
[132] Dass, *Gesta Francorum*, 80.
[133] Hill, *Gesta Francorvm*, 61.Tunc nimia tempestas uenti subito surrexit, ita ut nemo posset se regere rectum. Boamundus itaque uir sapiens contristatus est ualde, timens pro ecclesia sancti Petri et sanctae Mariae aliisque ecclesiis. Haec ira durauit ab hora tertia usque in mediam noctem, fueruntque crematae fere duo milia ecclesiarum et domorum. Veniente autem media nocte, statim omnis fertias ignis cecidit.
[134] Robert the Monk, *Historia Iherosolimitana*, 164; Kempf and Bull, *The Historia Iherosolimitana of Robert the Monk*, 69-70. Duravit itaque incendium ab hora diei tercia usque in nocte media, et sic flante vento a parte dextera in se ipsam reversa est flamma.
[135] Guibert de Nogent, *Gesta Dei Per Francos*, 102; Guibert de Nogent, *Dei Gesta Per Francos*, 223-224. Mox ad ceptae destitutionis augmentum vehementissimae nimietas tempestatis incessit, ita ut tanta fieret valitudo ventorum, quo neminem pene liceret incedere rectum.
[136] Ralph of Caen, *Gesta Tancredi*, 98-100.

there is divine attribution of controlling fire due to wind that the author describes in terms similar to Robert the Monks' account of the Antioch wind pushing flames back on to themselves.[137] At the battle of Civetot, crusaders' Turkish enemies chased ill-equipped crusader peasants into a castle. The Turks created a pyre, the crusaders set fire to the wood, and through the rising wind, the author of the *Gesta Francorum* recounts that "God delivered our men from that fire." Unlike the burning of Antioch, this situation had a positive outcome from the perspective of the Christian chronicler.

Conclusion

Crusaders described and interpreted a wide range of meteorological phenomena in their narrative retellings of the First Crusade. The descriptions and interpretations can be organized in terms of what writers saw as be regular or rare phenomena, and phenomena that were wondrous or ordinary to them. When comparing multiple accounts of a singular event, it is easy to see that the type of generational account (*Gesta*-based or eyewitness) shapes the way historians might interpret an event. For example, the event of a fire in the sky in the *Gesta Francorum* was rare but not meaningful, while its description in later theologically refined accounts suggests that it was both rare and meaningful. Writers did not universally conceive of or categorize phenomena as "miraculous" or "ordinary."

[137] Hill, *Gesta Francorvm*, 5, Turci uero persequentes illos in castrum adunauerunt ligna, ut eos combuererent cum castro. Christiani igitur qui in castro erant miserunt ignem in ligna congregata, et uersus ignis in Turcos quosdam eorum concremauit, sed ab illo incendio Deus nostros tunc liberauit. There is another manmade fire that God controls in the *Gesta Francorum*, 78, Sed Deus omnipotens noluit ut castrum arderet hac uice. There is another precedent for God controlling natural fire in Robert the Monk, *Historia Iherosolimitana*, 183. Guibert de Nogent, *Gesta Dei Per Francos*, 52, the manmade fire at Civetot, while not controlled by wind, is controlled by God.

5. Meteorology as a Fair-weather Friend

Universally interpreting meteorological events--ordinary or otherwise--is not possible across geographically disparate accounts, different religious groups, or type of writing. Even within an account, writers were sometimes internally inconsistent with their interpretation of a type of phenomenon. Within a small scope, it is possible for a historian to see writers interpret meteorological phenomena typically as unusual or miraculous. With a larger or slightly shifted scope, it is possible to see writers interpret meteorological phenomena as typically ordinary or even mundane.

Writers' diverse descriptions and interpretations of meteorological phenomena in the chronicles were a product of a writer's understanding of a type of phenomenon, expected and precedented writing conventions, and narrative goals. Some writers tended to favor certain modes of description more than other writers did, which is why focusing on only one author's account of meteorological phenomena offers a skewed perspective for how authors generally chose to convey phenomena. But while looking at the way writers described phenomena in isolation presents an accurate view of the disjointedness of how writers portrayed these events, an examination of these phenomena within the broader context of writing a miracle story of the pilgrimage shows trends of similarity in crusader goals. While some historians have identified individual trends in descriptors, an overarching narrative goal for the writers was the insertion of crusader agency into the story.[138] Crusaders achieved this primarily through what they believed were morally justified actions. Other narrative goals aside from agency manifested in the narratives, which corroborates the mixed results of meteorological descriptors. Assessing trends in a wide context produces a null result. Meteorological events, while foundational and necessary

[138] One example of this is Jonathan Riley-Smith's assertion that meteorological events (like the shower of shooting stars in 1095) were used to convey excitement for the endeavor of a penitential pilgrimage.

precursors for parts of the story, are also fickle and fleeting. Narrative writers employed meteorology in their writings when it suited them.

Historians' response to meteorology

Meteorology as a plot device in a narrative to make the story seem more interesting or relatable is perhaps a plausible explanation for the spectacular events in the crusade narratives, which is an idea historians have explored in contexts outside of the First Crusade.[139] Historians have put forth alternate readings of crusader meteorology that incorporate different worldviews. While some historians' interpretations fit within a small subset of data, adjusting the lens to a wider framework sometimes offers different and equally plausible historical interpretations.

One narrative goal of the crusaders was to insert themselves into the overarching story of God's divine work on crusade, which they often achieved by drawing on biblical concepts and ideas. Raymond of Aguilers accomplished this during the trial of the Holy Lance by comparing the trial to the fiery furnace in the Old Testament and Peter Bartholomew's burn wounds to the wounds Christ suffered after the crucifixion.[140] Writers who included comets and winds in their accounts often used direction as a descriptor, which writers could interpret in a biblical sense as Elizabeth Lapina has shown.[141] Lapina discusses the significance of the symbolism of the west illuminating the east in metaphorical and literal terms. These descriptors carried meaning that some participants interpreted as the actions of heavenly and earthly armies.[142] Some descriptions hearken to physical and spiritual battles in which the crusaders emulated the Maccabees,

[139] den Hengst, *Emperors and Historiography*, 39–46.
[140] Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, 71:102. Raymond recounts another figure in the flames of the ordeal, and after the trial, Peter Bartholomew showed his burn wounds to doubters.
[141] Lapina, *Warfare and the Miraculous*, 122–42.
[142] Robert the Monk, *Historia Iherosolimitana*, 90.

inserting the crusaders into the biblical narrative by calling the Franks God's new chosen people, which is another attribute on which Raymond focuses in his account.[143]

It is clear within the full context of narrative writings that the crusaders inserted themselves into the story with a central role and that directionality of winds and comets supports this view; however, one could reasonably interpret other descriptors as counterevidence. Chroniclers did not describe all traveling sky phenomena as having traveled west to east. For example, Ekkehard of Aura wrote of flying torches that moved from east to west.[144] Islamicate chroniclers, who were not interested in writing a narrative of the crusaders' conquering of their land, described comets as traveling from west to east.[145] Others, including theological refiners, described comets, fires, and red skies as having traveled to and from northern directions.[146] Ralph of Caen, Fulcher of Chartres, and Robert the Monk also described directional winds other than eastern and western ones.[147] The practice of including directions in the description of comets was commonplace for chroniclers, and it exists in much earlier accounts of meteorology, such as Pliny the Elder's *Natural History*. While it is clear that there were other reasons aside from inserting crusaders into a narrative that motivated narrative writers and chroniclers to include directions in meteorological descriptions, phenomena that do prominently feature east and west directionality have a theological angle to them.

The descriptions of meteorological phenomena that follow biblical patterns and portend and extol Christian victory fit within Riley-Smith's framework of theological refinement, the practice of the Benedictine monks revising the rustic text of the *Gesta Francorum* to highlight

[143] Lapina, *Warfare and the Miraculous*, 108–9; Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, 71:95.
[144] Ekkehard of Aura, *Chronicle*, 37. He also wrote of red clouds arising in the east and traveling toward a center.
[145] Ibn al-Qalānisī, *Damascus Chronicle*, 43.
[146] Guibert de Nogent, *Gesta Dei per Francos*, 54–55.
[147] Robert the Monk, *The Historia Iherosolimitana of Robert the Monk*; Fulcher of Chartres, *Expedition to Jerusalem*, 239; Ralph of Caen, *Gesta Tancredi*, 104.

religious and spiritual ideals more prominently.[148] Where the descriptions of meteorological phenomena were plain or lacked Christian connotations, this group of monks reworked certain descriptions accomplish this agenda. Adaptations to the *Gesta Francorum's* account of meteorological phenomena can be seen most clearly in descriptions of fire in the sky, where the *Gesta* writer only describes the visual event but the theological refiners attempt to extrapolate meaning from the event.[149]

Lapina and Riley-Smith discuss isolated groups of phenomena and writers--comets and wind and Benedictine monks, respectively--but even these groupings do not give the full picture of how writers described and interpreted meteorological phenomena. Bernard Hamilton's holistic approach to meteorological phenomena and signs in the sky incorporates a wider range of both phenomena and writers, but the historical framework used to interpret how writers described and understood events does not hold up when applied to other events. Hamilton argues that, because support for the crusade was not as widespread as the writers would suggest in narrative prologues, crusaders sought validation of God's divine approval through signs in the sky.[150] Hamilton uses the battle of Antioch as an example when the crusaders sought approval during a difficult time, and he cites the ordeal of the Holy Lance as a key moment when crusaders felt divine intervention was lacking and requested more assurance. But interpreting these two events using *Gesta* based sources (which are the sources that mention sky signs at Antioch in 1098) and crusader emotions and opinions of the trial of the lance do not convey a feeling of desperation or lack of faith in divine intervention through relics.[151] It is accurate and supported by narrative evidence that crusaders and the writers of accounts sometimes interpreted meteorological events

[148] Riley-Smith, *Idea of Crusading*, 135–52.
[149] Anonymous, *Gesta Francorum*, 1962 (fire in the sky); Guibert de Nogent, *Gesta Dei per Francos*; Robert the Monk, *The Historia Iherosolimitana of Robert the Monk*; Baldric of Bourgueil, *Historia Ierosolimitana*.
[150] Hamilton, "God Wills It," 89–90.
[151] The monks were generally positive about the outcome of the lance, and the narratives describe its use in battle.

as instances of divine intervention in a way that was unusual or atypical; however, it does not appear to be the case that crusaders maintained a unified view of sky signs as evidence of divine support.

It does not seem that crusade scholarship has produced corroborating or dissenting opinions on historians' interpretations of the way chroniclers conveyed meteorological phenomena in accounts. This is likely in part due to an understanding that meteorological events occurred in a variety of contexts and shared some similar features, such as relating to biblical phenomena and promoting religious goals. It is also possible that this silence is due to a lack of unity in how crusaders interpreted events. Based on the differing views of the modern scholars investigated in this section, it is clear that a consensus has yet to be reached, but that a multiplicity of accurate viewpoints is possible.

Moral meteorology

Writers used accounts of the weather as a means to insert crusaders into the narrative of the First Crusade by giving them agency and the ability to influence events of the crusade that were seemingly beyond their control. The crusaders accomplished this feat through morality. Crusader morality was a way for crusaders to influence the events of the crusade because they were rewarded with good weather when they were repenting, and they were punished with bad weather when they were sinning. Likewise, it shows God's hand, where he sends good things when he approves of actions, and he sends bad things when he disapproves of actions. Sometimes he sends bad things because he feels like it, or because it's good for the crusaders to suffer sometimes, which is morally justified.[152] But my reading offers the explanation that meteorology was used as an act of agency for crusaders during the crusade and writing about it afterward. The subset of meteorological phenomena described as for the ultimate good of the

[152] This uses the idea of *imitatio Christi*.

crusaders can also be understood as the crusaders attempting to have control over events of the crusade as well as the weather. The perceived ability to predict and portend certain events also lent agency to the crusaders as having control over events of the war as well as certain celestial signs.

Certain types of meteorological phenomena like rain, wind, cold, and heat are described in a morally justified way. The narrative writers described meteorological events with a moral justification as rewarding or punishing to the crusaders. Writings about weathering hardships on crusade found in letters likewise assign a moral value to the weather as punishment and providence, suggesting that it was not simply a theologically refined idea, but rather something familiar to even ordinary crusaders. Exploring meteorology as a measure of morality also addresses some narrative goals of crusader writers.

While Raymond's narrative self-reports a goal of writing to tell events of soldiers, the focus of his writing is on morality, which is evidenced by the type of events he chooses to report, how long he spends writing on these events, and how he interprets the events.[153] Historians have noticed Raymond's departure from other eyewitness accounts most notably in the medieval interpretations of the ordeal of the Holy Lance. Another way to understand this deviation from the typical narrative is through an emphasis on morality. The way Raymond writes about weather in a moral way is not unprecedented, but actually seems like the way that Seneca wrote about the weather. While it seems unlikely that Raymond was intentionally copying Seneca, this is a way that the crusaders used the weather to achieve their goals in narrative writing.

Crusader willingness to ascribe causation of mundane events to the divine occurs throughout the narratives in ways that reflects their interjection of agency in events and outcomes. Crusaders believed that bad events on crusade were a result of their sins. To make up

[153] While strange, his account practically has almost nothing to do with capturing Jerusalem.

for this, they continually repented, took the bread and wine during mass, and tried to eradicate the cause of their sin. The *Gesta Francorum* says, "God granted that we should suffer this poverty and wretchedness because of our sins,"[154] but then later:

> At last, after three days spent in fasting and in processions from one church to another, our men confessed their sins and received absolution, and by faith they received the Body and Blood of Christ in communion, and they gave alms and arranged for masses to be celebrated.[155]

It is noteworthy that the crusaders had mass and repented of their sins regardless of their present success on the crusade, suggesting that agency did not always involve trying to change the ultimate outcome of events.

The desire to follow in the footsteps of Christ (*imitatio Christi*) as divinely sanctioned soldiers on the pilgrimage journey ordained by God for the sake of Jerusalem is one of the core crusader ideals. There are many direct comparisons to the suffering of Christ in the narratives, the weather among them. The crusaders frequently complained about the weather and climate while marching on crusade, but sometimes they equated the poor climactic conditions with their morality. Stephen of Blois writes that in Antioch the crusaders "suffered extremely cold temperatures and an endless downpour of rain for Christ the Lord."[156] Fulcher writes of crusader inability to end suffering due to heat of the summer.[157]

The chronicles recognize this integration of crusaders into the narrative of a colossal miracle through the concept of *imitatio* and the interactions of the saints in human affairs on

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[154] Hill, *Gesta Francorvm*, 34, Hanc paupertatem et miseriam pro nostris delictis concessit nos habere Deus; and 58 for accounts of sins with lusty and loose pagan women so much that a stench (foetor) goes up to heaven. Note that *foetor* is the word used to discuss the stench of dead bodies and is not considered miasma or effluvia; Guibert de Nogent, *Gesta Dei Per Francos*, 88, for accounts of sexual sins.
[155] Hill, *Gesta Francorvm*, 67, Tandem triduanis expletis ieiuniis, et processionibus celebratis, ab una ecclesia in aliam, de peccatis suis confessi sunt et absoluti, fideliterque corpori et sanguini Christi communicauerunt, datisque elemosinis fecerunt celebrari missas. For more accounts of repentance, see: Hill, Gesta Francorvm, 90; Robert the Monk, *Historia Iherosolimitana*, 167; Guibert de Nogent, *Gesta Dei Per Francos*, 81, 85.
[156] Barber and Bate, *Letter*, 23.
[157] Fulcher of Chartres, *Expedition to Jerusalem*, 207.

behalf of God and crusader prayers.[158] Prayers to saints were able to influence the actions of God, for example, in controlling the weather and the four elements.[159] Saints also influenced the natural world through God's intervention in elemental materiality in ways other than manipulating weather, as is seen in the armies of saints that appear on crusade in times of need. These visions of saints were more than actual visions; many chronicles contended that the saints, though celestial, were also corporeal and therefore able to interact with the natural world while being seen by multiple people at the same time.[160] A dialogue between Pyrrus and Bohemond's chaplain explains the materiality of these saints in terms of transformations of matter.[161]

Goals when discussing meteorology

Aside from a way to insert themselves into a colossal miracle story, chroniclers employed meteorology in their writings as a way to accomplish individual goals and serve distinct purposes. The most ordinary and common of these purposes was a way to propel the narrative forward and provide an accurate retelling of events. Meteorological phenomena that were more often regular, such as rain and wind, were prone to this type of usage. For example, chroniclers often described the transportation of crusaders through sailing by mentioning the winds that blew the boats.[162] Albert of Aachen described the rain and catching of rainwater in cisterns as a way that crusaders quenched their thirst through dry seasons.[163] The usage of meteorological phenomena as a way to describe what crusaders believed to an accurate retelling of the

[158] Rachel Koopmans, *Wonderful to Relate: Miracle Stories and Miracle Collecting in High Medieval England* (Philadelphia: University of Pennsylvania Press, 2011); Schein, *Gateway to the Heavenly City*, 66.
[159] Benedicta Ward, *Miracles and the Medieval Mind: Theory, Record, and Event, 1000-1215* (Philadelphia: University of Pennsylvania Press, 1982), 149. Ward cites a dissertation for this information that I have so far been unable to obtain for this present paper.
[160] Lapina, *Warfare and the Miraculous*. To echo Lapina, the miracle of the saints would seem to be verifiable as there are particular saints mentioned across chronicles, and the fact that they are Byzantine saints lends credence to the veracity of belief.
[161] Robert the Monk, *The Historia Iherosolimitana of Robert the Monk*.
[162] Guibert de Nogent, *Gesta Dei per Francos*, 164.
[163] Albert of Aachen, *History of the Journey to Jerusalem*, 223–24.

pilgrimage journey is the most common way writers portrayed events of the weather in narratives of the First Crusade.

Another possible objective achieved through chroniclers' inclusion of meteorological phenomena in writings is that of recordkeeping. When seeking to verify a shower of falling stars, Baldric of Bourgeuil mentioned records of similar events that a skeptic could use to bolster belief in the event. Writers often carefully recorded the chronology of certain events, such as eclipses and comets. Fulcher of Chartes employed this type of careful recording for colors in the sky:

> In the same year, in the month of December, on the fifth night after the eclipse of the moon which happened on the thirteenth of the month, on the beginning of the night we all saw the northern sky streaked with the bright color of fire or of blood.[164]

Muslim chroniclers recorded the departing of ships with a similar attention to detail, which consequently left accounts of the wind for posterity.[165] More similar to portents in the sky, Muslim chroniclers also recorded details of earthquakes with attention to chronological detail, but additionally included information about the location of impact and the type of damage that occurred.[166] Because other events of the crusade that use descriptions of chronology in more referential terms, such as in relation to feast days or a sign of the zodiac, it seems likely that writers who used specific dates and times were concerned with preserving events as part of a longer record.

Chroniclers' descriptions of the natural world featured meteorological occurrences as part of a thorough description. For example, Fulcher of Chartres writes about the role of the wind in natural processes of a location:

> It has the shape of a circular valley, and it yields glassy sand. After many ships have come there and carried away this sand the place fills up again. The winds

[164] Fulcher of Chartres, *Expedition to Jerusalem*, 220–21.
[165] Ibn al-Qalānisī, *Damascus Chronicle*.
[166] Ibn al-Qalānisī, 338.

> naturally bring more sand down from the hills surrounding the valley. The place immediately turns the material which it receives into vitreous sand.[167]

When considering events that were considered to be rare and meaningful, it is evident that writers used meteorological events as part of a way to convey a story about miraculous events. There was not one singular way that crusaders wrote about meteorology. The way that crusaders wrote about phenomena was likely to be influenced by a diverse range of factors that related to their narrative goals and purposes.

Conclusion

Placing phenomena into rigid categories based on how crusaders used them as narrative functions is an unhelpful classification because usages and descriptions were not static. Crusaders' narrative goals acts as an independent variable that can help make sense of diverse descriptions of phenomena within a single account as well as across multiple accounts. Looking at how crusaders described certain phenomena, meteorological or otherwise, reveals some things about how crusaders were looking at the natural world. The crusaders were interested in meteorological phenomena in relation to their other endeavors of storytelling and being on a pilgrimage.

Assessing descriptions of meteorological phenomena from a diverse range of accounts reveals that crusaders had a multiplicity of goals, but even within a single account descriptions of the weather were not always consistent. Crusaders' internal inconsistency of interpretations of natural weather phenomena is evident in an example from the *Gesta Tancredi*. Ralph of Caen discusses rain when the crusaders had a severe lack of water, and he ascribes later rainfall to God when it occurs.[168] Shortly thereafter, too much rain occurs, which he does not attribute to God.[169]

[167] Fulcher of Chartres, *Expedition to Jerusalem*, 293.
[168] Ralph of Caen, 110.
[169] Ralph of Caen, 110.

Points of note include that the crusaders do not seem to be dismayed or blaming God for the lack of rain, and they do not believe that it was their sin that caused the flooding.

Narrative accounts consistently mention innocuous weather conditions during the crusade even in the theologically refined accounts, which suggests that it was an important or at least memorable part of the journey. Many of the accounts of natural weather are consistent throughout accounts (such as winter rains, arid lands, hot summers) with similar wordings, which indicates that they were probably directly copied from texts and not inspired from new eyewitness accounts.[170] The weather and sky signs feature prominently in the narrative when it suited the crusaders' agendas. When outcomes were unfavorable to them, the crusaders were less prone to highlight a divine role in the weather unless it was part of a morally justified narrative.

[170] These accounts were written years after the actual events occurred.

6. Philosophy of Science on Crusade

The ways chroniclers wrote about the ways crusaders interacted with the world in First Crusade narratives reveal principles of truth that were meaningful to crusaders and the methods they used to acquire validity. Some roots of crusader epistemology were cultivated in educational institutions, but the application of a philosophy of knowledge manifested in a practical way on the battlefield. Aside from formal schooling, soldiers displayed an understanding of truth and knowledge about the world through the decisions made as part of war than their writer counterparts did. From the way that writers portrayed certain events, the narratives reveal attributes of cultivating knowledge that were important to crusaders. Verification of events, like miracle stories, for example, was important to crusaders and the chroniclers. Since sharing stories of the miraculous were affairs geared toward the public, it was important that the audience of such stories shared underlying assumptions about truth.

Crusade participants manufactured some situations to appear as instances of divine intervention when they were actually deliberate trickery. Events such as the appearance of stigmata on bodies occasionally sparked skepticism and questioning for how the event happened because of the unexpected results that followed. These accounts of artificial divine intervention and the questions asked about them present an opportunity to learn about the epistemology of not only the writer recounting the events, but also the participants involved in creating and investigating them. The ordeal of the Holy Lance serves as a key example of crusader epistemology and the desire to discern between genuine and false encounters that seemed miraculous. Considering these types of events on crusade reveals the different valid ways of knowing for crusaders, which included knowledge related to astrology, astronomy, and

medicine. The ways that crusaders described and interpreted meteorological phenomena exhibit the principles of crusader epistemology shared with other events in the narratives.

Historians have explored medieval epistemology through the role of astrology and medicine, which is relevant to an understanding of the epistemology of pilgrims on the First Crusade.[171] Some historians have used medical understanding as a reference point to the unsophisticated knowledge of crusaders in general, however wider lessons of what medical knowledge can reveal about epistemology are more relevant to the discussion at hand.[172] Likewise, considering astronomical discussions regarding predictability or the truly portentous ability of eclipses within a wider framework of crusader epistemology and perspectives of the miraculous can help explain crusader worldviews and better interpret meteorological events.[173]

Skepticism and verification

Verification was an important part of miraculous storytelling. For monastic narrative writers, convincing others that writers accurately conveyed the truth of events that occurred on the crusade was important because the First Crusade was a miracle story and required deliberate care akin to other narratives like hagiographies. When relaying miracle stories to others, ensuring the honest character of the storyteller and the storyteller's informants was vital.[174] The continued relevance of evaluating eyewitness accounts for miraculous storytelling in the twelfth century had roots in antiquity, as this type of evidence was essential for canonization and for writing accounts of saints' lives. Eyewitness accounts were prized sources of truth, but this type of source had its shortcomings. Medieval opinions on the importance of eyewitness accounts were

[171] This idea has a wider historiogrphical tradition than what is mentioned here, but for some scholarship related to the ideas at hand in crusader narratives, see: Alexander Fidora, "Divination and Scientific Prediction: The Epistemology of Prognostic Sciences in Medieval Europe," *Early Science and Medicine* 18, no. 6 (2013): 517–35; Tina Stiefel, "The Heresy of Science: A Twelfth-Century Conceptual Revolution," *Isis* 68, no. 3 (1977): 346–62.
[172] Friedman, "Miracle, Meaning, and Narrative," 124. Friedman describes this time in Europe as one "when medicine seemed to lack adequate answers."
[173] Hamilton, "God Wills It," 95.
[174] Goodich, *Miracles and Wonders*, 4; Ward, *Miracles and Medieval Mind*, 209.

dynamic, and not all authors of First Crusade writings were in agreement with certain accounts of eyewitness testimony.[175] Despite this, authors of First Crusade narratives emphasized the certainty of truth derived from eyewitness participants of the crusade.

Many narrative accounts of the First Crusade address the author's view of eyewitness information in the prologue or opening passage of the text. Fulcher of Chartres claimed his own eyewitness information in addition to anecdotes from other crusaders and pledged to write "as truthfully as possible what is worth remembering and what I saw with my own eyes on that journey," suggesting a standard of discernment of which firsthand accounts should be included in this narrative.[176] The practice of writing about how authors integrated knowledge from multiple accounts and explaining the choices for which secondhand knowledge ought to be included persists in accounts from other writers.[177] The account from Gilo of Paris, which does not claim to have direct firsthand experience from the crusade, asserted that "this account shall set forth no fiction, nor anything shrouded in the cloak of deceit, but rather the fruit of pure truth," comparing this noble endeavor of truth seeking to an alternative of what he claims mendacious pagans are wont to do.[178] Whether it was differentiating an account from deceitful writers or truthfully recounting events so that the triumphant deeds of the crusaders stood in greater contrast from

[175] Lapina, *Warfare and the Miraculous*, 15–36; Elizabeth Lapina, "Nec Signis Nec Testibus Creditur: The Problem of Eyewitnesses in the Chronicles of the First Crusade," *Medieval and Renaissance Studies* 38 (2008): 117–39. The trial of the Holy Lance is a clear example of dissent, which Lapina discusses at length.
[176] Fulcher of Chartres, *Historia Hierosolymitana*, 1:9.
[177] This is especially apparent in *Gesta* based sources. Guibert of Nogent interestingly creates a buffer of fallibility for himself: "How can it be surprising if we make errors...?"
[178] Gilo of Paris, *Historia Vie Hierosolimitane*, trans. C. W. Grocock and J. E. Siberry (Oxford: Clarendon Press, 1997), 3. It is unclear which references from antiquity are not to be trusted, as the author mentions Vergil's *Aeneid* in a positive way shortly before this verse.

enemies as Baldric wrote, it is clear that the crusaders valued truth when recounting the journey of the pilgrimage.[179]

Narrating stories of miracles was important to the writers of the crusades and to those for whom they wrote, but verifying events while on crusade was important for the participants. While some crusaders manufactured illusory tricks in order to deceive enemies, some participants deliberately deceived their companions in order to achieve a desired outcome, such as satisfy hunger by acquiring more food, or making it seem as though miraculous signs had appeared on their bodies as part of God's will.[180] Crusaders did not seek to verify these events by corroborating eyewitness accounts because it was not a narrative goal to persuade the reader of the tale that such events had happened; rather, verification was an isolated local goal for crusaders in these instances.

The falsified appearance of marks such as crosses on crusader bodies serves as one illustration of deliberate trickery found in multiple narratives.[181] Crusaders knew of miraculous stigmata to appear on bodies, and some authors recounted these in their crusade narratives.[182] However, crusaders believed that sometimes the mysterious appearance of crosses on bodies was the result of intentional trickery. Guibert of Nogent recounted an anecdote where the sign of a cross appeared on the forehead of a Christian monk. However, when the mark began to ooze a

[179] Baldric of Bourgueil, *Historia Ierosolimitana*, 40–41. Baldric wrote that writing about non-Christians in an uncharitable way would be akin to "announcing that our race fought with rash boasting against an unwarlike people."
[180] One example of illusory tactics in war that occurs in the *Gesta Francorum* and most other accounts is the lighting of the fires in order to make it appear as if there were more Christian troops awaiting to attack the army of Turks, The account is described here: Anonymous, *Gesta Francorum*, 1962, 84.
[181] William J. Purkis, "Stigmata on the First Crusade," in *Signs, Wonders, Miracles: Representations of Divine Power in the Life of the Church*, by Ecclesiastical History Society, ed. Kate Cooper and Jeremy Gregory (Woodbridge: The Boydell Press, 2005), 99–108. Purkis explores stigmata through the lens of multiple narrative writers and helpfully places the stigmata as part the idea of *imitatio Christi* into the broader context of the First Crusade.
[182] Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, 71:82; Fulcher of Chartres, *Expedition to Jerusalem*, 76. Both Raymond and Fulcher recount stigmata appearing on corpses.

bodily substance, the crusaders suspected the mark was not divinely inscribed but rather was the result of a carving. Guibert acknowledged the skepticism in his retelling:

> [The monk] cut into his forehead by I know not what means the sign of the cross, which ordinarily was made out of some kind of material and affixed to clothing. It did not look as though it had been painted on, but as though it had been inflicted, like stigmata received in battle. After he had done this, to make the trick look authentic, he claimed that an angel had appeared to him in a vision and placed it there... Such a trick, however, could not be hidden from the eyes of those who looked at him carefully, because a slimy liquid seemed very clearly to ooze from the forcefully inscribed lines that formed the cross itself.[183]

It was the crusaders' understanding that while wounds from battle would putrefy, divinely placed marks would not. In this account, experience from war coupled with knowledge of the divine was enough for Guibert to cast doubt on the monk's account of a miraculous encounter with an angel.

A less theologically significant anecdote of trickery on the pilgrimage occurred during one of the many times when the crusaders were starving and frantically seeking food. The scarcity of food provoked an infamous turn to cannibalism in some accounts, but Ralph of Caen relayed a story of some who killed horses by puncturing them internally, creating the appearance of horses mysteriously dropping dead.[184] Ralph relays that the eyewitnesses "were terrified by this unnatural situation and shouted, 'Let us keep our distance, the spirit of a demon has afflicted this beast,'" and emphasized that he found this act detestable. Because onlookers believed this act was the work of the devil, they refused to eat the horses while the saboteurs partook freely in their spoils. Unlike the description of stigmata, Ralph did not explore the reasons why many witnesses were fooled by this trick and by what means he ascertained this was a trick. But despite a satisfying comparison of what caused narrative writers to divulge details of what could

[183] Guibert de Nogent, *Gesta Dei per Francos*, 88.
[184] Ralph of Caen, *Gesta Tancredi*, 87.

discount trickery, writers discussed other events that required verification.[185] Baldric of Bourgueil mentioned a man who was so eager to verify his story of a miraculous encounter that he was willing to put his life on the line if it helped garner support for his position.[186] The concept of verifying a miraculous encounter by means of one's own life persists in the better-known trial of the Holy Lance.

Experimentation through the ordeal

The use of an ordeal to verify the authenticity of relics originated before the trial by fire of the Holy Lance as a way to determine the legitimacy of saints' relics for canonization purposes.[187] In his narrative of the crusade, Guibert of Nogent referenced two other ordeals by fire in addition to the trial of the lance, which crusade participants also used to verify truth.[188] The trial of the Holy Lance sought to verify the Christological relic and by consequence the account of the visions that led the crusaders to seek out the lance. Most narratives of the First Crusade recount the trial of the lance. The *Gesta Francorum* gives a simple account of the discovery of the lance, many *Gesta*-based sources explore further detail of the trial, and accounts from Ralph of Caen and Raymond of Aguilers represent the most polarized views of the controversial outcome of the trial.

The *Gesta Francorum* recounts the story of Peter Bartholomew, who experienced a vision of St. Andrew revealing the location of the lance in St. Peter's cathedral and instructing Peter to retrieve it. Peter described St. Andrew appearing three separate times and growing more

[185] The annual miracle of the fire appearing in the Holy Sepulcher is an interesting case, as it failed to appear in 1101.
[186] Baldric of Bourgueil, *Historia Ierosolimitana*, 107–8.
[187] Thomas Head, "Saints, Heretics, and Fire: Finding Meaning through the Ordeal," in *Monks and Nuns, Saints and Outcasts: Religion in Medieval Society: Essays in Honor of Lester K. Little*, 2000, 220–38.
[188] Guibert de Nogent, *Gesta Dei per Francos*, 88, 100. The first account describes a lusty monk who was convicted by a trial by fire, and the second account is of the same that Baldric of Bourgueil described (but explicitly referencing a trial by fire unlike Baldric).

insistent that a reluctant Peter share the news of the lance's location with the others. The discovery of the lance in this account was resolved without controversy:

> Now we, who heard the words of the man who brought us the message of Christ through the words of his Apostle, hurried at once to the place in St. Peter's church which he had described, and thirteen men dug there from morning until evening. And so that man found the lance, as he had foretold, and they all took it up with great joy and dread, and throughout all the city there was boundless rejoicing.[189]

The simple narrative of the *Gesta Francorum* is not representative of what most narratives describe because this retelling, unlike most accounts, does not fixate on the veracity of the lance and the impact its discovery had on the other crusaders. That Peter was reluctant to relay the vision to his fellow pilgrims is also conspicuously underplayed in this retelling. The amalgamation of other narrative sources constructs a more complete picture of this event.

After crusaders found the lance buried in St. Peter's cathedral, skeptics demanded that Peter verify the authenticity of the lance. Some accounts emphasize details like the intense heat of the flames, but Guibert of Nogent describes a fair version of the setup of the trial:

> Two pyres were constructed, in accordance with his orders, scarcely a cubit apart; many of the people, avid for novelty, heaped up a mass of kindling material, and when they had crowded together on both sides of the fire, only a narrow path remained between the flames. He then delivered a pitiful prayer, as was fitting, to merciful God, who is the Truth, without whose permission he knew he could do nothing about the situation, and walked briskly across the dark path of the flames, and then returned by the same path.[190]

While Peter Bartholomew emerged from the flames alive as Guibert recounted, writers heavily debated the outcome of the trial. According to Guibert, "some said that he had come out of the flames burned, other that he had escaped unharmed," which is reflective of the differing accounts from other writers.[191] The controversy arose in part because, while Peter emerged alive, he died very shortly thereafter, either from burn wounds as his critics proclaimed, or from the smothering

[189] Anonymous, *Gesta Francorum*, 1962, 65.
[190] Guibert de Nogent, *Gesta Dei per Francos*, 121.
[191] Ibid., 122.

of an overexcited crowd as his supporters believed. Chroniclers display differing levels of engagement with recounting trial and its results, and writers of crusade narratives had incentives to report certain results of the ordeal in order to appease the patrons of the monasteries for whom they wrote, as historians have shown.[192] Even with conflicting results, the occurrence of the trial indicates a willingness to discern truth.

The setup of an ordeal allowed the crusaders to obtain knowledge by using a test that they believed would certainly achieve true results because the determining criterion was divine judgment. The ordeal functioned because crusaders had an understanding that fire consumed and destroyed materials it touched. Thus, the crusaders deduced that if something was able to endure flames unscathed, it must be the will of God for it to have done so. The test, which clerics in antiquity used to verify relics of saints, demonstrated that if the Holy Lance was a true relic, the fire should not have consumed it, meaning it should have protected Peter Bartholomew as well. The positive outcome of the trial was convincing for certain participants, who later on in the crusade used the Holy Lance as a means of divine protection in warfare.[193]

Raymond of Aguilers, the staunchest supporter of the authenticity of the lance, agreed that Peter had many burn wounds on his body, but that ultimately the cause of his death was the overwhelming smothering of the crowd that wanted to touch him and have a piece of his cloak. That Raymond felt the need to acknowledge the burn wounds suggests that this piece of medical evidence would have been persuasive to his readers. Others, however, were not as convinced,

[192] Robert does not mention the outcome in his account, the retelling in the *Gesta Tancredi* is especially critical about the outcome, the *Gesta Francorum* does not mention the trial, Guibert of Nogent treated the trial in a separate section from the finding of the lance and he expressed doubt over the result of the trial. Even Matthew of Edessa mentioned the discovery of the Holy Lance.

[193] Some narrative uses of the lance involve a surrogate for meteorological phenomena. Despite the fact that some authors did not believe the relic to be authentic, the role of the lance in the later portion of the crusade, as well as the role of relics in other parts of the crusade, suggests that this was an important thing for the crusaders to verify. Some historians promote the notion that relics were largely not important after the discovery of the false lance, but this does not seem likely.

and used this knowledge to assert the opposite conclusion that Raymond had. Other accounts reported that there were no burn wounds on Peter at all, which further suggests that this would have been condemning evidence for the lack of success at the trial. Ralph of Caen was the most outspoken critic of the trial. Lapina writes that Ralph used common sense and historical knowledge in order to discount testimony when talking about the lance.[194]

There are several reasons why authors might have chosen to convey these results in this way. One reason could be to appease patrons, but another consideration is the high stakes for the veracity of these miracles on crusade. Crusaders' interpretation of Peter's burn wounds as smothering from the adoring crowd betrays a sort of willful ignorance or overlooking of evidence that other contemporaries believed to be convincing.[195] Peter himself was reluctant to retell the visions he has been getting from St. Peter on the location of the Holy Lance because he doubted that others would believe him, and it was only on his third vision that he deemed it appropriate to share. The narratives relay that Peter obtained the lance after hearing about it in a vision from God; if it is accepted that the lance was false, then these visions might have been false too. If crusaders proved these miracles as false, there would be fewer avenues for crusaders to incorporate themselves into this narrative. These were valid ways of knowledge from the ordeal of the lance. There was historical knowledge, common sense reasoning, knowledge of how an ordeal functioned and God's power over nature, medical knowledge and experience, and storytelling power.

Ways of knowing

Examining the way that crusaders verified events that caused skepticism among their numbers reveals part of a framework that crusaders used to understand truth and how one might

[194] Lapina, "Problem of Eyewitnesses," 6.
[195] Guibert de Nogent, *Gesta Dei per Francos*, 121.

ascertain truth. While eyewitness accounts were the primary way by which writers ensured the verification of miraculous accounts for storytelling, smaller and more isolated events of the pilgrimage give insight into truth seeking endeavors that functioned outside of the standpoint of narrative retelling. Crusaders valued knowledge that they could gain by observing the natural world, such as the stars, which they used in astrology to make predictions and astronomy to construct a calendar. They also valued experiences and observations relating to the human body as ways of discerning divine intervention and prescribing better medical treatments. Crusaders also prioritized observation and allowed their assessments to inform their worldviews. Taking a closer look at some of the events on crusade can reveal the ways that crusaders viewed truth and what sources of knowledge obtaining they trusted and used on a regular basis.

Christian storytellers and soldiers viewed Muslim knowledge of astrology as superior to their own knowledge of the topic, a fact that would later be made evident in the translation movement that emphasized Muslim texts on astrology. Even before the migrations between east and west that were made possible by the opening of the pilgrimage routes to Jerusalem, Christian narratives mentioned Muslim astrological proficiency. The *Gesta Francorum* and most other Christian accounts mentioned the predictions made by Kerbogha's mother that foretold the victory of the Franks and the defeat of Kerbogha and his forces. When Kerbogha inquired of the source of his mother's predictions, accounts proffered explanations including Muslim oracles, prophecies, and wisdom from divinatory means:

> I have examined the courses of the stars, the seven planets and the twelve signs, in my wisdom with the astrologers, and I have examined with the diviners whatever can take physical form in the entrails and shoulder blades of animals.[196]

This account of a private interaction between the enemy leader with his mother, though likely apocryphal, nevertheless illustrates Christian fascination with astrology and divination. Guibert

[196] Robert the Monk, *Historia Iherosolimitana*, 156.

of Nogent spent time in his account validating astrology as a useful endeavor and even corroborates Christian testimony by using the conversation: "The words of this noble man are in harmony with the words of Kerbogha's mother, which were given earlier."[197] Others in the crusade narratives indicated the validity of astrology as a means to know more about the world and even to predict certain events. Those who interpreted meteorological events like comets and signs in the sky like eclipses also benefited from this knowledge.[198]

Knowledge and experience with medicine to treat the body was another means that crusaders used to ascertain truth about the natural world.[199] The crusaders identified false stigmata based on their experience of wound putrefaction during warfare, and they recognized the wounds on Peter Bartholomew as fire-inflicted. In addition to the recognition of certain signs of ill health, medical experimentation occurred on crusade. Guibert of Nogent recounted a story of the injury of Baldwin and the quest to bring him back to health:

> Foresight led the doctor whom he summoned to resist covering the wound with medicinal poultices, because he knew that the wound was very deep, and while the skin could be made smooth, the wound would fester deep within his body. He proposed to conduct a remarkable experiment. He asked the king to order one of the Saracens whom they held prisoner to be wounded in the same place and in the same manner that Baldwin himself had been (for it was forbidden for him to ask for a Christian), and to have him killed thereafter, so that he might look more freely into the corpse, and determine from this inspection something about the king's own internal wounds.[200]

An unwillingness to grant this cruel request caused the doctor to seek out a bear in order to perform the experiment. The doctor proposed to injure the bear in the same way so that he could measure the depth of the wound by examining entrails. This anecdote demonstrates that experimentation and dissection were valid ways of knowing for the crusaders.

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[197] Guibert de Nogent, *Gesta Dei per Francos*, 150–51.
[198] Ralph of Caen, *Gesta Tancredi*, 105; Albert of Aachen, *History of the Journey to Jerusalem*, 206.
[199] For a view emphasizing surgical procedures across centuries of crusading, see: Mitchell, *Medicine in the Crusades*.
[200] Guibert de Nogent, *Gesta Dei per Francos*, 134–35.

Experience and observation was another way of knowing for the crusaders, and it was something that they valued cataloguing in their narratives. The crusaders explained certain events, like the saltiness of the sea or the way that wind blew in between mountains and other meteorological occurrences on the narrative, suggesting that they took an interest in these types of events. As crusaders took an interest in these events, predictability became more possible from experience. The crusaders used their knowledge of patterns and seasons in order to make certain battle decisions, which influenced the outcome of the crusade. This type of knowledge was reliable enough to act upon for the crusaders, and it was something that they catalogued in their narratives, as is evident with the discussion of seasonality and certain types of food becoming available.

Conclusion

Descriptions of meteorological phenomena and signs in the sky follow the patterns and emphases of crusader epistemology. Narrative writers sought to convince their readers of the veracity of certain meteorological events. The shower of falling stars in April 1095 that Baldric described as illustrative of crusading zeal was remarkable and rare enough that he felt extra assurance of the event's occurrence was necessary for his audience. He gave this account:

> Yet we know, and the truth bears witness, why the stars sometimes fall from the sky. Moreover, if anyone is unsure about their scattering or their glittering, let him either believe us, or at least assent to our annals, in which they will find it recorded.[201]

While this event was wondrous and believed to be indicative of divine interaction, Baldric did not attempt to persuade his reader that the event was miraculous, but rather that it occurred at all. From this, we see that Baldric valued verification of events and that a legitimate way to achieve verification included experience and written records.

[201] Baldric of Bourgueil, *Historia Ierosolimitana*, 51.

Raymond also wrote of a meteorological event where it seems that he felt extra persuasion might be necessary to convince his reader of the event's veracity. In this case, the event was rainfall, which at that point of the journey was something the crusaders had not experienced for some time and was very welcome. Writers of the crusade often noted the changing of seasons and what weather they expected. From this, it does not seem as though it was during a rainy season that rain occurred in Raymond's account, but the event of rainfall or a lack of rainfall during a particular season was a common enough occurrence in the narratives. [202] Raymond sought verification that that the event of rainfall was miraculous. Unlike Baldric, Raymond did not emphasize past occurrences of rainfall, but rather that this particular instance of rainfall was remarkable because of its effects:

> Likewise, we shall not pass by this memorable event, one in which the Lord loosed a small but welcome shower as the Christians advanced into battle. Its drops brought to those touched by it such grace and strength that they disdained the enemy and charged forth as though nurtured in regal style. The shower affected our horses no less miraculously. In proof may I ask whose horse broke down before the fight's end although it had eaten nothing but bark and leaves of trees for eight days?[203]

These two writers share similarities in their emphasis on verification, but unlike Baldric, Raymond's key source of evidence came from his own observations of the rainfall's effects, which he believed were surely divine. When Baldric wrote about the same occurrence of rainfall, he emphasized that this miracle was self-evident by asking, "Who will not recognize that this sprinkling of cloudlets was from God visiting a blessing on his people?"[204] A reliance on testimony is typical for Raymond in particular and persuasion of his accuracy was a constant struggle throughout his narrative.[205]

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[202] Ralph of Caen, *Gesta Tancredi*, 114, 116.
[203] Raymond d'Aguilers, *Historia Francorum Qui Ceperunt Iherusalem*, 71:63–64.
[204] Baldric of Bourgueil, *Historia Ierosolimitana*, 120.
[205] Some deemed accounts of the visions as unreliable.

These two writers emphasize two types of verification: verification of an event, and verification that something is miraculous. For Raymond, eyewitness testimony was enough for the verification of a miracle, whereas Baldric sought other types of evidence to verify the meteorological event. There do not seem to be instances of trickery or the artificial manufacturing of meteorological events that the crusaders sought to guard against (as was the case in stigmata or the trial of the Holy Lance), nor does the use of verification seem to be used in order to learn more about the event in order to learn more or take an action (as was the case in the medical experimentation). Rather, the use of verification within this subset of meteorological phenomena seemed to be verification for social reasons of persuasiveness. It is possible that the cataloguing of other details of events, such as when they occurred or how they manifested and traveled, is part of the way of verification that could be used for corroboration, as was the case for Baldric's records in the abbey. In miracle stories in general, Ward, Koopmans, and Lapina demonstrate a focus on verification that is relevant for an understanding of how crusaders viewed verification.[206] Verification was important to crusaders, and two ways that crusaders verified meteorological events was through written records and eyewitness testimony.

Experience was a key component of eyewitness testimony, and experience was a valid way of knowing for the crusaders. In the writing of the first-generation *Gesta* based narratives, few writers experienced events of the crusades themselves, and if they did, it was most likely the council of Clermont. The experience the writers did have, however, were the firsthand accounts they heard from soldiers. But while historians have explored the notion of transfer of knowledge from person to person, the experience of the crusaders themselves is still relatively unexplored. Hints of the epistemology of eyewitnesses and soldiers can be found in the letters written as well as in some narrative accounts. Soldiers wrote of weather and climate when recounting stories to

[206] See: Lapina, *Warfare and the Miraculous*; Koopmans, *Wonderful to Relate*; Ward, *Miracles and Medieval Mind*.

tell to their families back home, and while these soldiers were not focused on verifying the event, they related their experiences to something that their families could experience in order to convey what they meant. Crusaders valued experience and it held authority among the other soldiers, particularly when it came to making decisions that were relevant for battle.

Another way that meteorological phenomena reveal views about crusader epistemology is through events that crusaders thought could only be interpreted properly due to the education of the author or through certain authoritative texts. For example, Ralph of Caen wrote about certain comets and events in the sky that some were able to interpret because of the education of the person.[207] Guibert of Nogent wrote similarly about this idea of one more accurately ascertaining the true meaning of the stars and signs in the sky because of education background of that person. He wrote of celestial signs, "This celestial sign is in accord with a thorough and regular reading of the ancient texts of our faith, which openly state what the celestial brightness has indicated in a veiled manner."[208] These examples demonstrate that learned knowledge was something that the crusaders valued and trusted.

Experience was also a valid way of knowing that applied to the weather and related to the way that crusaders noticed patterns in the climate and the weather and was able to compare climates of different regions. In a letter back home to his wife Adela, Stephen of Blois used his experience to disprove a misconception by comparing eastern and western climates:

> All winter long in front of the aforesaid city of Antioch we suffered extremely cold temperatures and an endless downpour of rain for Christ the Lord. When some people say that the heat of the sun throughout Syria is unbearable, this is wrong, since their winters are similar to our western winters.[209]

[207] Ralph of Caen, *Gesta Tancredi*, 105.
[208] Guibert de Nogent, *Gesta Dei per Francos*, 150.
[209] Barber and Bate, *Letter*, 23.

This example demonstrates that experience and pattern seeking were valid ways of knowing. Crusaders noticed that sky signs sometimes followed patterns similar to the way seasons did. Ralph of Caen compared portentous red skies to those that he recognized from his youth in his hometown of Caen, and others wrote about eclipses using counterfactuals in a way that suggests that pattern recognition was a key factor in the way crusaders interpreted portents.[210] This recognition of patterns and the ability to predict certain phenomena represents a facet of crusader epistemology that is consistent with the other instances of phenomena explored on crusade.

One explanation for interpreting the role and description of these meteorological phenomena in this particular way could be theological refinement. Comet directions fall into this category on occasion; but other times, meteorological phenomena traveled in different directions and were still catalogued as such. It is possible that crusade writers were conforming to ancient authorities like Pliny the Elder. It seems more likely that crusaders were just writing about the event and that theological refinement is an important but separate part of narrative writing. It is clear that chroniclers were not trying to conform to standards of description in Aristotelian meteorology because the crusaders did not have access to these translated texts. It is also evident from prologues and prefaces to narratives that many chroniclers were writing for a particular audience of a patron such as an abbot of a monastery. But even when writing about a subject (like the ordeal) for a patron, writers justified reasons why they believed or did not believe the result and outcome of the trial. Writers gave descriptions of the natural world in a way that made sense to them. Crusader letters focused more on experience and used relative terms and concepts to describe the events and occurrences they experienced while on crusade.[211] Those with more

[210] Ralph of Caen, *Gesta Tancredi*, 83; Fulcher of Chartres, *Expedition to Jerusalem*, 204–5; 220–21; Albert of Aachen, *History of the Journey to Jerusalem*, 206; Guibert de Nogent, *Gesta Dei per Francos*, 55.
[211] For example, they described distance in terms of how far a catapult could throw, land in terms of places they were familiar with, and time in relation to feast days and other battles.

education and training were prone to give descriptions of the world with references to classical works that they knew and studies, or explicitly through their general knowledge of the liberal arts.

Conclusion

Writing the story of the First Crusade through the perspective of a particular person, incident, or a more general type of event has been a trend in recent years.[212] Histories of this type have been most valuable within crusade studies because historians have been able to learn more about chroniclers and other types of writers by using the wealth of material to draw comparisons between the multitudes of crusade accounts from the twelfth century. Understanding what might have motivated a medieval writer to look favorably or unfavorably upon a particular character like Bohemond, for example, is useful because historians can learn more about the narrative authors, patrons, events that featured Bohemond, and even Bohemond himself. The present paper has benefited from this style of work, and it contributes to this type of history as well. But unlike other studies that have revealed trends that act as useful frameworks for crusade studies, such as the uncovering of "theological refinement" as a concept, this paper proposes that comparing meteorological phenomena and signs in the sky on the First Crusade reveals a null result rather than a definitive and consistent trend.

When assessing the crusade authors and their writings in comparison to meteorological phenomena and signs in the sky, descriptions and interpretations of phenomena made by writers do not appear to follow a universally discernable pattern, even if smaller and more isolated trends can be identified. One smaller trend is the crusaders' perspective of an awareness of divine intent in the causation of the weather. This is most easily identified when using multiple accounts to examine one particular event. For example, wind that benefited enemies was more prone to being described as "the wind blowing" rather than adding modifiers to ascribe divine intention. Albert of Aachen wrote of enemy smoke that blew into the eyes of the crusaders and blinded

[212] The historians that I compare--Lapina, Rubenstein, and Hamilton--are all part of this trend, among many others.

them without a divine agent.[213] Ralph of Caen wrote of a similar incident of smoke that was blown by the East wind (without an agent) and blinded the crusaders. Eventually "God took pity on the afflicted and opened his treasuries" and divinely intervened in the winds in the following way:

> He sent forth the favorable North-west wind, which struck the East wind and forced the defeated one to return to its vaults. Freed from its western prison, the North Wind tormented the eyes of the Turks with their own smoke. The North Wind did not delay in fulfilling its orders, shaking and tearing loose everything which blocked its flight. Now it entered into battle, but not with arms and men. It struck with such force that it terrified the horses and blew away tents. The mountain, valley, fields and woods shuddered and trembled. Behold East wind, you flee and you are overcome by your own smoke.[214]

This description of the winds corroborates what Lapina has identified as the east-west dichotomy in crusader narratives that were framed in such a way as to insert crusaders into a larger miraculous narrative. This description also fits within a smaller trend where "bad" events of the weather were done without agent, while "good" events were described with God as a divine agent. Other accounts of wind fall within this trend as well. Fulcher of Chartres wrote of thwarted travel plans of Stephen of Blois and his men due to unfavorable winds, but later wrote that God favored the crusaders due to the winds blowing enemy ships away, where Fulcher concluded, "God showed Himself our kind Helper in tribulation and thus manifested his omnipotence."[215] This attribution of agent is a consistent trend.

What this trend fails to explain, however, are events that are neither good nor bad. Albert of Aachen wrote of an innocuous wind explicitly caused by God, and Fulcher of Chartres wrote of an innocuous sailing wind without a particular agent.[216] Events that a historian might interpret as beneficial to crusaders, such as enemy arrows being blown off a target, also do not follow a

[213] Albert of Aachen, *History of the Journey to Jerusalem*, 170.
[214] Ralph of Caen, *Gesta Tancredi*, 109–10.
[215] Fulcher of Chartres, *Expedition to Jerusalem*, 167, 188.
[216] Albert of Aachen, *History of the Journey to Jerusalem*, 148; Fulcher of Chartres, *Expedition to Jerusalem*, 296.

descriptive trend that is always completely consistent.[217] Despite having some occurrences of weather that follow a discernable trend, applying this framework to other events or a diverse range of authors does not allow a historian to consistently predict how the crusaders might describe an event. There is no unifying theme that allows a categorization for the way crusaders described meteorological or other sky phenomena. This is a null result.

Understanding the way crusaders described and interpreted the weather does not reveal theological or narrative goals that are always consistent, but it does identify some goals in a localized context. The aforementioned east-west dichotomy and the insertion of crusaders into a divine narrative is one clear goal that is also related to the idea of crusader agency through morality, which achieved a similar narrative purpose. The careful cataloguing of events' chronology and descriptions in Christian accounts that mirrors descriptions in Islamicate chronicles reveals that recordkeeping was a possible reason for describing phenomena in this way. Offering writers' individual interpretations of events that differed from others is perhaps another goal and reason why descriptions and explanations of phenomena vary across accounts. The multiplicity of types of accounts and the diverse backgrounds and intentions of writers also cause an attempt to define a singular narrative goal to be an inaccurate and impossible endeavor.

Crusader descriptions and interpretations of the weather can tell us more widely about the way crusaders thought about meteorology more generally in a way that is more familiar to historians of science. For example, Fulcher of Chartres wrote about a rainstorm that brought pestilence.[218] Ralph of Caen, prone to poetic renderings, nevertheless raises an interesting observation on the creation of a raging storm, where "There was great movement of both the heaven and earth so that it appeared that the two elements had been joined together with the one

[217] Robert the Monk, *Historia Iherosolimitana*, 170.
[218] Fulcher of Chartres, *Expedition to Jerusalem*, 304.

rising up and the other coming down."[219] Robert the Monk wrote of atmospheric disturbances that he believed could account for the manifestation of the miracle of the saints.[220] Outside of crusade accounts was Adelard of Bath's *Quaestiones Naturales*, which he wrote in the first half of the twelfth century when many crusader narratives and chronicles were written and widely circulated.[221] In contrast to narratives of the First Crusade, discussions of meteorological causation in *Quaestiones Naturales* benefited first from having a different narrative focus from crusade writings, but also in the command of diverse languages of the author.[222] Integrating a wider range of writers from this time who were impacted by the transfer of knowledge between the Christian west and the Islamicate east might aid in making sense of inconsistencies in crusade narratives.

Twelfth-century descriptors can also be understood within the historiographical tradition of discussing meteorology in the context of translations and commentaries of Aristotle's *Meteorology*. Looking forward, Renaissance authors wrote of causes of meteorological phenomena in a more systemized format with the translations of Aristotle's *libri naturales* becoming available in Latin. These were described with the four Aristotelian causes--formal, material, efficient, final. In the *Meteorology*, Aristotle explained meteors in terms of two of these causes: the material and the efficient cause. In this view, for example, comets have a material cause of the hot and dry exhalation and the efficient cause of the movement of the heavens igniting the sphere of fire. Later writers and commentators on the *Meteorology* would incorporate Aristotle's other two causes into their explanation of the weather. For instance, on

[219] Ralph of Caen, *Gesta Tancredi*, 81.
[220] Robert the Monk, *Historia Iherosolimitana*, 142–43.
[221] Lynn Thorndike, *A History of Magic and Experimental Science: During the First Thirteen Centuries of Our Era*, vol. 2 (New York: Columbia University Press, 1993), 21.
[222] While there is some debate over Adelard's proficiency in Arabic at the time he wrote *Quaestiones Naturales*, there is evidence that some chroniclers of the crusade never learned outside languages and always relied on translators.

comets, William Fulke wrote about the color and shape of comets (formal) as well as their purpose as a "manifestation of disorder in the heavens and the portent of chaotic woe on earth" (final).[223] While some scholars argue that the incorporation of the formal and final cause of meteors is a Renaissance phenomenon, perhaps it occurred earlier. Visual descriptors of the form of a phenomenon, such as rain being "fine and light" like dew in Baldric's account, or a purpose in the weather, such as a punishment and a way to persuade the crusaders to cease sinning, could be interpreted as descriptions of form and teleology.[224] It does not seem to be the case that crusade writers conceived of these phenomena using this sort of framework at all; however, considering the way writers conveyed phenomena raises legitimate questions for how meteorology was discussed in natural histories and narratives before commentaries on the *Meteorology*.

Carefully considering the role of meteorology in accounts of the First Crusade allows a frame of reference for something that *was* actually universal to people of all groups across all times--the weather and the sky. It is from here that we might better understand early twelfth-century conceptions of knowledge and nature.

[223] S. K. Heninger, *A Handbook of Renaissance Meteorology: With Particular Reference to Elizabethan and Jacobean Literature* (Durham, N.C.: Duke University Press, 1960), 87–90.
[224] Baldric of Bourgueil, *Historia Ierosolimitana*, 120.

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Appendix

Fire in the Sky

1093 September ~23. Torch, flying east to west.
Ekkehard of Aura (trans Pflüger 1893) 37.

1097 February 11. Fire in the sky; eclipse; falling stars.
Guibert of Nogent (trans. Levine 1997) 54-55, 157.

1098 June 13-14: Antioch. Fire in the sky, flying from west to east, falling to the ground.
Gesta Francorum (trans. Hill 1962) 62; *Gesta Francorum* (trans. Dass 2011) 80; Peter Tudebode (trans. Hill and Hill 1974) 79; Baldric of Bourgeuil (trans. Edgington 2020) 113-114; Guibert of Nogent (ed. Huygens 1996) 224-225; Guibert of Nogent (trans. Levine 1997) 102-103; Robert the Monk (trans. Sweetenham 2013) 164, 166; Robert the Monk (ed. Kempf and Bull 2013) 69.

1099 February 24. Torch in the sky.
Ekkehard of Aura (trans Pflüger 1893) 50.

Comets

1066. Comet.
Ekkehard of Aura (trans. Pflüger 1893) 19.

1096 October 7. Comet in the south.
Ekkehard of Aura (trans. Pflüger 1893) 50.

1097 July/August. Comet in the west.
Ibn al-Qalānisī (trans. Gibb 1932) 43.

1097 December ~1. Comet.
Ekkehard of Aura (trans. Pflüger 1893) 40.

1098 May ~29: Antioch. Comet, north to east.
Robert the Monk (trans. Sweetenham 2005) 146.

1105/1106 December 11 - January 8. Comet.
Ibn al-Athīr (trans. Richards 2006) 106.

1105 December. Comet in the west.
Ibn al-Qalānisī (trans. Gibb 1932) 72.

1106 February. Comet.
Ekkehard of Aura (trans. Pflüger 1893) 94.

1106 February - March. Comet.
Fulcher of Chartres (trans. Ryan 1969) 189.

1108. Comet
Ibn al-Athīr (trans. Richards 2006) 134.

1110 May 29. Comet in the east; rays extending toward the south.
Ibn al-Qalānisī (trans. Gibb 1932) 101; Ibn al-Athīr (trans. Richards 2006) 151; Fulcher of Chartres (trans. Ryan 1969) 198.

1110. Comet.
Ekkehard of Aura (trans. Pflüger 1893) 115.

1126 July - August. Comet in the east and north.
Fulcher of Chartres (trans. Ryan 1969) 295.

Earthquakes

1096 (before May 8). Earthquake.
Albert of Aachen (trans. Edgington 2013) 18.

1097 December 30. Earthquake
Fulcher of Chartres (trans. McGinty 1941) 44.

1105 December 24. Earthquake.
Fulcher of Chartres (trans. Ryan 1969) 189.

1113 July 18, August 9. Earthquake.
Fulcher of Chartres, (trans. Ryan 1969) 208-209.

1114. Earthquake.
Fulcher of Chartres (trans. Ryan 1969) 210.

1114. Earthquake.
Ibn al-Qalānisī (trans. Gibb 1932) 149.

1115. Earthquake.
Fulcher of Chartres (trans. Ryan 1969) 214.

1156. Earthquake.
Ibn al-Qalānisī (trans. Gibb 1932) 326.

1157. Earthquake.
Ibn al-Qalānisī (trans. Gibb 1932) 328-329.

1158. Earthquake.
Ibn al-Qalānisī (trans. Gibb 1932) 338-340.