Natural Disasters and the Crusades:

Framing Earthquakes in Historical Narratives, 1095-1170

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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ABSTRACT

This thesis explores perceptions of earthquake causality in the accounts of twelfth-century Syria and the ways that medieval views of natural disasters influenced historical writing. Examining the perceived causes, effects, and significance of cataclysmic seismic events provides insight into shared elements of faith perspectives, the role of nature in medieval worldviews, and how chroniclers framed accounts of natural disasters to reflect their religious and political prejudices. Medieval writers believed that natural phenomena were indicative of important world events and imbued with spiritual significance. Chroniclers perceived earthquakes as omens of future disaster or the apocalypse, and associated them with a need for repentance due to their belief that seismic disasters were divine punishment for moral failings. In addition, Christian and Muslim sources utilized these perceptions on divine causality to criticize the failings of political leaders and rival religious communities. These patterns of portrayal possess great significance in the context of the major conflicts and cultural convergences in the twelfth-century Near East.

In addition to the theological perspectives and political criticism present in the sources, terrestrial and astrological explanations for earthquakes were prevalent in the twelfth century and often used to complement, not disprove, perceptions of divine causation. Apocalyptic sentiment and crusading spirituality also influenced portrayals of earthquakes, particularly in the Christian sources. These intellectual patterns are evident in earthquake accounts from the period irrespective of religious and cultural differences, but were firmly grounded in the political realities of the Levant during the Crusades. The sources' methods of portraying seismic disasters, therefore, provide important insight into the worldviews of medieval chroniclers and the broad effects of earthquakes amidst the complex dynamics of twelfth-century Syria.

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INTRODUCTION

Common patterns of belief and interpretation concerning the causality of earthquakes are evident throughout the historical sources of the twelfth-century Near East. These patterns provide a fascinating glimpse into medieval worldviews in a region that was a borderland of cultural, political, ethnic, and religious affiliations. Medieval writers predominantly associated natural disasters with divine punishment, but some chronicles also reveal the existence of intellectual debates regarding terrestrial or astrological explanations of earthquakes. By studying the chain of causality that medieval chroniclers perceived between God, nature, and natural disasters, we can determine a wide variety of details about historical worldviews in the twelfth century, including the prevalence of religious, scientific, and astrological approaches to seismic events. In addition, chroniclers used their texts to pass judgment on the failings of a faith, culture, city, or individual through intricate use of language, including theological phrasing, comparisons to sacred literature, and the denigration of religious and political rivals. Discerning and establishing these patterns allows greater insight into the common intellectual patterns of the twelfth-century Near East, which existed across all cultural and religious lines. This type of research reveals the ways that major environmental events affected historical writing, such as the incorporation of societal criticism. In addition, this subject serves as a springboard for viewing many different aspects of intellectual and social history, including religion, natural science, astrology, cross-cultural interactions, and societal responses to disasters. Chroniclers' methods, purposes, and personal judgments significantly affected how they recorded earthquakes and these influences can be identified and traced to reveal important facts about life, learning, and crisis in the medieval world.

The Near East witnessed a period of major political, military, and social conflict during the early Crusades. Natural disasters further exacerbated these elements of human conflict, and the extraordinary scale and frequency of earthquakes in the twelfth century had major effects in Syria and the whole of the Near East. The earthquakes of 1114, 1138, 1157, and 1170 inflicted particularly widespread devastation and high death tolls in the Crusader States and the lands of their Muslim neighbours. This seismic crisis of the twelfth century had many practical effects in the regions it afflicted, and these effects have attracted a great deal of attention from geological studies, as well as a few environmental histories. Modern scholars, however, often only mention in passing how contemporary chroniclers sought to interpret natural disasters and earthquakes.

The events described in medieval chronicles reflect the worldviews and perceptions of their authors. Chroniclers framed their accounts to corroborate their biases, implicate the guilt of specific groups, and display the divine support enjoyed by their formative religious community or associated political cause. In the twelfth-century Near East, accounts of seismic disasters, therefore, acquired the political, social, and religious perspective of their authors. The calamitous scale of earthquakes in this period provided a useful tool for chroniclers to frame the actions of their political or religious enemies as the reason for divine retribution. The theological framework of medieval mindsets lent itself to this practice and supported the chroniclers' interpretations of the causation of natural disasters. The accounts of the First Crusade are filled with a sense of the cosmological connection between the spiritual and material worlds. In this framework, nature acted as medium between God and mankind, with natural phenomena and earthquakes representative of divine signs or punishment. The Arabic chronicles of Ibn al-Qalanisi and Ibn al-Athir regularly portrayed sin as the cause of earthquakes, as did many Frankish and European writers, such as William of Tyre and Fulcher of Chartres. Walter the

Chancellor and the local Christian accounts of Matthew of Edessa and Michael the Syrian made sin, punishment, and redemption the central themes of their works, and earthquakes played a significant part in each of them. This thesis examines these sources and a wide array of other accounts to determine how medieval chroniclers perceived and portrayed earthquakes and what these patterns tell us about their intellectual framework and the world of the Near East.

This thesis utilizes a range of sources, methods, and influences, including seismological studies and intellectual histories, but remains firmly entrenched in an environmental perspective. As Verena Winiwarter has described, environmental history involves the utilization of both traditional historical resources and interdisciplinary methods such as paleo-scientific studies. The combination of these tools allows environmental historians to approach "the study of past perceptions of nature, of attitudes, [and] traditions", as well as "the reconstruction of past environments" through the sciences.[1] This study, therefore, utilizes the work done on the medieval Near East by seismologists, geologists, and archaeologists, as well as by environmental historians such as Richard Bulliet, Ronnie Ellenblum, and Sarah Raphael, to fully examine the context, scale, and impact of the seismic events of the twelfth century. This thesis is ultimately weighted towards traditional historical methods, however, which delve into primary written sources and explore their approaches to natural disasters. Essentially, this thesis seeks to establish the intellectual framework by which twelfth-century historians made sense of natural disasters such as earthquakes, assigned them significance according to political and religious factors, and utilized them to praise or criticize the actions of rulers or religious communities. This approach ultimately corresponds to the category of cultural and intellectual environmental

[1] Verena Winiwarter, "Approaches to Environmental History: A Field Guide to Its Concepts," in *People and Nature in Historical Perspective*, edited by József Laszlovszky and Péter Szabó (Budapest: Central European University and Archaeolingua Foundation, 2003), 5-6.

history, which J.R. McNeill described as emphasizing "representations and images of nature in art and letters, how these have changed, and what they reveal about the people and societies that produced them."[2] By developing this approach, this thesis aims to broaden our modern understanding of how environmental factors impacted medieval thought and society through a comprehensive study of seismic disasters in the twelfth-century Near East.

Chapter One provides a brief overview of the historiography of environmental history in regard to the discussion of the relationship between medieval man and nature. This chapter considers the state of the field for Near Eastern environmental history, and the importance of this approach to the period, with a combination of aspects of intellectual and environmental history. In addition, this section examines the historical background of the twelfth-century seismic crisis in Syria, and provides an overview of modern archaeoseismological and geological studies.

Chapter Two establishes the background of the medieval chroniclers covered in this thesis. It examines the political state of the Near East in the twelfth century, amidst the ongoing strife surrounding the Crusades. This chapter briefly explores the chroniclers' cultural and religious backgrounds as well, especially the dynamics between various ethnic and religious communities. This context illustrates the prejudices at play when examining the ways that medieval authors sought to lay the blame for natural disasters at the feet of their political or religious opponents. The authors' backgrounds and intentions represent some of the major limitations of the various texts, therefore. In addition, this chapter will briefly examine some of the common patterns discernible in the Christian, Muslim, and Jewish accounts, such as the frequent incorporation of religious texts and traditions. Crusading spirituality in this period had a

[2] J.R. McNeill, "Observations on the Nature and Culture of Environmental History," *History and Theory, Theme Issue* 42 (2003), 6-8.

particularly significant impact on Christian perceptions of natural disasters and phenomena.[3]

Chapter Three provides categories of interpretation to help us understand how medieval chroniclers perceived earthquakes. Chroniclers commonly interpreted natural phenomena according to a religious framework, believing them to represent divine signs, omens, punishment, or favour. The twelfth century witnessed a strong current of apocalyptic expectation in the Near East, among all religious backgrounds, which heightened chroniclers' perception of earthquakes as signs of the Last Days. In addition, classical theories regarding earthquake causality continued to influence medieval authors, providing astrological and terrestrial explanations for seismic activity. Connected to the study of signs and omens, astrology was often used in conjunction with religion to determine the significance of natural disasters and other portents. These patterns of interpretation crossed cultural and religious boundaries for an oftentimes-shared perspective on the causality of natural disasters and earthquakes, though individual perceptions of events varied depending on the biases and perceptions of each author.

Chapter Four delves more deeply into the sources' interpretations of earthquakes, and examines the significance of these perceptions in detail. The description of earthquakes as omens, divine punishment, or apocalyptic signs can reveal the authors' criticisms of external groups, moral decline in their own communities, or the political and military decisions of their rulers. This section also explores how the connection between earthquakes and apocalyptic expectations drove some chroniclers to believe in the imminent climax of history.[4] Christian and

[3] In some cases, the desire to avoid future calamities caused political authorities to legislate morality in an attempt to appease God, such as Adhemar's reforms during the First Crusade and the Council of Nablus in 1120. These instances are clear examples of the sociopolitical ramifications that accompanied natural theological perceptions.
[4] For example, Matthew of Edessa believed that earthquakes in the 1030s symbolically marked the release of the devil after a thousand years of confinement since the time of Christ, ushering in the days of Revelation and the Turkish conquest of Armenia. Matthew of Edessa, *Armenia and the Crusades – Tenth to Twelfth Centuries: The Chronicle of Matthew of Edessa*, edited and translated by Ara Edmond Dostourian, Armenian Heritage Series (Lanham, MD: University Press of America, 1993), 47-60; Revelation 20:1-7.

Jewish writers used scriptural quotations to support the belief that the Last Days would be preceded by earthquakes, and Muslim scholars referred to the Quran and hadiths for the same purpose. In addition, all three of the monotheist religious expressions believed in a form of millennarianism occurring around the twelfth century, based on calculations and prophecies that sought to establish the timing of the world's end.

Chapter Five examines some of the practical results that followed in the wake of major earthquakes. Cities with damaged fortifications presented tempting targets for military campaigns, provided that the aggressor had avoided similar destruction in his own territories. After some earthquakes, Muslim and Christian rulers mutually sought to establish truces that would allow them to repair damaged castles and towns without fear of invasion. In addition, earthquakes had significant effects in the Crusader States, causing them to make frequent appeals for aid to their Christian compatriots in Europe. Frankish embassies used examples of the destruction caused by the shocking disasters to recruit fresh crusaders and donations for the beleaguered Kingdom of Jerusalem.

Chapter Six concludes this thesis by summarizing how an examination of earthquakes in the twelfth-century Near East can reveal many key features of medieval life and thought. The major earthquakes that Syria experienced in this period serve as a springboard for a host of topics surrounding medieval intellectual patterns, shared perspectives in historical writing, and environmental issues. The role that nature played in medieval worldviews had a significant impact on how earthquakes were perceived and recorded by chroniclers, as did the prevalent use of classical, biblical, and apocalyptic themes. This chapter, therefore, elaborates on the benefits of studying how natural disasters were framed in historical narratives and how this type of intellectual history contributes to the broader fields of medieval and environmental history.

CHAPTER ONE: PARAMETERS AND HISTORIOGRAPHY

1.1. Sources and Methods

This thesis approaches the topic of natural disasters and phenomena within the context of the twelfth-century Near East as a whole, but, more specifically, it examines perceptions and portrayals of earthquakes that occurred within Greater Syria, as described by authors who were contemporary with events, and for the most part present in the Near East.[5]

There are a number of reasons for this particular focus and the spatial and temporal parameters. First, in terms of the location under examination, the Near East experienced a wide range of climatic disasters and ensuing chaos in the eleventh and twelfth centuries. This period saw numerous episodes of drought or flooding that led to devastation from famines and plagues. Many of the sources recorded these events also being accompanied by harsh environmental conditions, natural disasters, and widespread devastation from nomadic incursions, urban violence, large-scale emigration, and political turmoil. This spectrum of related events occurred in frequent and seemingly cyclical patterns throughout the Middle East and had a far-reaching impact on all aspects of society.[6] These interrelated environmental and human factors caused widespread chaos in the Near East during this period, and the beginning of the Crusades in 1095 had further major repercussions and introduced a "hybrid" culture to the region. Syria's position as a borderland between many different political, religious, and ethnic groups gives increased

[5] The major earthquakes of the twelfth-century Near East occurred along the Dead Sea Fault System and the East Anatolian Fault Zone, located within the region of Greater Syria, which Raphael and other Crusade historians also refer to as Bilad al-Sham. This thesis' geographic parameters roughly correspond to those used by Raphael, though with an alternate and more specific focus on earthquakes. Sarah Kate Raphael, *Climate and Political Climate: Environmental Disasters in the Medieval Levant*, Brill's Series in the History of the Environment, Vol. 3 (Boston: Brill, 2013), 5, 118-23; Nicholas N. Ambraseys, "The 12th century seismic paroxysm in the Middle East: a historical perspective," *Annals of Geophysics* 47, no. 2-3 (2004), 733-4.

[6] Richard W. Bulliet, *Cotton, Climate, and Camels in Early Islamic Iran: A Moment in World History* (New York: Columbia University Press, 2009); Ronnie Ellenblum, *The Collapse of the Eastern Mediterranean: Climate Change and the Decline of the East, 950-1072* (Cambridge: Cambridge University Press, 2012); Raphael, *Climate and Political Climate*.

significance to a comparative study of contemporary perspectives in the region. These issues influenced how the chroniclers framed seismic events according to their worldviews and utilized literary devices and patterns to implement this framework in their works.

Within this broader context, the study of how seismic events affected the populations of the Near East gains relevance due to the fact that the twelfth century witnessed a "seismic paroxysm" along the Dead Sea Fault, experiencing major earthquakes in 1114, 1138, 1157, and 1170.[7] These earthquakes primarily occurred in the areas of Greater Syria and Palestine, encompassing the modern countries and regions of Syria, Lebanon, Palestine, Israel, Jordan, and south-eastern Turkey. Due to the location of this period's earthquakes, and the interests and location of the sources, certain areas of the Near East have not been examined except insofar as instances of earthquakes appear in the extant sources from Syria.[8] While Egypt, Arabia, and Mesopotamia experienced some seismic activity during the twelfth century, the majority of major twelfth-century earthquakes occurred along the Dead Sea Fault System.[9] This thesis' primary focus is, therefore, on Syria and Palestine.

In addition to these tectonic factors, the second reason for the focus of this study is the abundance of twelfth-century sources that recorded the events of the Crusades. The political situation of the Crusader States and the extraordinary scale of earthquakes in Syria during this period influenced the contemporary sources' descriptions of the disasters, as did the authors' broad range of cultural and religious backgrounds. The twelfth-century historians of the Crusades

[7] Ambraseys, "The 12th century seismic paroxysm," 733-758. See Maps 2 and 3.
[8] Raphael, *Climate and Political Climate*, 5. For example, Egypt does not figure largely into the present study due to the location of major earthquakes during this period, although it had a significant impact on the environment of the region, particularly with the role of the Nile's droughts and floods in causing widespread famines or abundance.
[9] For seismic events in the regions surrounding Syria, see: Nicholas N. Ambraseys, C.P. Melville and R.D. Adams, *The Seismicity of Egypt, Arabia and the Red Sea: a Historical Review* (Cambridge: Cambridge University Press, 1994); Charles Melville, "Meteorological Hazards and Disasters in Iran: A Preliminary Survey to 1950," *Iran* 22 (1984): 113-50; Martin R. Degg, "A Database of Historical Earthquake Activity in the Middle East," *Transactions of the Institute of British Geographers* 15, no. 3 (1990): 294-307.

were immersed in a cosmopolitan and cross-cultural setting that caused high levels of intellectual interaction. This interaction produced many fascinating perspectives on the significance of natural disasters and their theological, scientific, and practical implications. Common patterns of interpretation can be discerned across all boundaries of culture and faith, with great relevance for defining how medieval peoples sought to comprehend natural disasters and assign them a place in their respective worldviews. The availability and content of the sources has, therefore, helped to determine this thesis' parameters.

This thesis examines perspectives of seismic disasters and natural phenomena in Syria and Palestine from the beginning of the First Crusade in 1095 to the major destructive earthquake of 1170.[10] The chosen period under examination covers the First and Second Crusades and the establishment of the Kingdom of Jerusalem and the Crusader States. It also witnessed the Franks' loss of Edessa to Zengi, and the rise of Nur al-Din, who attempted to unite the Middle East under his authority, both of which set the stage for Saladin's conquests of the 1180s and the ensuing Third Crusade.[11] This thesis also incorporates some seismic events outside of its geographic parameters and time frame for their significance to the authors' views and their association of earthquakes to other paradigms, such as scriptural and apocalyptic writings. In addition, many of the Muslim historical accounts, such as that of Ibn al-Athir, deal with instances of natural disasters and phenomena that occurred throughout the Middle East and were not limited to Syria.

This study utilizes a wide range of historical chronicles from the twelfth century,

[10] The body of source material for the Third Crusade and the late twelfth century has mainly been left out of this thesis due to the constraints of length. The earthquake of 1202 is not examined, therefore, but also had a massive impact in the Near East.

[11] In cases where names have been transliterated into English from Arabic or other languages, names will be spelt consistently, but there is no standard form and spellings vary greatly. The names of Zengi, Nur al-Din, and Saladin have been written according to their recognized popular form, as is common for modern historians of the Crusades.

including Christian, Muslim, and Jewish sources. The chronicles chosen are specifically those written from the perspective of authors present in the Near East at the time, many of whom were eyewitnesses to the seismic events they recorded. These sources are supplemented by some Latin and Byzantine chroniclers of the First Crusade and its aftermath, who provide contextual perspectives for some of the events and their interpretation, despite not being physically present in the Levant. In addition, letters, travel accounts, cartularies, and regestas have also been utilized as supplementary sources for the events of the twelfth century. Some of the letters provide corroborating evidence from eyewitnesses, while travel accounts, though not historical chronicles, provide useful resources for the events happening in the Near East, and supplement our more limited documentation of the Jewish perspectives of the time. A few of the chronicles for the period that were widely utilized by later sources have also been lost. This is the case for several key Syrian and Arabic historical accounts.[12]

Secondary sources for this thesis include histories of the Crusades, the states they established, and their opponents in the Muslim world. Works of environmental history and the relationship between man and nature in the medieval world add to the topic. A large number of geological, archaeological, and archaeoseismological surveys, catalogues, and articles have examined the earthquakes of the twelfth-century Near East and contain valuable information about the seismic events of the period. These studies provide critical scientific analysis of the seismic events reported by medieval chroniclers, and corroborate the scale and devastation of the textual evidence.

The primary sources for this period are numerous and this thesis explores many of the common patterns and themes that existed between them and the common intellectual and

[12] See the source list below, pages 12-7, for mentions of Basil of Edessa, al-Atharibi, and others.

theological perceptions that they shared. As this study encompasses the First Crusade, it examines the accounts of its participants for their references to the natural world, omens, and disasters, such as the anonymous *Gesta Francorum* and the works of Raymond of Aguilers, Peter Tudebode, and Fulcher of Chartres. Monastic writers in Europe also wrote accounts of the Crusade and elaborated on the participants' accounts, particularly the *Gesta*. These works include the writings of Ralph of Caen, Baldric of Dol, Robert the Monk, Guibert of Nogent, Ekkehard of Aura, and the far broader historical works of Orderic Vitalis and William of Malmesbury. Albert of Aachen's history, a work of substantial length that continued its narrative until 1119, presented a Lotharingian account rather than a French one, and utilized the reports of eyewitness participants.[13] In addition, the historical chronicles of Fulcher of Chartres, William of Tyre, and Walter the Chancellor also present information about the events of the Latin East after the events of the First Crusade. Walter wrote mainly from his personal experience and William likewise utilized his knowledge of the kingdom and contemporary events to a great extent. To gain material for his history, which encompassed the first hundred years of the Crusader States, William also drew material from eyewitnesses, recent oral traditions, and perhaps other lost written sources as well, to create one of the major historical accounts of the period.[14] Both Fulcher and William's histories are valuable resources for their description of major seismic incidents, while the chronicles of the First Crusade include some instances of earthquakes and

[13] Conor Kostick, *The Social Structure of the First Crusade*, The Medieval Mediterranean: Peoples, Economies and Cultures, 400-1500, Vol. 76 (Leiden: Brill, 2008), 9-15, 23-9, 40-3, 52-4, 66-70, 84-6; Colin Morris, "The Aims and Spirituality of the First Crusade as seen through the eyes of Albert of Aachen," *Reading Medieval Studies* 16 (1990), 99-112; Daniel Roach, "Orderic Vitalis and the First Crusade," *Journal of Medieval History* 42, no. 2 (2016), 177-201. The *Gesta* remained one of the primary influences, sometimes indirectly. For example, Orderic built on Baldric's account and Baldric borrowed from the *Gesta*. Fulcher and Albert's accounts were not based on the *Gesta* and were the most dissimilar.

[14] Peter W. Edbury and John Gordon Rowe, *William of Tyre: Historian of the Latin East*, Cambridge Studies in Medieval Life and Thought (Cambridge: Cambridge University Press, 2008), 44-58. Edbury and Rowe describe William's painstaking attempts to create a historically accurate account by contrasting and evaluating the accounts of his sources.

contain numerous instances where natural phenomena were interpreted to be demonstrations of divine help or anger.

Michael the Syrian, Matthew of Edessa, the continuation of the latter's work by Gregory the Priest, and the Anonymous Syriac Chronicle provide sources from the perspective of the local Syrian and Armenian Christian populations. As inhabitants of the Near East who were accustomed to the dynamics of cross-cultural and religious interaction, they provide valuable resources for the realities of life in the Levant, as well as intriguing positive opinions of many of the Latin and Muslim leaders who controlled the region. Some of the events recorded by Bar Hebraeus, an early thirteenth-century Syrian source, also provide useful corroboration of events. Other important sources from the region in the eleventh and twelfth centuries have been lost, including the works of Basil of Edessa and Ignatius of Militene, who were both used as sources for the accounts of Michael and the Anonymous Chronicler.[15] Matthew and Michael's histories are extremely useful for their descriptions of major earthquakes and their interpretations of these events according to religious and apocalyptic themes. Michael's account also provides fascinating information about intellectual debates of the twelfth century regarding the use of astrology as a "scientific" means to predict natural disasters, as was believed by many contemporary scholars in the twelfth-century Mediterranean world.[16] These accounts cannot be taken out of the context in which they were written, amidst the complex dynamics of political and religious intrigue among different faiths and ethnic groups. According to Tara Andrews, one danger with non-eastern scholars using these records lies in approaching these chronicles as

[15] Andy Hilkens, "The Anonymous Syriac Chronicle up to the Year 1234 and its Sources," (PhD Dissertation, University of Ghent, 2014), 5, 385-412. Ignatius III (d. 1094) was a Syriac Orthodox metropolitan of Melitene, and Basil of Edessa (d. 1169) served as the Syriac Orthodox metropolitan of Edessa.
[16] Michael the Syrian, *The Syriac Chronicle of Michael Rabo (the Great): A Universal History from the Creation*, edited and translated by Matti Moosa (Teaneck, N.J.: Beth Antioch Press, 2014), Bk. 21, 728. Michael was opposed to the idea that God was unable to stop events predicted in the stars, not to astrology itself.

generally objective or representative of the general opinions of their ethnic or religious contemporaries.[17] Regardless, these sources offer unique perspectives on the political machinations, societal interactions, and natural disasters of the Near East.

The Byzantine chronicles of John Skylitzes, Anna Comnena, John Kinnamos, and Niketas Choniates corroborate the prevalence of these intellectual trends in the east at the time, particularly the widespread use of astrology to interpret natural phenomena. Their usefulness as sources for the Near East is somewhat limited for the purposes of this study as the authors spent little or no time in the region. Each of these authors' accounts, however, included many manifestations of divine signs in nature, whether through earthquakes or other phenomena, and these examples help to establish the period's common patterns of interpretation regarding natural disasters. The practice of astrology figures quite largely in the Byzantine sources, presenting a belief that natural disasters could be predicted with some degree of certainty based on the stars. This prevalence in Byzantium is of use for comparisons with other instances of the practice in the Near East among the Christian, Muslim, and Jewish populations.

The sheer number of Christian sources from the period provides an abundance of information from the perspective of the "Franks" and Western Europeans, while the Muslim sources are generally fewer in number.[18] Some of the Arabic accounts have been lost, including

[17] Tara Andrews, "The New Age of Prophecy: the Chronicle of Matthew of Edessa and Its Place in Armenian Historiography," in *The Medieval Chronicle* VI, edited by Erik Kooper (Amsterdam: Rodopi, 2009), 2-3.
[18] Carole Hillenbrand, "Sources in Arabic," in *Byzantines and Crusaders in Non-Greek Sources, 1025-1204*, edited by Mary Whitby, Proceedings of the British Academy, 132 (Oxford: Oxford University Press, 2007), 290-1. The tradition of terming populations as generic "Franks" and "Muslims" is often needed for simplicity's sake, despite the obvious limitations of the terms. The historians of the time also used the terms (or alternatives like "Gauls" by Albert of Aachen), though they were similarly cognizant of the host of ethnic and cultural differences amidst these vague and generalized groupings. This thesis will also use "Latin" to refer to Europeans and those of their descent in the "Latin East", as is common for many scholars of the Crusades. For insight into this historiographical debate, see: Nicholas Morton, *Encountering Islam on the First Crusade* (Cambridge: Cambridge University Press, 2016), 15-9; Matthew Gabriele, *An Empire of Memory: The Legend of Charlemagne, the Franks, and Jerusalem before the First Crusade* (Oxford: Oxford University Press, 2011), 152-7.

all those from a Fatimid Shi'a perspective, and the bias of the extant sources is therefore overwhelmingly Sunni.[19] The end of the Fatimid caliphate in 1171 was followed by the destruction of Fatimid libraries and literature by Saladin and his Ayyubid successors, as was the fall of the Nizari Isma'ili strongholds in Persia to the Mongols in the thirteenth century, leaving a significant gap in medieval Islamic historiography.[20] The extant Arabic sources, however, provide invaluable accounts of the period and recorded firsthand accounts of the dynamics in the Muslim states of the time, many of whose political dealings and events were mere rumours in the Christian sources, especially when coming from farther in the Muslim East. Sources like the *Damascus Chronicle* of Ibn al-Qalanisi also included wide-ranging lists of natural events that occurred from al-Andalus to Khorasan, taken from a large body of sources. While Ibn al-Athir (c.1160-1233) wrote somewhat later than most of the sources used in this thesis, his massive work is indispensable for a study of Syria in this period and though the intellectual world of Syria had changed in some ways, interpretations of natural disasters remained consistent with the earlier time frame. Ibn al-Qalanisi's work was his main source for Syria until 1160, though their accounts frequently presented their material differently. For example, they diverge in their portrayal of the alliances between Christian and Muslim rulers, due to the development of the "counter-crusade ideology" that Ibn al-Athir adopted.[21]

The works of Usama Ibn Munqidh, while memoirs and not strictly historical accounts, provide firsthand knowledge of the devastating earthquake of 1170, which killed almost his entire extended family. Also useful are the historical accounts of Kamal al-Din, a chronicler from Aleppo, and later historians like Sibt ibn al-Jawzi that help to fill gaps in the historiography.

[19] Hillenbrand, "Sources in Arabic," 290-1.
[20] Farhad Daftary, "Persian Historiography of the Early Nizārī Ismāʿīlīs", *Iran* 30 (1992), 91-2.
[21] Bogdan Smarandache, "The Franks and the Nizārī Ismāʿīlīs in the Early Crusade Period," *Al-Masāq: Journal of the Medieval Mediterranean* 24, no. 3 (2012), 222-3.

While these records are extremely valuable for a study of the Crusades and the Near East, they represent a somewhat uneven perspective on the former in comparison to the Christian sources. The only chronicle that dealt specifically with the Crusades and the presence of the Franks in the East, the work of al-Atharibi, has been lost. The works of al-Azimi survive only in fragments or an abridged form. In addition to these limitations, Alex Mallett has argued that the chronicles we possess from a Muslim perspective have roughly equivalent historiographical methods to those of Orderic Vitalis and Matthew Paris.[22] Ibn al-Athir, for example, contains many sections in his narrative about events occurring in al-Andalus.[23] While their accounts are invaluable, these chronicles represent a somewhat limited perspective on the period in question, therefore, due to their broad focus as a type of universal history, with the resulting varied subject matter.

Other important Arabic sources and Syriac chronicles are not included in the present study because the authors wrote in the thirteenth century, placing them outside of the temporal parameters of this thesis, such as Abu Shama, Ibn Wasil, and the Chronicon 1234. Ibn al-Athir is an exception to this rule as an indispensable source.[24] Otherwise these sources have been used only to corroborate the information of the twelfth-century texts, but have not been looked at for their perceptions of earthquakes.

Benjamin of Tudela's travel record from the mid-twelfth century provides a valuable Jewish perspective in the Near East. His account contains frequent references to historical

[22] Alex Mallett, ed., *Medieval Muslim Historians and the Franks in the Levant*, The Muslim World in the Age of the Crusades: Studies and Texts, Vol. 2 (Leiden: Brill, 2014), 4-6; Anne-Marie Eddé, "Kamal al-Din 'Umar Ibn al-'Adim," in *Medieval Muslim Historians*, 129.

[23] Ibn al-Athir, *The Chronicle of Ibn Al-Athīr for the Crusading Period from Al-Kāmil fīʾl-taʾrīkh, Part 2: The Years 541-589/1146-1193, The Age of Nur al-Din and Saladin*, edited by D.S. Richards, Crusade Texts in Translation, Vol. 15 (Aldershot: Ashgate, 2007), 91; Smarandache, "The Franks and the Nizārī Ismāʿīlīs", 222-3. Ibn al-Athir appears to have seen the struggle between Muslims and Christians in Spain as part of the same conflict that he witnessed in the East, presumably due to his belief in counter-crusading.

[24] Guidoboni *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 110. He was also contemporary with some of the events as well, having been born in 1160.

events, including earthquakes and Messianic sentiment, making his work a useful complement for the other historical sources. Further records of the Jewish perspective in this period can be gleaned from records remaining in other places of the Near East, such as the immense Jewish manuscript collection of the Cairo Geniza, or from surviving European Jewish accounts.[25] These sources include numerous details about the practice of astrology in the Near East and the Mediterranean at the time, as well as the continuation of classical theories regarding earthquake causality. There are still relatively few Jewish sources for the Levant in this period, however, in comparison to Christian and Muslim accounts.[26]

One of the limitations of this thesis is its broad approach, which decreases the amount of analysis received by individual sources in favour of examining the wider trends present in the chronicles. In addition, many of the sources have been studied solely in English translations, such as those written in Arabic,[27] Armenian,[28] Syriac,[29] and Greek. This thesis has utilized many of the Latin texts in the original language, but textual comparisons of word choice and literary style could be conducted to a much greater depth by future research. These issues are significant limitations that could partially have been avoided by narrowing the parameters of this research

[25] Joshua Prawer, *The History of the Jews in the Latin Kingdom of Jerusalem* (Oxford: Clarendon Press, 1988), v; Jacob Mann, *The Jews in Egypt and in Palestine under the Fāṭimid caliphs: a Contribution to their Political and Communal History Based Chiefly on Genizah Material Hitherto Unpublished*, D.Lit. Dissertation (London: Oxford University Press, 1920); Bernard Goldstein and David Pingree, "Additional Astrological Almanacs from the Cairo Geniza," *Journal of the American Oriental Society* 103, no. 4 (1983): 673-690. Joshua Prawer's research has also done much to bring little-known Jewish sources to light.

[26] Jewish historical accounts and chronicles are lacking, but other treatises survive from which much of their history can be gleaned, as is evident in the works of Prawer. The language barrier for extant sources written in Hebrew also remains a difficulty for most Western scholars.

[27] A few of the Arabic sources have also been studied in French translations, particularly when the French text is more comprehensive than the English translation, as is the case with Le Tourneau's translation of Ibn al-Qalanisi.

[28] This thesis has used an English translation of Matthew of Edessa as the only other available texts are the Armenian, an outdated and erroneous French text, and Arabic and Turkish translations. Tara Andrews has started work on a critical edition and English translation of the Armenian, but this is incomplete. See: Tara L. Andrews, "Prolegomena to a Critical Edition of the Chronicle of Matthew of Edessa, with a Discussion of Computer-Aided Methods Used to Edit the Text" (PhD Dissertation, University of Oxford, 2009), 15-22; Tim Greenwood, "Armenian Sources," in *Byzantines and Crusaders*, edited by Mary Whitby, 225-7, 241-2.

[29] For issues surrounding the texts and translations of Michael the Syrian's chronicle, see: Greenwood, 224-7, 244-5.

and confining the focus to a few select chronicles. The sources contain strikingly similar approaches to the topic, however, which has made it desirable to preserve the wide-ranging parameters of this thesis.

1.2. State of the Field

1.2.1. Medieval Man and Nature

Studies of medieval environmental history have increased in recent years, with the expansion of the field to cover many aspects of the effects of climate on human history, and the relationship between man and nature. A growing willingness to treat Nature as a "protagonist" in the story of history has allowed scholars to expand the scope of their studies to address questions of great significance about the past.[30] While climatic determinism must be rigorously avoided, the willingness to approach the topic of the natural world's effects on human history can be a highly fruitful avenue of study.

In the field of medieval history, many aspects of the medieval world have attracted the attention of environmental historians for their glimpse into how nature and climate have affected human societies in the past. The applications of these principles have many and varied focuses, including the processes involved in medieval food production, agriculture, land use, deforestation, irrigation, sewage, and hydrological and arboreal technologies for example. In addition, as Hoffmann has shown, exploration of certain aspects of environmental history, such as the demand and practical supply of fish for medieval consumption, can lead to a wide range of conclusions about medieval cultures and the interrelated nature of environmental aspects of history, such as the high demand for fish in medieval Christian societies due to religious dietary

[30] Bruce M.S. Campbell, "Nature as historical protagonist: environment and society in pre-industrial England," *Economic History Review* 63, no. 2 (2010), 281-314.

constraints.[31] The intellectual methods used by chroniclers to record events of the natural world can then provide a great array of detail about the medieval world, such as societal reactions to climatic events and the ways that chroniclers dealt with severe climatic occurrences. Timothy Newfield and Philip Slavin have illustrated how the language used by medieval chroniclers in their descriptions of famine can be highly informative about the worldviews and motivations of the authors as well as the event itself. For example, authors utilized instances of people eating wild plants, grass, dogs, horses, mice, or carrion and human flesh to show the scale of a particular famine, or to compare it to past disasters or biblically significant events.[32] This approach can be readily applied to the phenomena of natural disasters as well. Chroniclers' descriptions reflected their worldviews and perceptions about how the natural world operated, its material and supernatural significance, and its effects on human society.

Among the many aspects of environmental history that have proliferated in study in recent years, the question of the medieval view of nature has attracted particular interest from scholars, with numerous studies published on the subject. Generally, medieval mindsets tended to view mankind as being separate from nature and able to govern it according to the biblical

[31] Richard C. Hoffmann, "Carp, Cods, Connections: New Fisheries in the Medieval European Economy and Environment," in *Animals in Human Histories: The Mirror of Nature and Culture*, edited by Mary J. Henninger-Voss (Rochester: University of Rochester Press, 2002), 3-55; Richard C. Hoffmann, "Economic Development and Aquatic Ecosystems In Medieval Europe," *The American Historical Review* 101, no. 3 (1996), 631-669.

[32] Timothy P. Newfield, "Epizootics and the Consumption of Diseased Meat in the Middle Ages," *in Religion and Religious Institutions in the European Economy, 1000-1800*, edited by Francesco Ammannati, Atti delle "Settimane di Studi" e altri Convegni, 43 (Florence: Firenze University Press, 2012), 621-2. Reports of eating carrion and diseased livestock could thus be used to illustrate the extent of a plague or famine, provide a lesson to not eat carrion by listing cases of death in those that did, or to connect a plague to similar older accounts. Philip Slavin, "Ecology, Famine, and Religious Violence: The Case of the Popular Crusading Movement, 1095-1320," in *Crisis alimentarias en la Edad Media: Modelos, explicaciones y representaciones*, edited by Pere Benito Monclús, Crisis en la Edad Media (Lleida: Milenio, 2013), 10-11.

precepts established in Genesis.[33] Nature, however, was also able to exercise a notably large impact on mankind through natural disasters, promoting an "adversarial" approach to nature. In addition, elements of nature such as forests, animals, and celestial phenomena were deemed to hold "symbolic significance" and were commonly interpreted to signify future events of great importance.[34] In 1967, Clarence Glacken, who helped to pioneer intellectual environmental history through his work in historical geography, wrote a work entitled *Traces on the Rhodian Shore* that explored aspects of this cultural relationship between man and nature and described the tremendous influence that Christian theology exercised on the development of the medieval approach to nature.[35] This relationship has been greatly debated among medieval historians, particularly since Lynn White's article in 1967 extended a Gibbon-esque critique of Christianity to the medieval Church's influence on the West's attitude towards the environment. This argument has since proven untenable to the extent that White proposed, but elements of it continue to be sharply contended in the field.[36]

The relationship between man and nature was based on a Christian approach to the natural world that built on many of the early Church fathers, such as St. Augustine, and a wide range of biblical passages relating to the material world.[37] The utilization of nature for man's

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[33] Andrew Seaman, "Situating Nature: Exploring Perceptions of Human-Environment Interactions in Mediaeval Western Europe c. AD 800-1550," *Archaeology Review from Cambridge* 24, no. 2 (2009), 141-8. As Hoffmann has explained, however, there was no uniform understanding or implementation of a "Christian" medieval view of nature, contrary to Lynn White's famous claims, but rather a wide variety of individual and localized approaches and perceptions. Richard C. Hoffmann, *An Environmental History of Medieval Europe*, Cambridge Medieval Textbooks (Cambridge: Cambridge University Press, 2014), 86-94; Lynn White, "The Historical Roots of Our Ecological Crisis," *Science* 155 (1967), 1203-7.

[34] Hoffmann, *Environmental History*, 85-104; Seaman, 147-8.

[35] Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought From Ancient Times to the End of the Eighteenth Century* (Berkeley: University of California Press, 1967); Michael Williams, "The relations of environmental history and historical geography," *Journal of Historical Geography* 20, no. 1 (1994), 13; McNeill, 6-7.

[36] White, "Ecological Crisis," 1203-7; Hoffmann, *Environmental History*, 86-93; McNeill, 7-8. Hoffmann has argued that White presupposed a uniform "Christian" attitude that did not exist, while McNeill has criticized the unsubstantiated perception that all religions except for Christianity are environmentally friendly.

[37] Glacken, 161-77, 196-204.

advancement was developed on this theological framework of scripture and tradition, and could play a large role in landscape transformation, as seen during the Baltic Crusades. Aleksander Pluskowski and a team of environmental historians and scientists have collaborated on numerous projects in the Baltic that emphasize the dramatic changes that occurred in the landscape of the region while the Teutonic Knights spread their domains further east.[38] Pluskowski has also produced a comprehensive archaeological study of the effects of the Baltic Crusades on the landscape and environment. Using palynology and dendrochronology, these studies have identified the precipitous shift in landscapes that accompanied the eastward expansion of Christendom, with primeval forests being replaced by arable land used for grain production.[39] The perception of nature in terms of utility had immediate and lasting effects on newly settled lands, therefore, showing the practical application of this concept. These works have all contributed to a broader understanding of the medieval world and the interaction of medieval peoples with nature and landscapes.

While the landscape transformation of the Near East during the Crusades was not as dramatic as that of the Baltic, significant changes occurred due to the growth of the sugarcane industry. The industry was already widespread in the east, but the Franks expanded the industry significantly within their lands, making it one of the major sources of royal income for the Kingdom of Jerusalem. This economic strategy greatly impacted the landscape as sugarcane

[38] Alexander Brown and Aleksander Pluskowski, "Detecting the environmental impact of the Baltic Crusades on a late-medieval (13th-15th century) frontier landscape: palynological analysis from Malbork Castle and hinterland, Northern Poland," *Journal of Archaeological Science*, 38 (2011): 1957-66; Alexander Brown, *et al*., "The Ecological Impact of Conquest and Colonization on a Medieval Frontier Landscape: Combined Palynological and Geochemical Analysis of Lake Sediments from Radzyń Chełminski, Northern Poland," *Geoarchaeology: An International Journal* 30 (2015): 511–527; Stivrins, *et al*., "Palaeoenvironmental evidence for the impact of the crusades on the local and regional environment of medieval (13th-16th century) northern Latvia, eastern Baltic," *The Holocene* 26, no. 1 (2015): 61-9.

[39] Aleksander Pluskowski, *Archaeology of the Prussian Crusade: Holy War and Colonization* (New York: Routledge, 2013).

required tremendous amounts of land and water.[40]

Climatic incidents in the medieval period often had astounding implications on a broad scale.[41] Temperature shifts such as the Little Ice Age and the Medieval Climate Optimum had extensive negative or positive effects in Europe and the Near East.[42] While environmental determinism must be avoided in historical analysis, climatic conditions contributed to crop failures, famine, and the spread of disease, as happened in the fourteenth century with the Great Famine and the Black Death.[43] Environmental history studies the correlation of climate with such drastic effects, determining the extent to which climatic conditions were responsible. Natural disasters also had significant repercussions for medieval society, politics, and governance, contributing to political criticism in the wake of a disaster, for example.

In addition to their practical effects, medieval attitudes towards nature influenced historical writing as well. Medieval chroniclers considered environmental factors extremely important, and recorded a multitude of details about harsh weather, climatic changes, and natural disasters. These details were not considered extraneous to the grave matters of which they wrote, but part and parcel of them. The fascination with natural events displayed by chroniclers such as Matthew of Paris serves as a striking example of this perceived relationship between natural

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[40] William D. Phillips Jr., "Sugar Production and Trade in the Mediterranean at the Time of the Crusades," in *The Meeting of Two World: Cultural Exchange between East and West during the Period of the Crusades*, edited by Vladimir Goss and Christine Verzár Bornstein (Kalamazoo: Western Michigan University, 1986); J.H. Galloway, "The Mediterranean Sugar Industry," *Geographical Review* 67, no. 2. (1977), 177-194; Edna J. Stern, "The Excavations at Lower Ḥorbat Manot: A Medieval Sugar-Production Site," '*Atiqot* 42 (2001), 277-308; Hamdan Taha, "Some Aspects of Sugar production in Jericho, Jordan Valley," in *A Timeless Vale: Archaeological and related essays on the Jordan Valley in honour of Gerrit van der Kooij on the occasion of his sixty-fifth birthday*, edited by Eva Kaptijn and Lucas P. Petit (Leiden: Leiden University, 2009).
[41] Charles Melville, "Meteorological Hazards and Disasters in Iran: A Preliminary Survey to 1950," *Iran* 22 (1984), 113.
[42] For example, see: Michael E. Mann, *et al*., "Global Signatures and Dynamical Origins of the Little Ice Age and Medieval Climate Anomaly," *Science* 326 (2009), 1256-60.
[43] Bruce M.S. Campbell, *The Great Transition: Climate, Disease and Society in the Late-Medieval World* (Cambridge: Cambridge University Press, 2016).

"portents" and their spiritual meaning or significance for the future.[44]

Catholic, Muslim, and eastern Christian chronicles exhibit many common patterns of thought in regard to natural disasters. According to Glacken, Judeo-Christian theology viewed events in the natural world as directly divine, as portrayed in scripture. Medieval chroniclers, therefore, perceived natural disasters as repercussions and punishment for the sins of mankind.[45] The Muslim chroniclers of the Near East displayed the same belief, based on the portrayal of natural phenomena as representative of divine warnings or just wrath in the Qur'an and hadiths.[46] By approaching environmental history with a focus on the perceptions of the chroniclers, we can glimpse a much broader reality of how natural disasters and earthquakes affected medieval life and society, and why chroniclers from the Abrahamic faiths tended to interpret them similarly. This tradition included perspectives based on religion, and a continuation of the scientific research of classical scholars, such as Aristotle and his natural explanations for disaster causality.

Building on this conceptual framework, medieval authors used "a 'canon' of motifs" to describe natural disasters, creating allegorical links between the natural disasters they described in their texts and those they were familiar with from their education in scripture and classical works.[47] Chroniclers made these comparisons with applicable descriptive phrasing, such as relevant biblical passages or formulaic phrases that illustrated the extent of a particular disaster. This method served to connect apocalyptic and eschatological themes to a disaster, and also to link contemporary events, particularly the dramatic accounts of the Crusades, with biblical ones, which the authors believed were repeating themselves. This established interpretation of natural

[44] Malcolm Barber, *The Two Cities: Medieval Europe, 1050-1320*, 2nd ed. (London: Routledge, 2004), 5-16; Seaman, 141-2.
[45] Glacken, 160-3.
[46] Anna Akasoy, "Islamic Attitudes to Disasters in the Middle Ages: A Comparison of Earthquakes and Plagues," *The Medieval History Journal* 10, no. 1-2 (2007), 391-6; Bulliet, 47.
[47] Christian Rohr, "Writing a Catastrophe: Describing and Constructing Disaster Perception in Narrative Sources from the Late Middle Ages," *Historical Social Research* 32, no. 3 (2007), 89-100.

events according to a religious framework was widely used in twelfth-century Syria and further heightened by the sociopolitical context of the Crusades. As Malcolm Barber has described, the inhabitants of the Latin East faced an abundance of trials, including many belonging to the natural realm such as locust plagues, famines, and earthquakes. The chroniclers of Outremer consistently represented these environmental factors according to the established intellectual patterns of Europe and the Middle East, which took for granted a direct and powerful connection between the natural and supernatural realms.[48]

1.2.2. Natural Environment and the Near East

While medieval Europe has attracted a significant amount of attention from environmental historians, other areas such as the Near East have been less studied. In general, the medieval Levant has received a fraction of the attention that Europe has been given by environmental historians. There are many gaps as a result.[49] Some aspects of environmental history have received more attention than others, such as the work done on medieval plague and pathology in the Middle East by scholars such as Michael Dols, Lawrence Conrad, and Piers Mitchell.[50] Farther afield, historians such as William Tucker and Yaron Ayalon have dealt with aspects of late medieval and early modern environmental issues in the region as well, focusing on environmental catastrophes and related events during the Mamluk and Ottoman periods.[51]

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[48] Barber, *Two Cities*, 5-16.
[49] Raphael, *Climate and Political Climate*, 3-4.
[50] Raphael, *Climate and Political Climate*, 3; Michael W. Dols, *The Black Death in the Middle East* (Princeton: Princeton University Press, 1977); Lawrence Conrad, "The Plague in the Early Medieval Near East" (PhD Dissertation, Princeton University, 1981); Piers D. Mitchell, "The Integration of the Palaeopathology and Medical History of the Crusades," *International Journal of Osteroarchaeology* 9 (1999): 333-43.
[51] William Tucker, "Environmental hazards, natural disasters, economic loss, and mortality in Mamluk Syria", *Mamluk Studies Review* 3 (1999): 109-128; Tucker, "Natural Disasters and the Peasantry in Mamluk Egypt", *Journal of the Economic and Social History of the Orient* 24, no. 2 (1981): 215-224; Yaron Ayalon, *Natural Disasters in the Ottoman Empire: Plague, Famine, and Other Misfortunes* (New York: Cambridge University Press, 2015); Yaron Ayalon, "Plagues, Famines, Earthquakes: The Jews of Ottoman Syria and Natural Disasters" (PhD Dissertation, Princeton University, 2009).

Much remains to be explored, however, especially to compensate for the general indifference to environmental history in the Middle East that has prevailed until recent years.[52]

In terms of environmental history in the medieval Levant, there are several studies that have made precious strides forward in our understanding of climate and its effects in the Near East during the period. Richard Bulliet's environmental study of Iran in the ninth and tenth centuries sought to connect widespread nomadic migrations with changes in climatic conditions. While actively arguing against the errors of climatic determinism, Bulliet postulated that the "Big Chill" that brought harsh winters, crop failures, and famines to the Middle East had a significant role in the Turkish incursions of the period, allowing the Turks to dominate the Abbasid caliphate and spread into Syria and Anatolia.[53] Coinciding with these events, Neville Brown has credited a severe siltation problem and the terrible earthquakes and famines of the twelfth century with playing an instrumental role in the sharp demographic decline of Mesopotamia in the period, with serious ramifications for the populations of Syria as well.[54]

Ronnie Ellenblum further developed the links between climatic events and widespread disasters and nomadic violence in his book entitled *The Collapse of the Eastern Mediterranean*. Ellenblum argued that the series of severe climatic events in the Near East during that period served to destabilize and devastate society, leading to collapse on a broad scale. Ellenblum portrayed the nomadic invasions as the direct response of climatic events such as droughts or floods, which started a vicious cycle of famine, migrations, violence, and ultimately "collapse".[55]

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[52] McNeill, 30.
[53] Bulliet, 69-106. Bulliet does not imply that environment was the only factor, but does give it a great deal of credit, though he assures his readers that he does not subscribe to determinism, which is a flawed construct.
[54] Neville Brown, *History and Climate Change: A Eurocentric Perspective* (London: Routledge, 2001), 185-192. Brown ascribed this decline to a combination of ecological, political, and social factors severely damaging the hydrological abilities of Mesopotamia, leading to the loss of arable land (reputedly 10,000 sq. km. from 1094 to 1204) and population.
[55] Ellenblum, *Collapse*, 3-21, 249-60.

This foundational premise has proved controversial, however, particularly in terms of being too climatically deterministic. Johannes Preiser-Kapeller has criticized Ellenblum's conclusions and his overemphasis on the effects of climate on human societal shifts and "collapse", arguing that the regional data of the time does not support such broad claims.[56] Despite the contention over Ellenblum's overarching theory and determinism, his compilation of narrative accounts and corroborating scientific data provides outstanding information about the varied environmental crises of the period immediately preceding the First Crusade and their potential impact on the history of the region.[57]

The climatic conditions of the Medieval Climate Anomaly occurred in Europe at the same time as disastrous climatic events in the Eastern Mediterranean. One study has focused on the shifts in hydro-climatic conditions between the Eastern and Western Mediterranean and identified a "bipolar climate see-saw" that has operated "in the Mediterranean for the last 1100 years". This research supported its claims with a wide range of palaeolimnological data, including marine cores, dendrochronology, palynology, and geochemical and sedimentological proxies.[58] The existence of this climatic disparity between Europe and the Near East in this period has caused some scholars to hypothesize that this was one factor that contributed to the successes of the Turkish conquests and then to the First Crusade.[59] While climate may have exerted some influence on these events, the extent to which this is the case is highly debatable, however. Ultimately, the environmental changes discernable in the modern scientific data for the

[56] Johannes Preiser-Kapeller, "A Collapse of the Eastern Mediterranean? New results and theories on the interplay between climate and societies in Byzantium and the Near East, ca. 1000–1200 AD", *Jahrbuch der Österreichischen Byzantinistik* 65 (2015), 195-242.
[57] Luterbacher, *et al*., "A Review of 2000 Years of Paleoclimatic Evidence in the Mediterranean," in *The Climate of the Mediterranean Region: From the Past to the Future*, edited by Piero Lionelli (Amsterdam: Elsevier, 2012), 90.
[58] Neil Roberts, *et al*., "Palaeolimnological evidence for an east-west climate see-saw in the Mediterranean since AD 900," *Global and Planetary Change* 84 (2012), 23-34.
[59] Arie S.Issar and Mattanyah Zohar, *Climate Change - Environment and Civilization in the Middle East*, 2nd Ed. (New York: Springer, 2007), 221-5.

Near East present highly important information regarding the climatic background of the period. Severe climatic events exerted a significant influence on how medieval people viewed nature and the causality of natural disasters. The Near East's environmental factors thus helped to shape the mindsets of its inhabitants, and the importance of natural phenomena and environmental factors was consistently reflected in the majority of the historical sources and in the political actions of states as well.[60]

Dendochronological data from Cyprus and across the Near East has shown that a dry period in 1000 A.D. substantially changed to a cold and wet period in the 1100s, coinciding with the shifts in temperature recorded by the textual sources.[61] Of course, this data provides only a broad overview not accounting for regional variations, but other dendrochronological studies help to fill in the gaps. A wide range of additional paleoclimatic data has also been collected from the Near East for the twelfth century, including core samples, and evidence from lithology and palynology.[62] Archaeological studies from the Palestinian coast appear to corroborate the implication of a prevailing cold and wet period that roughly coincided with the existence of the Crusader States.[63] Regional variations such as the effect of mountain ranges on precipitation could be quite significant, as was the case in Syria, with the coastal side of the Jabal an Nusayriyah range receiving extra rainfall during winters, with a negative outcome on the eastern

[60] Barber, *Two Cities*, 395. For example, the Council of Nablus in 1120, which is discussed later in this thesis, criminalized sexual immorality in an attempt to limit the number of environmental disasters.
[61] Ellenblum, *Collapse*, 1-11. The cold period identified by Ellenblum lasted until 1072, overlapping with the fertile Medieval Climate Optimum in Europe. According to Issar and Zohar, 221-2, the climatological data from Cyprus can be generally indicative of the Near East as a whole, though it obviously cannot account for regional variability.
[62] Kaniewski, *et al*., "The medieval climate anomaly and the little Ice Age in coastal Syria inferred from polled-derived palaeoclimatic patterns," *Global and Planetary Change* 78 (2011), 180-5. Kaniewski agrees on the existence of a predominantly cold period, but also notes rising peaks in temperature in 1115, 1130, and 1170 roughly, with the lowest temperatures in 1085-95, and 1145.
[63] Issar and Zohar, 221-2. Archaeological studies have found tunnels from the Crusader period below seawater, indicating lower sea levels at the time with no evidence of other causal factors, consistent with a cold spell according to Issar's hydrological analysis.

side, around Aleppo.[64] The development of these themes allows for a greater understanding of a tumultuous period full of environmental and political crises and this field of study contains tremendous potential for future exploration.

In a work that is highly relevant to the present study, Sarah Kate Raphael's research on Near Eastern environmental disasters developed the themes of Ellenblum's work to explore the practical effects of these events in the twelfth century across a wide range of areas. Her study showcases the impact of natural disasters on social, political, and military affairs in a highly pragmatic fashion while avoiding grand narrative theories that welcome accusations of determinism – the perpetual nemesis of environmental historians. Raphael's work provides an excellent platform from which to continue the exploration of what remains a largely untouched area of study in terms of its environmental focus in the period. While Raphael's book contains a useful investigation of earthquakes mentioned in the historical chronicles, it cannot, however, provide a comprehensive analysis of the full spectrum of information available in the source material. In respect to earthquakes, Raphael's focus was on the impact of major seismic activity on areas such as politics, society, and architecture.[65] While the former two remain a part of the present study, this thesis explores the historical descriptions of earthquakes more fully, to determine information about the worldviews of medieval historians from a wide range of cultural, religious, and intellectual backgrounds.

The majority of works surrounding the Crusades contain little or no reference to the impact of earthquakes and other natural disasters on the affairs of the Crusader States and their Muslim neighbours, despite the devastation that accompanied them. When the major seismic events are mentioned, the description usually includes only a brief indication of the destruction

[64] Kaniewski, *et al*., 179-80.
[65] Raphael, *Climate and Political Climate*, 113-63.

they inflicted. Generally, these earthquakes are somehow deemed to be extraneous factors in the history of the Near East, despite the fact that they were some of "the most widely documented events of the medieval Mediterranean" and reported tens of thousands of casualties.[66]

Though scholars have produced few Crusades studies dedicated to environmental effects, or even mentioned them in passing, one exception to this trend is the works of Malcolm Barber, who has addressed climatic issues in relation to the political atmosphere of the Levant. Barber has described how the Franks' attempts to balance their survival between war and natural disasters caused them to attach greater significance to the potential implications of the latter:

> the clerical cliché that catastrophes were punishments by God for men's sins took on an immediacy [in the Crusader States] that it often lacked in other parts of the Christian world. It is not, therefore, surprising to find that the council of king, barons, and clerics held at Nablus in 1120, following a series of natural disasters, was noticeably interested in the correction of moral faults lest, for example, adulterers or homosexuals brought God's wrath upon society as a whole.[67]

This example of the practical impact of cosmological perceptions of nature brings to light an important element of the history of the Crusader States that has been neglected. This thesis fills a gap concerning the worldviews present in the Near East pertaining to natural disasters, which are important due to the prevalence of intellectual associations that built on this premise, such as the criticism of rulers or religious opponents in times of disaster. This topic also serves as a springboard for political affairs, theological perceptions, astrological calculations, and apocalyptic expectations. As Richard Hoffmann has stated, earthquakes were highly significant events in the medieval world, that "suddenly took lives and possessions, compelling social and intellectual responses."[68] It is these social and intellectual responses that this thesis explores, in

[66] Emanuela Guidoboni, Filippo Bernardini, Alberto Comastri, and Enzo Boschi, "The large earthquake on 29 June 1170 (Syria, Lebanon, and central southern Turkey)," *Journal of Geophysical Research* 109 (2004), 1.
[67] Barber, *Two Cities*, 395.
[68] Hoffmann, *Environmental History*, 19.

the specific context of the twelfth-century Levant, but with wider implications for the medieval world as a whole.

1.3. Earthquakes in the Near East

1.3.1. Significance

Earthquakes represented significant events in the medieval world, but were only one of many different types of natural disasters and phenomena that chroniclers recorded. Chronicles frequently listed other disasters and climatic events alongside seismic events, including floods, plagues, famines, red rains, black winds, comets, celestial lights, and strange animal behaviour.[69] Political events, the deaths of important figures, and strange unnatural occurrences commonly appeared alongside instances of natural disasters, showing the wide range of forms that "important" events could take in chroniclers' writings.[70] Earthquakes, however, represent some of the most tangible environmental events for modern research due to their substantial impacts on cities and buildings, presenting a critical and well-documented starting point for this type of climatic research.

A study of the perceived causality of natural disasters provides insight into the application of common intellectual patterns regarding the relationship between man, nature, and God that existed across cultural and religious boundaries. Investigating the portrayal of earthquakes also highlights a wide range of information about the chroniclers themselves, including their religious beliefs and societal views, evident in their biases towards other religious or ethnic groups whom

[69] For example, Ibn al-Athir lists an earthquake, comet, flood, unusual snowfall, black wind causing plague, red wind, and fiery sky within the span of a few years, with his examples taken from across the Middle East. Ibn al-Athir, *The Chronicle of Ibn Al-Athīr for the Crusading Period from Al-Kāmil fīʾl-taʾrīkh, Part 1: The Years 491-541/1097-1146, The Coming of the Franks and the Muslim Response*, translated by D.S. Richards, Crusade Texts in Translation, Vol. 13 (Aldershot: Ashgate, 2006), 233-4, 240, 275.

[70] Orderic Vitalis. *The Ecclesiastical History of Orderic Vitalis*, edited and translated by Marjorie Chibnall, Oxford Medieval Texts (Oxford: Clarendon Press, 1969), Vol. VI, 187-9. Orderic Vitalis frequently listed many strange occurrences, including climatic factors with imaginative tales of demons and prophecies.

they blamed for the sins that caused the earthquake. The authors' political opinions and engagement were manifested in their descriptions of key political figures, which show how the authors judged the quality of leadership and authority displayed by those in power in times of crisis. In addition, many medieval writers often utilized astrological interpretations to understand disasters, believing that natural disasters were part of a divine plan written in the stars. In other instances, chroniclers disassociated earthquakes from any sort of eschatological significance, reiterating classical theories that winds in the caverns of the earth caused tremors to occur naturally. How the chroniclers perceived and chose to portray earthquakes can, therefore, serve as a springboard for a study into medieval historical accounts, cross-cultural interactions, religious worldviews, and the intellectual history of scientific and astrological perceptions, as well as natural disasters themselves.

1.3.2. Historical Evidence

The eleventh and twelfth centuries in the Near East witnessed an inordinate amount of violent seismic activity, accompanied by high loss of life and extensive damage to cities and fortifications. The abundance of sources that describe the devastation, sometimes at great length, speaks to the massive impact of seismic events in this period. This section discusses the evidence for earthquakes contained in the narrative sources and also many of the problems raised by a reliance on textual sources.

The Near East experienced destructive and frequent seismic activity in the eleventh century, which devastated areas of Palestine in 1033-4, 1068, and 1070. The prosperity and size of the city of Ramla sharply declined during this period, leading to its eventual abandonment,

which many historians have blamed on the destruction caused by these earthquakes.[71] Ellenblum has argued, however, that Ramla's demise cannot be solely attributed to the effects of earthquakes as many sociopolitical factors, exacerbated by the earthquakes, contributed to its decline. Just as with other natural disasters, earthquakes cannot be regarded as the sole drivers of political events without delving into environmental determinism, for the human element remains a driving factor of history, though the negative effects of environmental factors and natural disasters like earthquakes may play important roles in contributing or sparking crises.[72]

The majority of the sources for this thesis were contemporary with earthquakes in the twelfth century, shaping the focus of this study, but it is important to consider the effects of these eleventh-century earthquakes on the lives and mindsets of the Near East's inhabitants, as well as the significance of their potential impact on the region in subsequent decades. In fact, it has been proposed that "[t]he severe death toll and the material destruction caused by a series of earthquakes that ravaged Syria during the late eleventh century (1050, 1063, 1068, 1069, 1086, and 1091), for example, arguably contributed to the successful Crusader conquests during the following years."[73] This proposal speaks to the severity of these earthquakes, but it is ultimately impossible to determine the extent to which earthquakes affected major historical events like the Crusades.[74]

In the twelfth century, major earthquakes occurred in the Levant in 1114, 1138, 1157, and

[71] Moshe Gil, "The Political History of Jerusalem," in *The History of Jerusalem: The Early Muslim Period, 638-1099*, edited by Joshua Prawer and Haggai Ben-Shammai (New York: New York University Press, 1996), 29-30, p30 n33.
[72] Ellenblum, *Collapse*, 222-4. Ellenblum believes that the earthquakes' effects have been exaggerated and the disasters merely finished a period of decline; Bulliet, vii-x.
[73] Konrad Hirschler, "Earthquakes", in *Medieval Islamic Civilization: An Encyclopedia, Volume 1, A – K, Index*, edited by Josef W. Meri, Routledge Encyclopedias of the Middle Ages, Part 13, Vol. 1 (New York: Routledge, 2006), 219-220; Ellenblum, *Collapse*, 222-4.
[74] Nicholas N. Ambraseys, "Value of Historical Records of Earthquakes," *Nature* 232 (1971), 379.

1170, often devastating whole regions.[75] Smaller aftershocks or protracted seismic sequences often continued for several months, as was the case in 1138-9, 1156-7, and 1170.[76] The epicenters of these earthquakes were located in Syria and south-eastern Anatolia, primarily affecting the regions of modern-day Syria, Lebanon, and Turkey, and were caused by tectonic shifting along the Dead Sea Fault System and East Anatolian Fault Zone.[77] These earthquakes made a tremendous impression upon the chroniclers, who often included very detailed accounts about the extent of destruction, the regions afflicted, and the loss of life. Walter the Chancellor's eyewitness account of the earthquake of 1114 stated that the "Syrians and their rulers suffered so great a destruction and ruin from the earthquake which befell them as no previous history has ever told."[78] The earthquake played an integral role in Walter's narrative, and other chroniclers also viewed the major tremors of the twelfth century as events of great significance. Ibn al-Athir described the terrifying seismic sequences of 1138 with more than his usual brief notices, stating:

> there were many frightening earth tremors in Syria, the Jazïra and many lands. The worst were in Syria. There was a series of them over several nights, with a number of tremors every night. Much of the country was ruined, especially Aleppo. The people there, when the tremors became too much for them, left their homes and went into open country. In a single night they counted eighty tremors. In Syria they experienced earthquakes from 4 Ṣafar until the 19th [11-26 October], accompanied by a roaring and terrible shocks.[79]

This description lists the location of the shocks, that they were centered in Syria, the prolonged

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[75] Many of the sources contain detailed accounts of the earthquakes and their aftershocks. For 1114, see: *Walter the Chancellor's "The Antiochene Wars,"* translated by Thomas S. Asbridge and Susan B. Edgington, Crusade Texts in Translation, Vol. 4 (Aldershot: Ashgate, 1999), 80-4. For 1138, see: Kamal al-Din, Recueil des Historiens des Croisades (hereafter RHC): Historiens Orientaux, Vol. 3, 679-80. For 1157, see: Ibn al-Qalanisi, *The Damascus Chronicle of the Crusades: Extracted and Translated from the Chronicle of Ibn Al-Qalanisi*, 1932, reprint ed., edited and translated by H.A.R. Gibb (Mineola: Dover Publications, 2002), 326-7. For 1170, see: William of Tyre, *A History of Deeds Done Beyond the Sea*, translated by E.A. Babcock and A.C. Krey, (New York: Columbia University Press, 1943), Vol. II, 370-1.

[76] Guidoboni, *et al*., "The 1138-1139 and 1156-1159 destructive seismic crises," 105.

[77] Ambraseys, "The 12th century seismic paroxysm," 733-4. See Maps 2 and 3.

[78] Walter the Chancellor, 80; Fulcher of Chartres, *A History of the Expedition to Jerusalem, 1095-1127*, edited by Harold S. Fink, translated by Frances Rita Ryan (Knoxville: University of Tennessee Press, 1969), 210. Fulcher similarly remarked that the earthquake was "the worst ever heard of".

[79] Ibn al-Athir, Part 1, 351.

seismic activity, the devastation of certain cities and regions, and the popular responses to the catastrophe. Even a relatively short description such as this can therefore provide a substantial amount of information for modern evaluations of the disaster.

In 1157, the destruction of successive shocks severely damaged many cities in Syria, causing heavy loss of life, particularly in the Muslim town of Hama, while the town of Shayzar lost its entire ruling family in the rubble, except for one sole survivor and the exiled writer Usama Ibn Munqidh.[80] Usama wrote:

> Death did not advance step by step to destroy the people of my race, to annihilate them separately or to strike them down two by two. They all died in the twinkling of an eye, and their palaces became their tombs.[81]

The high mortality rate that Shayzar experienced was seen throughout the affected region, as confirmed by Benjamin of Tudela. Benjamin was a Jewish traveler from Spain who passed through Syria in the years between 1157 and 1170, and he recorded that the earthquake had killed more than 20,000 of the population of Tripoli and the land of Israel. In Hama, he remarked that "25,000 souls perished in one day, and of about 200 Jews but seventy escaped."[82] While the powerful sultan Nur al-Din was engaged in besieging the Frankish town of Banyas when the tremors began to strike, both Christian and Muslim territories were so severely damaged that a truce was quickly arranged between the Crusader States and the Muslim prince.[83]

In 1170, a massive earthquake "reduced Antioch and Tripoli to rubble" and had a severe

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[80] Steven Runciman, *A History of the Crusades: Volume 2, The Kingdom of Jerusalem and the Frankish East*, 1952 (London: The Folio Society, 1994), 280, 284.
[81] Amin Maalouf, *The Crusades Through Arab Eyes*, translated by Jon Rothschild (New York: Schocken Books, 1984), 154-5.
[82] Benjamin of Tudela, *The Itinerary of Benjamin of Tudela*, edited and translated by Marcus Nathan Adler (London: Oxford University Press, 1907), 17, 31-2; Ambraseys, "The 12th century seismic paroxysm," 752. These numbers are doubtless exaggerated, but give some indication of the scale of the disaster.
[83] Jean Richard, *The Latin Kingdom of Jerusalem: Volume A*, translated by Janet Shirley, Europe in the Middle Ages, Selected Studies, 11A (New York: North-Holland, 1979), 44-5.

impact on other cities throughout Palestine and northern Syria.[84] William of Tyre's history provides a vivid depiction of the widespread destruction caused by this earthquake that struck Syria and in 1170:

> tantus, tamque vehemens circa partes orientales terrae motus factus est, quantus qualisque memoria seculi praesentis hominum, nunquam legitur accidisse. Hic universi orientalis tractus urbes antiquissimas et munitissimas, funditus diruens, habitatores carum ruina involvens, aedificiorum casu contrivit, ut ad exiguam redigeret paucitatem. Non erat usque ad extremum terrae locus quem familiaris jactura, dolor domesticus non angeret: ubique luctus, ubique funebria tractabantur. Inter quas et provinciarum nostrarum, Syriae et Phoenicis, urbes quam maximas, et serie seculorum antiquitate nobiles, solotenus dejecit. In Coelesyria, multarum provinciarum metropolim, olimque multorum moderatricem regnorum, Antiocham, cum populo in ea commorante, stravit funditus; moenia, et in eorum circuitu turres validissimas, incomparabilis soliditatis opera [...].[85]

William continued this account of widespread destruction by writing that Tripoli, Jabala, and Laodicea were also destroyed, as were Aleppo, Shayzar, Hama, Homs, and other interior cities of Syria "still held by the enemy".[86] Ibn al-Athir corroborated William's account of the destruction, stating that "there were successive, terrifyingly strong earthquake tremors, the like of which had never before been seen", and "those that perished were too many to count." He also described a similar state of devastation in Muslim lands as William did in Christian ones, saying that the shocks "destroyed much of Damascus, Baalbek, Homs, Hama, Shayzar, Ba'rin, Aleppo and elsewhere. Their walls and citadels were demolished and houses collapsed on their inhabitants."[87] The destructive power of earthquakes in Syria during the twelfth century clearly

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[84] Hans Eberhard Mayer, *The Crusades*, 2nd ed., translated by John Gillingham (Oxford: Oxford University Press, 1988), 124.

[85] RHC, Occ. 1, Part 2, 971-2; William of Tyre, Vol. II, 370-1: "a great and terrible earthquake, far more violent than any other within the memory of men now living, occurred in the Orient. Strongly fortified cities dating from very early times were completely demolished. The inhabitants, caught in the ruins of their homes, were crushed to death, and only a very few survived. Not a spot within the entire country was left untouched by loss of property and domestic tragedy. Everywhere were signs of sorrow, everywhere obsequies for the dead. The largest cities of our provinces and those of Syria and Phoenicia as well, cities famous throughout the ages for their noble antiquity, were prostrated. In Coelesyria, Antioch, the metropolis of several provinces and once head of many kingdoms, was utterly overwhelmed and its entire population destroyed. The massive walls and the immensely strong towers along their circuit fell in ruins."

[86] William of Tyre, Vol. II, 370-1.

[87] Ibn al-Athir, Part 2, 185.

made a significant impression on chroniclers.

In addition to the initial impact of an earthquake of this scale, the cost and length of time required for repairing the damage caused serious military and financial difficulties for those afflicted. As William described, "ecclesias, et quaelibet aedificia tanto subvertit impetu, quod usque hodie multis laboribus, sumptibus immensis, continua sollicitudine, et indefesso studio vix possunt saltem ad statum mediocrem reparari."[88] Earthquakes provided frequent opportunities for military action against afflicted cities, such as the attacks made on Shayzar by the Assassins, the Franks, and Nur al-Din after the earthquake of 1157.[89] The financial strain on the Frankish nobility from earthquakes and enemy raids also forced local lords to sell lands they could not afford or protect to the military orders.[90] The major earthquakes of the twelfth century, therefore, had extensive financial, political, and military implications in the Near East.

The high death tolls reported by the chronicles represent the tremendous impact the earthquakes had on society in the Near East, but these reports also illustrate the difficulty of judging the severity of any given earthquake. Some of the narrative sources describe earthquakes that were reputedly of a major magnitude, but occurred far from where the authors wrote. For instance, Ibn al-Athir recorded an earthquake in 1139-40 that struck "Ganja and other parts of Azerbaijan and Arran", and "[i]t was said that the dead reached 230,000", which indicates an earthquake on a massive scale.[91] The distance involved in this case made numerical exaggerations a likely possibility as the news of this disaster made its way west, as Ibn al-Athir

[88] RHC, Occ. 1, Part 2, 972; William of Tyre, Vol. II, 370-1: "[c]hurches and buildings of every kind were thrown down with such violence that even now, although much labor and expense have been devoted to their restoration, they are only partially repaired."
[89] Marshall W. Baldwin, "The Latin States under Baldwin III and Amalric I, 1143-1174," in *A History of the Crusades, Volume 1: The First Hundred Years*, edited by Marshall W. Baldwin and Kenneth M. Setton (Philadelphia: University of Pennsylvania Press, 1958), 541-2.
[90] Jonathan Phillips, *The Crusades: 1095-1197* (Edinburgh: Pearson Education, 2002), 111; Joshua Prawer, *The Crusaders' Kingdom: European Colonialism in the Middle Ages* (New York: Praeger Publishers, 1972), 260-9.
[91] Ibn al-Athir, Part 1, 354.

appears to have noted by prefacing his words with the phrase "[i]t was said". In terms of the earthquakes in Syria, the number of seismic events that occurred in the near proximity of the authors presumably allowed for better estimates of the mortality involved. There is no way of knowing how accurate the sources were in this regard, however, and the authors' estimates provide only rough approximations for modern calculations of the numbers involved.[92]

In addition to exaggeration over time and distance, medieval sources are generally known for containing inaccuracies due to a combination of ideological factors, including casting military enemies as far stronger than they were, or using certain numerical values that held special significance. For example, medieval authors typically sought to establish typological parallels with the events of Scripture, causing them to forego facts for the sake of suggesting or sustaining narrative comparisons.[93] Religious symbolism strongly affected the accounts of the First Crusade, whose numerical estimations were designed to reflect greater glory to God, who gave the crusaders victory against great odds. Minimizing the Christian forces and exaggerating those of the enemy also served to link the crusaders to Old Testament figures like Gideon and the Maccabees who won victories against similar odds.[94] Raphael has argued against an "inappropriate" mistrust of medieval estimates of seismic death tolls, stating that "[f]ew advantages could be gained by distorting earthquake accounts".[95] As explained by Guidoboni *et al.*, however, some estimations of earthquake casualties appear to have been clear exaggerations, based on a desire to portray enemy cities as victims of the same extent of damage. We must,

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[92] Hirschler, "Earthquakes," 219-20; Ambraseys, "Value of Historical Records of Earthquakes," 376.
[93] Elizabeth Lapina, "The Maccabees and the Battle of Antioch," in *Dying for the Faith, Killing for the Faith: Old-Testament Faith-Warriors (1 and 2 Maccabees) in Historical Perspective*, edited by Gabriela Signori, Brill's Studies in Intellectual History, Vol. 206 (Leiden: Brill, 2012), 149-51.
[94] Nicholas Morton, "The defence of the Holy Land and the memory of the Maccabees," *Journal of Medieval History* 36 (2010), 177; Lapina, "The Maccabees," 150; Alan V. Murray, "Sacred Space and Strategic Geography in Twelfth-Century Palestine", in *The Franks in Outremer: Studies in the Latin Principalities of Palestine and Syria, 1099-1187*, Variorum Collected Studies Series (Farnham: Ashgate, 2015), XII, 36.
[95] Raphael, *Climate and Political Climate*, 118.

therefore, approach the sources with a degree of caution for an array of reasons, particularly the ideological motivations of individual authors.[96]

At times, medieval chroniclers attempted to emphasize the high death toll in the aftermath of an earthquake, such as in one notable instance where Ibn al-Athir included a story to illustrate the number of casualties involved. After describing the extent of destruction during the earthquake of 1157, which "caused the death of more people than could be counted", he wrote:

> The great number of people who were killed is sufficiently indicated by the fact that a teacher who was in his town, namely Hama, left the Koran school for some matter of business that occurred, when the earthquake came and destroyed the town. The school collapsed on all the children. The teacher said, "Not a single person came to enquire after any child of his."[97]

This example displays how Ibn al-Athir sought to corroborate his account of the extent of the calamity by using an anecdote to highlight the number of people of involved, showing that not a single parent had outlived the school.[98] Fulcher of Chartres similarly sought to include examples to illustrate the broad scale of the earthquake of 1114. Fulcher's method involved listing the destruction of places separated by a great distance, showing an interest comparable to modern identifications of seismic epicenters. His account described how the earthquake destroyed many towns in the area of Antioch, but also struck the city of Marash, "which I think is sixty miles north of Antioch. […] Another town called Trialeth, near the Euphrates River, was also destroyed."[99] Fulcher's emphasis on the destructive capabilities of the earthquake over such distances served as an effective method for conveying the far-reaching effects of the earthquake.

Estimations of earthquake severity from narrative sources are affected by a wide array of

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[96] Guidoboni *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 117-21. Christian cities do not appear to have been afflicted by the 1138-9 earthquake sequence, but Muslim sources recounted widespread devastation in the Christian lands. See section 1.3.3. for additional details.
[97] Ibn al-Athir, Part 2, 87.
[98] Hirschler, "Earthquakes," 219-20.
[99] Fulcher of Chartres, 210; Malcolm Barber, *The Crusader States* (New Haven: Yale University Press, 2012), 33.

limiting factors. For example, the scale of earthquakes cannot be directly estimated by the number of lives reputedly lost. Many other factors played a role in determining death tolls, such as the geographic location of the tremors and the time of day that they occurred. Hirschler has pointed out that earthquakes were recorded when they struck urban centers, which can paint an inaccurate picture of seismic activity. Higher mortality rates could indicate that the epicenter of the shocks happened in a more populated region than other potentially larger earthquakes. As he describes, "knowledge of the geographical distribution of earthquakes during the medieval period reflects at least as much patterns of population density as the occurrence of earthquakes themselves."[100] In addition, Raphael has noted that the number of lives lost can be more indicative of the fact that the earthquake happened at night than its magnitude, for people were generally indoors and less prepared at night, making it harder for them to escape from collapsing buildings.[101] The region's soil type and the relative architectural integrity of buildings also played a significant part in determining the mortality rates of seismic disasters. These factors caused some Near Eastern architects to attempt to minimize the risks of active seismic regions like Syria by altering construction materials and techniques.[102]

The contextual history of the Near East also presents an additional factor to consider when analyzing the historical data of seismic disasters. In Ambraseys' words,

> continuing warfare and earthquakes before and throughout the 12th century, in both Muslim and Christian territories, had progressively enhanced the vulnerability of hastily repaired fortified towns, castles, and houses, much of the damage caused by earthquakes reflecting the cumulative effects of both deliberate and earthquake damage. In assessing intensities, this is an important consideration for which allowance must be made.[103]

The influence of the political situation of the Near East upon the severity of seismic events that

[100] Hirschler, "Earthquakes," 219.
[101] Raphael, *Climate and Political Climate*, 118.
[102] Raphael, *Climate and Political Climate*, 143-63.
[103] Ambraseys, "The 12th century seismic paroxysm," 735.

Ambraseys identified here can be added to the difficulties of estimating the location, scale, severity, and death tolls of earthquakes, as well as the issue of authorial bias and exaggeration. The evident problems raised by a reliance on the narrative sources showcase the need for strong support from the sciences for establishing the severity and dating of earthquakes, and their impact on the populations of the Near East. Due to the limitations of modern capabilities for studying thousand-year-old seismic events, however, traditional textual resources continue to remain the main source for knowledge about medieval earthquakes.[104]

1.3.3. Seismological Evidence

The abundance of modern scientific literature concerning the Near East's numerous earthquakes during this period, which Nicholas Ambraseys has termed the "12th century seismic paroxysm", allows historians to better evaluate the assertions of problematic written accounts. The location of these major seismic events at the junction of the Dead Sea Fault System and the East Anatolian Fault Zone have shown only low to moderate level seismic activity in the last two centuries, with no repetition of the major earthquakes that struck the fault in the twelfth century. The twelfth-century earthquakes have, therefore, attracted considerable interest from seismological scholars for their important bearing on the future, since they are indicative of the fault's long-term potential for seismic activity.[105] It is important to utilize and evaluate the methods and conclusions of these sources in order to develop a full understanding of the destructive earthquakes of the period.

One of the most common methods to judge earthquake severity is through the Modified Mercalli Intensity scale, which classifies earthquakes from I-XII according to their structural

[104] Ambraseys, "Value of Historical Records of Earthquakes," 375-9.
[105] Ambraseys, "The 12th century seismic paroxysm," 733; Guidoboni, *et al*., "The large earthquake on 29 June 1170," 15-6.

impact and other effects caused by the event, such as landslides or rifts in the earth. Modern seismologists have classified many of the major twelfth-century earthquakes in the Levant as high as X on the MM intensity scale, though they ranged in severity in different cities according to their distance from the epicenters. In seismic events with an intensity of X, "most masonry and frame structure and foundations are destroyed".[106] These earthquakes were, therefore, highly destructive on a human level, with severe repercussions for the populations living within the afflicted cities.

The archaeological sources for the medieval Levant are a highly productive source of knowledge for the effects of seismic events on buildings, castles, and fortifications. Archaeo-seismological testing can estimate the damage inflicted by a particular earthquake, such as whether or not walls and building fell due to seismic events.[107] Archaeological data from sites located on fault lines can often provide highly accurate representations of the timing and scale of historical seismic events. Ruined walls "serve as excellent strain gauges" in modern excavations, due to their "smooth, straight lines" and the precision of architectural techniques during the period. Structural ruptures and rubble displacement can reveal the number, dates, and magnitude of past seismic events, even when several have taken place at the same location.[108] In addition, modern archaeological fieldwork has shown that the perils involved from collapsed fortifications inspired changes in military architecture and building techniques. The need to prepare for seismic events and limit the destructive repercussions of natural disasters thus led to trends of

[106] Raphael, *Climate and Political Climate*, 115-25.
[107] Andrey Korjenkiv, *et al*., "Traces of Ancient Earthquakes in Medieval Cities Along the Silk Road, Northern Tien Shan and Dzhungaria," *Turkish Journal of Earth Sciences* 12 (2003), 241-261.
[108] Ronnie Ellenblum, Shmuel Marco, Amotz Agnon, Thomas Rockwell, and Adrian Boas, "Crusader castle torn apart by earthquake at dawn, 20 May 1202," *Geology* 26, no. 4 (1998), 303. The size, quantity, and direction of ruptures and displacement are key points that can lead to highly specific delineations of the time, severity, and epicenters of seismic events.

architectural improvement.[109] Future seismological studies in the region will build on the large number of valuable archaeological studies that have been conducted in the Near East. Archaeological studies of Muslim and Frankish cities, castles, and churches proliferate, with major works in the field written by Adrian Boas and Denys Pringle.[110]

Seismological studies that utilize geological and archaeological work can help to provide fairly accurate definitions of the epicenters, locations, and severity of seismic activity but traditional historical sources remain a necessary element for linking these findings to the historical record. Nicholas Ambraseys, who has produced numerous articles and catalogues of Middle Eastern earthquakes, including studies of the disastrous Syrian earthquakes of 1114, 1138, 1157, and 1170, relies on the written textual sources to a large extent. His comprehensive compilation of earthquakes mentioned or described in the narrative sources spans several centuries of written material to produce comprehensive lists and descriptions of seismic activity. The compilation of this data is important for establishing factual records of earthquakes and avoiding the biases of the historical sources and the dating errors of modern seismographers. [111]

A wide range of scholars have previously compiled catalogues of historical earthquakes with different focuses, varying from global to regional studies, and utilizing primarily historical or archaeological and seismotectonic methods. The significant region-specific catalogues produced by Ben-Menahem (1979), Poirier and Taher (1980), and Ben-Menahem (1991), among many others, continue to be extensively used by recent studies.[112] Dunbar *et al*. (1992) and

[109] Raphael, *Climate and Political Climate*, 123-4, 143-63.
[110] For example, see: Adrian J. Boas, *Archaeology of the Military Orders: A Survey of the Urban Centres, Rural Settlements and Castles of the Military Orders in the Latin East (c. 1120-1291)* (New York: Routledge, 2006); Boas, *Crusader Archaeology: The Material Culture of the Latin East* (London: Routledge, 1999); Denys Pringle, *Secular Buildings in the Crusader Kingdom of Jerusalem: An Archaeological Gazetteer* (Cambridge: Cambridge University Press, 2009).
[111] Ambraseys, "The 12th century seismic paroxysm," 733-7.
[112] Guidoboni, *et al.*, "The large earthquake on 29 June 1170," 1-4.

Albini *et al*. (2013) have produced broad catalogues of historical earthquakes, while Hamiel *et al*. (2009) have provided a long-term study of the Dead Sea Fault over the last 60,000 years, in order to determine trends and patterns in earthquake occurrences along the fault.[113] Sbeinati *et al*. (2005) have analyzed Syrian earthquakes to assess potential seismic hazards in the region.[114] Studies such as this help predict and limit the damage of future earthquakes by studying long-term seismic trends across thousands of years.[115] The perpetuation of inaccuracies in historical dating and earthquake catalogues, however, sometimes stemming from medieval mistakes, presents a serious issue that requires clarification and reconciliation of data.

Despite its many benefits for environmental history, seismological research for the medieval Near East still faces a number of issues. Many catalogues unwittingly perpetuate dating errors, causing a steep variance between their lists at times. Sequences of earthquakes increase the difficulty of dating, with several of the seismic events of the twelfth-century occurring over a long span of time. A related problem that modern researchers are slowly overcoming is the lack of comprehensive studies of important earthquakes. Guidoboni *et al*. have noted that significant gaps still exist in the seismological literature concerning the earthquake of 1170, despite its documentation around the Mediterranean as an earthquake of unprecedented strength. Most studies rely solely on certain accounts, often the Arabic ones, in determining the effect of

[113] Paula K. Dunbar, Patricia A. Lockridge, and Lowell S. Whiteside, *Catalog of Significant Earthquakes: 2150 BC-AD 1991* (Rept. SE 49, Boulder: World Data Center A, U.S. Department of Commerce, 1992); Paola Albini, *et al.*, "Global Historical Earthquake Archive and Catalogue (1000-1903)," Global Earthquake Model Technical Report (GEM Foundation, Pavia, Italy, 2013); Y. Hamiel *et al*., "The Seismicity along the Dead Sea Fault during the Last 60,000 Years," *Bulletin of the Seismological Society of America* 99, no. 3 (2009), 2020-6.
[114] Mohamed Reda Sbeinati, Ryad Darawcheh, and Michael Mouty, "The Historical Earthquakes of Syria: An Analysis of Large and Moderate Earthquakes from 1365 B.C. to 1900 A.D," *Annals of Geophysics* 48, no. 3 (2005), 347-416.
[115] Mustapha Meghraoui, *et al.*, "Evidence for 830 Years of Seismic Quiescence from Palaeoseismology, Archaeoseismology and Historical Seismicity along the Dead Sea Fault in Syria," *Earth and Planetary Science Letters* 210, no. 1-2 (2003), 35-51; Hamiel *et al.*, 2020; Korjenkov *et al.*, 243-5.

earthquakes in the Near East, creating a problematic selective process.[116] In addition, geological estimates of severity are hampered by discrepancies between different studies and the descriptions of the historical sources, with different magnitudes recorded by newer studies.[117] The need to rely on rough estimates remains a limitation, therefore.

To overcome these types of errors, a team of seismological researchers led by Emanuela Guidoboni built on the work of Ambraseys and their own comprehensive studies to reconcile conflicting data in both the catalogues and the primary sources.[118] Guidoboni *et al*. reconciled the differences in the source material by investigating very broad ranges of source material from across the Mediterranean, analyzing over fifty sources in eight languages regarding the earthquake of 1170.[119] New research must address many problems, including the political state of the region, the religious and cultural bias of the authors, and the distance in time and space between the authors and the events. These issues are addressed by analyzing previous seismological findings, placing the sources in their historical context, determining the biases of the authors, estimating the intensity scale of the events, and relating them to known seismotectonic data from the region.[120]

As evidenced by the need to balance historical accounts and scientific findings, one of the challenges for seismology is the problem of dealing with historical biases. These become a factor when using the narrative sources to estimate earthquake severity, due to a lack of scientific data to supplement them. For example, Guidoboni *et al*. attempted to compensate for the ideological bias of Ibn al-Jawzi in their estimation of the severity of the earthquake sequence of 1157 in

[116] Ambraseys, "The 12th century seismic paroxysm," 736; Guidoboni, *et al.*, "The large earthquake on 29 June 1170," 1, 4. The bulk of the sources were written in Latin, Arabic, and Syriac. Solely using one of these bodies of sources has reduced the accuracy of past studies.
[117] Raphael, *Climate and Political Climate*, 124, n26.
[118] Guidoboni, *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 105-127.
[119] Guidoboni, *et al.*, "The large earthquake on 29 June 1170," 1, 4-8.
[120] Guidoboni, *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 105-6.

Syria, by allocating lesser grades of severity to the Christian cities supposedly struck by the earthquake. No Latin sources mention the earthquake, leading to suspicions that the damage in the Crusader States was minimal or nonexistent, while the Arabic sources of Ibn al-Athir and Ibn al-Adim both attest to the destruction in Muslim lands and had similar reasons for ascribing destruction in Frankish lands.[121] This instance illustrates the influence of political and ideological factors on the creation of skewed portrayals of seismic events.

One benefit of modern seismology is that the reason behind discrepancies such as this can be determined from scientific knowledge of the region and tectonics. As Raphael has described, the earthquakes of the twelfth-century tended to affect Muslim regions far more severely than the Christian lands west of them. Raphael postulates that this was due to the seismic events being "supershear earthquakes", where one side of a fault experiences a much more serious earthquake than the other. Along the Dead Sea fault, the Muslim-dominated lands on its eastern side were often subjected to more severe seismic activity as a result.[122] It seems likely, therefore, that the erroneous inclusion of damage inflicted in Christian lands was an attempt to mask this apparent discrepancy and show that Muslim cities were not the only ones to suffer.

Other valuable seismic studies have been conducted using palaeoseismological techniques, such as the carbon dating of alluvial deposits, in addition to the archaeological work and tectonic studies. This research can provide a great deal of data concerning the slip rate of fault lines, which allows some estimation of future earthquakes occurrence by calculating the rate of seismic slip.[123] A great deal of potential remains for future studies that emphasize an

[121] Guidoboni, *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 117-21; Raphael, *Climate and Political Climate*, 132-3. These are significant errors in the Arabic sources. There seems to have been no damage in Antioch, though Ibn al-Athir recorded it destroyed. Ibn al-Athir, Part 2, 87.
[122] Raphael, *Climate and Political Climate*, 140-3.
[123] Meghraoui, *et al.*, 35, 45-51.

interdisciplinary approach towards the historical, geological, and archaeological evidence of historical earthquakes.[124] These studies can provide details about the scale of earthquakes, verify their occurrence, and estimate the damage and loss of life inflicted on populations. A combination of these techniques allows for valuable scientific corroboration of the existence and scale of the earthquakes described in the narratives. These evaluations can reveal inaccuracies in the narrative sources' portrayal of seismic events that reflect the chroniclers' ideological frameworks. The reconciliation of discrepancies between different accounts and the evidence of excavations, therefore, takes on significance for the study of intellectual patterns regarding the devastating effects of earthquakes in the Near East, as well as revealing the intensity and location of seismic events.

[124] Ellenblum, *et al*., "Crusader castle torn apart by earthquake," 303-6.

CHAPTER TWO: THE AUTHORS AND THEIR WORLDVIEWS

2.1. Regional Context

2.1.1. Political Background of the Near East

The Levant experienced significant political turmoil and religious conflict in the twelfth century, particularly surrounding the events of the First Crusade. The crusaders established the Kingdom of Jerusalem, the Principality of Antioch, the County of Tripoli, and the County of Edessa, and these states were filled with a mixture of peoples and cultures. The populations of local inhabitants, both Muslim, Christian, and Jewish, lived alongside the "Frankish" or Latin newcomers from Western Europe. The idea that the Crusades were a war between Christianity and Islam is an oversimplification of reality, one that creates a false dichotomy between the populations of the Near East. The loose "confederation" of the Crusader States was not directly subject to Jerusalem and could operate independently, much like many of the Muslim city-states that neighboured them, which led to conflicts and infighting between the Christian states at times, particularly in the early years.[125] Strategic alliances and religious factors significantly altered contemporary perceptions, therefore, and it is important to consider the chronicles of the Near East within their correct historical context.

War between coreligionists was a common feature of life in the Levant, as were alliances between supposed enemies. These tactics continued both during and after the initial conquest of the First Crusade, with Muslim lords creating alliances with the Christian armies to further their semi-independent status as well as to delay eventual Frankish attacks. The city of Azaz subjugated itself to the armies of the First Crusade in exchange for protection against Ridwan of

[125] Richard, *The Latin Kingdom*, 83-4; Malcolm Barber, *The Crusader States*, 213-5. Antioch's submission to the Byzantines in 1159 is one example of how the states often functioned independently, although they generally supported each other in major war efforts.

Aleppo.[126] In the battle of Tell Bashir, or Turbessel, in 1108, Ridwan fought with Tancred of Antioch against Joscelin of Edessa, Baldwin de Bourcq, and Mawdud.[127] Usama Ibn Munqidh, one of the most well-known Muslim sources for the period of the Crusades, gained his knowledge and many experiences with the Franks through his role as an envoy from Damascus, during its alliance with Jerusalem between 1140 and 1143, and frequently traveled on pilgrimage to Jerusalem as well.[128] These instances illustrate the complexities involved in the underlying biases and perceptions of the chroniclers, who sometimes disapproved of these alliances. The historical accounts frequently associated military failures with divine anger against such practical arrangements with religious enemies, and some also interpreted earthquakes as signs of God's displeasure at these alliances, such as the Byzantine historian Niketas Choniates.[129]

The initial success of the First Crusade was greatly aided by the fractious relationships of the various Muslim states in the Levant. After conquering Persia and Iraq, the Seljuk Turks were recognized as legitimate rulers of the region by the Abbasid caliph in Baghdad, who accorded their ruler the title of sultan, naming him "the secular arm of the Ruler of the Faithful."[130] The Fatimid Shi'ite rulers of Egypt were actively antagonistic to the encroaching power of the Sunni Turks. Due to their geographic location, Syria and Palestine became the contested frontier

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[126] Albert of Aachen, *Albert of Aachen: Historia Ierosolimitana*, *History of the Journey to Jerusalem*, edited and translated by Susan B. Edgington, Oxford Medieval Texts (Oxford: Clarendon Press, 2007), 345-55; Michael A. Köhler, *Alliances and Treaties between Frankish and Muslim Rulers in the Middle East: Cross-Cultural Diplomacy in the Period of the Crusades*, translated by Peter M. Holt, edited by Konrad Hirschler, The Muslim World in the Age of the Crusades, Vol. 1 (Leiden: Brill, 2013), 38-40.
[127] Paul M. Cobb, *The Race for Paradise: An Islamic History of the Crusades* (Oxford: Oxford University Press, 2014), 115-6; Cobb, "Usāma Ibn Munqidh's *Lubāb al-Ādāb* (*The Kernels of Refinement*): Autobiographical and Historical Excerpts," *Al-Masāq: Journal of the Medieval Mediterranean* 18, no.1 (2006), 71-3; Fulcher, 180-1.
[128] Usamah Ibn Munqidh, *The Book of Contemplation: Islam and the Crusades*, translated by Paul M. Cobb (New York: Penguin Books, 2008), xxvi, 147-55. He lists many Christian cities that he visited often or spent time in, including Tyre, Antioch, Acre, Tiberias, and Nablus, showing his travels were far from restricted.
[129] Niketas Choniates, *O City of Byzantium: Annals of Niketas Choniates*, translated by Harry J. Magoulias, Byzantine Texts in Translation (Detroit: Wayne State University Press, 1984), 67; Walter the Chancellor, 94-5, credited God's desire to stop an alliance with "Belial", the Muslims, for the breakup of an allied army.
[130] Prawer, *Jews in the Latin Kingdom*, 1-2.

between the two opponents. The authority of the rival caliphates remained fragmented and highly localized at best, however, leaving Syria leeway for political manoeuvrings.[131] Immediately preceding the Crusade, the Muslim states of the Middle East suffered from internal fighting and rebellions in Iraq and Egypt in the 1090s, and a collapse of Seljuk centralized power in 1092 following the deaths of the Seljuk vizier, the Sunni caliph, and the sultan Malik-Shah. The Seljuk state broke apart into smaller enclaves fighting for increased independence from the two central powers of Baghdad and Cairo.[132] In Cairo, both the Fatimid caliph and his powerful vizier died in 1094, further creating a vacuum of power.[133]

The fierce conflict between the Abbasid and Fatimid caliphates was clearly manifested during the First Crusade, when a Fatimid delegation approached the Christian armies during their siege of Antioch to propose an alliance against their mutual Turkish enemy.[134] Ibn al-Athir believed that the Fatimids had invited the Franks to come and aid Egypt against the power of the Seljuks – a not unreasonable assumption considering the Fatimid embassy and Byzantium's previous ties with Cairo.[135] The Fatimids' negotiations with the crusaders ultimately came to naught, however, because the crusaders were determined to possess the Holy City but the Egyptians had recaptured Jerusalem from the Turks in 1098.[136] This attempt at an alliance nevertheless illustrates the fiercely hostile nature of the Sunni and Shi'ite rivalry in the twelfth century, and how Syria and its environs became the shifting borderlands where they fought for

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[131] Andrew Jotischky, *Crusading and the Crusader States*, 2nd ed. (New York: Routledge, 2017), 41-3; Mayer, *The Crusades*, 4-5. Sunnis and Shi'ites were fractured in belief as well, being disunited and split among competing traditions.
[132] Jotischky, 41-3; Hamilton A.R. Gibb, "The Caliphate and the Arab States," in *A History of the Crusades, Volume 1*, edited by Baldwin and Setton, 81-98; Bernard Lewis, "The Ismailites and the Assassins," in *A History of the Crusades, Volume 1*, edited by Baldwin and Setton, 99-132.
[133] Carole Hillenbrand, *The Crusades: Islamic Perspectives* (New York: Routledge, 2000), 33.
[134] *Gesta Francorum et aliorum Hierosolimitanorum: The Deeds of the Franks and the Other Pilgrims to Jerusalem*, edited and translated by Rosalind M. Hill (London: Thomas Nelson and Sons, 1962), xxxvi, 37-8.
[135] Hillenbrand, *Islamic Perspectives*, 46, 52-4; Cobb, *Race for Paradise*, 89.
[136] Prawer, *Jews in the Latin Kingdom*, 17. The Fatimids had initially lost Jerusalem to the Turks in 1077.

control.

At the time of the First Crusade, the majority of Muslims in Palestine and Syria were Sunni, with pockets of Shi'ites in Damascus, Aleppo, and other cities, while the Seljuks remained firmly Sunni. Some emirs with Shi'ite tendencies, such as Ridwan of Aleppo, established ties with Fatimid Egypt in preference to the Sunni sultan in Baghdad, and were also friendly with the Assassins, a Shi'ite splinter sect.[137] The Assassins maintained a presence in Syria from the beginning of the twelfth century and became a powerful force in the region in the 1140s. They grew in opposition to other rulers in Syria, but also created alliances with both Muslim and Frankish forces.[138] Under Ridwan's protection, the Assassins engaged in the murders of several of his political rivals among his Muslim neighbours, including the powerful emir Mawdud of Mosul, who had previously led a Turkish army against the Franks in 1111.[139]

Caught between the power struggles of expansive rivals, many of the local Sunni emirs of Syria and Palestine sought to maintain a degree of independence from both and frequently rejected the attempts of eastern Seljuk leaders to centralize their power and unite the Muslim lands. Damascus and Aleppo retained a strong influence over their surrounding regions throughout the twelfth century, locked in combat with whoever had the upper hand in the power struggle, whether Jerusalem or Baghdad and Mosul.[140] The failure of Turkish armies sent by the

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[137] Lewis, 110-3; Bogdan, 226-7; Kohler, 17. Ridwan had temporarily subjected Aleppo to the Shi'ite caliph in 1097 in exchange for promises of aid against Damascus. His later alliances with the Assassins and crusaders followed the same pattern of independent self-interest, like many other small states in the Near East.

[138] Lewis, 110-25; Smarandache, 221-39; Christopher MacEvitt, *The Crusades and the Christian World of the East: Rough Tolerance* (Philadelphia: University of Pennsylvania Press, 2008), 10-11. Members of the sect were properly called Nizari Isma'ilis, though known to the Franks and modern scholars as the Assassins, which was a word derived from a derogatory term used by their enemies, meaning hashish-eaters. This term and the sect's assassination practices created the modern definition of the word "assassin". Cobb, *The Book of Contemplation*, xviii.

[139] Lewis, 110-3.

[140] R.C. Smail, *Crusading Warfare, 1097–1193,* 1956, 2nd ed. (Cambridge: Cambridge University Press, 1995), 68; Cobb, *Race for Paradise*, 104-33; Lewis, 110-25. In 1124-5, Aleppo called upon al-Bursuki of Mosul to save them from the Franks and local emirs, though they had fought against him earlier on the side of the Franks, and Tughtegin of Damascus also joined him in 1125-6 when he was defeated by the Franks. See: Matthew of Edessa, 234-6.

sultan to drive the crusaders out of the Holy Land

> revealed the division of Islam which was largely responsible for the military successes of the Franks during the first generation of the Latin occupation. The rulers of Muslim Syria saw in these expeditions from Mesopotamia not only an attack on the Franks but an attempt by the sultan to re-establish his direct control over themselves.[141]

When a Turkish army came west in 1115, the powerful rulers Il-Ghazi and Tughtegin of Damascus allied with the Franks in opposition to Baghdad.[142] Many of the Syrian Muslim rulers therefore preferred short-term alliances with the Franks against eastern aggression, though war against the Franks on their own behalf was commonplace, as evidenced by the great victory of Il-Ghazi, a local ruler.[143] Il-Ghazi was only a Frankish ally for a short time before he defeated and killed Roger of Antioch at the Field of Blood in 1119, despite the fact that he and Roger had formerly been "intimate friends" according to Matthew of Edessa.[144]

The mid-twelfth century saw rulers such as Zengi, Nur al-Din, and Saladin attempt to establish themselves as the dominant power of the Near East by uniting the Muslim lands under their rule in opposition to the crusaders.[145] The internal divisions continued, however, for even Zengi abandoned doing the will of the sultan after he acquired Aleppo in 1128. Zengi's son Nur al-Din and the latter's successor Saladin both continued his legacy of combating the Christian states while uniting Muslim forces under their own banner, rather than that of Baghdad.[146] To attain their goals, however, they spent the majority of their time fighting and earning the enmity of fellow Muslims, particularly Shi'ites.[147] Nur al-Din abolished Shi'a prayers in Aleppo once he

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[141] Smail, 140-2. The sultan's forces, wracked by internal dissension, were further affected by strained relations with the rulers of Aleppo and Damascus, and withdrew from Syria with little to show for it.
[142] Smail, 143-5; Walter the Chancellor, 88.
[143] Hillenbrand, *Islamic Perspectives*, 81-4.
[144] Matthew of Edessa, 223-4; Walter the Chancellor, 125-7.
[145] Christopher J. Tyerman, *God's War: A New History of the Crusades* (New York: Penguin Books, 2007), 343-54. Nur al-Din and Saladin both spent the majority of their time fighting other Muslims, despite their reputations as great proponents of jihad against the Christians.
[146] Smail, 67-71.
[147] Tyerman, *God's War*, 343-54.

acquired the city in 1148, and Saladin ended the Fatimid caliphate in 1171, imposing Sunni Islam in Egypt.[148] Saladin serves as an excellent example of the internal strife in the Muslim world at the time. In the 1170s, Saladin engaged in repeated warfare with Aleppo and Mosul, governed by fellow Sunnis, as well as against the Assassins.[149] Wary of his encroachment, local emirs made an alliance with the Franks against him in 1185.[150] Saladin's actions earned him the enmity of most Shi'ite scholars, who blamed Saladin for the destruction of the "Shi'a Fatimid Empire", but one exception, Ibn Abī Tay (1160-1234), wrote a laudatory biography of Saladin. In addition, though many of Saladin's Sunni contemporaries saw him in a heroic light, some like Ibn al-Athir opposed him because of their loyalties to a rival political dynasty, the Zengids of Mosul.[151] The division and enmities among the Muslim states of Syria clearly had a major effect on the Arabic chroniclers of the twelfth century, therefore, but was not confined to strict religious lines.

The relationship between various Christian groups in the Near East and the Crusader States were similarly complicated and often far from friendly. The numerous Syrian and Armenian populations of the Near East sided with Muslim and Frankish rulers in their bid for greater autonomy, religious freedom, or self-interest, depending on the individuals involved. While their independent rulers were seldom powerful, with the exception of some successful Armenian leaders, these people played an important role in the political state of the Near East due to their numbers and the benefits that the Turks and Franks gained from their alliances and loyalty.[152] The Byzantine Empire also frequently played a strong role in the politics of the Near

[148] Lewis, 120; Baldwin, "The Latin States," 560.
[149] Ibn al-Athir, Part 2, 241-4, 247-9.
[150] Michael the Syrian, trans. by Moosa, Bk. 21, 726.
[151] Mohamed El-Moctar, "Saladin in Sunni and Shi'a Memories," in *Remembering the Crusades: Myth, Image, and Identity*, edited by Nicholas Paul and Suzanne Yeager (Baltimore: Johns Hopkins University Press, 2012), 197-209. Ibn Abī Tay believed Saladin was better than Nur al-Din in his treatment of Shi'ites. El-Moctar argues that Ibn Abī Tay, who belonged to Twelver Imamism, saw the Fatimids as heretics for their beliefs in Sevener Isma'ilism, and also despised the Assassins, which helps to explain his support of Saladin.
[152] Smail, 46-53; Matthew of Edessa, 222-4, 229-30.

East during the twelfth century, and large armies from Constantinople could greatly influence the power dynamics of the region when they arrived, in reoccurring competition against both Muslim powers and the Principality of Antioch.[153]

These conflicts between coreligionists serve as the backdrop for the historical narratives of the twelfth century of the region. Ultimately, the Near East was a hybrid culture with mixed "tolerance" and peaceful cohabitation punctuated by periods of inter-religious violence. It was a world in which religion was a more important factor than race or ethnicity.[154] The political state of the region, therefore, had a great impact on its chroniclers because they were part of a broadly cross-cultural society that had mutable "Christian" or "Muslim" political affiliations. The political and religious criticisms of Christian and Muslim chroniclers regularly extended to their coreligionists, even if their most strident opinions most often fell upon those who held different doctrinal tenets.

Historical accounts were built on the biases and perspectives of their authors, and these considerations affected their perceptions and portrayals of natural disasters. Chroniclers commonly viewed earthquakes as divine punishment for social, religious, political, or military actions that were contrary to moral or doctrinal precepts. The political framework of the Middle East, therefore, provides key information about the state of the various peoples and kingdoms described in connection to a specific earthquake.

In terms of material consequences, the political state of the Near East also affected the scale of destruction that earthquakes inflicted. As Ambraseys pointed out, the impact of continual warfare in the region increased the damage caused by seismic disasters, due to the previously

[153] John Kinnamos, *Deeds of John and Manuel Comnenus*, translated by Charles M. Brand, (New York: Columbia University Press, 1976), 143-4; Barber, *The Crusader States*, 213-5.
[154] Christopher J. Tyerman, *Fighting for Christendom* (Oxford: Oxford University Press, 2004), 162-8.

weakened state of buildings and fortifications.[155] In addition, military campaigns or treaties frequently occurred in the aftermath of earthquakes, a fact that augments the relevance of the political climate.[156]

2.1.2. Cultural and Religious Interaction

Large numbers of people with cultural and confessional differences living alongside each other in the multicultural environment of the twelfth-century Near East. The proximity of various ethnic populations and religious traditions increased cross-cultural interactions in this tumultuous period. A broad mix of Arabic, Turkish, Egyptian, Syrian, Armenian, Greek, Georgian, and Jewish populations inhabited Syria and Palestine, in addition to the Frankish newcomers. In terms of religious affiliations, the list is equally as widespread. There were still many Christians in Palestine and Syria at the time of the Crusades, the majority of whom were Greek Orthodox Syrians.[157] Christian groups in the region included Catholic, Melkite (Greek Orthodox), Jacobite (Syriac Orthodox), Maronite, Georgian, and Nestorian Christians. Among the Muslim population, the majority varied between Sunni and Shi'a traditions, but many splinter sects also existed, such as the Druze and Nizari Isma'ilis. In addition, there were large Jewish communities in many of the cities of the Levant and the Middle East, groups that included Rabbanite and Karaite Jews and Samaritans.[158]

These peoples and faiths came into conflict at times, and the strife that resulted from such close proximity, and the political situation of the region, strongly influenced the chroniclers who

[155] Ambraseys, "The 12th century seismic paroxysm," 735.
[156] Guidoboni, *et al*., "The 1138-1139 and 1156-1159 destructive seismic crises," 116-7.
[157] Jotischky, 41-3.
[158] Benjamin Kedar, ed., "The Tractatus de locis et statu sancte terre ierosolimitane." in *The Crusades and their Sources: Essays Presented to Bernard Hamilton*, edited by John France and William G. Zajac (Aldershot: Ashgate: 1998), 111-133; Denys Pringle, *Churches, Castles and Landscape in the Frankish East*, Variorum Collected Studies Series (Farnham: Ashgate, 2013), II, 161-4. An impressively comprehensive list was compiled by the author of the *Tractatus*, dating from the years before Hattin, pre-1187.

emerged from these backgrounds. Theological divisions and doctrinal controversies played significant roles in setting historical authors against other groups they considered to be heretical or outside of the true religion. The religious separations of the Christian populations of the Crusader States often involved protracted ecclesiastical disputes and angry recriminations. These conflicts directly interfered with how various writers portrayed seismic causality in their texts. Chroniclers commonly blamed earthquakes on other religious groups when the disaster appeared to "target" one group more than another, based on the group's perceived doctrinal errors or oppression of other religious practices.

After the First Crusade, the crusaders who settled in the Near East adopted a common "Frankish" identity, part of a transformation of Europeans into inhabitants of Outremer. Prior to this change, the crusaders had grouped themselves according to regional identities, divided into Norman, Provencal, and Lotharingian contingents, but as Fulcher described, "we who were Occidentals have now become Orientals. He who was a Roman or a Frank has in this land been made into a Galilean or Palistinean."[159] Living as a numerical minority among the Christians of the region, the Frankish approach to other groups varied depending on location, time, and individuals. Matthew of Edessa frequently criticized the harsh or brutal actions of Frankish rulers against their Armenian subjects, but he also acknowledged the beneficial characteristics of other rulers. In addition, Matthew wrote that some Franks changed their style of rule to become more "compassionate" as time passed, such as Count Joscelin I of Edessa.[160] As MacEvitt has argued,

[159] Fulcher of Chartres, 271-2; RHC, Occ. 3, 468: "Nam qui fuimus occidentales, nunc facti sumus orientales." Despite the Franks' adoption of a Near Eastern identity, they only partially integrated with the local populations, maintaining their "Latin" identity in a sense. See: MacEvitt, *Rough Tolerance*, for a comprehensive modern study of the subject, which provides evidence that integration progressed further than historians have previously recognized.
[160] Matthew of Edessa, 225. In Matthew's account, "Joscelin, abandoning his former cruel nature, now adopted a very humane and compassionate attitude towards the inhabitants of Edessa." Matthew's assertion appears to be substantiated by the Armenian rescue of Joscelin from Muslim captivity shortly later in his record (229-30). Matthew appears to have held a higher opinion of Joscelin than of other Franks, like Bohemund and Baldwin II, whom he held responsible for many atrocities against the Armenians (219-22).

the Frankish model of rule can be termed "rough tolerance", in which they generally allowed their subjects to live without undue restrictions, though interspersed by periods of violence.[161]

Some records of earthquakes served as tools of political criticism, in which natural disasters helped to craft a narrative directed against the government of rulers. In one case, Matthew of Edessa claimed that Count Baldwin de Bourcq was responsible for the death of an Armenian lord, Constantine of Gargar, whose body the Franks then threw in the rubble of an earthquake to disguise his murder. Matthew's bias against instances of Frankish oppression is very evident here, for no other source included this possibility. The Anonymous Syriac Chronicle and Bar Hebraeus both listed Constantine's death as a direct result of the earthquake.[162] This example highlights how the cultural and religious differences of various authors influenced their records of seismic events in a tangible way, with different authors responding quite differently to the same event.

Near Eastern Christians' criticism was not solely directed against the Franks. Syrian and Armenian Christian sources both frequently portrayed natural disasters as divine punishment against other Christian sects, such as the Melkites, as well as their Muslim enemies.[163] This element of religious strife contributed to a pattern of portraying seismic disasters in a manner that involved the denigration of the religious Other.[164]

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[161] MacEvitt, *Rough Tolerance,* 21-6.
[162] Matthew of Edessa, 220; A.S.Tritton and H.A.R. Gibb, ed., "The First and Second Crusades from an Anonymous Syriac Chronicle," translated by A.S. Tritton, *Journal of the Royal Asiatic Society of Great Britain and Ireland* 1 (1933), 86-7; Bar Hebraeus, *The Chronography of Gregory Abû'l Faraj, the Son of Aaron, the Hebrew Physician, Commonly Known as Bar Hebraeus: Being the First Part of his Political History of the Word: Translated from the Syriac*, translated by E.A. Wallis Budge (London, 1932), X, 280. Only Matthew's account hints at Frankish treachery. This fact appears to display Matthew's antipathy towards Baldwin de Bourcq, who later became King Baldwin II of Jerusalem. For Baldwin's reputed atrocities against Armenians, see Matthew of Edessa, 219-21.
[163] Matthew of Edessa, 84-6, for example, describes instances where the Greek Orthodox (Melkites) in Antioch were responsible for mistreatment of Jacobite Christians.
[164] MacEvitt, *Rough Tolerance*, 21-2. MacEvitt has argued that Christian identities were too "porous" for them to view other Christians as the Other, but blaming Melkites was a common feature of both Michael and Matthew's works, so it did occur at times, even if the chroniclers also praised other religious figures in some instances. For example, see: Matthew of Edessa, 84-6.

Among the Muslim populations, few Shi'ite sources from the twelfth century survive, and most date from a later period.[165] As a result, the strife between Sunni and Shi'a traditions was reflected in the extant sources in antagonism towards the Isma'ili Fatimids and Nizaris. There are a few indications that Usama possessed Shi'ite sympathies, and he spent some years serving the Fatimids in Egypt, but he is an exception in this regard.[166] The works of Ibn al-Athir and Ibn al-Qalanisi do not contain any instances where earthquakes were directly blamed on the religious practices of other Muslims, but their antagonism towards Shi'ites is evident throughout their writings.[167] In similar fashion, the scarcity of Jewish chronicles from the Near East does not allow for close comparisons with the Christian and Muslim texts, but discord also frequently coloured the relationships between Rabbanite and Karaite Jews and the Samaritans.[168]

Despite numerous instances of religious strife and recrimination, friendly cross-cultural interactions and religious tolerance were regular occurrences as well. The chronicles of Matthew of Edessa and Michael the Syrian both serve as excellent examples of the range of interactions that took place in the Near East. The positive portrayal of benevolent rulers by the Armenian and Syriac authors was often extended to both Muslim and Frankish leaders who were deemed to be compassionate towards the plight of the local Christian populations. Matthew of Edessa praised several Muslim rulers, particularly the sultan Malik-Shah for exempting churches from taxation and honouring the patriarch.[169] In another instance, Matthew wrote that the Armenians were sorrowful over the death of a Muslim emir who treated them "compassionately", despite the fact

[165] Hillenbrand, "Sources in Arabic," 290-1. Many later Sunni sources used portions of earlier Shi'a material but usually added a Sunni perspective to them.
[166] Usama ibn Munqidh, *The Book of Contemplation,* xxi-xxii.
[167] Hillenbrand, "Sources in Arabic," 290-1. Ibn al-Athir appears to imply that fellow Muslims in Shayzar deserved the terrible earthquake of 1157 because they were not dedicated to counter-crusading. See section 4.3.1.
[168] Prawer, *The Crusader's Kingdom*, 234, 241-2. The Jewish communities in the Levant were split over doctrinal approaches, particularly concerning the philosophy of Maimonides, and resentment between the factions remained high throughout the period. Kedar, *Franks in the Levant*, XIX, 88-9.
[169] Matthew of Edessa, 149, 152-3, 156-7.

that he had just won a victory over the Franks that was "a disastrous and horrible day for the Christian faithful."[170] The seeming contradictions in attitude reveal how the subject populations of the Near East sought to make the best of their situation, whether under Turkish or Frankish rule, much like the local Muslim lords attempted to preserve their independence by appeasing each rival in turn. In addition, Matthew often criticized specific actions rather than demonizing whole groups for their religious beliefs.[171] The complex ethnic and religious dynamics of the "Latin East" and the Muslim states of Syria affected Christian and Muslim accounts, influencing their descriptions of interactions between peoples from different backgrounds. The chroniclers ignored the differences at times, focusing on shared goals, and praised the tolerant actions of various rulers. In other instances, however, the chroniclers cast different groups in the role of the Other, blaming them for divine punishment on their communities in the form of earthquakes.[172]

2.2. Methods and Influences

2.2.1. Common Patterns

Writing within the sociopolitical framework of the Near East, twelfth-century chroniclers utilized a range of literary techniques to create associations between the events they described and other culturally significant events, such as scriptural and classical texts. Medieval chroniclers often wrote their accounts for a wide variety of purposes in addition to recording past events truthfully, and these intentions affected their subject matter, accuracy, and style. In addition, chroniclers also portrayed the events and individuals in their accounts strategically, through the

[170] Matthew of Edessa, 232.
[171] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 158-60. Interestingly, this willingness is evident in Matthew's treatment of Muslims and Franks in his work, but he often portrayed the Melkites as collectively sinful, causing many historians to credit him with a stronger antagonism towards the Byzantines. MacEvitt has argued, however, that Matthew criticized the Armenians as often as he did other peoples, indicating his direction of criticism against actions, not peoples.
[172] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 167-71.

inclusion of political critiques or the ever-prevalent creation of biblical parallels and imagery in Christian works.[173] This strategy was commonly implemented through the intricate use of language, including theological phrasing, comparisons to sacred literature, and denigration of the Other. The varied intentions of the authors therefore laid certain constraints on their accuracy and reliability, depending on the biases and objectiveness of the individual writers.

Coming from such a wide range of backgrounds, the historical sources for the twelfth-century Near East cannot be reduced to a single worldview. The distinct styles, intentions, and focuses of the individual authors must be recognized in their particular setting and context. Many common patterns are evident within the sources, however, due to the shared elements of religious tradition between the monotheistic faiths, the nature of the authors' subject matter, and the cross-cultural environment within which they lived. These patterns can often be distinguished in all the sources, though with the distinctive approaches and perspectives of individual authors.

The centrality of religion in the medieval world brought the authors' theological background to the fore in their writings. In addition to recording historical events, many writers focused on filling their accounts with a deeper spiritual meaning, and on trying to discern the supernatural significance of events. European clerical authors such as Baldric of Dol, Orderic Vitalis, and Ekkehard of Aura stylized and elaborated on the accounts of the First Crusade, including detailed descriptions of the expedition's importance and ultimate direction by God.[174] For example, their religious association of the Crusade's success with divine direction and approval led to the inclusion of miraculous accounts in their narratives. Instances such as this

[173] William J. Purkis, "Rewriting the History Books: The First Crusade and the Past," *in Writing the Early Crusades: Text, Transmission and Memory*, edited by Marcus Bull and Damien Kempf (Woodbridge: Boydell Press, 2014), 140-54; Murray, "Biblical Quotations and Formulaic Language in the Chronicle of William of Tyre", in *The Franks in Outremer*, XIX, 25-34. Robert the Monk and William of Tyre provide two examples of authors whose texts heavily incorporated Scripture to convey spiritual themes to their audiences.
[174] Kostick, *Social Structure*, 65-70, 74-84, 100-3.

show how the purpose and agenda of the authors, like any historical sources, had a clear impact on their portrayal of events. This factor played a role in how the chroniclers approached earthquakes, specifically because they associated natural disasters with sin, and we can thus determine how chroniclers blamed certain rulers, peoples, or cities as the cause for divine punishments. In effect, because of the authors' continuous association of events and natural disasters with supernatural significance, we can establish their biases and motives from looking at their inclusion of religious or sociopolitical themes in their descriptions of seismic disasters.

One of the most common patterns evident in medieval writings is the establishment of sacred parallels and the use of scriptural language. The creation of sacred parallels involved establishing a connection between the events witnessed by the authors and those described in the Bible. For example, after describing an earthquake that occurred in 1128, Michael the Syrian wrote that the "earth continued to tremble for forty days and forty nights."[175] This statement employed the biblically significant number of forty, drawing a parallel to its uses in Scripture. The number forty typically signified a time of extended purification through hardship, such as the Israelites wandering in the desert for forty years, Christ's own forty days in the desert, or the forty days of Noah's Flood (another instance of a natural disaster serving as punishment). Michael the Syrian drew a related comparison between the biblical accounts of the Flood, Sodom and Gomorrah, and the earthquake of 1170, describing how God punished iniquity in each case.[176] Instances of similar parallels concerning earthquakes abound in the sources.

Matthew of Edessa similarly described the scale of the great earthquake of 1114 in Syria using biblical metaphors. First, in listing the extent of the destruction and the names of the cities that were severely damaged or wholly leveled by the disaster, he described God's connection to

[175] Michael the Syrian, trans. by Moosa, Bk. 16, 645.
[176] Michael the Syrian, trans. by Moosa, Bk. 18, 694-5.

earthquakes using one of Psalms: "'Lo, he looked at the earth and caused it to tremble.'"[177] Then, Matthew writes that "we have never heard of such a wrathful event having happened in the past or in the present, or having been mentioned in Scripture."[178] With his word choice, Matthew illustrated the magnitude of the calamity, juxtaposing it to biblical catastrophes and judging it more disastrous. Second, Matthew compared the events to the last judgment, believing that "all the signs pointing to the last day were in evidence at this time."[179] Finally, he described the sins of the Christians that led to this devastation of their lands in comparison to the Flood:

> As in the days of Noah they ate and drank until the time of their destruction, an end which they well deserved because of their sins; these persons continued giving themselves to merriment until the wrath of the Lord God fell upon them and obliterated their iniquities, for they had committed outrageous crimes.[180]

From these examples, we can determine several significant features of how Matthew perceived earthquakes in accordance with his Christian background and worldview, his knowledge of Scripture, and his apocalyptic expectations stemming from both of those factors.

The inclusion of scriptural language, whether through direct quotations or imitative phrasing, was a common method used to establish a sacred parallel between biblical and contemporary events. The Jewish and various Christian populations of the Near East held the books of the Old Testament in common, and the host of references within them that saw earthquakes as acts of God therefore had a significant influence on authors from these backgrounds. Earthquakes in Scripture could indicate God's presence (Nahum 1:5), divine power (Job 38:13), divine retribution (Numbers 16:30-4), divine protection of his Chosen People (2 Samuel 22:8), or could be premonitions of the day of judgment and the apocalypse (Isaiah 24:18-

[177] Matthew of Edessa, 216; Psalms 103:32.
[178] Matthew of Edessa, 216-7.
[179] Matthew of Edessa, 216-7.
[180] Matthew of Edessa, 216-7.

20, Revelation 6:12-7).[181] Biblical references to the ten plagues of Egypt identified God as the author of a wide range of natural phenomena, including eclipses, locusts, hail, and plagues.[182] Medieval authors supported their perceptions regarding the environment and natural disasters by quoting or paraphrasing these scriptural references to God's role in the workings of the natural world. Fulcher of Chartres saw the reoccurring swarms of locusts as a renewal of the plagues of Egypt.[183] William of Tyre cited a biblical passage that described earthquakes as extensions of divine power: "Thou stretchedst out thy right hand, the earth swallowed them" (Exodus 15:12).[184] The English chronicler Roger of Howden, writing of a massive earthquake in England as Henry II made crusading preparations in 1185, claimed that it split Lincoln cathedral from top to bottom, a clear allusion to the curtain in the Temple being torn during the earthquake at Christ's death (Matthew 27:51).[185]

Christian, Muslim, and Jewish religious traditions all shared a basic acknowledgment of the relationship between God, man, and nature, as well as the divine causality of earthquakes. In Islamic religious tradition, the Quran and hadiths also contained many references to earthquakes, and the same patterns of association are evident. In several places in his work, Ibn al-Qalanisi described earthquakes being both unleashed and calmed by God, and he praised God for bringing the tremors to an end once they subsided.[186] Hirschler has noted that an earthquake reputedly accompanied the birth of Muhammad, while Arabs showed their familiarity with living in active seismic regions by the inclusion of a Year of the Earthquake in their calendar and a chapter

[181] Other references of earthquakes and apocalypse include Revelation 8:5, 11:19, and 16:16-21.
[182] Psalm 104:28-35.
[183] Fulcher of Chartres, 218-9. The Kingdom of Jerusalem experienced severe locust plagues in 1114 and 1117.
[184] William of Tyre, Vol. II, 434.
[185] Roger of Howden, *The Annals of Roger de Hoveden: Comprising the History of England and of Other Countries of Europe From A.D. 732 to A.D. 1201, Vol. 2: A.D. 1181 to A.D. 1201*, edited and translated by Henry T. Riley (London: H.G. Bohn, 1853), Vol. 2, 50-1.
[186] Ibn al-Qalanisi, *Damas de 1075 à 1154*, edited and translated by Roger Le Tourneau (Damascus: Institut Francais de Damas, 1952), 595 (27 Septembre 1151), 599 (3 Février 1152).

concerning earthquakes in the Qur'an.[187] In Hirschler's words, many Muslim scholars advocated a view of earthquakes that

> ascribed earthquakes to God's immediate will and advanced elaborate cosmological descriptions to explain how He caused them. These descriptions focused either on the Mountain Qaf that, in their view, surrounded the earth and was linked to it by subterranean ramifications, or on the idea that the earth was placed on the horns of a bull that was carried by a fish. According to this group of authors (e.g., al-Suyuti), earthquakes were either the result of deviating behavior (adultery, usury, and consumption of alcohol) or signs of the approaching Last Judgment, an idea that is based on the Qur'anic Earthquake Chapter. In this worldview, God caused the Mountain Qaf or the bull and the fish to move so that the earth was seized by a wave of shocks as a punishment.[188]

The theory regarding the cosmic fish has come to us from a late fifteenth-century writer, al-Suyuti, but reputedly dates to the pre-Islamic period and may well have been known in twelfth-century Syria.[189] These cosmological explanations hypothesized various physical reasons for the earth's shaking but were ultimately built on the *a priori* assumption that God was the cause of seismic events.

One of the obvious and significant limitations of the sources lies in their political prejudices. Muslim historical sources often recorded events to make political points and the extent to which any given source did so is practically unknowable to us, but we must recognize the validity of questioning any of the sources.[190] Like the Christian sources, the Muslim records present partisan interpretations of the period based on their political and religious affiliations. For example, the majority of the surviving sources are virulently hostile to the Shi'ite Fatimids and the Assassins.[191] Among the Christian authors, the perspectives on certain events varied

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[187] Hirschler, "Earthquakes," 219; *The Qur'an*, translated by M.A.S. Abdel Haleem, Oxford World's Classics (Oxford: Oxford University Press, 2005), 99:1-8, p431. See section 4.4.1.
[188] Hirschler, "Earthquakes," 219.
[189] Akasoy, 390-1; Raphael, *Climate and Political Climate*, 117-9, p119 n17. An Egyptian scholar, Al-Suyuti also authored an earthquake catalogue.
[190] Mallett, *Muslim Historians*, 6.
[191] Lewis, 108-25; Ibn al-Athir, Part 1, 9. Ibn al-Athir referred to the Assassins as Batinis, a term derived from their philosophical teachings, but essentially used derogatively by Sunni chroniclers to mean heretic.

significantly depending on the source. The Norman and Provencal accounts from the First Crusade displayed events according to their antagonistic views of each other.[192] The incorporation of legendary stories also perpetuated false narratives about the Crusade, with many chroniclers stylizing their accounts to use them as propaganda for continued recruitment.[193] Ultimately, many authors recorded events in a skewed manner that reflected their political or religious leanings and this practice affected their accounts of natural disasters and earthquakes.

As mentioned earlier, it was also a common practice for medieval writers to engage in polemical rhetoric against the Other.[194] The denigration of enemies through the use of metaphors was a regular practice in Crusade literature. Walter the Chancellor believed the "hordes of locusts" that afflicted the farmers of Syria were "a metaphor for the enemy", and similar comparisons of the Other to objects in nature were commonplace in the texts.[195] All of the sources of the First Crusade contain repeated references to the enemy as dogs, locusts, deer, and other types of prey while the authors cast Christian forces as predators, such as lions and bears.[196] Matthew of Edessa associated the Turks with dragons and serpents, combining a negative animal association with the biblical prophecy about the dragon in the book of

[192] Thomas S. Asbridge, *The First Crusade: A New History* (Oxford: Oxford University Press, 2004), 255-8, 289-92; Thomas S. Asbridge, "The Holy Lance of Antioch: Power, Devotion and Memory on the First Crusade," *Reading Medieval Studies* 33 (2007), 3-26. The most famous example of these different points of view lies in their perception of the Holy Lance and the visions of the Provencal Peter Bartholomew as either legitimate or fraudulent.
[193] Giles Constable, "The Historiography of the Crusades," in *The Crusades from the Perspective of Byzantium and the Muslim World*, edited by Angeliki E. Laiou and Roy Parviz Mottahedeh (Washington: Dumbarton Oaks, 2001), 3-5. Constable also describes how chroniclers glorified particular crusading leaders as well, adding a political element or regional loyalty to their accounts.
[194] Norman Housley, *Fighting for the Cross: Crusading to the Holy Land* (New Haven: Yale University Press, 2008), 208-29.
[195] Walter the Chancellor, 78.
[196] Robert the Monk presents an excellent example of this writing style as his work is filled with the use of typical stylistic hunting and animal metaphors. For example, he described Christians and Muslims in tandem as comparable to hawks and doves, lions and deer, a dog and hares, and "a bear amongst mastiffs". Robert the Monk, *Robert the Monk's History of the First Crusade: Historia Iherosolimitana*, translated by Carol Sweetenham, Crusade Texts in Translation, Vol. 11 (Farnham: Ashgate, 2005), 112-5, 149-56.

Revelation.[197] The Muslim sources also contained negative animal comparisons and frequently included the epithet, "May God curse them!," after mention of the Franks. This type of denigration carried over into all aspects of the historical accounts, often taking the form of formulaic language or stock phrases. Authors often displayed respect for their enemies' military skills, but the use of negative metaphors and descriptions was standard practice.[198] These literary patterns proceeded from the prevalent and established medieval eschatological view of the relative place of Christians or Muslims in the supernatural scheme of things – each side believed that ultimately the Other's faith would be disproven. In this context, the perception of earthquakes as a form of self-justification also came to bear, involving the interpretation of disasters as divine judgment falling upon those involved in erroneous religious practices.

In addition to this theological perspective of nature, many twelfth-century scholars sought to identify the means by which natural disasters were brought about separately from divine causation. This search for scientific knowledge of the natural world had its origins in the classical world and the writings of the ancients, particularly Aristotle and his writings on natural science. Few historical writers in the Near East chose to describe the natural world in detail, apart from strange phenomena or natural disasters, but there are some notable exceptions. Fulcher of Chartres spent a significant portion of his work describing the differences in nature between Europe and the Levant, including fauna, animals, topography, and phenomena like the Dead Sea. Drawing on the works of the ancients, he utilized Solinus and Pliny for their descriptions of the east, including mythical creatures like the pegasus and manticore.[199] In

[197] Matthew of Edessa, 44-5, 80, 97, 102, 131. The association in Christian tradition of serpents and dragons with the devil, coming from Genesis originally, is a major theme of Revelation, and occurs throughout Matthew's work.
[198] Daniel G. König, "Arabic-Islamic perceptions of Western Europe in the Middle Ages," in *Christian-Muslim Relations: A Bibliographical History, Vol. 5 (1350-1500)*, edited by David Thomas and Alex Mallett, History of Christian-Muslim Relations, Vol. 20 (Leiden: Brill, 2013), 29-34.
[199] Fulcher of Chartres, 145-6, 284-8, 298-300. The manticore was part man, part lion, and part scorpion.

Fulcher's history, it is evident how classical and biblical sources influenced the crusaders' expectation to encounter the natural world along lines different than in Europe. This expectation was partially a result of the Holy Land's religious importance. Pilgrims to the east associated the natural world with the spiritually significant events that had purportedly occurred at holy sites, shaping their perceptions of the Holy Land's sacred landscape.[200]

The element of sacred geography, particularly the centrality of Jerusalem to both the Crusade and Christianity as a whole, was ever-present in the crusading accounts.[201] It is likely that sacred geography had an impact on how chroniclers perceived earthquakes along biblical and apocalyptic lines due to the religious importance of the locations where these earthquakes occurred. Elaborations of the *Gesta* and other sources typically sought to instill deep theological significance to the events of the Crusade, aided by their knowledge of Scripture and their recognition of the biblical associations of the cities that the crusaders besieged and conquered.[202] Living in the land of the Chosen People also strengthened the textual parallels between crusaders and the biblical Israelites. The numerous comparisons of the crusaders to the Maccabees and the Israelites are evidence of this belief. In describing the Council of Clermont, Orderic Vitalis wrote that Raymond of Toulouse and the papal legate Adhemar represented the Crusade's Moses and Aaron, which cast the Crusade in the role of God's Chosen People by implication.[203] Guibert of Nogent extended the comparison to claim that none of the wars of the ancient world, whether biblical or classical, were "comparable in any way to ours."[204] Being in the land where Jesus

[200] Tyerman, *Fighting for Christendom*, 168-9.
[201] Murray, "Sacred Space", XII, 17-23. Murray describes how their definition of the Holy Land quickly expanded to include everything the kingdom managed to obtain, including the strategic coastal cities of Palestine that they had not initially considered part of the Holy Land.
[202] Bull and Kempf, 3; Murray, "Sacred Space," XII, 13-37; Morris, 103-12. Albert of Aachen refrained from infusing his account with deep theological significance, but the bulk of the French chronicles did so.
[203] Orderic Vitalis, Vol. V, 18-9.
[204] Guibert of Nogent, *The Deeds of God Through the Franks: A Translation of Guibert de Nogent's Gesta Dei per Francos*, edited and translated by Robert Levine (Woodbridge: The Boydell Press, 1997), 27.

walked also appears to have made historians like Fulcher of Chartres, Walter the Chancellor, and William of Tyre more likely to perceive God's hand at work in nature. This type of belief was connected to the general medieval understanding of the nature of the Crusade and how it compared to the biblical accounts of God and his Chosen People. In times of earthquakes, chroniclers drew upon a host of scriptural associations to show how the disaster was punishment for the sins of the new Chosen People, which served to frame the event in a cosmological way.

A sense of impending apocalypse was common to all faith groups at the time of the First Crusade, stemming from a number of religious traditions as well as popular apocalyptic predictions based on prophetic, mathematical, and astronomical calculations. While it is difficult to determine its extent among the rank and file crusaders, Christian eschatological sentiment was pervasive in the preaching and recording of the Crusades.[205] Muslim, Jewish, and eastern Christian responses to the Crusade also frequently incorporated themes of their respective religious traditions to explain the events they witnessed, both in connection with the Crusade and natural disasters. Many Jews viewed the Crusade as a sign of the climax of world history and an impending Messianic arrival.[206] Rabbi Shimeon ben Yohai compared the crusader's sack of Jerusalem to the crimes of Pharaoh and predicted that God would shortly send ten great plagues on the world in an apocalyptic renewal of the biblical account. This example illustrates one case where Jewish scriptural literature was also used to compare the events of the twelfth century with those of their religious tradition.[207] Islamic religious tradition and the Qur'an likewise associated earthquakes with divine wrath and the day of judgment. The Qur'an and hadiths portrayed

[205] Housley, *Fighting for the Cross*, 197-200.
[206] Prawer, *Jews in the Latin Kingdom*, 11-4.
[207] Avraham Grossman, "Jerusalem in Jewish Apocalyptic Literature," in *The History of Jerusalem: The Early Muslim Period, 638-1099*, edited by Joshua Prawer and Haggai Ben-Shammai (New York: New York University Press, 1996), 305. For mathematically-based apocalyptic traditions, see 4.4.2. Millenarianism.

seismic events as consequences of major sins, such as adultery, drinking wine, or ignoring God's prophets. The connection between earthquakes and apocalypse was also a major feature of Islamic perceptions.[208] The apocalypticism that surrounded both the First Crusade and seismic disasters contributed greatly to the turmoil of the twelfth-century Near East, where both made significant impacts.

Matthew of Edessa's presentation of earthquakes as signs of impending doom against the Armenian peoples provides a fascinating glimpse into the apocalyptic tradition of eastern Christians. As Tara Andrews has described, Matthew wrote within

> an established tradition of Armenian historiography, in which the history of the Armenian people was viewed as the continuation of the Biblical history of the chosen people of God, and in which the reverses that the Armenians suffered represented divine chastisement that would eventually be followed by the divine restoration of Armenian fortunes.[209]

Matthew of Edessa's history included a number of prophecies in the aftermath of earthquakes in the 1030s, which were seen as omens of the Turkish subjection of Armenia. This central theme of Matthew's work is of great interest for its association of earthquakes with the book of Revelation, seeing seismic disasters as foreshadowings of the Last Days and imminently connected to the contemporary tribulations faced by the Armenians under Turkish and Frankish subjection.

In addition to the other explanations of earthquake causality, astrology was a common twelfth-century pseudo-science that attempted to explain earthquakes as the result of planetary movements affecting world events. While several authors, such as Michael the Syrian and Niketas Choniates, condemned the charlatans who gained money at others' expense, the prevalence of the practice at the time is unquestionable and had a large impact on these historical accounts. In the Latin sources, Ralph of Caen's *Gesta Tancredi* refers to astrology in approval as

[208] Akasoy, 392-6.
[209] Andrews, "The New Age of Prophecy," 4.

a practice of the learned. The Byzantine sources are rife with various matters of divination, and show a strong continued presence of astrologers at the imperial court. Many of the Muslim sources describe the consultations of various rulers with them prior to engaging in battle, to determine whether they had favourable auspices. Michael the Syrian debated about the merits of astrology with soothsayers from all three faiths. Among the Jewish population, many of their scholars in Spain at the time achieved high acclaim in the profession, and there are signs that their contemporaries in Egypt, the Levant, and the Middle East were similarly attracted by the knowledge offered by the pseudo-scientific practice.[210]

One final thematic element that frequently occurs within the sources is the descriptions of the debilitating fear that gripped the surviving inhabitants of afflicted cities. The extent of destruction that accompanied the seismic events of the twelfth century was on such a cataclysmic scale that the population was terror-stricken in many cases. Following the 1170 earthquake, William of Tyre reported the effects of repeated shocks on the psyche of the survivors:

> Nec ad horam, ut plerumque solet, fuit ista irae Dei revelatio; sed tribus aut quatuor mensibus, vel etiam eo amplius, ter aut quater vel plerumque saepius, vel in die vel in nocte, sentiebatur motus ille tam formidabilis. Omnis motus jam suspectus erat, et nusquam tuta quies inveniebatur. Sed et dormientis animus plerumque quod vigilans timuerat perhorrescens, in subitum saltum, rupta quiete, corpus agitari compellebat.[211]

Terror of this sort typically prefaced the repentance of a population, thus forming a part of the theological cycle of sin, redemption, repentance, and forgiveness. The survivors' terror was not only concerned with their physical safety, but with the spiritual implications of the earthquake as

[210] Goldstein and Pingree, 673-690; Benajmin of Tudela, 33, 54-6, mentions astrologers in several of the cities of the Middle East that he visited on his travels.
[211] RHC, Occ. 1, Part 2, 973; William of Tyre, Vol. II, 371: "Nor was this revelation of the anger of God a momentary thing, as often happens. For three or four months, indeed even longer, that awful tremor was felt by night and by day, three or four times repeated, or more. Every movement was now a source of terror, and nowhere was safe rest to be found. Even during sleep the subconscious mind, terrified by the image of that which had frightened it while awake, caused the sleeper to start up with a leap into consciousness again."

well.[212] Chroniclers made salvation a central motif of their works, and used terror as an indicator of the eschatological significance of earthquakes.[213] Apocalyptic portrayals of earthquakes imitated the theme of destruction, repentance, and thanksgiving in the book of Revelation.[214] Whether they signaled the End Days and the final judgment or a less cataclysmic form of anger, earthquakes inspired people with fear and awe of divine power, causing them to amend their lives and abandon sin for fear of immediate repercussions for their physical and spiritual wellbeing. The chroniclers combined these elements in their accounts to reflect their desire that such earthquakes be avoided in the future through moral lifestyles, adding an important social dimension to these accounts.[215]

The most basic way in which shared intellectual patterns were manifested in the sources is their perception of God, his connection with nature, and his role in the causation of natural disasters. Theology permeated every aspect of medieval worldviews, and chroniclers from all faiths incorporated their beliefs into how they perceived climate. The multitude of connections between the natural and supernatural spheres was generally indisputable to medieval authors and made an indelible impression in their writings. Apocalypticism was also present in the religious traditions of the Near East and the crusaders who settled there. While "scientific" perspectives concerning the causality of earthquakes are sometimes evident, the majority of sources preferred

[212] The expectation that death could be an imminent occurrence in a region afflicted with frequent earthquakes caused some to maintain their religious fervour in preparation. Jacques de Vitry, 91-2: "wise men in those parts, who know not in what hour the aforesaid storm may come upon them, watch with all diligence, and neglect not to prepare their souls for death, not presuming to live in a state wherein they would not dare to die."
[213] Michael the Syrian, trans. by Moosa, Bk. 18, 694; Matthew of Edessa, 216-7. Both authors describe the fear of the world's end that accompanied major earthquakes, and Michael also recounted the elation that greeted the postponement of the apocalypse.
[214] In St. John's description of the final days, sinful people on earth ignore the signs, plagues, and prophets sent by God, and are punished with a terrible earthquake. Those that remain then become fearful, penitent, and glorify God and his power (Revelation 11:3-13). The accounts of Walter the Chancellor and other chroniclers appear to mimic this progression in their histories, and portray earthquakes as acts of divine mercy as well as punishment, which save souls by turning people away from moral corruption.
[215] Chroniclers' descriptions of terror served as narrative tools to condemn immoral behaviour and promote repentance, which must be kept in mind when evaluating the accuracy of their earthquake accounts.

to interpret natural phenomena and disasters according to their respective spiritual worldviews. The authors' political affiliations and the religious framework of their mindsets often imbued their accounts of earthquakes with several levels of significance, including political criticism and allusions to sacred literature. An investigation of the various intellectual patterns displayed in the sources can, therefore, reveal a number of conclusions about the sociopolitical and religious mindsets of their authors.

2.2.2. Crusading Spirituality

The belief in scriptural parallels with the Crusade was a foundational premise of Latin historical writing. The chroniclers of the First Crusade possessed the sense that their undertaking was an unprecedented and incomparable event in the history of the world. Those who participated on the Crusade and the clerics who later embellished the eyewitness accounts were certain that nothing could properly compare with the sheer scale of the Crusade, both in its number of participants and the trials they faced from enemies, famine, disease, terrain, nature, and the distance involved. This common perception of the Crusade also later accrued to the establishment of the Crusader States, creating the belief that God was preserving the Latin presence in the Holy Land under his divine protection. Crusading spirituality played a significant role in how Christian accounts of the Near East were written, therefore, and instilled a sense of apocalypticism in many of the Latin accounts as well.[216]

The Crusade signified "an event of apocalyptic proportions" to its contemporaries, and popular imagination drew connections between its beginning and a host of signs, portents, and eschatological traditions. The fervour inspired by Pope Urban II's call at Clermont led to a variety of wild actions. Rumours spread that Charlemagne would return to lead the Crusade,

[216] Housley, *Fighting for the Cross*, 178-207.

while some people reputedly believed that a divinely inspired goose would lead them to Jerusalem.[217] Christian accounts regularly compared the Crusade to scriptural events but they believed that even the Old Testament narratives fell short of the grand nature of the Crusade. The crusaders believed they were divinely chosen to free the Holy Land from pagan oppression, like the Maccabees, but ultimately superior to their biblical counterparts as Christians and heroes.[218] Every chronicler of the Crusade embedded a wide array of elements with Catholic religious significance in their text, such as reported miracles, holy visions, saintly intercession, and divine help. The themes of the Holy Lance and visions of saintly and angelic knights accompanying them into battle frequently occurred in their pages, reported by some eyewitnesses and embraced by later writers.[219] The Christian sources displayed clear narrative patterns in their descriptions of the crusading movement, establishing parallels between contemporary events and biblical accounts.

The participants of the Crusades saw the hardships of the campaign as God testing his people or punishing them for their failure to act according to his precepts. Bernard of Clairvaux, who was the main proponent of the disastrous Second Crusade, famously elaborated on one of the traditional themes of Christianity to see history in terms of man's sin, punishment, and repentance. This perspective viewed hardships, whether military defeats or natural calamities that claimed thousands of lives, as divine purification, which afforded Christians the opportunity to repent and earn salvation.[220] The writers of the First Crusade displayed this belief in their descriptions of the famine at Antioch as God's method of expunging their sin and weak elements

[217] Jay Rubenstein, *Armies of Heaven: The First Crusade and the Quest for Apocalypse* (New York: Basic Books, 2011), xiii-xiv, 45-9; Gabriele, 139-40. Guibert de Nogent, 156, recorded the story of the goose, mocking those who followed it.
[218] Lapina, "The Maccabees," 149-56.
[219] Elizabeth Lapina, *Warfare and the Miraculous in the Chronicles of the First Crusade* (University Park: Pennsylvania State University Press, 2015), 1-8; Robert the Monk, 141.
[220] Elizabeth Siberry, *Criticism of Crusading: 1095-1274* (Oxford: Clarendon Press, 1985), 69-81, 90-2.

through death and desertion before rewarding those who stood fast.[221]

The Franks were perhaps even more willing to interpret natural events according to religion than their European counterparts, due to the abundance of spiritual significance attached to the Crusade and to the Holy Land.[222] This increase in perceived theological significance continued in the aftermath of the Crusade and affected the mentalities of both European settlers and those who were born in Outremer. The willingness to attribute natural occurrences and earthquakes to divine intervention is evident in the works of William of Tyre and Walter the Chancellor, both born in the Crusader States. Frequent comparisons of the crusaders to biblical heroes reveal how the Christian chroniclers perceived the events of the Old Testament to be typological foreshadowing of the Crusade. The crusaders believed that their journey to the Holy Land paralleled the relationship between God and his Chosen People in Exodus. In the context of these beliefs regarding the spiritual implications of the Crusade, earthquakes in the Crusader States were even more equatable to the themes of divine punishment and apocalypse in the Bible. The Franks' sins weighed more heavily upon them because they had received an unparalleled degree of divine help. From this perspective, earthquakes were the result of not maintaining the moral standards required for divine assistance.

An examination of crusading piety and its connections to the interpretation of signs and omens sheds light on many common aspects of medieval Christian worldviews. As Norman Housley has stated, "the devotion of [Crusade] participants, while certainly extreme at times, was neither deviant nor innovative. […] [Crusading therefore] functions as an excellent mirror for many of the religious beliefs held by Catholics at the time", such as "the central value of penance", "the embrace of eschatology and the possibility of 'reading' the future that was planned

[221] Siberry, 69-81, 90-2; Fulcher of Chartres, 94-6.
[222] Barber, *Two Cities*, 395.

by God, and the transmission of the divine will through signs and visions."[223] For instance, the crusaders considered any disasters that befell them to indicate divine disapproval of their actions, as happened during the Second Crusade when many of the German crusaders were drowned in a flood while en route to Constantinople. The Byzantines saw this event as a direct result of the army's broken oaths to refrain from causing harm in Byzantine territory.[224] The German chronicler Otto of Freising agreed with the Byzantine perception that the flood was a sign of divine disfavour. In his words, "[c]onsidering this a divine punishment rather than a natural inundation, we were the more dismayed."[225] As these accounts illustrate, the connection between sin and natural disasters was firmly entrenched in medieval mindsets, even when God's actions appeared inscrutable to some like Otto.

In the early twelfth century, the Kingdom of Jerusalem faced significant challenges in maintaining its territory in the face of natural disasters and its powerful Muslim neighbours. These issues caused the Franks to attach great importance to the moral standing of the kingdom's population. In 1120, the political and religious leaders established twenty-five new moral laws in an attempt to alleviate the kingdom's difficulties.[226] The Council of Nablus mandated harsh treatment of sexual sins, making bigamy, adultery, sodomy, and concubinage subject to a range of severe punishments.[227] As William of Tyre stated:

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[223] Housley, *Fighting for the Cross*, 206-7.
[224] John Kinnamos, 63. From the Byzantines' perspective, the flood was God's just punishment.
[225] Otto of Freising, *The Deeds of Frederick Barbarossa By Otto of Freising and His Continuator, Rahewin*, edited by Charles Christopher Mierow, and Richard Emery, translated by Charles C. Mierow. (New York: W.W. Norton, 1966), 80-1; Jonathan Phillips, *The Second Crusade: Extending the Frontiers of Christendom* (New Haven: Yale University Press, 2007), 172-3. Unlike the Byzantines, Otto was unable or unwilling to identify the precise failings that had purportedly sparked this divine retribution
[226] William of Tyre, Vol. I, 535-6; Fulcher of Chartres, 218-9; Walter the Chancellor, 78. The kingdom had suffered from repeated plagues of locusts and mice, causing a serious famine, and was also beset by military threats.
[227] MacEvitt, *Rough Tolerance*, 19-20; Raphael, *Climate and Political Climate*, 182-3. Interestingly, MacEvitt notes that this aspect of a wider twelfth-century Christian reform movement reflected Byzantine patterns of reform more closely than Western European models. The persecution of heretics and Jews did not form a part of the decrees of Nablus, unlike contemporary events in Europe, and the Council primarily concerned itself with reforming the kingdom's moral corruption through its criminalization of sexual sins.

> cum apud omnes constare videretur, quod populi peccata Dominum ad iracundiam provocassent: de communi statuunt consilio errata corrigere, et excessus redigere in modum […] Deterriti ergo signis de coelo minacibus, et terrae motu frequenti, clade quoque, simul et famis angustia, et hostium proterva nimis et pene quotidiana instantia, per opera pietatis Dominum sibi reconciliare quaerentes, ad morum erigendam conservandamque disciplinam, vigintiquinque capitula, quasi vim legis obtinentia, de communi sanxerunt arbitrio.[228]

This action provides an example of the connection between medieval views on nature and societal responses, illustrating the tangible effects of the perceived relationship between humanity's sin and natural disasters.

The eschatological implications of the Crusade's success were high in the minds of the chroniclers who lived through the ordeal and reached their final goal of the holy city of Jerusalem. The idea that the end times were near was highly conceivable in their estimation. Guibert of Nogent believed that the Crusade was a fulfillment of events foretold in Revelation, prior to the emergence of the Antichrist.[229] Muslim writers such as Ibn al-Athir and Ibn al-Qalanisi also believed in the divine causality of natural disasters and the eschatological significance of earthquakes. Arabic chroniclers, however, were ultimately less prone to develop at length on the sins of the people being responsible for seismic events. The Muslim authors referred to this common belief, but the crusaders appear to have considered natural disasters of higher spiritual significance, due to the perceived necessity of maintaining a pious Christian kingdom so God would bless it with success.

[228] RHC, Occ 1, 531-2; William of Tyre, Vol. I, 535-6: "Since it was evident to all that the sins of the people had provoked God to wrath, it was decided by common consent that they must amend their wrongdoing and restrain their excesses. […] Thus, terrified by threatening signs from heaven, by earthquakes and disasters, and at the same time hard pressed by famine and exhausted by the almost daily attacks of the enemy, they sought to conciliate God by works of piety. To raise the standard of morals and maintain discipline, they established, by common consent, twenty-five articles with the force of law."
[229] Guibert of Nogent, 43-4.

CHAPTER THREE: COMMON INTERPRETATIONS OF EARTHQUAKES

3.1. Theological Perspectives

3.1.1. Introduction

The majority of twelfth-century chroniclers interpreted natural disasters along spiritual lines, regardless of the author's religious affiliation or whether they were clerical or secular.[230] The authors commonly attributed climatic events and natural phenomena of all kinds to the direct workings of God, linking natural signs to a deeper "cosmic" meaning. Michaud dismissed this feature of the medieval period as the product of "a superstitious age", but the belief that nature acted according to the will of God was a logical step when viewed in the context of the pervasive spirituality of medieval worldviews. The association of natural events with a divine plan served to explain the variability of the material world and natural disasters.[231] Within this intellectual framework, medieval people tended to look to nature for signs from God due to their inherent association of the natural and supernatural realms. When nature acted in irregular ways, medieval chroniclers ensured that these events were recorded for their potential importance, whether or not they could determine the event's cosmological significance.[232] As Hoffmann has explained,

> nature and things of nature – animals, plants, the planets, etc. – [were seen] as counterparts, counterpoints, symbols, and signs *for* humankind. […] [T]hese symbols or messages [were used] to make sense of divine and human affairs. At the level of literate culture, this paradigm of nature as sign began as theology. It spread during the course of the early and central Middle Ages into artistic, literary, and all other forms of cultural expression. It is a wideranging, perhaps distinctive, cultural feature of medieval civilization to treat things of the material world as signs of something else.[233]

[230] Kostick, *Social Structure,* 13-6. It is unclear whether several of the sources for the First Crusade were secular authors because their works contained just as much material on the spiritual significance of the expedition as clerical writers did. Secular authors also wrote their histories based around spiritual themes, however.
[231] Hoffmann, *Environmental History*, 97-101; Joseph Francois Michaud, *The History of the Crusades, Volume 1*, translated by W. Robson. (New York: Redfield, 1853), 81.
[232] Hoffmann, *Environmental History*, 97-101.
[233] Hoffmann, *Environmental History*, 97.

This type of cultural background coloured the vast majority of medieval chronicles, and the perceptions of their authors, who perceived events in the natural world as symbolically reflective of humanity's condition.

Fulcher of Chartres, in describing a plague of locusts that destroyed the crops in the Kingdom of Jerusalem, bewailed people's sinful lifestyles and gave an excellent description of the perceived relationship between man and the natural world. In his perspective, military and natural disasters both affected mankind as part of the same spiritual cycle of sin, punishment, and repentance:

> O improbitas hominum perverse incessabiliter malignantium! Tot et tantis nos Conditor noster increpationibus tangit et praemunit, signis territat, minis concitat, documentis edocet, flagellis coercet! et semper in iniquitatibus nostris persistentes, monita ejus contemptui habemus, et praeceptis ejus superbe contraimus. Quid mirum, si Sarraceni, vel iniqui domini auferunt nobis terras nostras, quum nos in proximorum nostrorum agros manus extendimus rapaces […] Quid mirum si, Deo permittente, sata nostra vel mures in terra jam ex genimine radicata dissipent, vel post in spicis jam adulta locustae devorent, aut etiam in granariis vermibus quibuslibet, aut nidore calcino laedantur, quum decimas Deo debitas vel fraudulenter reddimus, vel omnino sacrilege retinemus?[234]

Fulcher's words display clear patterns in how he both interpreted and portrayed calamities according to a biblical framework. This section of his history associated the plagues of locusts with their biblical antecedent as one of the ten plagues of Egypt and with the theme of sin and punishment. The utilization of these types of techniques and the centrality of sin in disaster causality were continuous features of medieval writing.[235]

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[234] RHC, Occ. 3, 434; Fulcher of Chartres, 218-9: "Oh the wickedness of men who persist in their wicked perversity! How often and how much our Creator touches us with His reproaches and admonishes us, terrifies us by His portents, stirs us by His threats, instructs us by His lessons, and represses us by His punishment. But we always persist in our iniquities, despise His admonitions, and contemptuously violate His precepts. What wonder that the Saracens or other wicked lords should take from us our lands since we ourselves reach out with thievish hands into the fields of our neighbors! […] What wonder is it that, God permitting, the mice destroy our crops while they are sprouting from the roots in the ground or the locusts devour them ripened in the ear, or that they are damaged in the granaries by worms of every kind or by rotting, when we dishonestly sell the tithes owed to God or sacrilegiously retain them entirely?"

[235] Rohr, "Writing a Catastrophe," 89, 92-3.

In terms of earthquake accounts, religious symbolism played a major role in the authors' perspectives, even when they only provided terse statements about the disaster. For example, Ibn al-Athir generally restricted his accounts of earthquakes to brief descriptions of the death and destruction that they wrought, without hazarding a personal interpretation of what a cataclysmic event might mean. In one case, Ibn al-Athir offered a somewhat fatalistic perspective on an earthquake in 1135: "this year there was an earthquake in Iraq, Mosul, the Uplands and elsewhere. It was very severe and many people perished. God knows best."[236] This excerpt points to his certainty that natural disasters were works of divine power, while he foregoes any attempt to interpret the disaster, merely stating that "God knows best". The implication of this passage is that divine judgments are just, albeit undecipherable at times. In his record of a severe winter in Iraq in 1122, Ibn al-Athir similarly associated natural disasters with divine justice, writing that the land was being punished for its iniquities.[237] These examples indicate that even historians who were reticent about discussing the causes and significance of natural calamities generally subscribed to the idea that earthquakes were products of divine intervention in the natural world.

Medieval chroniclers generally employed a number of basic interpretations when describing natural disasters, which can be broadly categorized as signs and omens, punishment, and approaching apocalypse. A calamity was perceived to fall into one of these categories depending on the scale of its destruction, the identity of its victims, and whether other portents accompanied it.[238]

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[236] Ibn al-Athir, Part 1, 323.
[237] Ibn al-Athir, Part 1, 234.
[238] Imposing these categories upon earthquake accounts allows for a closer examination of the source material, as they reflect the ways that chroniclers perceived the natural world as a medium between God and man. These categories are not wholly exclusive of each other, however, for the authors often conflated a number of different interpretations of an earthquake's significance (seeing it as both punishment and an omen of further disaster, for example). The categories allow the common patterns of interpretation and portrayal displayed by the chroniclers to be analyzed and contrasted in a broader context, however, and are useful tools for understanding the significance of earthquakes in the medieval world.

3.1.2. Signs and Omens

Twelfth-century chroniclers in the Levant recorded a multitude of celestial signs and other natural portents in their accounts. Nowhere is this trend more evident than in the historical sources of the First Crusade. These sources interpreted natural phenomena according to their individual contexts, perceiving them as symbolic messages from God that signified current events or gave mankind insight into his divine plan for the future.[239] The prominence of the Crusades in the twelfth century also played a role in determining how historians perceived signs and portents in the natural world. The view of the First Crusade as an unparalleled undertaking led its historians to identify events in the natural world as reflective signs of the Crusade's importance. Throughout the history of the Crusades, phenomena like eclipses or celestial lights in the shape of crosses figured in the historical narratives as evidence of God's connection with the crusaders and his approval of their undertaking.

In this context, Crusade chroniclers ascribed particular significance to wonders in the natural world.[240] In Guibert of Nogent's account, the beginning of the Crusade was accompanied by lunar eclipses and a meteor shower. In his words, "[t]his was so like a portent that many churches considered it to be one, and they instituted public prayers to avert the punishment that it might signify, and they wrote down the time of the event." He made further note that some of these phenomena "are manifestations of portents, and are customarily recorded in the pontifical books and in the deeds of kings" due to their perceived importance to the affairs of mankind.[241]

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[239] Housley, *Fighting for the Cross*, 200-2.

[240] Housley, *Fighting for the Cross*, 200-7. In addition, miraculous accounts such as visions of saints and heavenly armies accompanying the Christian forces into battle represent another aspect of a worldview that believed God was directly guiding the Crusade.

[241] Guibert of Nogent, 55; RHC, Occ. 4, 149-50: "Visae sunt praeterea non multo post tempore, stellae noctu, ac si pluvial densae, de coelestibus labi. Quod in tantum apud plerasque ecclesias portento simile, quod et fuit, habitum est, ut litanias pro hoc ipso quod significabatur damno avertendo instituerent, et scriptis tempus et eventum traderent. […] licet luna in pleniluniis naturaliter patiatur defectiones, sunt tamen aliquae in ipsis colorum ejus mutationibus portensiones. Unde et in pontificalibus et regum gestis exinde fieri solent annotationes."

In keeping with this explanation, Guibert attached great importance to various natural phenomena during the Crusade as well. He perceived celestial signs at Antioch as portents of great wars, and drew comparisons between falling stars and Peter the Hermit's abandonment of the expedition.[242] According to the Byzantine princess Anna Comnena, a brilliant comet accompanied the outset of the Crusade, traveling from West to East, and its appearance caused many to ponder its deeper significance. In her words, "[t]he Emperor did not as a rule pay much attention to such matters, for he was of opinion that they [comets] arose from some natural cause, yet even he questioned the men who understood these things" about its meaning.[243] These examples illustrate the prevailing tendency to identify events in the natural world as omens for human history.

The dramatic nature of the Crusades attracted increased comparisons between significant events and perceived messages and warnings from God in the form of natural phenomena. In the Near East, Michael the Syrian recounted an earthquake acting as a premonition of the coming of the Franks, who were gathering at Constantinople at the time.

> While the Franks were busy with the people of Constantinople, Antioch was rocked by an earthquake. A great temple appeared in the foundation of a ruined fortress containing huge brass statues representing the Franks mounted on horses, fully armed with lances and swords. They were all in chains. The Turkish governor Aghusin (Yaghi Siyan) ordered a search to establish the truth of this discovery, but no one seemed to know about it and no book has referred to it. So, the statues were considered as pagan idols. The king (governor, Yaghi Siyan) ordered that they be destroyed. However, a blind old woman

[242] Guibert of Nogent, 79, 157. The comparison to falling stars he drew from the book of Revelation, but presumably was also connected to the falling stars witnessed by the crusaders prior to the battle at Antioch against Kerbogha.
[243] Anna Comnena, *The Alexiad*, 1928, translated by Elizabeth A.S. Dawes, Byzantine Series (Cambridge, On.: In parentheses Publications, 2000), 218-9. Alexius' willingness to see comets as natural events is somewhat surprising, given the prevailing supernatural interpretations of the time. Alexius was reputedly skeptical of all forms of divination and astrology, "because it tended to make people of a guileless nature reject their faith in God and gape at the stars", though Anna herself "had dabbled a little in this science" (p105-6, 219-20). Unfortunately, Anna does not provide more information about her father's belief that comets were caused naturally. He avoided flirting with astrology even in this instance, however, since the comet's significance was finally interpreted from a saintly vision, after astrological "calculations" appear to have failed. The emperor was told that the comet "foretold the movement of the Franks and 'its setting denotes their destruction in the same quarter of the globe'" – a prediction displaying a clear Byzantine bias against the crusaders, hoping for their destruction.

> said, “I have heard old people say that under one of the fortresses are laid cryptic characters belonging to the Franks to caution them not to cross the sea.” When the governor heard what the woman said he felt sorry for destroying those characters. He asked the woman whether she had heard how they were made and whether it was possible to make others like them [to stop the Franks from coming]. She answered in the negative, and they killed her.[244]

Michael's story is not corroborated in other accounts, meaning that he may well have created this story to “foretell” the arrival of the crusaders to free the local Christians from Turkish rule. This account portrayed an earthquake as the divine instrument by which the coming of the Franks was foretold, bringing an important message to God's people. The next lines in Michael's narrative immediately describe how the Franks would benefit the local Christians in his opinion:

> The Franks vowed to God that in case they occupied Jerusalem they would grant safety to all the Christian churches. In addition, they would hand over the churches and monasteries to all those who believed in Christ.[245]

This statement on the Franks’ holy intentions gave greater significance to Michael’s account of the earthquake and the omen of the Crusade, illustrating the importance of this event to his Syrian audience.[246]

Albert of Aachen also described an earthquake in connection with the beginning of the Crusade. In his account, a tremor took place at the Council of Clermont, when the nobility decided to undertake the journey to Jerusalem:

> In quorum affirmatione terremotus magnus factus est, nil aliud portendens quam diuersorum regnorum iter moturas legiones, tam ex regno Francie quam Lotharingie, terre Theutonicorum, simul et Anglorum, et ex Danorum. [247]

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[244] Michael the Syrian, trans. by Moosa, Bk. 15, 618. Moosa’s translation uses the Edessa-Aleppo Syriac Codex’s version of Michael’s work. Other fragmentary manuscripts survive in Armenian, but the Syriac is the most authoritative. For an English translation of the Armenian text, see: *The Chronicle of Michael the Great, Patriarch of the Syrians,* translated by Robert Bedrosian (Long Branch, N.J.: Sources of the Armenian Tradition, 2013).
[245] Michael the Syrian, trans. by Moosa, Bk. 15, 618.
[246] Matthew’s history similarly attached great importance to the Franks’ capture of the holy sites of Jerusalem, which he believed would precede the approach of Armenia’s renewed greatness. Matthew of Edessa, 59-60
[247] Albert of Aachen, 8-9. “And in confirmation of these things a great earthquake occurred, predicting nothing other than the mobilization of armies of different kingdoms: from the kingdom of the Franks as well as from Lotharingia, and at the same time from the land of German peoples and of the English and from the kingdom of the Danes.”

Albert explains the earthquake as a sign that predicted the armies' mobilization and also signified God's approval of the nobles' "conspiratio et coniuratio sancta" as they undertook their "legatione diuina".[248] In a similar fashion, Ekkehard of Aura recorded a long list of various wonders and signs that accompanied the launching of the Crusade, including many wonders in the sky and stars, and interpreted these portents to mean that "[h]is et hujusmodi signis tota creatura in Creatoris se militia cohortante […]."[249] Ibn a-Qalanisi also connected a natural phenomenon with the advent of the First Crusade. In his chronicle, a comet appeared in the west for twenty days in 1097, coinciding with the arrival of the Franks near Antioch.[250]

Many of the participants of the First Crusade perished during the long siege of Antioch and the sources agreed that the long and terrible ordeals, famine, and death were manifestations of God's punishment for the sins of the crusaders. Numerous signs, including earthquakes, also accompanied the harsh conditions. According to Ralph of Caen,

> socialiter autem summi, mediocres et imi gravia pertulerunt, famem, terræ motum, aquarum inundationem, aeris terrores varios, impetus quoque nunc coeli ruentis, nunc belli ingruentis […] Coeperat cum hieme obsidio, per quam evoluta universos hiemis pertulit horrores; aquae diluvia, nunc subita, nunc continua; tantos coeli terraeque motus, ut soluto elementorum foedere, haec ad summa surgere, illud ad ima corruere videretur.[251]

Many of the participants saw these tremors as divine warnings, while the winter floods and

[248] Albert of Aachen, 8-9.
[249] Ekkehard of Aura, RHC, Occ. 5, 18-9; August C. Krey, *The First Crusade: The Accounts of Eyewitnesses and Participants* (Princeton: Princeton University Press, 1921), 46-7: "by these and like signs all creation was being summoned into the army of the Lord."
[250] Ibn al-Qalanisi, 43.
[251] Ralph of Caen, *The Gesta Tancredi of Ralph of Caen: A History of the Normans on the First Crusade*, edited and translated by Bernard S. Bachrach and David S. Bachrach, Crusade Texts in Translation, Vol. 12 (Aldershot: Ashgate, 2005), 79, 81; RHC, Occ. 3, 646-7: all the crusaders "suffered badly, from hunger, from the movement of the earth, from floods, from various terrors of the sky, and now from the attacks of the outpouring sky and from military assaults. […] The siege began in the winter and, during its course, the winter brought horrors down on everyone. There were floods of water, sometimes in sudden downpours, and sometimes in continuous streams. There was great movement of both the heaven and the earth so that it appeared that the two elements had been joined together with the one rising up and the other coming down."

hardships were considered retribution for the army's sins of pride and fornication.[252] The eventual capture of Antioch signified their return to God's favour, when "Christ cast a merciful eye over his people" according to Ralph. Robert the Monk's history recorded a dazzling comet lighting the night during the capture of the city itself, which he deemed to be an obvious sign that God had forgiven them and granted them the power to seize the city.[253]

The belief in celestial and seismic signs had a long history of importance before the First Crusade. In Christian tradition, Constantine's vision in the sky led to a divinely-sent victory in the fourth century that allowed for the legalization of Christianity in the Roman Empire. This event influenced the Crusade accounts as a prestigious precedent.[254] Closer to the events of the Crusade, John Skylitzes' eleventh-century account recorded a host of disasters striking the Byzantine empire in the ninth century, accompanied by "portents in the sky, [and] portents in the air", which he believed were divine warnings against the dominance of iconoclasm at the time.[255] Later in his text, Skylitzes' negative opinion of Emperor Michael IV led him to interpret earthquakes and other portents in 1040 as evidence of God's displeasure with the emperor and Michael's imminent overthrow.[256]

Later sources continued the pattern of interpreting earthquakes as omens of future events, which were frequently determined with the benefits of hindsight. Bar Hebraeus' thirteenth-

[252] Albert of Aachen, 229. In this instance, chroniclers viewed the earthquakes as warnings rather than punishments due to their minor scale. The floods and famine fall into the latter category, however, which illustrates how the categories overlap at times, due to the chroniclers' anthropocentric interpretations of events in the natural world.
[253] Ralph of Caen, 92; Robert the Monk, 146.
[254] Ekkehard of Aura, RHC, Occ. 5, 16; H.E.J. Cowdrey, "Christianity and the Morality of Warfare during the First Century of Crusading," in *The Experience of Crusading, Volume One: Western Approaches*, edited by Marcus Bull and Norman Housley (Cambridge: Cambridge University Press, 2003), 176.
[255] John Skylitzes, *John Skylitzes: A Synopsis of Byzantine History, 811-1057*, translated by John Wortley (Cambridge: Cambridge University Press, 2010), 44. Skylitzes viewed the earthquakes and civil war as punishment and the celestial phenomena as portents of continued punishment should the iconoclasts persist in their sin. This type of overlap is common in the sources.
[256] John Skylitzes, 383-4.

century account associated an earthquake in 1117 with great changes in the world: “Thirteen kings died within two years. Before they died a violent earthquake took place, and the death of the kings followed soon after it.”[257] Fulcher of Chartres likewise reported that some people saw a strange solar phenomenon in 1117 as “a portent of death”. Fulcher appears to have given credence to this possibility as he noted that Pope Paschal, King Baldwin I, Emperor Alexius, and Patriarch Arnulf all died during the following year.[258] Orderic Vitalis had a similar interpretation for the year 1098, when signs in the sky foretold “many changes in rulers”, including the deaths of Pope Urban II and Emperor Henry IV. In his words,

> omnipotens Creator omnium signa quaedam in mundo palam demonstrauit, quibus humana corda diuinitus terruit, et exhibitis ostensionibus inusitatis terribiliora prestolari presignauit.[259]

This belief in the ability of natural phenomena to foretell the death of kings was also widely prevalent in the Byzantine Empire during the twelfth century. Several astrologers attempted to provide the emperor with details of his death, though their calculations were frequently proven wrong.[260] Even Niketas Choniates, who repeatedly ridiculed the practice of astrology, still believed that the future could be signaled by supernatural omens in the heavens and recorded one comet to be symbolic of Andronicus I's approaching death.[261]

Some chroniclers avoided hazarding a personal interpretation of perceived omens. Fulcher was avidly interested in nature and made many observations concerning the natural world, but he regularly refrained from making any judgments in his history on the potential meaning of celestial signs and earthquakes. Fulcher stated his general position on natural

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[257] Bar Hebraeus, *Chronography*, X, 281.
[258] Fulcher of Chartres, 219-21; RHC, Occ. 3, 436.
[259] Orderic Vitalis, Vol. V, 192-7: “the omnipotent Creator of all things showed certain portents in the world, whereby he filled the hearts of men with fear and through the marvels that were revealed gave a prognostic of more terrible things to come.”
[260] Anna Comnena, 104-6, describes predictions regarding the deaths of both the emperor and Robert Guiscard.
[261] Niketas Choniates, 141. For instances of Choniates’ detestation of astrology, see: 30, 87, and 124-5.

phenomena while writing about a comet in 1106: "Sed quia de eo nil augurari praesumpsimus, quod signabat totum Domino commisimus."[262] He abstained from providing any interpretation for several other celestial signs as well, merely reporting that God knew their meaning.[263] In 1117, some perceived an unusual lunar eclipse as an omen of famine or war, but Fulcher committed its meaning to God, who had foretold to his disciples that there would be signs "in the sun and the moon".[264] In regard to earthquakes, Fulcher seemed to follow the same principle. He described how tremors were felt in Jerusalem on Christmas Eve in 1105, "which terrified us greatly", but did not posit any theory as to the cause of the event.[265] Fulcher clearly interpreted natural phenomena as signs or portents of important events in the world, but was unwilling to offer his own interpretation of their significance.[266] William of Tyre imitated Fulcher in this regard, writing that portents in the sky seemed "to portend a change in the affairs of men" without offering an explanation from personal conjecture.[267]

Other historians possessed an equal willingness to pass over the significance of seismic events in some instances, though they ascribed great significance to others. Matthew of Edessa recorded an earthquake and fire from heaven simultaneously striking Lake Van in Armenia, killing the fish and creating a terrible wave as well as deep crevices in the earth. This event he declared to be "an awesome and frightful omen" but did not attempt to interpret its meaning.[268]

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[262] RHC, Occ. 3, 416; Fulcher of Chartres, 189: "[…] not presuming to prophesy from it we committed to God the whole problem of what it signified."
[263] Fulcher of Chartres, 88-9, 295.
[264] Fulcher of Chartres, 219-21; RHC, Occ. 3, 434-5: "Nos autem dispositioni et providentiae Dei hoc commisimus, qui in sole et luna discipulis suis praedixit signa fore futura."
[265] Fulcher of Chartres, 189. This approach could signify some recognition of earthquakes as purely natural events, which would be in keeping with Fulcher's interests in classical authors' works on natural science. He clearly believed in God's ultimate direction of nature, however.
[266] Fulcher of Chartres, 219-21. Fulcher certainly supported the premise that God communicated with man through natural phenomena, but did not trust his own predictions. His reticence could indicate a reluctance to cross from clear and undisputed signs into the territory of astrological interpretations.
[267] William of Tyre, Vol. I, 470, p470 n23. According to Babcock and Krey, "Fulcher, from whom this account was taken, was a genuine naturalist and recounted them without attempting to identify the events that they portended."
[268] Matthew of Edessa, 206-7.

Ibn al-Qalanisi displayed a similar reticence towards the successive earthquakes of 1138, making no claim to understand God's reasons for causing them. After recording the terrible effects of the earthquake sequence, reporting that people counted between eighty and one hundred separate shocks, he clearly stated his belief that earthquakes were divine signs:

> Béni soit le Maître de cette puissance éclatante et de ce signe évident. […] Dieu est le plus savant pour ce qui est caché comme pour ce qui est vrai. Béni soit Dieu, le Maître des mondes, le Tout Puissant.[269]

Ibn al-Qalanisi withheld any judgment of what the earthquake signified, trusting that God's inherent justice would only bring about natural disasters with good cause. While many chroniclers chose to associate events of great significance with seismic events and other portents, the decision to refrain from a concrete interpretation in this case still reflects a belief that God's omniscience produced signs for the good of mankind even if their exact meaning could not always be determined.

The Latin, Arabic, Armenian, and Syriac sources followed the common medieval tendency to interpret earthquakes and celestial signs as evidence of political or social upheaval. These sources frequently interpreted celestial phenomena, sometimes in tandem with seismic events, to signify certain military outcomes. On the Second Crusade, Odo of Deuil saw a partial eclipse as a divine sign of the defeat of the Crusade's German contingent, though he only formed this interpretation after learning of the disaster.[270] In another case, Albert of Aachen recorded that those who knew the stars had declared a lunar eclipse with a blood-red hue to signify "the annihilation of the Saracens", while if a solar eclipse had occurred it would have meant a loss for the Christians.[271] These type of perceptions concerning the relationship between God and man,

[269] Ibn al-Qalanisi, *Damas de 1075 à 1154*, 438 (Octobre 1138). Le Tourneau's French translation of Ibn al-Qalanisi contains several additional descriptions of earthquakes that are not found in Gibb's incomplete English translation.
[270] Odo of Deuil, 82-5; Phillips, *The Second Crusade*, 195.
[271] Albert of Aachen, 399. This eclipse took place in June 1099, during the First Crusade.

with nature serving as a divine medium, are found throughout the accounts from the Near East.

The sheer number of records describing divine signs in the natural world provide evidence of their deep-rooted importance to medieval authors. In this context, earthquakes figured as evident signs of divine action due to their terrifying nature. In most medieval mindsets, the ground shaking beneath one's feet was unmistakable proof of something greater than man or of the normal workings of nature.[272] To chroniclers, the presence of God was attested to by all manner of natural phenomena, but earthquakes were viewed somewhat differently since they could figure as either divine warnings or punishment, depending on their scale. Tremors that destroyed cities and killed thousands of people were generally seen as manifestations of divine wrath, occurring when omens and signs in the natural world had failed to reform people's ways. Muslims, Christians, and Jews shared this element of religious cultural tradition, and it strongly influenced historical writing in the twelfth century Near East.

3.1.3. Punishment

The major earthquakes of the twelfth century caused widespread devastation and terror and chroniclers recorded these events with awe, as well as a certainty that such disastrous calamities could only come about as the result of divine punishment for sin, specifically the sins of those struck by the tremors. The theological implications of the historical narratives in the aftermath of seismic events reveal several patterns concerning divine punishment. After sin brought about warnings of imminent punishment, an earthquake would strike, often continuing to afflict the people until their repentance merited divine mercy. The authors believed that adversity and suffering was a means to salvation, even in the case of significant acts of punishment like disastrous earthquakes. This belief frequently surfaces in the accounts of the First Crusade,

[272] Hoffmann, *Environmental History*, 309-10.

particularly in connection with the suffering and death at Antioch.[273] After describing the famine, starvation, and fear of the crusading army when besieged by Kerbogha, Orderic added a theological justification for this suffering:

> Sic Deus suos athletas probauit et ut a propriis reatibus expiarentur in camino tribulationis examinauit, et purgatos gloriose honorauit.[274]

This theological connection between the merits of suffering in Catholic doctrine and the trials of the Crusade was strongly espoused by Bernard of Clairvaux, following the failure of the Second Crusade, but is found in earlier sources from the twelfth century as well.[275]

Walter the Chancellor's account of the earthquake of 1114 clearly demonstrates his belief that God sent trials to help his people. Natural disasters in this context acquired connotations of mercy in connection with punishment – sin caused earthquakes, but repentance brought about divine mercy, an end of calamities, and the salvation of repentant souls as well. Though Walter's history was centered around the two "Antiochene Wars" fought against the Turks, he perceived sin as primarily responsible for both the wars and the earthquake. Walter recorded that God first sent a plague of locusts as a sign. When the people did not amend their ways, he then sent an earthquake, which was finally followed by an invasion of the Turks. Walter listed the sins and sexual indulgence of Antioch's inhabitants at length to emphasize the need for divine punishment to bring about a reform of their godless lifestyles. After the plague of locusts, the people

> qui, licet se debere affligi digna ultione noverint, Deum tamen, creatorem suum, non solum sibi fore placabilem non expetebant, praeteritis inhaerentes vitiis, verum etiam terminos pudoris excedentes, crimina criminibus augebant.[276]

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[273] Siberry, 69-81, 90-2; William of Tyre, Vol. I, 220.
[274] Orderic Vitalis, Vol. V, 104-5: "In this way God put his champions to the proof, testing them in the furnace of tribulation so that they might make atonement for their sins and, when they had been purged, rewarded them gloriously."
[275] Walter the Chancellor, p80 n17; Siberry, 69-81, 90-2.
[276] RHC, Occ. 5, 82; Walter the Chancellor, 78-9: "they knew that they deserved to be afflicted by such a vengeance, yet they not only did not look to appease God their creator, they clung to their past vices, indeed they even went beyond the bounds of shame, adding crime upon crime."

Disregarding God's signs, they continued their "gluttony", "unchastity", "shameless words", "voluptuous excesses", "lust", adultery, prostitution, and general "pursuit of wickedness".[277]

In Walter's opinion, God repeatedly gave the Syrians of Antioch opportunities to return to pious ways, even prior to the Franks' arrival. The great devastation of the earthquake was preceded by "many years" of signs, but the Syrians ignored these warnings.

> Hos itaque perpetrata mala non plangentes, et plangenda voluntarie et publice perpetrantes, auctor summae justitiae signis, prodigiis, plagis, tribulatione etiam adversarum gentium, multis annorum curriculis illatis, non perdendo, sed parcendo, permisit affligi. Graecis namque regnantibus, ipsorum imperio servisse convincuntur. Eisdem ex Asia propulsis, Parthorum regnantium cessere dominio; tandem, Deo volente, intolerabiliori succubuere Gallorum potestati. Qui cum neque hinc neque inde corrigerentur, praefati Syri et eorum dominators, tantam a contingente terrae motu sunt passi calamitatem et ruinam, quantam antea fuisse nulla commemoravit historia.[278]

This list appears to cast the blame for the earthquake upon the local Syrian and Armenian population rather than the Franks. Walter mitigated his incrimination of the Syrians later in the text, however, when he recognized that all the people of Antioch were responsible for the calamity.[279]

The devastation that was inflicted on Antioch in 1114, of which Walter was an eyewitness, convinced its people to mend their ways. The city's inhabitants

> graviter peccasse confitentur, suisque praeteritis et praesentibus abrenuntiando voluptatibus, domino Bernardo, primo patriarchae latino, emendationem vitae promittunt devotissime; cujus fide, meritis et orationibus, cum suo clero et caeteris fidelibus humillime Deo supplicantibus, ut vere credimus, residui sui populi Antiocheni misertus

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[277] Walter the Chancellor, 78-9.

[278] RHC, Occ. 5, 82; *Galterii Cancellarii, Bella Antiochena*, edited by Heinrich Hagenmeyer (Innsbruck, 1896), 62-3; Walter the Chancellor, 79-80: "Since these people did not lament the evil deeds they had done and they did lamentable deeds willingly and openly, the originator of supreme justice allowed them to be afflicted with signs, prodigies, plagues, trouble and even enemy peoples for the duration of many years, not to destroy them but to save them. For while the Greeks ruled they were persuaded to be enslaved to their empire. When those same people had been driven forth from Asia they had yielded to the dominion of the ruling Persians; eventually, God willing, they succumbed to the irresistible power of the Gauls [Franks]. When their behaviour was set right neither by the Persians nor the Gauls, the aforesaid Syrians and their rulers suffered so great a destruction and ruin from the earthquake which befell them as no previous history has ever told."

[279] Walter the Chancellor, 67-8.

est Dominus.[280]

Walter's history displays a very clear progression in the scale of natural and military disasters sent to afflict the Principality of Antioch, in growing escalation, commensurate with the people's sins. First came the locusts, then a terrible earthquake, and finally the land was laid waste by wars in which the entire region was almost lost to the Muslims. This sequence of events clearly established Walter's views on historical causality, with the "lamentable deeds" of the Christian faithful being responsible for "signs, prodigies, plagues, trouble and even enemy peoples" being sent against the Near East.

William of Tyre's history of the Kingdom of Jerusalem followed similar lines to Walter's account in several respects. William was a well-educated cleric, having spent nearly two decades studying in Paris and Bologna, and his history contained sophisticated reworkings of Scripture to allude to contemporary events and difficulties, particularly the trials caused by mankind's sin.[281] Like Walter, he attributed the current tribulations of Christians to sin, including those of the Latins but with a focus on those of the local Christians:

> ut in summa dicatur, omne in praecipiti vitium stetit, et *omnis caro corruperat viam suam*. Nec pronos ad malum revocare poterant Domini comminantis prodigia in coelo sursum, et signa in terra deorsum. Erant enim pestilentiae et fames, terroresque de coelo, et terrae motus magni per loca, et caetera quae Dominus in Evangelio diligenter enumerat. Sed obstinati in operibus mortuis, […] quasi jumenta putrescebant in stercore suo, pia Domini longanimitate abutentes, quasi quibus a Domino diceretur: *Percassi eos, et non doluerunt; curavi eos, et non sunt sanati*.[282]

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[280] RHC, Occ. 5, 83; Walter the Chancellor, 82: "confessed that they had grievously sinned and, renouncing their past and present pleasures to Lord Bernard, the first Latin patriarch, they promised most devoutly to mend their ways, and by his faith, merits and prayers, with his own clergy and the rest of the faithful very humbly entreating God, so we truly believe, the Lord took pity on the rest of his Antiochene people."

[281] Murray, "Biblical Quotations and Formulaic Language", XIX, 25-34.

[282] RHC, Occ. 1, 26; William of Tyre, Vol. I, 76: "In a word, all vice stood on the highest pinnacle and 'all flesh had corrupted his way' (Gen. 6:12). Nor could the threats of God, shown by portents in the heavens above and signs in the world below, recall those prone to evil ways. There were famines and pestilences, terrors in the sky, and great earthquakes in divers places (Matt.24:7), and other manifestations such as the Lord carefully enumerates in the Evangel (Luke 21:11). Yet they persisted in dead works […] as beasts rotting in their own dung, they abused the tender long-suffering of God, as those to whom the Lord might well say, "I have stricken them, but they have not grieved; I have healed them, but they were not healed' (Je.5:3, 51:9)." Babcock and Krey, p76 n38-41, identified the biblical sources for this passage.

As punishment for this moral decay, William believed that God then set in motion the Turkish conquests.[283] This association of punishment with earthquakes was the prevalent explanation of seismic events among chroniclers of all the monotheistic traditions of the Near East. The Quran contains two instances where God sent earthquakes to punish those who ignored his messengers.[284] As Walter wrote, "the power of God could nowhere and never be escaped", whether it was manifested in seismic disasters or military defeats.[285]

It should also be noted that some of the chronicles appear to establish an association between natural disasters and the devil. Though these instances are few, they represent an additional perception regarding causation that should not be ignored. Matthew of Edessa wrote about an Armenian patriarch being killed by "a mishap caused by an evil force", when a house collapsed upon him.[286] The possible implication that the devil had a role in the accident would be in keeping with the themes of Matthew's chronicle, which portrayed the decay of Christian morality, society, and Armenia as the work of Satan. The purported date of the devil's release in the 1030s was accompanied in Matthew's work by earthquakes and other natural disasters and omens, although not caused by the devil directly.[287] Anna Comnena similarly recorded the devil causing an earthquake.[288] Michael the Syrian perceived astrology as a tool the devil used to persuade people to accept natural explanations for disasters instead of turning to repentance, thereby maliciously hindering moral reform.[289] The biblical story of Job may have influenced

[283] William of Tyre, Vol. I, 75-9.
[284] *The Quran*, 99-101.
[285] Walter the Chancellor, 83.
[286] Matthew of Edessa, 214-5.
[287] Matthew of Edessa, 47-9, 56-60; MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 175-9. Matthew based this connection on the book of Revelation's description of Satan being released from one thousand years of confinement.
[288] Anna Comnena, 293.
[289] Michael the Syrian, trans. by Moosa, Bk. 18, 702-3.

these accounts, providing a scriptural basis for the belief that God allows the devil to act in the world and cause natural disasters.[290] A tenth-century Islamic scholar postulated that earthquakes might be due to the "rumbling of devils", basing this idea on an earlier Manichean tradition.[291] There is little evidence in the historical sources to support any broad claims about the perceived connection between demons and earthquakes, but these cases indicate the possibility of a wider acceptance of this idea.

3.1.4. Apocalypse

In many ways, the Near East experienced a prolonged state of turmoil in the period under examination, with the Turkish conquests of the eleventh century being followed by the Crusades in the twelfth century. The nearly continual conflict helped to instill a sense of imminent doom in many of the chroniclers of the time, which was further supported by their religious traditions. Within this context of apocalyptic expectation, medieval authors deemed earthquakes to possess especially significant roles as divine signs of the day of judgment. This association was a common feature of Islam, Christianity and Judaism, and the events of the Crusades served to amplify the idea that the apocalypse was nigh among scholars of all three faiths.

Matthew of Edessa instilled a prophetic element as one of the cornerstones of his chronicle, describing sacred prophecies by a holy vardapet following terrifying earthquakes and portents in the 1030s. Drawing his material from Revelation, Matthew believed that earthquakes and other portents had foretold the coming of the Turks as "the people of Gog and Magog", and he saw the suppression of the Armenians as part of the Last Days and the rule of the "false prophet".[292] Matthew identified these signs of apocalypse as symbols of God's great and terrible

[290] Job 1:6-19.
[291] Akasoy, 391.
[292] Revelation 20:1-9 describes these events, followed by God casting the devil and false prophet into hell.

punishment of his people (the Armenians), which would eventually culminate in the end of the world. The apocalyptic theme of Matthew's work remained the central element of his history, connecting all the events he recorded with the overarching theme of sin and its effects in human history, which was often reflected in the disruption of the natural world.

Matthew recorded a devastating plague and a fiery star appearing in conjunction with an earthquake in 1003-4. These grave indications that the world was in a state of chaos signified

> an omen of the wrath of God towards all living creatures and also a sign of the end of the world. There was a violent earthquake throughout the whole land, to such an extent that many thought that the day of the end of the world had arrived. Like the time of the flood all living creatures shook and trembled, and many fell down and died from fear of the intensity of this wrath.[293]

As this event predates Matthew's life substantially, his description informs us more about his own perceptions and worldview than it does about the event itself. Matthew also appears to be imitating phrasing found in the Anonymous Syriac Chronicle or some common source, which described an earthquake in Antioch causing deaths from fear during the reign of Justinian.[294] This allusion to an older text indicates the continuation of perspectives regarding past disasters and illustrates one method by which historians linked their accounts to the established body of historical literature. In terms of natural disasters, this type of narrative framing involved the utilization of phrases from earlier works to establish comparisons between contemporary events and well-known disasters of the past, as Newfield has described.[295] The claim that part of the population was killed directly by their fear appears to have been the type of apocalyptic sentiment that Matthew wanted to include in his own work.

Similar elements of apocalypticism are found in Michael the Syrian's work. After one

[293] Matthew of Edessa, 43.
[294] Hilkens, 206.
[295] Newfield, 621-2.

earthquake he wrote: "[...] let us fear brothers, let us fear. If an earth tremor can cause fear of such magnitude, who will then be able to endure the forthcoming judgment on that awful day?"[296] Michael also described the Turks as the people of Gog and Magog, probable evidence that he too perceived them as a sign of the advent of the Last Days.[297] The shared perspective of these two local Christian figures indicates that they held a common interpretation of world events based on their similar cultural backgrounds and expectations. Their expectations that the final day of judgment was steadily approaching and was repeatedly foretold by the occurrence of earthquakes, based on Christian religious tradition and Revelation, provided them with a framework to structure their perceptions of the world. The creation of an apocalyptic narrative allowed chroniclers like Matthew and Michael to connect the disparate threads of history, whether earthquakes, Turkish invasions, or the misfortunes of their people, to an overarching divine plan in order to make sense of the world and its evident chaos.

For many, the outset of the Crusade was attached to interpretations of imminent apocalyptic fulfillment, particularly on the First Crusade.[298] The sources of the First Crusade showed remarkable consistency in their attribution of apocalyptic themes to the expedition, believing that it would contribute to bringing about the Last Days.[299] Guibert of Nogent wrote that Urban preached the Crusade as a means to usher in the days of the Antichrist. According to his reading of Scripture, taking back the Holy Land was a necessary step for Christians in the Last Days that would help bring about the Antichrist's defeat.[300] Matthew of Edessa also included the coming of the Franks as a significant step towards the eventual victory of

[296] Michael the Syrian, trans. by Moosa, Bk. 18, 694.
[297] Michael the Syrian, trans. by Moosa, Bk. 14, 599-603.
[298] Housley, *Fighting for the Cross*, 197-8; Rubenstein, 45.
[299] Rubenstein, 339-41.
[300] Guibert of Nogent, 43-4.

Christianity and the restoration of the Armenian people.[301] Islamic apocalypticism was less evident in the extant Muslim sources, but Muslim perceptions of the Crusades similarly connected them to destruction and misfortune.[302] The Crusade and the Rhineland massacres also contributed to the disorientation of Jewish communities and increased expectations about the coming of the Messiah.[303] Jewish apocalypticism absorbed elements of millenarian enthusiasm from the crusaders, heightening pre-existent apocalyptic expectations.[304] Like Christianity, earthquakes also formed a part of Jewish and Islamic traditions concerning the final judgment.[305] Within this context, the seismic crises of the twelfth century exerted considerable influence on the perceptions of contemporary chroniclers from the Abrahamic faiths, figuring as an important aspect of their shared religious traditions.

3.2. Terrestrial Theories

Supernatural interpretations of natural disasters were ultimately more prevalent in chronicles of the twelfth-century Near East than were scientific perceptions of earthquake causality. Many medieval philosophers and natural scientists, however, postulated that earthquakes could be terrestrial phenomena, and not necessarily meant as signs from God. These scholars built on the work of Aristotle and either copied or adapted the theory presented in his *Meteorology* that underground winds were responsible for both earthquakes and volcanoes.[306] The theories of Aristotle concerning the causation of seismic events were widely present among Muslim intellectuals. In Hirschler's words,

> Some earlier scholars argued, under the influence of antique pneumatic theories of earthquakes, that they were caused by gases under the surface that could not condensate

[301] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 176-7; Matthew of Edessa, 59-60.
[302] Hillenbrand, *Islamic Perspectives*, 37.
[303] Grossman, 295-310. The prevalence of Jewish apocalyptic literature in the twelfth century also played a role.
[304] Prawer, *Crusaders' Kingdom*, 234-5; Chazan, 302-3.
[305] Grossman, 298; Akasoy, 392-6.
[306] Akasoy, 399-401; Hoffmann, *Environmental History*, 309-11.

> or escape. According to writers such as al-Kindi, al-Biruni (d. 1050), and Ibn Sina (d. 1037), the increasing pressure led finally to the seismic vibrations of the earth and its crust.[307]

Al-Kindi's third-century work has unfortunately been lost, but we know that it postulated that winds in the earth were responsible for both earthquakes and eclipses, as theorized by Aristotle.[308] The twelfth-century intellectual Ibn Rushd wrote a commentary on the *Meteorology* which adapted Aristotle's theory to his personal experience with earthquakes in Spain, hypothesizing that winds from the west had caused severe reverberations in the earth at Cordova.[309] Some of the chronicles from the Near East appear to imply the connection between winds and earthquakes as well, such as Ibn al-Athir's statement that "a mighty wind blew at Baghdad and the earth shook."[310] The continuation of classical theories regarding the nature and causation of seismic events clearly had a significant impact on twelfth-century writers.

Among Christian scholars, the twelfth century witnessed a renewed acquaintance with the scientific knowledge of classical texts, emerging from a remarkable surge in their interest and availability in the Mediterranean and Middle East. The translation of texts into Arabic, Latin, and Hebrew from the ancient Greek allowed for a wider exposure to classical thought in the twelfth century. These new translations increased interest in the Greek texts, but classical theories for the origin of earthquakes had never completely disappeared, as evidenced by the compilation of scientific theories in Isadore of Seville's *Etymologies*, written in the early seventh century:

> Cuius motum alii dicunt ventum esse in concavis eius, qui motus eam movet. Sallustius (Hist.2, fr. 28): 'Venti per cava terrae citatu rupti aliquot montes tumulique sedere.' [3] Alii aquam dicunt genetalem in terris moveri, et eas simul concutere, sicut vas, ut dicit Lucretius (6,555). Alii σπογγοειδή terram volunt, cuius plerumque latentes ruinae superposita cuncta concutiunt. Terrae quoque hiatus aut motu aquae inferioris fit, aut

[307] Hirschler, "Earthquakes," 220.
[308] Hirschler, "Earthquakes," 220; Akasoy, 391.
[309] Akasoy, 399-401.
[310] Ibn al-Athir, Part 2, 256.

crebris tonitruis, aut de concavis terrae erumpentibus ventis.[311]

Isadore's references to Sallust and Lucretius display a fascinating utilization of classical sources and theories regarding seismic causality.

The continuation of such theories in the High Middle Ages appears to be confirmed by the account of Jacques de Vitry, bishop of Acre between 1212 and 1227, in which he reiterated the theory first hypothesized by Aristotle.

> Terrae motus periculosi, horribiles & terribiles valde no[n] solum in regno Hierusale[m], sed in partibus adiace[n]tibus frequenter si[c]ut; & maxime in partibus maritimis ex viole[n]tia ventoru[m], qui de spitamine & impulsione vndaru[m] in locis cauernosis & speluncis terrarum concepti, dum liberam exhalationem aër inclusus & concitatus non habet, terram cum magno impetu & tremore concutiunt: quae si resistere non valeat, rumpitur, & sit hiatus immensus; & quandoque ob hanc causam ciuitates absorptae sunt in abyssum. [...] Et huiusmodi pestifera[m] concussione Tyrensis ciuitas postquam in manus Latinorum deuenit, cum habitatoribus suis fere penitus est deleta.[312]

These theories may not have been forgotten, but they certainly became prominent and widespread once more among Christian scholars with the surge of translations from Arabic to Latin in the twelfth century, which allowed the classical learning that had continued in the Muslim world to spread within Christendom.

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[311] *Isidori Hispalensis Episcopi Etymologiarum sive Originum Libri XX*, edited by W. M. Lindsay (Oxford: Oxford University Press, 1985), Bk. XIV; Isadore of Seville, *Etymologies*, 285: "Of its motion some say that it is the wind in its hollows that, itself moved, moves the earth. Sallust (*Histories* 2.28): 'A number of mountains and hills subsided, sundered by the wind rushing through the hollows of the earth.' 3. Others maintain that lifegiving water moves in the earth and simultaneously shakes it, like a vessel, as for instance Lucretius (see *On the Nature of Things* 6.555). Yet others are of the opinion that the earth is σπογγοειδής ("spongy"), and that its mostly hidden, collapsing interior shakes everything placed upon it. Also, an opening in the earth is created through the movement of water in the lower regions, or through repeated thunder, or through winds that erupt from cavities of the earth."

[312] *Historia Orientalis (Historia Hierosolymitana)*, edited by Jacques Bongars, *Gesta Dei per Francos*, Vol. II (Hanau: 1611), Bk. LXXXIII, 1097; Jacques de Vitry, 91-2: "Dangerous, dreadful, and terrible earthquakes often take place, not only in the kingdom of Jerusalem, but also in the countries round about, especially by the seaside, because of the violence of the winds, which being formed by the breadth and impulse of the waves in underground places and caves in the earth, as the closed and rushing air has no free vent, shake the earth with strong trembling and blows. If the earth cannot resist this force, it bursts open, and there is a great gulf, so that thereby cities are sometimes swallowed up in the abyss. When the earth is not burst open, it is shaken with such violent blows by the blowing of the winds that cities, with their walls and towers and other buildings, suddenly fall down, and, taking the people unawares, smother and overwhelm them. […] It was by a destructive overthrow of this sort that the city of Tyre, after it came into the hands of the Latins, was almost destroyed, together with all its inhabitants." Stewart's English translation is based on the Bongars text. A French edition of a different manuscript also exists, edited by Jean Donnadieu and published by Brepols in 2008, but many historians continue to rely on the Bongars manuscript.

A direct connection between the earthquakes of Syria and these classical theories existed in the writings of Adelard of Bath. Adelard was traveling through the city of Mamistra in 1114 when it was struck by a major earthquake.[313] In his *Questiones naturales*, Adelard provided a natural explanation of earthquakes, similar to the classical theory of Aristotle:

> [Air] encloses the earth on all sides, [and] also shapes itself into it on the inside through its bowels. When the outer air summons it forth, since this air hurries with an inborn striving to get out, and fills the caverns of the earth in a body with this intention in mind, if it finds an obstacle, it shakes it with great force and does not become quiet until it finds a way out.[314]

This hypothetical process described by Adelard illustrates the existence of terrestrial theories of causality during the period of the Crusades and the twelfth-century seismic crises of Syria. Few of the chronicles examined in this thesis, however, contain references to these theories proposed by other scholarly sources of the period. Still, the sources did at times propose natural explanations for phenomena that would otherwise have been classified as omens and portents. This acceptance of natural science indicates that the historical sources may have recognized elements of natural causality in conjunction with their cosmological perspectives. For instance, Michael the Syrian utilized an interesting combination of natural and religious explanations in describing natural phenomena in 1151:

> In March red snow fell. Natural scientists explain this (phenomenon) saying that when vapors and winds become red, then a red dust rises up to the clouds. And when the dust becomes red, its color appears like blood. Thus, when the winds raise a red dust to the clouds, it spreads a fine drizzle. All these things take place for our chastisement.[315]

Michael certainly was not calling the cosmological view of natural signs into question, but his explanation of the root natural cause of an ominous event displays his willingness to perceive the

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[313] Adelard of Bath, xi-xii, 185. Adelard described in his *Questiones* how he was standing on a bridge in Mamistra at the time of the earthquake. Adelard was responsible for translating several major classical works from Arabic to Latin, as described below on p101. He appears to have embraced both natural science and astrology.
[314] Adelard of Bath, 185.
[315] Michael the Syrian, trans. by Moosa, Bk. 17, 687.

material world scientifically in tandem with his theological perspective.

Christian Rohr has argued that many medieval people perceived natural disasters as unavoidable but ultimately a part of "everyday life". In locations where earthquakes frequently occurred but were relatively mild, people appear to have become more or less accustomed to their occurrence. This perception in Rohr's work, however, appears to be tied both to his late medieval subject matter and his concentration on a small area of Italy.[316] The sources from the Near East provide no concrete indication of a similar acceptance of the normality of earthquakes. Minor earthquakes were afforded only brief descriptions, but those too were generally interpreted to have deeper meanings.[317] Chroniclers universally presented the major seismic episodes of the twelfth century as catastrophic events with obvious supernatural significance.[318] As seen in the examples above, however, scientific theories regarding the causation of earthquakes continued to be carried over from the classical world and to influence the ideas of both Muslim and Christian intellectuals in the twelfth century. While the extent to which these ideas crossed from the realm of philosophy and the natural sciences into the field of history in the Near East remains debatable, several sources clearly display an amalgamation of the theological and scientific explanations of earthquake causality.

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[316] Christian Rohr, "Man and Natural Disaster in the Late Middle Ages: The Earthquake in Carinthia and Northern Italy on 25 January 1348 and its Perception," *Environment and History* 9, no. 2 (2003), 127-138. Rohr uses an abundance of source materials compiled from previous studies of the earthquake, mainly narrative accounts, to support his claims. As Hoffmann explains, there was a growing decline in cosmological explanations of seismic events, particularly from the fourteenth century onward. Hoffmann, *Environmental History*, 309-10.

[317] Ibn al-Athir may be an exception in this regard for he appears to have showed little interest in minor earthquakes, but this could solely be indicative of his characteristic brevity in regard to natural phenomena, or the nature of his history as a broad overview of world events.

[318] Kate Raphael, "The impact of the 1157 and 1170 earthquakes on Crusader-Muslim politics and military affairs," in *Ancient Earthquakes: Geological Society of America, Special Paper 471*, edited by Manuel Sintubin, Iain S. Stewart, Tina M. Niemi, and Erhan Altunel (Boulder: The Geological Society of America, 2010), 60.

3.3. Astrological Explanations

3.3.1. Prevalence

Astrology was one of the major methods used to explain the occurrence of natural disasters. Astrologers believed that all major events on earth, including military, religious, and natural disasters, were foretold in the stars and the convergences of planets. Astrology met with a wide variety of responses from medieval chroniclers, ranging from complete acceptance to contemptuous dismissal.[319] The ways that chroniclers recorded earthquakes in connection with astrological practices gives insight into the perception of earthquakes in the twelfth-century Near East, according to the authors' understandings of the natural world and its connections to God, human society, and the predictability of the future. The sources' perspectives on astrology also reveal the existence of significant intellectual debates in the twelfth century, including the comparison of cosmological, natural, and astrological explanations of seismic causation.

Astrological practices were widespread in the twelfth century and had a strong influence in the intellectual world of Syria. As Hillenbrand has noted, archaeology has revealed an abundance of astrological imagery on Muslim household objects. These illustrations were part of a "contemporary obsession with astrological images [that] reflects the abnormal and terrifying frequency of eclipses and other celestial phenomena in the Near East at this period."[320] In this context, astrological attempts to predict future natural events were likely influenced by the frequency of major earthquakes in the twelfth century and a desire to avoid such catastrophes in the future. Some Muslim scholars "suggested that the causes of earthquakes were astrophysical

[319] Ralph of Caen and Niketas Choniates represent the positive and negative ends of the spectrum in this regard, with Michael the Syrian proposing a compromise of sorts between astrology, science, and theology. Ultimately, all three of these writers still believed in the divine direction of events and the stars, whether in unison or not.
[320] Hillenbrand, *Islamic Perspectives*, 407.

circumstances, such as planetary constellations or comets with long tails."[321] The prevalence of astrology in the sources and the perception that it was a "scientific" way to predict earthquakes and natural disasters makes its practice relevant to the current study.

Twelfth-century sources reveal the enormous prevalence of astrologers in the Near East as well as their far-reaching connections with like-minded scholars. In Spain and Egypt, Arabic and Jewish astrologers developed highly sophisticated systems of prediction. Some of these astrologers achieved a great degree of prominence, such as Abraham Ibn Ezra.[322] Jewish communities in Tyre and elsewhere in the Levant attracted large numbers of settlers from Europe in the century after the First Crusade, many of whom believed in the benefits of studying the Kabbala, Arabic scholarship, and astrology.[323] Traveling in the 1160s, Benjamin of Tudela recorded the presence of Jewish stargazers in several cities, such as Mosul and Baghdad.[324] Sibt Ibn al-Jawzi's chronicle mentions other astrologers in the city of Aleppo.[325] One of these "astrologer-physicians", named al-Hakim al-Munajjim, even acted as the leader of the Assassins in Syria at the beginning of the twelfth century.[326] Astrologer-physicians were common in the Crusader States as well. A Syrian Melkite named Ya'qub b. Siqlab who practiced as a physician in the Kingdom of Jerusalem was also learned in classical knowledge and astrology.[327] When

[321] Hirschler, "Earthquakes," 220.
[322] Bernard R. Goldstein, "Astronomy and Astrology in the Works of Abraham Ibn Ezra," *Arabic Sciences and Philosophy* 6 (1996): 9-21; Shlomo Sela, "The Fuzzy Borders between Astronomy and Astrology in the Thought and Work of Three Twelfth-Century Jewish Intellectuals." *Aleph: Historical Studies in Science and Judaism* 1 (2001): 59-100; Shlomo Sela, "Nationality, Religious Belief, Geographical Identity, and Sociopolitical Awareness in Abraham Ibn Ezra's Astrological Thought," in *The Routledge Handbook of Identity and the Environment in the Classical and Medieval Worlds*, edited by Rebecca Futo Kennedy and Molly Jones-Lewis (London: Routledge, 2016), 80-98.
[323] Prawer, *The Crusaders' Kingdom*, 240-51.
[324] Benjamin of Tudela, 33, 42. The dates of his travels are unsure, but fell between the two earthquakes of 1157 and 1170 (p17, n2).
[325] Sibt Ibn al-Jawzi, RHC, Or. 3, 549-50.
[326] Lewis, 110-1. Ridwan of Aleppo was friendly to the Assassins, with whom he shared religious views and expansionist goals.
[327] Benjamin Z. Kedar and Etan Kohlberg, "A Melkite Physician in Frankish Jerusalem and Ayyubid Damascus: Muwaffaq al-Din Ya'qub b. Siqlab," *Asian and African Studies* 22 (1988), 115-26.

King Amalric needed a physician, his Egyptian allies suggested an astrologer-physician named Abu Sulayman Dawud, who took the position in Jerusalem in the 1160s. In addition to his medical duties, Abu Sulayman later foretold the date of Saladin's conquest of Jerusalem using astrology, for which the sultan rewarded him after the event occurred in 1187.[328] Several Arabic astrologers also predicted Saladin's capture of the city in the years prior to its occurrence, some of whom reputedly proposed the correct date of its capture as well.[329] The high numbers of astrologers mentioned in the sources indicate the prevalence of the practice at the time among all three Abrahamic faiths, as well as a willingness to engage with practitioners of other religions.

The line between astrological and astronomical studies was highly blurred in the medieval period and astrology held a quasi-scientific role in many parts of the medieval world, among Christians, Muslims, and Jews alike.[330] One of the main reasons for the willingness to consult astrological charts and systems was a renewed acquaintance with classical knowledge and the availability of newly translated texts. Many twelfth-century Christian scholars, who were avidly bringing works of classical and Arabic thought into Latin Christendom, also perceived astrology as a legitimate field of inquiry. In addition to providing a terrestrial explanation of earthquakes, Adelard of Bath translated Arabic treatises on geometry, astronomy, and astrology, including famous astrological works by Ptolemy, al-Khwarizmi, and Abu Ma'shar, showing some of its prevalence among natural scientists at the time.[331]

Many of the accounts of the First Crusade provide evidence of belief in astrological practices. Observation of celestial phenomena was common, as described earlier, and may have

[328] Kedar and Kohlberg, 114. This prediction apparently shows a shift in the astrologer's allegiance.
[329] José Bellver, "Ibn Barrağān and Ibn 'Arabī on the Prediction of the Capture of Jerusalem in 583/1187 by Saladin," *Arabica* 61, no. 3-4 (2014), 252-86.
[330] Sela, "Fuzzy Borders between Astronomy and Astrology", 89-100.
[331] Adelard of Bath, xi-xii.

influenced the acceptance of astrological practices. Astrology was utilized to determine the meaning of celestial omens in conjunction with theological interpretations of omens, therefore. Orderic Vitalis reported that Gilbert Maminot, the bishop of Lisieux, proclaimed a shower of stars in April 1095 to portend a great migration of peoples in the near future. Orderic clearly associated this prediction with the Council of Clermont and the beginning of the Crusade. Orderic's description of Gilbert indicates his own acceptance of the uses and merits of astrology as well as the skill it required: "[Gilbert], multarum artium peritissimus, singulis noctibus sidera diu contemplari solebat, et cursus eorum utpote sagax horoscopus callide denotabat."[332] This recognition of astrological practices as a practical tool for predicting the future, including forthcoming natural disasters, contradicted the teachings of the early Church fathers but was accepted by many twelfth-century scholastics as a sophisticated way to study what God had planned for the world.[333]

3.3.2. Disaster Causality

In a modern context, astrology possesses a connotation of gullibility and superstition, but its use in the medieval world was less problematic, though many decried the parlour tricks of charlatan astrologers. Anna Comnena appears to have held mixed opinions, referring to it as a "branch of science" that could provide "accurate forecasts in many cases", but also as a "vain study".[334] Many chroniclers still saw most astrologers as charlatans, such as Niketas Choniates and Michael the Syrian, but a surprising number of twelfth-century sources refer to astrological practices without condemnation or dismissal. This fact is even more surprising because of the apparent contradictions between religious belief and astrological predictions. Scholars such as

[332] Orderic Vitalis, Vol. V, 8-11: "who was very skilled in many subjects, had long made a habit of watching the stars each night, and as a learned astrologer carefully plotted their courses."
[333] Glacken, 254-5.
[334] Anna Comnena, 105-6. She also admits that she had previously "dabbled a little" in astrology.

Albert the Great, however, perceived astrology as a scientific tool for understanding the natural world in a way that was still conducive to theological practices.[335] Roger of Howden's *Chronica* declared that reading the future in the stars was possible "si Deus voluerit, immo quia vult, volet, voluit, et non desinet hoc voluisse."[336] Roger and other Christian scholars believed that theology and mathematical astrology could together provide scholars with an understanding of the future.

The similarities between astrological predictions and the cosmological belief that divine messages were conveyed to mankind through celestial signs and omens caused many medieval scholars to accept and amalgamate aspects of both approaches, as seen in the cases of Albert the Great and Adelard of Bath. This perspective influenced the sources of the Crusade and the Near East as well, with a combination of methods evident in the works of Orderic Vitalis, Ralph of Caen, and Michael the Syrian. In this context, medieval chroniclers exhibited features of natural science, astrology, and classical thinking in conjunction with theology to determine the causality of natural disasters and earthquakes. Presumably a natural philosopher would be more certain in his determination of the causes of earthquakes than a chronicler, but the mixture of scientific, religious, and astrological explanations was widespread in the historical accounts as well.

Walter the Chancellor viewed God as the cause of natural events, but perceived astrology as a means to determine them. In his history, spies reported that the Persians rejoiced over the destruction of Antioch in the earthquake of 1114, and the sultan of Khorasan "a sole et luna acceptis auguries" and determined that Syria was "a Deo derelictam signo terrae motus [...]."[337] Walter also wrote that the Turks were reported to be "awaiting the augury of the crescent moon"

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[335] Glacken, 265-71.

[336] *Chronica Magistri Rogeri De Houedene*, Vol.II, edited by William Stubbs (London: Longmans, Green, and Co., 1869), 291; Roger of Howden, *Annals*, Vol. 2, 36: "if God shall so will, nay rather because He does so will, shall so will, hath so willed, and will not cease so to will."

[337] RHC, Occ. 5, 85-6; Walter the Chancellor, 86-7: the sultan had consulted "the auguries of sun and moon" to determine that Syria was "deserted by God, as shown by the earthquake".

before joining battle.[338] Modern historians of the Crusades have traditionally seen Christian references to the Muslim armies practicing astrology as fabrications. According to this opinion, ascribing astrological practices to the Muslims was designed to cast the Muslim Other in a negative light, or it stemmed from Christian misconceptions about Islamic religious beliefs and practices.[339] The Latin chroniclers of the First Crusade clearly contain many inaccuracies stemming from these factors, as well as from attempts to stylize the accounts and the distance of some authors from the events. Scholars have generally treated these references to Muslim astrological practices as one such instance of elaboration.

As Nicholas Morton has pointed out, however, the Arabic sources corroborate the Muslim use of astrology in many instances. Ibn al-Athir wrote of Muslim rulers consulting astrologers and abiding by their advice about favourable auspices.[340] In addition, the Turks who opposed the armies of the First Crusade appear to have retained some of their other pre-Muslim tribal practices.[341] Bulliet's study of the continuation of Turkish tribal practices supports the possibility that astrology was widely practiced.[342] Muslim chroniclers also had no discernible reason to falsify their accounts of astrology in the Muslim Near East. Al-Azimi recorded that the First Crusade's arrival in the Near East in 1096 coincided with the convergence of Saturn and Virgo, which indicated great calamity. As Hillenbrand has noted, this convergence was particularly significant of disaster to astrologers. The Muslim encyclopaedist al-Qazwini wrote

[338] Walter the Chancellor, 90. Perhaps Walter is not the most trustworthy source of information about the Turks's practices, but Morton's arguments from his article below still apply. Also, if spies did report this to Prince Roger, Walter would have known about it as chancellor of the principality.
[339] Nicholas Morton, "The Saljuq Turks' conversion to Islam: the crusading sources," *Al-Masāq: Journal of the Medieval Mediterranean* 27, no. 2 (2015), 109-18.
[340] Ibn al-Athir, Part 1, 174; Morton, *Encountering Islam*, 23-4; Morton, "The Saljuq Turks' conversion to Islam," 109-18.
[341] Morton, *Encountering Islam*, 23-4.
[342] Bulliet, 46-56, 92.

that Saturn was known to bring about "'devastation, ruin, grief and cares.'"[343] While polemical creation was certainly an issue in the crusading accounts, the practice of astrology was a real possibility among the Turks at that time.[344]

In addition, several of the Christian sources from the First Crusade and Western Europe also employed astrological terminology and displayed an acceptance of its use. Orderic wrote that the army declared they should wait for summer heat to end before moving towards Jerusalem: "Let us wait for the autumn rains and avoid the harmful influences of the Crab and the Lion", the fourth and fifth signs of the Zodiac.[345] Ralph of Caen's history contained a laudatory account of the cleric Arnulf's astrological capabilities. According to Ralph,

> Doctus hic a puero quo currant ordine stellae, / Vel quid portendant: seu mutet regna cometes […] Summus in hac doctor multos instruxerat arte: / In quibus Arnulfum; geminasque ostenderat illi / Belli a principio prodentes omina stellas. / Altera Christicolis fatum dabat, altera Turcis: / Ordine tunc alio currentes ac prius, illae / Exitium Persis prodebant, gaudia Francis.[346]

Ralph believed that this astrological prediction clearly foretold the Christian military victory over Kerbogha in 1098, which presents an interesting perception that astrology was a divine tool granted to mankind to determine fortuitous times for success. As Arnulf later became the Latin Patriarch of Jerusalem, the crusaders appear to have accepted his astrological meddling.[347]

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[343] Hillenbrand, *Islamic Perspectives*, 37.
[344] Morton, *Encountering Islam*, 23-4.
[345] Orderic Vitalis, Vol. V, 130-1, p130n1. For other instances where Orderic appears to indicate a general acceptance of astrology, see: Orderic Vitalis, Vol. V, 8-11; Vol. VI, 124-7.
[346] RHC, Occ. 3, 665; Ralph of Caen, 104-5: "[Arnulf] had been instructed from childhood about the order of the stars, what they portend, [and] how a comet alters kingdoms […]. 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."
[347] For Arnulf reputedly being chosen by Adhemar to be the spiritual leader of the army, see: Ralph of Caen, 113-4. For other instances of Ralph's opinion of Arnulf as a holy man, see: Ralph of Caen, 121, 125-7. Arnulf later became patriarch in 1112, but his patriarchal authority was fiercely contested, causing his temporary deposition. No other sources appear to have made an issue of his astrology, however, despite his contested appointment. Raymond of Aguilers, 96, wrote that Arnulf had a reputation for being a learned man.

Despite the indications of these sources, many chroniclers were far from accepting astrology unconditionally and insisted that it conform to the theological constructs of their worldviews. In Anna Comnena's words, the "teaching of astrology [...] tended to make people of a guileless nature reject their faith in God and gape at the stars".[348] Michael the Syrian appears to have held the same belief. He stipulated, however, that he found no problem in reconciling religion with astrology, presuming that God had left discernible signs in the stars for humanity to read.[349] Michael's account describes how many astrologers in the 1180s predicted a major calamity that would cause the destruction of much of the world. In this prediction, "the sun, moon, Saturn, Mars, Mercury and Venus would juxtapose in one zodiac of the Libra", which would cause a great wind that would destroy cities, as well as a flood, eclipses, comets, and earthquakes. The astrologers claimed that these events must occur based on their predictions, and that this calamity was even impervious to divine actions and the will of God. When their predictions ultimately came to naught, Michael wrote that they were thus proven to be charlatans, while his defense of divine causality was justified by their errors.[350]

The chronicles of Roger of Howden also recorded the widespread belief in a disastrous wind predicted by astrologers, as did the *Itinerarium Peregrinorum,* Rigord, and Niketas Choniates.[351] Roger's account of this major prediction declared that astrologers "throughout almost the whole world" had agreed upon it. In addition to the great wind, it was believed that

[348] Anna Comnena, 106.
[349] Michael the Syrian, trans. by Moosa, Bk. 21, 728-9.
[350] Michael the Syrian, trans. by Moosa, Bk. 21, 728-9. This convergence of the planets was believed to have caused the biblical Flood upon its single previous occurrence, which illustrates the expected level of devastation.
[351] Helen J. Nicholson, ed., *Chronicle of the Third Crusade: A Translation of the Itinerarium Peregrinorum et Gesta Regis Ricardi*, translated by Helen J. Nicholson, Crusade Texts in Translation, Vol. 3 (Aldershot: Ashgate, 1997), 23; Roger of Howden, *Annals*, Vol. 2, 36-7; Niketas Choniates, 124-5.

> terraemotus accedet mirabilis in regionibus praecipue in quibus fieri consuevit, destruetque loca terraemotibus consueta, aerumnisque perditionis obnoxia.[352]

Roger's allusion to the Near East as a place subject to seismic disasters is confirmed later in the text where he declares that this great destruction in the world will prove "excellentiam Francorum, Sarracenicae gentis destructiones, et Christi legis pietatem majorem et exaltationem maximam [...]."[353] None of these events occurred, however, and Roger's account includes a letter from a learned Muslim astrologer in Spain, explaining that the initial predictions were the result of major errors in calculation and interpretation.[354]

Michael's account illustrates that astrological practitioners roughly fell into two camps – those who utilized their calculations to further promote the theological connections between the stars and earthquakes, and those who emphasized the fated nature of events over divine causality, based on the predictable movements of the heavens.[355] Michael's opponents argued that the stars and planets moved independently of God, appearing to argue for a fatalistic causation of natural disasters based solely on the movements of natural material bodies.[356] This debate over the divine or fated causality of natural disasters provides insight into twelfth-century understandings of the relationship between the natural and supernatural realms. Astrological beliefs, therefore, had significant ramifications for intellectual perceptions of the environment and the natural world.

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[352] *Rogeri De Houedene*, Vol.II, 291; Roger of Howden, *Annals*, Vol. 2, 36-7: "a wondrous earthquake will take place, and especially in those regions in which such things have been in the habit of taking place, and will destroy certain places that have been subject to earthquakes and liable to the mischances of utter ruin."
[353] *Rogeri De Houedene*, Vol.II, 291; Roger of Howden, *Annals*, Vol. 2, 36-7: "the superiority of the Franks, the destruction of the Saracenic race, with the superior blessedness of the religion of Christ, and its especial exaltation […]." This prophecy recorded by Roger also proclaimed that great winds would strike the East, bringing sickness and covering Mecca, "Babylon" [Cairo], Egypt, and Ethiopia with sand.
[354] Roger of Howden, *Annals*, Vol. 2, 36-7. An interesting case of a Muslim astrologer being superior to Christian ones.
[355] Michael the Syrian, trans. by Moosa, Bk. 21, 728-9.
[356] Michael the Syrian, trans. by Moosa, Bk. 21, 729. Michael emphasized that he based his arguments on reason as well as faith, which shows that there was no strict dichotomy between "science and religion" in his view, but more of a compromise. For another instance where he condemned the false predictions of astrologers, see: Bk. 18, 702-3.

CHAPTER FOUR: FRAMING EARTHQUAKES IN HISTORICAL NARRATIVE

4.1. Introduction

The accounts of seismic disasters in the twelfth-century Near East framed natural disasters to reflect the worldviews and personal opinions of their authors concerning sociopolitical events, communities, and government. Chroniclers inserted religious and political commentary within their narratives to portray certain communities as morally responsible for seismic calamities.[357] Other writers utilized earthquakes as literary tools for their recognized eschatological connection. Chroniclers' portrayals of earthquakes ultimately built on the perceived link between natural disasters and sin to further the authors' intended message.

4.2. Meaning of Signs and Omens

In medieval chronicles, tremors served to remind mankind of its sins, need for repentance, and God's power, justice, and wrath. Matthew of Edessa's account exemplifies the perceived correlation between natural phenomena and messages from God:

> there appeared a fearful and astonishing omen, a horrible sign of the great wrath [of God] against the Christians; for this turned out to be a prediction for the destruction of the Christian faithful. Just as a putrid smell betrays a rotting corpse, in the same way, before the destruction [of the Christians], there appeared evil omens upon the earth [...].[358]

These signs included a wide range of environmental factors, including a wind, a red snow, continued snowfalls for sixty days, the death of many wild animals, a lack of rain, and a famine.[359] Earthquakes commonly fit into these categories of signs and omens when they were relatively minor. When major earthquakes caused tremendous damage and loss of life, they were

[357] Earthquakes sometimes sparked criticism of a chronicler's own ethnic or religious community, but the cosmological significance of earthquakes was more often used as a vehicle to portray enemies as Other, or to attack political or religious decisions as the events that had triggered divine retribution.
[358] Matthew of Edessa, 93-4.
[359] Matthew of Edessa, 93-4.

often preceded by their own signs.[360]

Several of the historians of the First Crusade recorded examples of earthquakes and other signs to prove the need for repentance. Raymond of Aguilers and Fulcher of Chartres both described the occurrence of an earthquake and a miraculous red sky occurring on December 30, 1097, during the siege of Antioch.[361] In Fulcher's account, the perceived need for reform prompted the army to expel all the women to neighbouring towns to help avoid "luxuriae sordibus inquinate".[362] Many of the crusaders immediately interpreted these events as a warning about the army's sins and future punishment to come. Not all followed the signs or changed their ways, however, until Adhemar, the papal legate, organized public acts of repentance and instituted strict moral laws to restore the army to divine favour.[363] Despite the harsh punishments, the contested visionary Peter Bartholomew rebuked the legate for not being strict enough with the army, showing the strength of perceptions about sin and the army's trials.[364] The earthquake sparked penance among the crusaders, instilling fear in them for its perceived spiritual implications.[365]

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[360] Matthew of Edessa, 84. Matthew described one instance in 1053-4 when a "horrible omen appeared" in the sky, warning the Antiochenes of God's impending "fearful judgement." The city was afterwards struck by numerous tremors, during which chasms opened and swallowed up the Melkites who had been persecuting the Armenians.
[361] Raymond of Aguilers, 36; RHC, Occ. 3, 245. As these omens happened in the midst of a severe famine afflicting the crusading armies, the authors saw them as further illustrations of God's wrath.
[362] RHC, Occ. 3, 340-1; Fulcher of Chartres, 95: "We felt that misfortunes had befallen the Franks because of their sins and that for this reason they were not able to take the city for so long a time. Luxury and avarice and pride and plunder had indeed vitiated them. Then the Franks, having again consulted together, expelled the women from the army, the married as well as the unmarried, lest perhaps defiled by the sordidness of riotous living they should displease the Lord. […] At that time we saw a remarkable reddish glow in the sky and besides felt a great quake in the earth, which rendered us all fearful. In addition many saw a certain sign in the shape of a cross, whitish in color, moving in a straight path towards the East."
[363] Rubenstein, 153-4; Guibert of Nogent, 87-8, described the "hideous punishments" instituted for sexual immorality. One adulterous couple was whipped naked through the camp in humiliation. The mandated reforms suggest that many crusaders, unlike the authors of the chronicles, may not have perceived natural phenomena and earthquakes as omens of imminent disaster. It is difficult to ascertain whether this was the case, however, due to the entrenched perspective of the chroniclers.
[364] Rubenstein, 152-7. This belief also suggests a biblical comparison between the crusaders and the punishment of the Israelites on their way to the Holy Land (Numbers 32:11-6).
[365] Rubenstein, 152-7.

Elizabeth Lapina has argued that the chroniclers intended the celestial signs recorded during the siege of Antioch to be eschatological symbols of the "illumination" of the East by the West, for their accounts often stated the direction that these celestial portents travelled in the sky in a manner that paralleled their own journey to Jerusalem.[366] Elaborating on this point, Lapina has discussed how Guibert of Nogent and Robert the Monk included frequent references to the West repaying its "debt" to the East for having been given Christianity by now reintroducing authentic Christianity into a part of the world corrupted by heresies. In a similar fashion, both Otto of Freising and Gerald of Wales wrote about the relative merits of the West and East, and the West's superiority in spiritual, climatological, and geographic matters.[367]

Ralph of Caen made this East-West dichotomy clear when he included a lengthy description of the East Wind doing battle against the crusaders, while the North Wind helped the Christians against the Muslims on God's behalf. It is significant to this discussion that Ralph recorded the North Wind, which was certainly intended to signify the Crusade, causing the earth to quake in the midst of a battle against the Muslims.[368] This symbolic demonstration of God's support for the Crusade advanced the premise that God favoured the crusaders over both the Christian and Muslim populations of the East. In Raymond's account, Peter Bartholomew's vision that revealed the location of the Holy Lance prior to this battle occurred during an earthquake, showing a link between a religious vision and an earthquake as two instances of divine communication with the forces of the Crusade.[369] These types of symbolic interpretations were regular features of the crusading accounts, particularly of those written in Europe, which

[366] Lapina, *Warfare and the Miraculous*, 122-4.
[367] Lapina, *Warfare and the Miraculous*, 122-42; Glacken, 276-82; Gerald of Wales, *The Topography of Ireland, and the History of the Conquest of Ireland. In The Historical Works of Giraldus Cambriensus*, edited by Thomas Wright, translated by Thomas Forester (London: George Bell and Sons, 1905), 52-6.
[368] Ralph of Caen, 109-10; Lapina, *Warfare and the Miraculous*, 122-42.
[369] Raymond of Aguilers, 51-2.

imbued the events of the expedition with the deeper significance of a spiritual journey with eschatological undertones.[370]

4.3. Reasons for Punishment

4.3.1. External Criticism

Due to the association of earthquakes with divine punishment, chroniclers used earthquake accounts to criticize groups or individuals for their sinful actions or doctrinal errors. In addition, when natural disasters afflicted the Other and spared a certain group, this served as a form of faith justification, showing God's favouritism.[371] Michael the Syrian, Matthew of Edessa, Ibn al-Qalanisi, and Ibn al-Athir all exhibited this pattern, with doctrinal disagreements between Christians frequently identified as a cause of earthquakes in Matthew and Michael's accounts.

Michael the Syrian often praised different Muslim rulers who respected their Christian subjects, but he remained convinced about the fundamental errors of Islam and portrayed Islamic beliefs as responsible for seismic events.[372] Michael's account of the earthquake of 1170 clearly shows his belief that the earthquake was divine retribution against the Muslims of Aleppo:

> We thanked God even more when we heard of the reports of the calamities that took place in some regions and cities. The tremor had destroyed the city of Berea, which is Aleppo, where abominable things multiplied like in Sodom and Gomorrah. We have seen with our own eyes the reprehensible deeds committed in it. […] Perhaps the atmosphere of that city has become foul because of the reprehensible stench of the abomination of the Tayoye (Arabs, Muslims) in it. […] Those who said that God could not save the [Christian] captives from their hands, their bodies have become piled up because of the tremor. Their walls and homes were demolished, and the water and the air were fouled by the great number of those drowned. The city was cleft and many cleavages and

[370] Lapina, *Warfare and the Miraculous*, 122-42.
[371] For example, Gregory the Priest's continuation of Matthew of Edessa's history depicted tremors of 1156-7 as a judgment upon the Muslims of the Levant, which spared Christians because they possessed God's favour: "Many Muslim towns on the confines of Arabia, near Aleppo, collapsed to their very foundations. However, the Lord has saved the Christians from any harm right up to the present." Matthew of Edessa, 267.
[372] In his record for 1135, Michael stated: "while the Muslims were praying as usual on Friday in the Great Mosque of the city of Kashkar in Khurasan, a tremor took place. The earth was cleft and they went down to Gehanna alive. More than ten thousand persons perished." Michael the Syrian, trans. by Moosa, Bk. 16, 654. For instances of Michael praising Muslim rulers, see his interaction with Sultan Kilidj Arslan II, who bestowed many gifts on him, removed the taxes from his monastery, and listened to his theological arguments: Bk. 21, 724-5.

subterranean vaults appeared. It was blackened and became a mound of rubble.[373] While the earthquake devastated both Muslim and Christian cities throughout Syria, according to Michael "what happened to Aleppo happened nowhere else". Michael proceeded to place particular blame for the devastation on the Melkites as well as the Muslims, describing how the Greek patriarch was immediately exiled from Antioch (acceptance of his authority being seen as the reason why the earthquake hit Christian lands).[374] These unapologetic statements show the author's belief that earthquakes that struck Muslim cities were ultimately a sign of their errors, while earthquakes in Christian lands were similarly due to heretical beliefs.

Many historical accounts recorded instances of divine favouritism towards their own religious or social communities in combination with the punishment of the Other. These perspectives frequently identified fellow Christians as the guilty. In his account of 1053-4, Matthew described an earthquake and divine fire being visited upon the Greek population of Antioch as a result of the Melkite persecution of the Armenian and Syrian churches. After the Greeks burned a copy of the Syriac Gospels and began to coerce Syrians into rebaptism, the city was torn apart by earthquakes and struck by celestial fire. Five Greek churches were "burned by this fire from heaven along with [the cathedral of] Saint Peter, but no church of the Armenians or Syrians was harmed."[375] This clear identification of the Melkites as the cause of divine punishment, with the exclusion of the Armenians and Syrians from harm, illustrates Matthew's antagonism towards the Melkite populations of the Near East.

In Matthew's opinion, God deemed the Greeks' repentance insufficient and continued to

[373] Michael the Syrian, trans. by Moosa, Bk. 18, 694.
[374] Michael the Syrian, trans. by Moosa, Bk. 18, 694. The Melkite patriarch had been injured in the earthquake but was still expelled, dying shortly after according to Michael. The Latin contender for the patriarchal office was installed in his place.
[375] Matthew of Edessa, 84-6.

visit calamities upon them. After the destruction of the churches, the Melkite population wept, prayed, and "processed through the city, dressed in ecclesiastical garb and carrying magnificent religious objects", but an earthquake "swallowed up the entire crowd of clergy and people […], more than ten thousand persons."[376] The Greek Orthodox population appears to have responded in a proper religious fashion to the earlier manifestations of divine wrath, but Matthew believed that justice had not been satisfied due to the gravity of their sins, their insincere repentance, and their continuation of lustful lifestyles:

> It is not even worth remembering the wicked deeds which the ecclesiastics and the Greek faithful of all ranks committed in the city of Antioch. The smoke of their wicked deeds rose higher than that of Sodom and Gomorrah, and thus their fate proved that they indeed deserved the punishment they received. For in Sodom and Gomorrah the fire came down in order to kill the evildoers, while in the sinful city of Antioch the same evildoers were exterminated and killed by fire and abysses opening up; yet the inhabitants of this city still persisted in their impious beliefs. Professing piety, they nevertheless performed the deeds of unfaithful and wicked men, for they took delight in impure acts which are odious to hear and very disgusting to relate.[377]

Matthew's comparison to Sodom and Gomorrah served to illustrate the gravity of the Melkite population's sins.[378] The utilization of biblical themes surrounding earthquakes was extended in this instance to a harsh criticism of fellow Christians due to their sins and heresy.

Michael the Syrian's history offers one of the clearest illustrations of the perception that divine favouritism was evident in the event of seismic disasters. He portrayed Jacobite Syrians as especially loved by God, who had mercy on them for both their faith and their poverty:

> As to us (Syrians), the tiny band in all the cities, God extended to us great help perhaps because we had no king or wealthy man (to protect us). In Aleppo while the entire city tumbled down, our church was saved and not one of its stones was lost. Also was saved the church of Mor Barsoum. In Gabula, our church was saved. In Antioch, three of our

[376] Matthew of Edessa, 85.
[377] Matthew of Edessa, 86.
[378] In his description of the Greek procession and the subsequent earthquake, Matthew also appears to have imitated the biblical account of a rebellion against the authority of Moses. Many Levites attempted to communicate with God directly, spurning Moses' role as mediator, but God scattered their censers and incense and an earthquake swallowed them up – a strikingly similar version of Matthew's account (Numbers Ch.16).

> churches were saved […]. In Tripoli and Latakia, our churches remained intact. This was because of the glory of God and the courage of our small Orthodox flock.[379]

This speculation about God's mercy towards the Jacobites was combined with a criticism of other Christians' faith, for the earthquake destroyed both Greek and Latin churches in Antioch.[380]

Christian historians were not alone in their condemnation of the faith of their enemies in this manner, as exhibited by Muslim historians such as Ibn al-Athir and Ibn al-Qalanisi. Ibn al-Qalanisi's description of the major earthquake sequence of 1156-7 perceived his home city of Damascus as particularly favoured by God above other Muslim cities, being one of the few to escape destruction. In his words,

> God Most High averted from Damascus and its environs the consequences which the people dreaded from the frequence and persistence of this quaking, out of His compassion and mercy towards them (to Him be the praise and thanks), but reports were received from Aleppo of the multitude of shocks there and the destruction of some of its dwellings. As for Shaizar, the greater number of its houses fell down upon their inhabitants, so that a large number of them were killed, and at Kafr Tāb the population took to flight in fear of their lives. The same was reported from Hamāh, but it was not learned what happened in the other cities of Syria on this signal manifestation of the Divine power.[381]

Damascus was singled out for God's mercy in this account, in contrast to Aleppo, which Ibn al-Qalanisi appears to have interpreted as a sign of the former's superior relationship with God, who looked upon Damascus with "compassion and mercy".[382]

In 1157, Nur al-Din occupied Shayzar after the earthquake killed the entire ruling family,

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[379] Michael the Syrian, trans. by Moosa, Bk. 18, 695.
[380] Michael the Syrian, trans. by Moosa, Bk. 18, 695. In another instance, Michael the Syrian wrote that some people associated an earthquake with a theological disagreement that had taken place between the Greek Orthodox and the Syrian and Armenian Christians: "In February, in the first week of Lent of the year 1414 (A.D. 1103), an earthquake took place everywhere. Some attributed it to the controversy over Lent of the year before, and regarded it a sign of (Divine) wrath." This incident involved the lighting of the sacred fire at the Sepulchre in Jerusalem, and Michael believed that the heretical beliefs of the Orthodox had caused the seismic event. Bk. 15, 623.
[381] Ibn al-Qalanisi, 326.
[382] It is possible that the author's perspective indicates Sunni bias against lingering Shi'a sentiment in Aleppo, but it is left unclear why Damascus was singled out. The two cities were politically united at the time, under Nur al-Din.

the Banu Munqidh.[383] According to Ibn al-Athir, Nur al-Din was enraged with Shayzar for communicating with the Franks prior to the earthquake, and had been waiting a chance to seize the city. Though he does not state it directly, Ibn al-Athir appears to imply that the sultan's seizure of Shayzar from the Banu Munqidh was therefore just reward for their treasonous talks with the Franks. The earthquake, by implication, served as a tool of divine punishment against Muslims who had not embraced the ideology of the counter-crusade and jihad against the Franks. Nur al-Din was cast in the role of a religious hero, unable to attack Shayzar "because he was fully occupied with the Jihad against the Franks and because he feared that Shayzar might be surrendered to the Franks", but the earthquake then resolved the situation. Ibn al-Athir claimed that the deaths of the Banu Munqidh were caused by an accident preventing them from escaping a collapsing building. This fact adds to the impression that he believed the Munqidh rulers were destined to fall because of their communication with the Franks and their expulsion of the legitimate rulers, their relatives who were friendly to Nur al-Din.[384] This example illustrates the effect of a polarizing religious worldview on a historical account of earthquakes, similar to those of Michael and Matthew.

4.3.2. Introspective Criticism

In addition to portraying the destructive power of earthquakes as the result of the sins of the Other, many authors believed that they stemmed from the failings of their own community. This view resulted in instances of self-criticism and an introspective focus on personal sin and

[383] Runciman, Vol. 2, 280, 284; Usama Ibn Munqidh, *An Arab-Syrian Gentleman And Warrior in The Period of The Crusades: Memoirs of Usama Ibn-Munqidh (Kitāb al-I'tibār)*, translated by Philip K. Hitti (New York: Columbia University Press, 1929), 6-7, 11.

[384] Ibn al-Athir, Part 2, 89. Ibn al-Athir claims that a horse violently blocked the door of the building where the family were celebrating a circumcision, which prevented them from escaping. The exiled family members included Usama, who had a legal claim to be the ruler of Shayzar. For the loss of his inheritance, see Ibn al-Athir, Part 2, 87-9; Usama Ibn Munqidh, *Book of Contemplation*, xxiv-xxvi.

that of close compatriots. With this mindset, chroniclers identified the sins of an army, city, region, people, or ruler connected to them as the cause of a given disaster. For example, Latin historians blamed various natural and military disasters on the sins of the crusaders, the city of Antioch, the Franks as a whole, or Prince Roger individually, depending on the context.[385] Raymond and Fulcher saw the tremor during the siege of Antioch as a consequence of the crusaders' pride and sexual sins.[386] In several places in his work, Matthew of Edessa acknowledged the guilt of the local Christians as the cause of seismic disasters.

> In the year 494 of the Armenian era [1045-6] the violent wrath of God fell upon all creatures. For the Lord God looked upon his creatures with anger, and a fearful and horrible earthquake took place. […] The earth was torn open, and men and women sank into deep abysses; and for many days the sounds of their screams issued forth from these places. […] We are incapable of describing the wrath and turmoil which God brought upon all of us living creatures because of our sins.[387]

Matthew's focus on Armenian sinfulness formed part of the central theme of his history, as he believed that their oppression by the Byzantines, Turks, and Franks were its direct result. In his narrative, God intended earthquakes to inspire them to reform their ways, not solely to afflict them. Matthew essentially believed that earthquakes served as divine tools to help return the Armenian people to their previous glory and freedom.[388]

In another instance, Walter the Chancellor recorded that all the peoples of Antioch admitted responsibility for bringing God's wrath down upon them in the earthquake of 1114:

> Mane autem facto, cum sub ruina tam hominum quam et aliorum animalium miserae cladis pateret immanitas, omnes unanimiter Latini, Graeci, Syri, Armeni, advenae et

[385] Instances of earthquakes being blamed on the sins of the First Crusade, Antioch, and the Franks have been listed previously. While not blamed for a natural disaster directly, Roger was the Prince of Antioch during the 1114 earthquake. Roger's adultery and other sins were seen as a major cause of the Christian military disaster at the Field of Blood by both Fulcher of Chartres, 227-9, and William of Tyre, Vol. I, 531. For Walter the Chancellor's mixed views on Roger, see Asbridge and Edgington's commentary: Walter the Chancellor, 12-26.
[386] Raymond of Aguilers, 36; Fulcher of Chartres, 95; Rubenstein, 152-7.
[387] Matthew of Edessa, 73.
[388] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 157-78; Andrews, "The New Age of Prophecy," 4-17.

peregrini, suis peccatis exigentibus id accidisse profitentur.[389]

In this rare case, the population is said to have united in recognition that their own sins had brought about the catastrophe, rather than seeking to blame the vices of others. Walter's opinion shifts somewhat in this statement, as he had initially identified the Syrians as the cause of the earthquake for their failure to live good and pious lives. According to Asbridge and Edgington, however, Walter recognized that the Latins also "deserved to be punished because they had failed to reform the eastern Christian population of the principality."[390] Walter's opinion appears to have been mixed in other ways as well, for he also seems to have made the women of Antioch targets of particular criticism.[391] Walter's mixed perspective indicates a general tendency to identify particular social groups as the cause of calamity. In this instance, however, perhaps the scale of the earthquake's destruction convinced him that the entire population had merited divine wrath.

Matthew of Edessa blamed the 1114 earthquake on the sins of "the Christian faithful", which caused "the divine-rebuking wrath of God" to punish "those whom he had created, for the sons of man had all strayed from the path of righteousness [...] delighted in the wicked path of sin and scorned all the precepts and laws of God". While he wrote that "all" had strayed, Matthew implies that the Franks were more to blame, however, for "all the areas destroyed were those of the Franks, while no harm or destruction came to other regions or peoples."[392] It is still possible that his perspective was balanced, for he also recounted the collapse of an Armenian

[389] RHC, Occ. 5, 83; Walter the Chancellor, 81: "When morning came, and the vast scale of the wretched disaster was clear beneath the ruin both of men and of other things, everyone of one accord – Latins, Greeks, Syrians, Armenians, strangers and pilgrims – claimed the earthquake had happened because of their own sins."
[390] Walter the Chancellor, p80 n20.
[391] Walter the Chancellor, p79 n16. Walter's identification of women as one of the causes of punishment mirrored the accounts of the First Crusade during the siege of Antioch. Asbridge and Edgington note, however, that Walter also credited women with sincere penance and piety in the aftermath of the earthquake.
[392] Matthew of Edessa, 216-7.

church during mass, in which "thirty monks and two vardapets perished beneath the ruins", along with several other instances of monasteries being destroyed and monks crushed.[393] As this example illustrates, Matthew and Walter both ascribed the blame for the 1114 earthquake to Syrians, Armenians, and Franks, but still implicated other groups more than their own communities. Additionally, Walter and William of Tyre particularly mentioned and condemned the evils that proliferated among the Syrians and other local Christians.[394] These examples highlight the fact that criticism was often mixed. Even when authors admitted that their religious or ethnic community was responsible for some of the sinful behaviour that caused an earthquake, they continued to include recriminations against coreligionists from other backgrounds as well.

Niketas Choniates similarly assigned mixed blame in the case of one earthquake that occurred in Constantinople in 1162, following the formation of an alliance between Emperor Manuel I and the Seljuk sultan Kilij Arslan II. Manuel planned to include his new ally in a triumphal procession until the earthquake occurred, which Choniates believed was evidence of divine wrath for this display of friendliness with a Turkish ruler, particularly since holy religious icons would be carried in the same procession.[395] The association of the earthquake with the alliance maintained the normal response to earthquakes by identifying religious enemies as the root cause. It also cast a shadow upon Byzantine governance, however, since it was the political leadership that had brokered the treaty and meant to contaminate the religious procession.[396] This example illustrates one case where historians' judgments about earthquake causation involved both external criticism of the Turks as a people apart from God and also criticism of any

[393] Matthew of Edessa, 217. These instances were said to have occurred because the monks were sinning and feasting like "in the days of Noah".
[394] Walter the Chancellor, 79-80; William of Tyre, Vol. I, 75-9. As previously mentioned, William blamed the Turkish invasions on the sins of the Syrians, which led to the subsequent need for the crusaders to liberate them.
[395] Niketas Choniates, xx, 67.
[396] John Kinnamos, 157. Kinnamos's account stated that this interpretation of the earthquake was widespread among the populace, though he personally chose to cast Manuel in a more favourable light.

Christians who approved closer ties with Muslims. The perceived supernatural causality of earthquakes could thus be utilized by historians to promote their personal views regarding societal, religious, or political situations.

4.3.3. Political Criticism

In some cases, descriptions of earthquakes involved the critique of a ruler's governing abilities based on how they handled the crisis caused by a major earthquake. This assessment could either be positive or negative depending on the historian's view of the ruler's level of success in dealing with the catastrophe. Interestingly, many of the sources do not hesitate to praise rulers of a different religious background who handled a natural disaster admirably.[397] On the other hand, poor readiness for environmental disasters and little compassion for suffering subjects was sharply condemned. In one extreme case, Michael the Syrian described how a Muslim ruler, his family, and five hundred of his relatives were killed because of his refusal to disperse his wheat stores among the starving citizens of his city during a hard winter.[398] In another instance, Michael showed his approval of a Muslim ruler in the same situation who provided for his people.[399] Chroniclers used environmental issues and natural disasters to highlight moral or immoral actions and their consequences, whether good or bad.

Skylitzes regularly utilized stories of the actions of the imperial subjects of his history in the aftermath of earthquakes to criticize or praise them. Emperor Michael III ignored the effects of terrible earthquakes on his people and was consequently considered a poor ruler. Skylitzes described Basil I as a good ruler for his work in reconstructing churches that had been damaged by tremors. Basil II was later given credit for his restoration efforts as well. Romanos III Argyros

[397] For instance, Matthew of Edessa praised the actions of a Muslim emir during a time of harsh climatic conditions for feeding starving wild animals. Matthew of Edessa, 93-4.
[398] Michael the Syrian, trans. by Moosa, Bk. 18, 701-2.
[399] Michael the Syrian, trans. by Moosa, Bk. 20, 714-5.

was similarly judged to be an excellent emperor, while Nikephoras II Phokas was originally described as a bad ruler for his response to an earthquake, but was later praised for handling a famine well.[400]

Ibn al-Athir praised Nur al-Din's concern for his people and his active defusing of the military danger caused by the earthquake of 1157:

> Nūr al-Dīn Maḥmūd dealt with this in an exemplary manner. He feared for the land since the city walls had been destroyed. He assembled the troops and camped on the frontiers of his land, carrying out raids on Frankish territory, while working on the walls in the rest of his lands. He kept this up until he had completed all the city walls.[401]

Ibn al-Athir's praise must be considered in light of his favouritism towards the Zengid rulers, as Nur al-Din was the greatest of that line. In addition, the author's dedication to the principle of jihad led him to admire Nur al-Din's determination to pursue war against the Franks, despite the damage inflicted in the sultan's cities.[402] It is likely, therefore, that Ibn al-Athir intended to enhance Nur al-Din's reputation through his portrayal of the sultan's response to the earthquake.

John Kinnamos' chronicle similarly utilized an earthquake in 1162 as a political tool. As described previously, the earthquake was widely seen as a manifestation of God's anger against the alliance between the Byzantines and the Turkish sultan of Rhum.[403] Manuel I was the hero of Kinnamos' history, however, and the author was determined not to criticize the emperor's actions. Kinnamos's account of the events diverged from that of Niketas Choniates, claiming that the omen was misunderstood:

> When it was late at night, an immense upheaval suddenly shook the earth. The Byzantines, deeming that [the patriarch] Loukas' counsels had been transgressed, declared that the undertaking was contrary to God's will. For men naturally pay attention to matters close at hand, without inquiring about anything more remote. The conclusion

[400] John Skylitzes, 108, 155, 266-7, 314, 367-8.
[401] Ibn al-Athir, Part 2, 87.
[402] Ibn al-Athir, Part 2, 87, 185-6; El-Moctar, 197.
[403] John Kinnamos, 156-7; Niketas Choniates, 67. The alliance was made between Manuel I and Kilidj Arslan II.

of the affair, however, clearly produced an explanation of what had happened.[404] With hindsight, Kinnamos depicted the earthquake as a warning about the future failure of the alliance, leaving the emperor's reputation unmarred. The breaking of the alliance in 1176 caused a military disaster for the Byzantines, though Kinnamos claimed that Manuel was the army's saviour, blatantly twisting a major defeat into a piece of propaganda.[405] Kinnamos' political convictions substantially altered his portrayal of the earthquake's significance, therefore.

Matthew of Edessa perceived poor political and religious leadership as a direct cause of earthquakes in his account:

> In this same year [1114] the divine-rebuking wrath of God fell upon all living creatures. The Lord in all his omnipotence and wrathfulness looked down upon those whom he had created, for the sons of man had all strayed from the path of righteousness, according to the words of the prophet who said: "In these times there will be no prince, prophet, or leader who will practice goodness, no not even one [Psalms 14:3, 53:3]." In like manner everyone delighted in the wicked path of sin and scorned all the precepts and laws of God; for none of the princes, soldiers, men of the people, leaders, priests, and monks stood fast in truly carrying out God's work, but rather sought after the fulfillment of fleshly and worldly desires. God considered all this the highest degree of sinfulness.[406]

This passage clearly indicates Matthew's conviction that the Armenian nobility and ecclesiastical hierarchy were gravely at fault for bringing divine punishment down upon their people. In Matthew's opinion, the responsibilities of political and religious figures towards their communities made them more culpable for the earthquake that followed. This sentiment on Matthew's part serves as a good illustration of how chroniclers' perceptions about the duties of leaders during harsh climatic conditions or natural disasters affected their narratives.

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[404] John Kinnamos, 157.
[405] John Kinnamos, 156-8; Mayer, *The Crusades*, 124. Mayer writes that the Battle of Myriocephalum in 1176 was a terrible disaster, comparable to the Byzantine defeat at Manzikert in 1071.
[406] Matthew of Edessa, 216-7. Matthew's criticisms were primarily directed against the sins of the Armenians in this instance (leading to the destruction of many of their monasteries), but may apply to Frankish leadership as well, as he [erroneously] claimed that "all the areas destroyed were those of the Franks".

4.4. Apocalyptic Expectations

The prevalence of eschatology and apocalypticism in medieval mindsets caused many people to interpret the earthquakes in the Near East as signs of impending apocalypse. This perspective built on an eschatological view of nature and the pervasive association of natural disasters with supernatural significance.[407] The medieval religious view that earthquakes were symbolic of the Last Days, the final judgment, and the end of time was based on the accounts of the Bible and the Qur'an, particularly the book of Revelation and the sura on earthquakes. Many references to earthquakes in the books of the Old Testament and elsewhere in the Qur'an also contributed to this belief.[408] Many religious and cross-cultural similarities between Christian, Muslim, and Jewish faiths existed in this regard and the sources made frequent references to their respective religious traditions concerning apocalyptic earthquakes.

One of the most apocalyptic sources from the twelfth century is the chronicle of Matthew of Edessa, written to remind the Armenian people of the severe consequences of their sins. Matthew's account related how the demise of Armenia was consistently foretold by natural disasters, omens, and prophecies that were disregarded.[409] After the earthquake of 1114, Matthew described the people's terror that they were witnessing the events of the end times:

> Now, while we were in a deep sleep, a […] severe concussion was felt, and the plains and mountains shook with a frightful echoing sound, while tremendous rocks were cleft and hills were split open. […] Now, out of fear of the noises concomitant with this calamity, everyone despaired of their lives, saying: "The final day, the day of judgment, has arrived." Indeed the day of this calamity was a true mirror of that last day of judgment; for it happened to be a Sunday and the day on which the heavy and somber tone of the Armenian chant was used, besides which the moon was in its last phase. Thus all the signs pointing to the last day were in evidence at this time.[410]

[407] Hoffmann, *Environmental History*, 94. The perception of earthquakes as signs of the apocalypse had many elements and integrated the themes of omens and punishment.
[408] Akasoy, 391-6.
[409] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 175-8. Matthew believed the apocalypse was occurring within his own time, over an extended period of history.
[410] Matthew of Edessa, 216-7.

Matthew's extended description of the terrible sound of the tremors is accompanied by his assertion that the earthquake was a great omen of the approach of the Last Days. His note regarding the moon and a certain liturgical chant displays a concern with identifying a wide array of apocalyptic signs. Elsewhere in his chronicle, Matthew associated one of the central prophecies of his work with what MacEvitt has termed "the trifecta of apocalyptic signs", an "earthquake, eclipse, and blinding celestial light."[411] Matthew's account may reveal more about his own eschatological worldview than the apocalyptic expectations of his fellow Armenians, but it is clear that major earthquakes were commonly associated with the destruction of the world.

4.4.1. Sacred Texts

The Christian eschatological tradition in the Middle Ages was a significant element that influenced apocalyptic expectations, both in the Levant and Europe. Biblical passages commonly associated divine judgment and the Last Days with tremors. In Exodus, an earthquake signifies God's presence on Mount Sinai.[412] Psalms and Judges relate how earthquakes accompany God.[413] Revelation describes how they would mark the end of the world and Christ's judgment.[414] Christ's death on the cross, one of the single most important moments in the Bible in Christian tradition, is also marked by an earthquake.[415] As Ambraseys has described, the cosmological significance of this earthquake, reflecting the gravity of supernatural events in the natural world, may not reflect a physical seismic event but could have been included in the text as a symbolic reference, according to the literary symbolism prevalent throughout the biblical

[411] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 175.
[412] Exodus 19:18.
[413] Judges 5:4-5; Psalm 68:8.
[414] Revelation 6:12-7, 8:5, 11:19, and 16:16-21.
[415] Matthew 27:51.

accounts.[416]

The crusading accounts showcase a similar utilization of symbolic language that linked contemporary events to biblical themes. In the case of earthquakes, these included the highly significant events of Christ's death and the earthquake in Revelation that signifies the final judgment.[417] Robert the Monk referred to the earthquake that occurred at Christ's death in his description of the holy landscape of Jerusalem.[418] Ralph of Coggeshall claimed that the earthquake of 1202 in the Levant was the largest earthquake since the death of Christ.[419] These comparisons illustrate chroniclers' deep conviction about the symbolic nature of earthquakes and the imminent threat of apocalypse. Christ's death was a major scriptural event that established the perceived connection between earthquakes, eclipses, and the death of prominent figures, providing medieval authors with a biblical precedent for these associations.[420]

Chroniclers of the Crusades were well acquainted with examples of earthquakes serving as apocalyptic premonitions in Scripture, and utilized select quotations to illustrate the eschatological significance of the Crusade. Orderic Vitalis used a passage from the Gospel of Luke to connect earthquakes and celestial portents to the "barbarian" and Turkish invasions as signs of the world's approaching destruction:

> His itaque signis mundi portenditur finis sicut ipsius patenter edocemur uoce ueritatis, "Exurget gens contra gentem, et regnum aduersus regnum, et erunt terraemotus magni per

[416] Nicholas N. Ambraseys, "Historical earthquakes in Jerusalem – A methodological discussion," *Journal of Seismology*, 9 (2005), 334-5. This fact raises an issue for environmental history for it calls into question the accuracy of chroniclers' accounts of earthquakes. This limitation of the sources must be recognized and considered when examining medieval Christian records of seismic disasters.
[417] Christ's death and the theological significance of man's redemption was of particular importance to the crusading armies as one of the primary reasons for their focus on Jerusalem as the center of Christian faith and worship.
[418] Robert the Monk, 213.
[419] Hans Eberhard Mayer, "Two Unpublished Letters on the Syrian Earthquake of 1202," in *Medieval and Middle Eastern Studies: In Honor of Aziz Suryal Atiya*, edited by Sami A. Hanna (Leiden: Brill, 1972), 301.
[420] Jacques de Vitry, 40. How pilgrims remembered the Passion and its accompanying earthquake, as described by Jacques, doubtless contributed to the type of interpretations proposed by Bar Hebraeus, connecting earthquakes to the deaths of important figures. Bar Hebraeus, X, 281.

loca, et pestilentiae et fames, terroresque de coela et signa magna erunt."[421]

Christian writers widely adopted this famous quotation about the beginning of the end times, also found in the Gospels of Matthew and Mark, to describe sequences of world events.[422] Ekkehard of Aura used this passage to link the beginning of the Crusade with earthquakes, pestilence, famine, signs, portents, and the suffering of the Christians in the Holy Land under the Turks.[423] The *Itinerarium Peregrinorum* also used this passage when describing portents that preceded the Christian disaster at the Battle of Hattin.[424] The popularity of this quote illustrates how Scripture was used to frame successive disasters in an apocalyptic context and also reveals the common acceptance in the period that the apocalypse could be close at hand.

Matthew of Edessa wrote allusions to apocalyptic biblical elements throughout his work, connecting them to his overarching theme that the world (particularly Armenia) was already in the throes of the Last Days. For example, Matthew's repeated comparison of the Turks to dragons and serpents equated the Turks with the dragon from the book of Revelation that devours the earth.[425] In MacEvitt's words, "Matthew's chronicle depicted an angry God punishing his wayward flock (Christian Armenians), but ultimately it focused on an abiding sense of the imminent arrival of the end of the world and the attendant promise of redemption."[426] Matthew alluded to these themes of sin, punishment and apocalypse through his use of biblical passages. He highlighted the similarities between the struggles of God's Chosen People in the Bible and the

[421] Orderic Vitalis, Vol. II, 276-7: "All these signs portend the end of the world, as we may learn from the words of truth: 'Nation shall rise against nation and kingdom against kingdom: and great earthquakes shall be in divers places and famines and pestilences and fearful sights and great signs shall be from heaven (Luke, 21:11). '"
[422] Matthew 24:7-8; Mark 13:8.
[423] Ekkehard of Aura, RHC, Occ. 5, 12.
[424] Nicholson, *Itinerarium Peregrinorum*, 23. Saladin's victory at the Battle of Hattin in 1187 enabled him to capture the vast majority of the Crusader States in its aftermath.
[425] Revelation, Ch. 12, 13, 16; Matthew of Edessa, 44-5, 80, 97, 102, 131, are instances where Matthew described the Turks as dragons or serpents.
[426] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 157.

suffering inflicted on the Armenians by the Turks. Matthew also employed the popular gospel passage in his apocalyptic forebodings for the year 1070-1, when a comet appeared, symbolizing bloodshed.[427] In addition, Matthew utilized earlier apocalyptic historical accounts to support his worldview, particularly the eschatological prophecies of the fourth-century Armenian patriarch Nerses and the seventh-century Syriac writer Pseudo-Methodius.[428]

In the Islamic tradition, the day of judgment possessed the same association with earthquakes. As sura 99 of the Qur'an describes:

> [1] When the earth is shaken violently in its [last] quaking, [2] when the earth throws out its burdens, [3] when man cries, 'What is happening to it?'; [4] on that Day, it will tell all [5] because your Lord will inspire it [to do so]. [6] On that Day, people will come forward in separate groups to be shown their deeds: [7] whoever has done an atom's-weight of good will see it, [8] but whoever has done an atom's-weight of evil will see that.[429]

Many Quranic references to earthquakes allude to the day of judgment and the end of the world.[430] Elsewhere, it says: "People, be mindful of your Lord, for the earthquake of the Last Hour will be a mighty thing […]."[431] This eschatological association changed how Muslims responded to earthquakes, as evidenced by Ibn al-Athir's account that an earthquake in Iraq "terrified the people who thought that the resurrection had arrived."[432]

Among the Jews, the Book of Daniel was interpreted according to its apocalyptic themes. Like Revelation, it contained many elements of symbolic and prophetic significance concerning

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[427] Matthew of Edessa, 129-30: "All nations and peoples were frightened and shook and trembled because of this dreadful and horrible omen, for an omen like this had never been seen or heard of before. It was believed that this all had to do with what the Savior meant when he said: 'In the final days there will be signs of confusion and dread in the sun, moon, and stars'; this is written in the Holy Gospels. So this was the beginning of the second devastation and final destruction of our country by the wicked Turkish forces, because our sins had increased and spread […]."
[428] MacEvitt, "Apocalypse, the First Crusade, and the Armenian Diaspora," 157-8; Matthew of Edessa, 151.
[429] *The Qur'an*, 99:1-8, p431.
[430] Mohsen Ghafory-Ashtiany, "View of Islam on Earthquakes, Human Vitality and Disaster," *Disaster Prevention and Management* 18, no. 3 (2009), 223-4.
[431] *The Qur'an*, 22:1-4 (p209). For additional references to the earthquake at the last judgment, see: *The Qur'an*, 56:4-6 (p356), and 73:14 (p395).
[432] Ibn al-Athir, Part 2, 256.

the end times.[433] Some Jews believed that the Crusade signified the beginning of the apocalypse based on the words of the prophet Micah, who prophesied that God would restore the Holy Land to the Jews after he gathered the nations of the earth there on "the threshing floor".[434] As evident from examples like this, the numerous connections in Abrahamic religious traditions between earthquakes and apocalypse influenced chroniclers' perceptions and depictions of earthquakes.

4.4.2. Millenarianism

Many of the scholars of the twelfth century believed in a form of millenarian apocalypse, which they thought could be predicted by mathematical and astronomical calculations.[435] Earthquakes contributed to these expectations among Christian authors like Matthew and Michael, who believed that the advent of the apocalypse had begun in the 1030s, one thousand years after the death of Christ.[436] Similarly, Muslim millenarian calculations predicted that the end of the world would occur in 1107, as it marked five hundred years since Muhammad.[437]

Among the Jews, a numerical calculation based on the book of Jeremiah predicted that the Messiah would come between 1085 and 1104. In this context, the Rhineland massacres of Jewish communities in 1095 sparked a widespread "Messianic upheaval" among Jews in Europe and the East.[438] Robert Chazan has argued that "the Hebrew narratives are replete with suggestions of an epochal juncture in world, indeed cosmic history", associated with the outset of the First Crusade.[439] In his words, "the radical Jewish reactions to these assaults indicate Jewish

[433] Chazan, 302-3.
[434] Prawer, *Jews in the Latin Kingdom*, 9-14. Chazan, 310-2.
[435] Some scholars such as Chazan dispute the terminology of millenarianism, believing that it should not solely be used to describe numerical calculations but other types of apocalypticism as well. This thesis uses the word in the sense of the former meaning, however. Chazan, 302-3, p302 n29.
[436] Ellenblum, *Collapse*, 68-71. Matthew and Michael perceived the Seljuk invasions of the eleventh century, in tandem with earthquakes, famine, and severe cold, as signs of the impending apocalypse.
[437] Prawer, *Jews in the Latin Kingdom*, 11, n29.
[438] Prawer, *Jews in the Latin Kingdom*, 9-14.
[439] Chazan, 308.

recognition and absorption of some of the millenarianism" of the crusaders, particularly evident in the Jewish Mainz Anonymous Chronicle.[440] Some of the Jewish accounts of the Rhineland massacres made comparisons between Abraham sacrificing his son Isaac and the sacrifice of children and families to save them from the mobs.[441] The fervour of apocalyptic expectations in Jewish communities was also found in the East, as evidenced by a letter from Byzantium discovered in the Cairo Genizah, as well as the belief that the Crusade would bring the prophecies of Micah to fulfilment, which were based on numerical calculations.[442]

These types of numerical estimations of the exact date of the approaching apocalypse were common among scholars from the Abrahamic faiths and all believed that such a date would occur in the twelfth century. These predictions were based on a combination of astronomical calculations and scriptural passages that were determined to have eschatological significance.

4.5. Conclusion

This chapter has explored the variety of ways in which medieval historians sought to utilize narrative accounts of earthquakes to further their worldviews. A host of common patterns in the sources become evident when closely comparing their descriptions of earthquakes, particularly the massive and destructive ones that occurred in the Near East during this period. Theological principles and apocalyptic expectations greatly influenced earthquake accounts, building on the premise that God communicated with the world through nature. The established connection between earthquakes and the Last Days also affected the portrayal of seismic disasters as instruments of divine punishment. These intellectual connections and assumptions allowed medieval writers to instill historical accounts of earthquakes with criticisms of society,

[440] Chazan, 308-313. As noted above, Chazan uses the term millenarian in the sense of apocalyptic sentiment and not strictly numerical millenarianism.
[441] Chazan, 308-9.
[442] Chazan, 310-2; Micah 4:13.

leadership, and religious rivals. Their perspectives on these issues reveal a wide range of prejudices and antagonisms that allow us much insight into the sociopolitical workings of the twelfth-century Near East.

CHAPTER FIVE: PRACTICAL EFFECTS OF EARTHQUAKES

5.1. War and Peace

As noted by Bulliet and Ellenblum, government responses to climatic disasters could shape the impact upon human populations, either by alleviating their negative effects or worsening them through inefficient or inadequate handling. With the proper responses, the accompanying crises of violence, migration, and urban warfare could sometimes be avoided.[443] The sources reveal important information about societal responses to earthquakes, including the practical effects of earthquakes on the population and their implications for the political and military situation of the Near East.[444]

The priorities of Near Eastern rulers were quite evident in the aftermath of the earthquake of 1170, according to Michael the Syrian:

> Then Amaury entered Antioch and rebuilt its walls and church. Meantime, Nur al-Din rebuilt the wall of Aleppo, and the lord of Samosata rebuilt its wall too. In fact, every Frankish and Turkish governor rebuilt his own domain.[445]

While this description appears mundane, in reality it describes a tense and volatile military situation. The destructive power of earthquakes left cities and castles in a highly vulnerable state, which greatly increased their inhabitants' fear of attack. These situations could develop into military standoffs, temporary or long-term peace treaties, or involve the military conquest of weakened cities. Rebuilding damaged fortifications and preventing loss of territory were the foremost priorities for rulers affected by seismic disasters.

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[443] Bulliet, 85; Ellenblum, *Collapse*, 45-57. Ellenblum describes how an exemplary Fatimid bureaucracy and high level of preparedness allowed Egypt to substantially minimize the effects of severe climatic conditions and famines in the early eleventh century.

[444] In one example, the vizier of Aleppo used the earthquake of 1114 to settle a personal feud, executing the governor of Azaz who came to seek refuge in Aleppo after his castle was destroyed, thereby changing the political landscape. Kamal al-Din, RHC, Or. 3, 607.

[445] Michael the Syrian, trans. by Moosa, Bk. 18, 695.

William of Tyre expressed his belief that both sides feared further punishment from God after the catastrophic earthquake of 1170, and refrained from war for that reason:

> Inveniebantur, tam apud nos, quam apud hostes oppida semiruta, insidiis et hostium viribus late patentia. Sed dum quisque districti judicis iram sibi metuit, alium molestare pertimescit. Sufficit cuique dolor suus, et dum quemlibet cura fatigat domestica, alii differt inferre molestias. Facta est, sed brevis, pax, hominum studio procurata, et foedus compositum, divinorum judiciorum timore conscriptum; et dum indignationem peccatis suis debitam expectat quisque desuper, ab his quae hostiliter solent inferri manum revocat, et impetus moderatur.[446]

This intriguing description reveals one instance where the theological view of earthquake causality had a substantial practical effect in Syria according to William. The earthquake was widely viewed as a manifestation of divine anger and it instilled such fear into both the Christian and Muslim populations that they were afraid to take advantage of each other's weakness because it might offend God further.

Peace treaties between the Crusader States and their neighbours frequently resulted from the seismic disasters in Syria. In 1156, the devastation of an earthquake in northern Syria forced Nur al-Din, who was already facing an alliance between Kilij Arslan II and the northern Franks, to abandon his invasion of the former's lands, make a peace treaty, and renew his treaty with Baldwin III. The earthquake thus contributed to bringing fighting between Muslims to end, as well as prolonging peace between the sultan and Jerusalem.[447]

Repairing destroyed walls and towers became the greatest concern of rulers in the

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[446] RHC, Occ 1, Part 2, 972-3; William of Tyre, Vol. II, 370-1: "Both in our territories and in those of the enemy were found half-ruined fortresses, open on every side and freely exposed to the violence and wiles of the foe. But since each man feared that the wrath of the Stern Judge might descend upon him individually, none dared molest his fellow man. Each was engrossed in his own troubles and weighed down by the burden of his own affairs; hence none thought of injuring his neighbor. Peace, brought about by the desire of all, ensued, albeit for a short interval, and a truce was arranged through fear of the divine wrath. Each, while momentarily expecting the outpouring of righteous anger from heaven in punishment for his sins, refrained from acts of hostility and curbed his own evil impulses."

[447] Robert Lawrence Nicholson, *Joscelyn III and the Fall of the Crusader States, 1134-1199* (Leiden: Brill, 1973), 44. The treaty with Jerusalem did not last long, however, as Baldwin III soon broke it to launch a raid.

aftermath of earthquakes as they struggled to pre-empt an invasion. In 1114, Prince Roger rebuilt Antioch's frontier castles first, focusing on restoring the most important sites as fast as possible. He assigned the responsibility of rebuilding various sites to his landholders and concentrated his efforts on crucial repairs. Roger also sent scouts to spy on enemy troop movements and gathered an army to wait at the border, sure that his enemies would take advantage of the earthquake's devastation to attack the principality.[448] These actions were followed by the establishment of a truce with Damascus, which severed the alliance talks between the latter and Baghdad. Damascus feared both Antioch and Baghdad, but preferred to unite with the Christians in this instance to safeguard its interests.[449] Both Antioch and Damascus in this case were concerned with creating peace with their direct neighbours to save their territories from immediate danger.

In Ibn al-Qalanisi's account, Nur al-Din traveled to the border region of Syria to guard against attacks from the Franks after the devastation of his lands in 1157, having heard that

> the factions of the Franks (God forsake them) were assembling together and proceeding against them, being emboldened to attack them by reason of the continuous earthquakes and shocks which had afflicted them and of the destruction wrought among the castles, citadels, and dwellings in their districts and marches.[450]

Not afflicted by the same extent of destruction, the Franks sought to take advantage of the devastation in Muslim lands by gathering an army to invade Nur al-Din's lands, but the sultan collected his surviving men from the afflicted regions and brought his army near Antioch to prevent any attacks by the Antiochenes against his cities. In this case, the seismological studies provide excellent confirmation of the severity of the earthquake and the locations affected, illustrating that the Christian cities were relatively unharmed by the shocks and therefore able to

[448] Walter the Chancellor, 84-6; Raphael, *Climate and Political Climate*, 128; Smail, 143-5.
[449] Walter the Chancellor, 87-9. In Walter's opinion, Tughtegin of Damascus made the decision with treachery in mind, but also from his fear of the sultan's encroachment.
[450] Ibn al-Qalanisi, 340-1.

gather for an immediate campaign.[451]

According to Ibn al-Qalanisi, the Frankish forces were "emboldened" to move against Shayzar when Nur al-Din caught an illness shortly after diffusing their expected attack.[452] The Assassins had initially seized Shayzar after the earthquake, immediately taking advantage of the deaths of the Banu Munqidh, but then the Isma'ilis were besieged by the Franks in turn.[453] A large united army from the Crusader States, including the forces of Baldwin III, Reginald of Antioch, and Raymond III of Tripoli, captured the town and laid siege to the citadel. Internal political rivalries and a dispute over the future lordship of the city, however, caused the army to withdraw unsuccessfully. Nur al-Din then took advantage of this failure to occupy and repair Shayzar.[454] As evident from these shifting dynamics, personal illness and political tensions among allies could have a large impact on the political future of the region.

According to the Anonymous Syrian Chronicle, Nur al-Din began an active military campaign after the earthquake of 1157:

> In that year was a bad earthquake which ruined Shaizar; the lord with his sons and household and forty thousand men perished. Half the rock on which the citadel was built fell. Many were killed in Ḥamath, Salamiya, and most of the villages round about. Also Núr ud dín took Harrán from his brother the Mírmirán and Beth Hesne after a siege. The Turks enslaved the monastery of Baríd and killed four monks. Núr ud dín also took 'ain Ṭáb by assault, destroying it utterly; he showed mercy to none and took the prisoners and plunder to Aleppo.[455]

These conquests were made possible without fear of Frankish campaigns in his other lands because of the treaty which Nur al-Din had established in the aftermath of the earthquake. As this seismic event almost exclusively afflicted Muslim cities, Nur al-Din paid a tribute of "eight

[451] Guidoboni, *et al.*, "The 1138-1139 and 1156-1159 destructive seismic crises," 117-21.
[452] Ibn al-Qalanisi, 340-2.
[453] Runciman, Vol. 2, 280, 284.
[454] Baldwin, "The Latin States," 541-2; Maalouf, 154-5.
[455] A.S. Tritton and H.A.R. Gibb, "The First and Second Crusades from an Anonymous Syriac Chronicle (Concluded from p.101)," translated by A.S. Tritton, *Journal of the Royal Asiatic Society of Great Britain and Ireland* 2 (1933), 302.

thousand dinars of Tyre" for the establishment of peace terms with the Franks to allow him to campaign against his brother in Mosul.[456] After the destructive earthquake of 1170, the treaty established between Nur al-Din and the Franks enabled him to take advantage of the death of Mosul's ruler to expand his domain to that key city. The treaty had major far-reaching political ramifications for Syria, therefore, allowing Nur al-Din to take an important step towards the expansion of his kingdom and the unification of the Muslim world that he sought.[457]

Major earthquakes frequently upset the political balance of the Near East in the twelfth century and contributed to military conquests and the establishment of peace treaties. The chronicles display how individual leaders mitigated the effects of potentially disastrous situations caused by earthquakes or took advantage of them for personal gain. Chroniclers' accounts of earthquakes illustrate how natural disasters did not solely determine the outcome of political crises, but did exert a major influence on human history, as Campbell has described.[458] Both anthropocentric and environmental factors, therefore, played important roles in shaping the effects of the seismic events of the twelfth century.

5.2. Requests for Aid

In his work *The Topography of Ireland*, the twelfth-century scholar Gerald of Wales included a long comparison of the relative merits of the West in comparison to the East, particularly focusing on climate and environment. Gerald associated many negative traits with the East, despite its perceived benefits of wealth, warmth, and fertile soil, and he singled out seismic events as one of its serious disadvantages: "Non cataractae obruunt; non terraemotus

[456] Ibn al-Qalanisi, 327.
[457] Hamilton A.R. Gibb, "The Career of Nur-ad-Din," in *A History of the Crusades, Volume 1,* edited by Baldwin and Setton, 526; Ibn Shaddad, RHC, Or.3, 50-1. In 1138, the major earthquake similarly benefited Nur al-Din's father Zengi, allowing him to capture several fortresses belonging to Mosul. See: Kamal al-Din, RHC, Or. 3, 679.
[458] Campbell, "Nature as historical protagonist," 282-4, 309-10.

absorbent […].”[459] This point appears to illustrate how populations in Western Europe reacted to tales of the calamitous earthquakes in the Levant. Gerald's list includes seismic events with other negative attributes of the East, such as vermin, attacks from lions and panthers, and the fear of poison in every cup.[460] This creation of an image of the Orient as a place of dangers was undoubtedly influenced by the accounts from the Crusades but also by stories about the destructive force of its earthquakes.[461] Gerald's references to earthquakes provide an example of how the frequency and scale of earthquakes in the Levant were well-known as far away as Wales. In fact, the beleaguered Crusader States often utilized accounts of seismic disasters for the recruitment of funds and manpower in Europe.

The Crusader States relied on fresh waves of crusaders coming over from Europe due to their persistent lack of manpower.[462] Military weakness led to loss of territories, like the County of Edessa to Zengi in 1144, and created a cyclical weakness, with less revenues and less forces. This state of affairs was worsened by the natural disasters of the twelfth century, increasing the poverty of the Crusader States. As Smail has written, “[a]ll sources of our knowledge of the period record the recurrence in Syria of earthquakes, drought, plagues of locusts, and small-scale feudal warfare between Frankish seigneurs and Muslim amirs”, with severe financial repercussions for the crusaders due to loss of crops and land, and the inability of tenants to pay revenues in their harsh situation.[463] Both military and natural disasters inspired the Crusader States to make additional calls for aid from the pope and the monarchs of Europe. Military

[459] *Giraldi Cambrensis Opera, Vol. 5: Topographia Hibernica et Expugnatio Hibernica*, edited by James F. Dimock (London: Longmans and Co., 1867), 70-2; Gerald of Wales, *The Topography of Ireland*, 52-6: “Here are no cataracts to overwhelm, no earthquake to swallow you up […].”
[460] Gerald of Wales, *The Topography of Ireland*, 54-5; *Topographia Hibernica*, 68-73.
[461] For the debate surrounding the Crusades and the creation of the “Orient” as described in Edward Said’s *Orientalism*, see: Morton, *Encountering Islam*, 5-14.
[462] Prawer, *The Crusader’s Kingdom*, 80-2, 92; Tyerman, *God’s War*, 243-55.
[463] Smail, 98-101.

defeats like the fall of Edessa inspired renewed calls for aid from Europe, which had mixed success but offered no long-term solution.[464] Huge financial burdens continued to affect the Kingdom of Jerusalem, and were greatly worsened by the weight of earthquake destruction and the need to rebuild, particularly from the 1150s onward. In Jonathan Phillips's view, the financial burdens on the nobility from earthquakes and enemy raids greatly contributed to the growth of the military orders in the Holy Land as the local lords were forced to sell the lands they could not afford or protect.[465] It should be noted that the financial repercussions of earthquakes were not responsible for a collapse of the Crusader States' economy, which had vibrant trade networks across the Mediterranean and many domestic industries to support it. Many of the kingdom's resources and trade, however, benefited the Italian city-states or the military orders rather than the kingdom, which remained largely bankrupt and in dire financial straits for much of its existence.[466] As a consequence, these disasters had a significant financial effect on many landholders in the Latin East who lacked the necessary funds to maintain their properties, forcing them to sell their lands to the Hospitallers or Templars.[467]

The growth of the military orders contributed to the safety of the Holy Land by providing a substantial influx of money and manpower, the two commodities most needed by the Franks, allaying many of the difficulties in the border regions.[468] The financial resources of the military orders, combined with their usefulness to the Crusader States, allowed them to continue their

[464] William J. Purkis, *Crusading Spirituality in the Holy Land and Iberia, c.1095-c.1187* (Woodbridge: Boydell Press, 2008), 67-85; Jonathan Phillips, *Defenders of the Holy Land: Relations Between the Latin East and the West, 1119-1187* (Oxford: Clarendon Press, 1996), 155-8.
[465] Phillips, *Defenders*, 8-13; Phillips, *The Crusades*, 111; Prawer, *The Crusader's Kingdom*, 260-9.
[466] Phillips, *Defenders*, 148; Barber, *The Crusader States*, 209-10, describes how Baldwin III broke a treaty with Nur al-Din in order to obtain funds he desperately needed from a raid, while Reynald of Chatillon essentially began a war with the Byzantines while he was prince of Antioch because of his financial straits. For the economic monopolies exercised by the Italian communes, see: Prawer, *The Crusader's Kingdom*, 85-93.
[467] Phillips, *The Crusades*, 111.
[468] Jotischky, 83-90.

expansion in the borderlands of Syria. In 1168, the Hospitallers spent 1400 gold bezants to purchase the castle of Belvoir from a French nobleman short of funds.[469] In 1170, King Amalric gave the Hospitallers two castles in the County of Tripoli for them to rebuild and defend.[470] The Templars and Hospitallers amassed extensive lands, castles, and financial resources and engaged in highly expensive castle building programs.[471] Some of these programs were financed by European monetary assistance, such as the restoration of Crac des Chevaliers with the donations of King Wladislas II of Bohemia after the earthquake of 1157.[472]

Financial appeals from Jerusalem to other parts of the Christian world predated the First Crusade. A major earthquake in 1036 damaged the walls of Jerusalem and the city's Christian inhabitants were required to rebuild a section of the fortifications, which they did with the monetary help of the Byzantines.[473] Appeals in the aftermath of earthquakes continued during the crusader period as well. Emperor Manuel I paid for the restoration of a monastery destroyed in 1157, and also for the restoration of other churches and monasteries in the kingdom after the earthquake damage of 1170, as a result of pious interest and his friendly ties with Amalric.[474] In 1170, monks used miraculous tales and details of the earthquake's destruction to collect donations for the Holy Land.[475] Pope Alexander III also called for Christian donations to help repair the churches and support the monks of the Near East.[476] Pringle, however, has suggested that this request exaggerated details to drum up additional funds for the Holy Land, such as a

[469] Phillips, *The Crusades*, 111.
[470] Guidoboni, *et al*., "The large earthquake on 29 June 1170," 6.
[471] Prawer, *The Crusader's Kingdom*, 260-9.
[472] Raphael, "The impact of the 1157 and 1170 earthquakes," 60.
[473] Joshua Prawer, *Crusader Institutions*, 1980 (Oxford: Clarendon Press, 1998), 86-7.
[474] Pringle, *Churches of the Crusader Kingdom*, Vol. 2, 224; Phillips, *Defenders*, 157.
[475] Marcus Graham Bull, *The Miracles of Our Lady of Rocamadour: Analysis and Translation* (Woodbridge: Boydell Press, 1999), 92, 156-7.
[476] Guidoboni, *et al.*, "The large earthquake on 29 June 1170," 7.

Muslim raid that reputedly enslaved many villagers in the aftermath of the earthquake.[477] Accounts of seismic disasters and the trials of the Franks in the East were widely utilized, therefore, sometimes with the help of exaggerated reports, in order to offset the tremendous need of the Crusader States for contributions of manpower and financial aid.

The lack of pilgrims to protect the kingdom was felt sharply in such times of trial, such as 1170, and appeals for aid were made with great urgency, with ten embassies in twelve years sent to Western Europe between 1163 and 1174, during the reign of King Amalric.[478] Within this context, seismic events increased the need for aid from the papacy and monarchies of Europe, causing Jerusalem to appeal to the West again after each instance. In 1171, the Frankish embassies attempted to establish a strong Byzantine alliance, due to Nur al-Din's growing power and the incredible devastation in the Crusader States. The desperate straits of the kingdom led King Amalric to go to Constantinople in person to meet Manuel I, in search of greater aid than the West was able or willing to provide at the time and particularly attracted by the Byzantine Empire's relative proximity to his kingdom. Amalric appears to have recognized some degree of Byzantine sovereignty over Jerusalem in exchange for promises of help.[479] Previously, Amalric had offered to submit to the authority of the French king Louis VII in exchange for aid as well, but none had been forthcoming after the disastrous Second Crusade.[480] While earthquakes were only one factor that caused this serious course of action, they certainly added to the financial difficulties of the Latin East during this period, which also affected the political situation quite strongly.

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[477] Pringle, *Churches of the Crusader Kingdom*, Vol. 2, 119. Pringle bases this estimation on William of Tyre's description of the destruction and the following truce of 1170, arguing that that the truce was in effect at the time.
[478] Phillips, *Defenders*, 8-13, 148, 208.
[479] Phillips, *Defenders*, 208-13.
[480] Phillips, *Defenders*, 148-9; Guidoboni, *et al*., "The large earthquake on 29 June 1170," 6.

The severe destruction of the seismic crises in the twelfth century caused major shortages of funds in the Latin East. Some sources from the Muslim world referred to similar financial repercussions from the earthquakes. Kamal al-Din recorded that Nur al-Din restored the money he had taken as a special tax from the citizens of Aleppo, deeming that they would need it to repair the damage of the 1138 earthquake.[481] While the Muslim states of Syria generally experienced more frequent and more violent shocks, due to the location of their cities on the eastern side of the Dead Sea Fault,[482] the earthquakes do not appear to have affected their economies to the same severe and prolonged extent as in the Christian states, however, or at least the records do not survive. The Franks attempted to compensate for the detrimental effects of earthquakes by repetitious appeals to the West and Byzantium, but the responses were generally insufficient for the kingdom's long-term needs.

[481] Kamal al-Din, RHC, Or. 3, 679.
[482] Raphael, *Climate and Political Climate*, 120-1.

CHAPTER SIX: CONCLUSION

The frequent inclusion of natural disasters and earthquakes in medieval chronicles served a wide range of purposes for their authors. The sources reflected different subtextual beliefs and intellectual premises regarding the causality and implications of earthquakes. Religious beliefs, crusading spirituality, apocalyptic expectations, and other factors motivated historians to frame their accounts of seismic disasters to promote their worldviews. This thesis has explored both these driving factors and the results that can be detected in the texts. The portrayals of earthquakes in the chronicles provide insight into the authors' political and religious perspectives, particularly the critical opinions they held of their rulers, enemies, religious rivals, and societal mores.

The root explanations of earthquake causality exercised a great influence over medieval writers, whether they stemmed from theology, classical science, or astrology. Cosmological perspectives regarded the events in the material world as indicative of those in the spiritual realm were prevalent among chroniclers of the Near East, irrespective of their religious affiliation. The historical records repeatedly included natural phenomena in their texts for their perceived importance to human history. Many scholars of the twelfth century attempted to predict future instances of disasters through a reading of the stars or other omens. These astrological practices frequently combined classical scientific theories of causality with their calculations or infused them with theological implications that corresponded to their religious beliefs. The ways that chroniclers perceived earthquakes and causality sheds light on their perceptions about the relationship between mankind and nature, and also determined how they chose to frame natural disasters in their accounts.

When major calamities occurred, like the earthquakes in Syria during this period,

chroniclers generally perceived them as the result of divine punishment for sin. Building on this framework, medieval historians assigned the spiritual guilt associated with earthquakes to religious or political rivals of their community. The chronicles criticized political leaders for their ineffectiveness, poor responses to disasters, moral failings, or for the creation of cross-religious alliances.

Chroniclers frequently criticized other communities because of religious differences, and doctrinal debates among coreligionists created antagonisms that further affected authors' accounts, as evident throughout Michael the Syrian's chronicle. The methods that the authors used to frame their descriptions of earthquakes can, therefore, reveal the effects of their biases in their writings, due to the implications that stemmed from viewing earthquakes as divine punishment. In addition, many authors were motivated to correct societal problems or avert future earthquakes by promoting religious reform and appear to have done so by emphasizing that disastrous earthquakes were the consequence of sinful lifestyles. This concern with morality's effect on society was a significant feature of the time, as illustrated by the decrees of the Council of Nablus in 1120.

The eschatological mindset of authors like Matthew of Edessa, common in the apocalypticism of the Near East at the time, greatly affected earthquake accounts as the writers sought to establish connections between contemporary events and religious sacred texts. The association of earthquakes with the day of judgment contributed to this pattern of depiction. The events and theological basis of the Crusades also played a role in creating apocalyptic sentiment in the twelfth century, as did astrological predictions about imminent natural disasters. These influences helped to shape the descriptions and portrayals of earthquakes in the chronicles.

The sources also describe many of the practical aspects of earthquake devastation in the

Near East, as rulers pursued rapid conquests or treaties in the aftermath of seismic disasters. In addition, seismic events exacerbated the Kingdom of Jerusalem's tenuous financial situation, causing its rulers to repeatedly appeal to the West and Byzantium for aid. Chroniclers framed their descriptions of these political events to reflect their criticisms and biases, and the conflicts and infighting that existed within Christian and Muslim populations played a large role in shaping these accounts.

In conclusion, the historical accounts of Syria and the Near East display a wide range of intellectual perceptions regarding the causality, effects, and spiritual implications of earthquakes. The frequency of major earthquakes in this period contributed to cosmological and eschatological interpretations of seismic events. These perceptions influenced Christian, Muslim, and Jewish writers during this period to frame their narrative accounts of earthquakes according to their worldviews. Investigating the methods by which they inserted their judgments about society, government, and religion into their texts provides a fascinating glimpse into how medieval historians perceived the environment and how this affected their historiographical methods.

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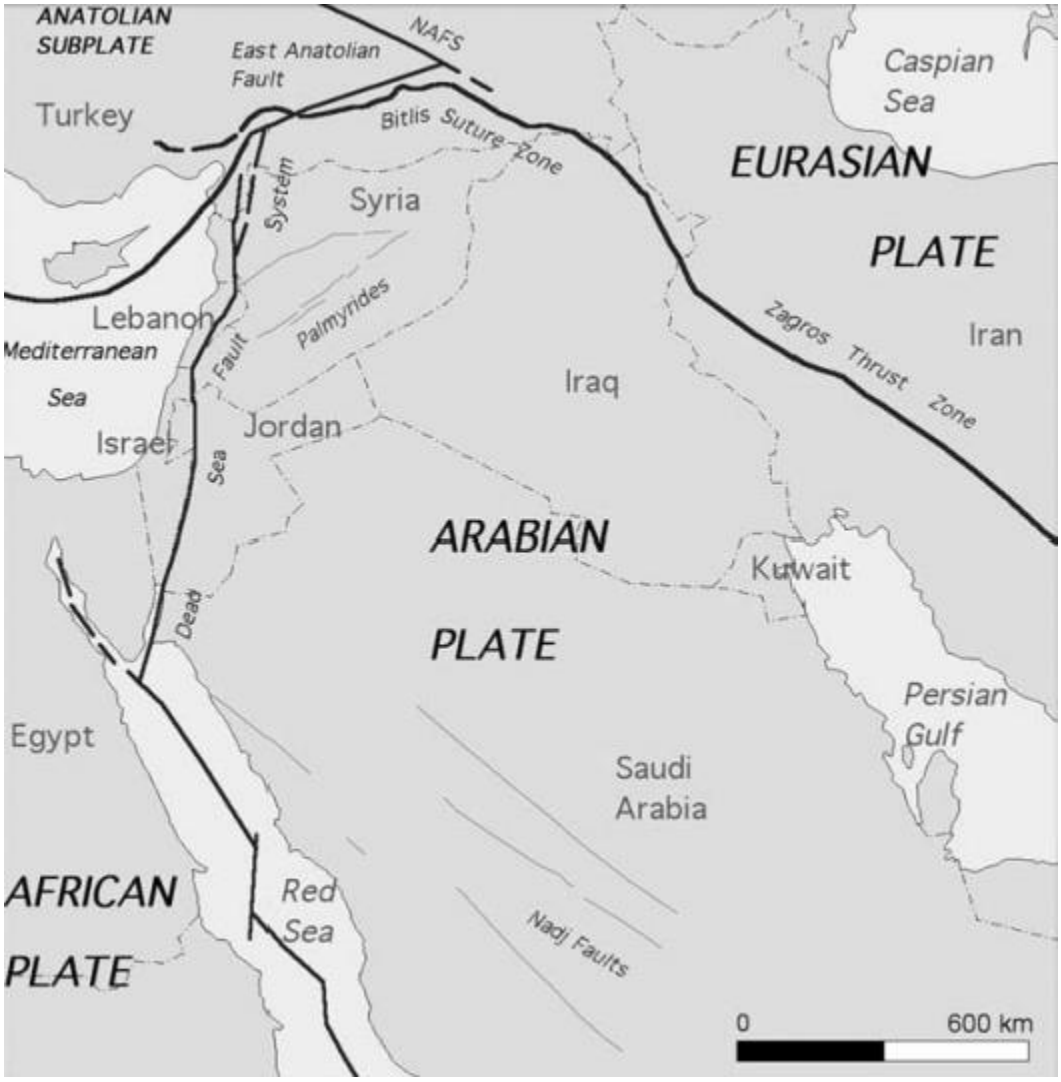
Appendix A – Maps

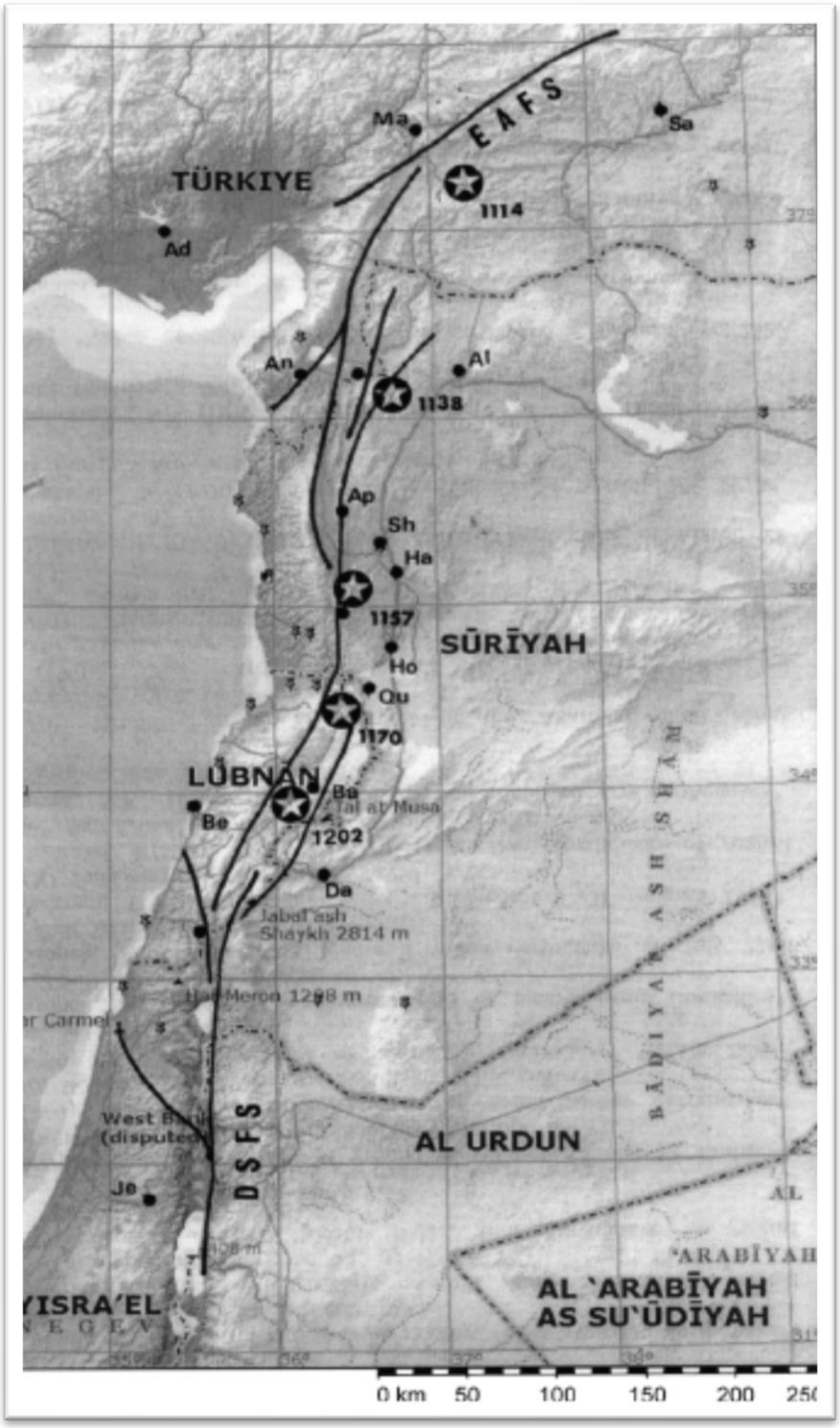
Map 1: "Crusader principalities and subject Muslim settlements, *c*. 1170."

From: Brian A. Catlos, *Muslims of Medieval Latin Christendom, c. 1050-1614* (Cambridge: Cambridge University Press, 2014), 143.



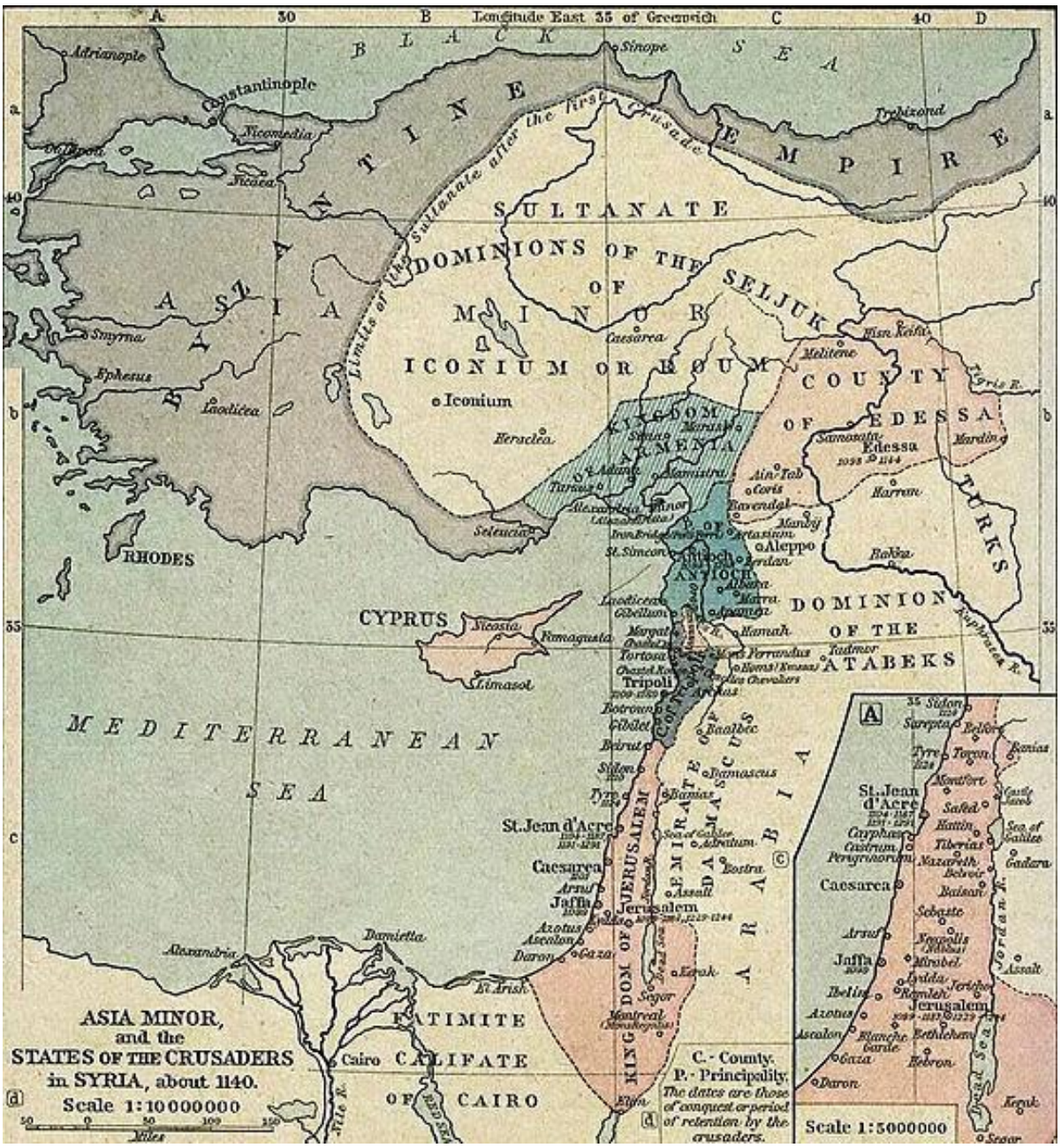
Map 2: "Simplified tectonic map showing bounding faults of the Arabian platform (modified from Brew, 2001). Minor tectonic features (i.e. Syrian Palmyrides) and present-day political borders are also shown."

From: Emanuela Guidoboni, Filippo Bernardini, and Alberto Comastri, "The 1138-1139 and 1156-1159 destructive seismic crises in Syria, south-eastern Turkey and northern Lebanon," *Journal of Seismology* 8 (2004), 107.



Map 3: "The dominant tectonic feature of the Levant. DSFS – Dead Sea fault system; EAFS – East Anatolian fault zone. Open stars show the general location of the epicentral region of the earthquakes investigated [minus the 1202 earthquake]."

From: Nicholas N. Ambraseys, "The 12th century seismic paroxysm in the Middle East: a historical perspective," *Annals of Geophysics* 47, no. 2-3 (2004), 734.



Map 4: Asia Minor and the States of the Crusaders in Syria, c. 1140.

From: Alexander G. Findlay, *A Classical Atlas of Ancient Geography* (New York: Harper and Brothers, 1849). Public Domain.