

Fires, Earthquakes, and Floods:

The influence of extreme events on Mamluk Cities

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Reports on fires, earthquakes and floods constitute an integral part of the Mamluk chronicles, which provide the documentary foundations of the present contribution.¹ Mamluk authors provided descriptions and even explanations of various devastating natural hazards. Since a survey of these titles is beyond the limits of this contribution, it is sufficient to say here that disaster accounts within Mamluk chronicles make up discrete phenomena with a more or less well-marked beginning and end. Moreover, several contemporaneous authors composed short works on environmental devastations, epidemics and famines. They report on events caused by nature and refer to the human factor not as an actor but only a victim.²

Attracted by the growing field of the history of natural hazards and society's interpretation of such events, my interest here is in damages and recovery. Dovetailed with these accounts of catastrophic events are often reports on reconstruction and revival efforts.³ To facilitate research and the presentation of results, I have divided the following discussion into three sections, each concentrating on one type of calamitous natural event. The lists in the appendix and scholarly literature provide data on time and location, allowing me to dwell in the main text upon the aesthetic dimensions of the accounts that the medieval authors present.

Fires

Let's start with reports on destruction caused by fires. In a considerable number of accounts, it is clear that we are hearing about official sites, like arsenals, palaces, fortresses, shrines, and urban constructions. A second salient feature of these accounts is the accusation against non-Muslims for kindling these destructive flames. It is not rare to read lines that narrate this scenario. Thus, for example the Franks, i.e. the Crusaders, are blamed for starting a fire in Aleppo (650/1251-52).⁴ In retaliation Muslim authorities extorted considerable sums from Christian communities,⁵ who were forced to compensate the Muslims and pay for the reconstruction efforts.⁶

Equally, we come across references to arson as an expression of communal tension. The following account illuminates this. A Christian man was charged with being the offspring of a Muslim man. He was arrested in Egypt, and the judge's verdict was that he remained chained till he converted to Islam. His fellow religionists complained to the governor and inter-communal tension started to build up, with the consequence that Muslims set the local church on fire and burned its icons.⁷

Another case in point is found in the reports on the fire caused by lightning at the mosque of the Prophet in al-Medina (886/1481).⁸ An account by al-Khunjī (859-927/1455-1521), who was in those days in Cairo, illustrates the prevailing Muslim modes of expression. Reporting on the fire, which caused severe damage to the shrine of the prophet Muhammad, he tells: "we learned that when the Franks learned of this disaster they celebrated and feasted believing that it was a good omen".⁹ These words serve as a mirror and reflect clearly the prevailing view among late middle period Muslims.

A further case is a lengthy account of communal clashes in Cairo and the setting ablaze of several streets. This chain of events has been thoroughly researched¹⁰ and we can limit our contribution to a condensed description. All the six Mamluk chroniclers (five Muslims and one Christian) agree that the fire endangered the lives and properties of the Mamluk elite. Some point towards the local Christians and claim that the blaze was caused by them in retaliation for destruction of Churches across Egypt by Muslims.¹¹ Later authors produce a very dramatic description of the event. A large crowd assembled and cried for God's help. Porters dashed to and fro carrying water from the Nile. Even unveiled women came out to fight the blazes.¹²

It is appropriate to mention here that Christians were not the only non-Muslims to be accused of arson by Muslim authors. Reporting on a fire in Damascus, a local eyewitness chronicler tells: "On Saturday the 21^d Sha'bān AH 740/22 February 1340, which had been the day of the fire, the Muslims had seized a prominent Jewish man, a perfumer (*'attār*) at the bottom of the stairs. On Sunday they tortured this man, named Sadīd, who confessed that they [the Jews] started this fire".¹³

Moreover, the panic that fires in urban spaces generated can explain why fires were used as a tool of punishment. An example of this type of documentation is the report on a Christian who arrived in Cairo from the Sinai (754/May 1353). Accused of blasphemy he responded: "I said so out of an impulse to be a martyr. He was tortured and executed. Then his body was set at fire".¹⁴ An analysis of punishment reports, however, is far beyond the boundary of the present study.

Yet before continuing with the analysis of the historical sources it seems appropriate here to turn to studies of modern climates in the Mediterranean Basin that live with the risk of forest fire. We may assume that long dry summers in Bilad al-Sham intensified the potential outbreak of fires that devoured large grass fields and woods. Although the topic of climate (dry summers, years of drought) is not addressed in the present paper, we cannot exclude its devastating impact on the fauna, landscape and society.¹⁵

Indeed, the narrators make it clear that not all fires were believed to be man-made. Al-Maqrīzī, who marshals the fires of 740/1339-1340 on a single page, tells of an incident following a heavy storm when a falling star set fire to woods and houses in the Gulf of Alexandretta. In a second incident, fire from heaven set ablaze a wood and houses in a

village near Damascus. "Certainly, it was a sign of warning (*aya*)", he concludes his report.¹⁶ His line fits other interpretations of devastating natural forces.¹⁷

Al-Maqrīzī continues his account and tells that a couple of day later blazes devoured a house in a neighbourhood east of the Great Mosque of Damascus (Shawwal 740/April 1340). The fire reached the sacred place, a development perceived by contemporaries as a dramatic twist. The poet Ibn al-Wardī provides an eyewitness account of the flames.¹⁸ Utilizing an apocalyptic mode, his verses tell of flames were seen from remote distances, fires that engulfed houses and climbed the eastern minaret ("It looked as if the night's stars feared they would disappear and covered it with a blanket of smoke"), of young men who risked their lives to save the mosque, of the viceroy Tankiz who joined the firefighters. The people of Damascus were astounded by the flames and by the devoted firefighters, who willingly endangered their lives and volunteered to extinguish the fire. "I was told that Damascus is Paradise, but the place turned out to be Hell", he concludes his narration.

Khalīl al-Şafadī, a well-known contemporary Damascene *litterateur*, also composed a *maqama* on this fire.¹⁹ It opens with the story of his arrival in the magnetizing city. One night a wave of stifling air blasted through his bedroom. High voices carried the news: a fire near the Great Mosque is burning the houses. With many other citizens our narrator rushed to the mosque's court. He witnessed the fire consuming some of its magnificent wings. The red flames swallowed the green dome (*qubbat al-khaḍrā'*).²⁰ The blazes rose aloft, practically reaching the stars. The thick smoke spread over the galaxy. Seemingly, people along the Nile shores noticed the fumes. It resembled a scene in the *malḥamat ibn [abī] 'aqb*.²¹ Then came the "Sea" and calmed the public's fear.²² The viceroy and his men earned respect for battling the blazes for two days. They could not rest for long because a devastating fire burned shops and workshops. The viceroy was prized, not only for his efforts in extinguishing the fires, but also for arresting the perpetrators. Christian clerks who worked at the governing administration and two monks were said to admit that they produced fire bombs and started the fires. They were executed, and their property financed the renovation of the Mosque's minaret.²³

Fire accounts occasionally contain elements of mirabilia (*'ajab*).²⁴ Thus, for example, a story from the Mamluk sultanate frontier tells of Muslim prisoners of war who were executed by the Christian enemy. Among them was an old woman. Before her death she cried: "Oh God duly punish them". And indeed, during the night the officer in charge of the ballista wheel got drunk and started a fire and a strong wind then intensified the flames. For twelve days it burned, destroying the castle and killing twelve officers.²⁵ Another case in point is an official report on a fire in the mountains overlooking the Mediterranean Sea in northern Lebanon and Syria's coast, a region that according to the historian is populated by heretics. He tells of a devastating fire that destroyed a vast area, killing wild animals and driving the population to seek shelter near the water front. He adds: "through a chimney a leaf has fallen and burned the house to the ground". After three days the rain extinguished the fire.²⁶

A common interpretation of these fires, as mentioned previously, was that they were a heavenly warning (*aya*). This interpretation of natural hazards was in line with the contemporary common Islamic world view. A quick look at Mamluk "ruler's advice" compilations elucidates this point. Advancing arguments about the merits of the just ruler and warning that evil and wrongful government leads to devastation is a salient argumentation in that genre.²⁷

The poet Ibn al-Wardī and the historian al-Dhahabī, who were mentioned above, state that they were able to detect in an ancient apocalypse hints of the very calamity that they experienced in Damascus.²⁸ This line is followed by those Damascene historians who report on a massive fire in the vicinity of al-Medina that continued for a month. The flames lighted vast territories. One source transmits an oral description by Bedouins in southern Syria who claimed that the sky was so bright that they could clearly perceive the features of their camels (654/30 June 1256).²⁹ Modern scholars who have studied the seismic history of the Near East interpret these accounts as eyewitness reports on the eruption of a volcano east of the sacred oasis.³⁰

On several occasions our sources append their account of the fires with reports of army officers who enthusiastically participated in fighting the flames.³¹ A case in point is a report from Cairo (780/May 1378). In this account the chronicler praises the officers' courage. They endangered themselves and brought under control the fire, which destroyed large parts of Cairo's market.³²

In addition to reports on fires that consumed commercial and industrial constructions, the sources report on fires that destroyed sacred buildings. It seems that the writers' narrative of fires, destruction and renovation was shaped not only by the measures of the damage caused, the heavy financial losses and the shocking effects of the destruction of venerated places, but also by the very fact that many among the authors were members of the upper echelon. They were closely associated with the religious establishment,³³ as well as with the ruling military aristocracy.³⁴

Often scholars and writers identified their interest with the governing officers. Pious foundation that this class established paid for the building and maintenance of sites that were burned to the ground. Often the coffers of charitable endowments (*awqāf*) profited from leasing commercial buildings.³⁵ Incomes that supported financially the class of the learned men. So, no wonder that they prized the governing military aristocracy for its efforts to reconstruct devastated streets and constructions that conflagrations had destroyed.

The sultan Qayitbay, for example, sent orders to Medina, ordering the renovation of the school (*madrasa*) adjacent to the Prophet's mosque that fire had heavily damaged.³⁶ Several composers eulogized him for doing so.³⁷ This policy seems not to be restricted to the Mamluk sultans. Studies on the great fire of 1660 in Istanbul highlight the measures taken by the sultan's court. The reconstruction of the burned neighbourhood provided the

sultan's mother with an opportunity to pursue a policy of Islamization. The Jewish district became a centre of devotion and commemoration. Even today the imposing mosque and tombs reflect this image.³⁸

From the data presented in this section, and from other sources and studies, we can deduce that fires occasionally ravaged the Mamluk urban spaces.³⁹ Yet apparently there were no written regulations regarding the prevention of fires or fighting the flames.⁴⁰ Al-Shayzarī's guide book for the market inspector illustrates the point. The author advises the *muhtasib* to recommend keeping a distance between those artisans who use fire in their workshops, blacksmiths, bakers etc, and shops of spices, scents, perfumes, textiles, etc. Yet the reasoning concerns bad smells and not the danger of fire.⁴¹ This conclusion is in line with the prevailing maxim "no harm and no compulsion in Islam". Juridical compendia support this regulation of communal life.⁴²

Earthquakes, tsunamis and volcanos

The population of the Mamluk Sultanate experienced destruction, injuries and death from collapsing buildings and falling rocks. Moreover, in several incidents earthquakes under the Mediterranean caused tsunamis.⁴³ No doubt, the trembling of the Earth terrorized all, causing chaotic moments not easily forgotten by the population that inhabited the towns and villages of Egypt and Syria.⁴⁴ So, we might assume that fear of the revenge of nature was no stranger to the commoners than to the ruling military aristocracy. Apocalyptic texts (*malhama*), which were briefly mentioned above, reflect this mode. No wonder that contemporary chroniclers recorded, at least partially, the seismic history of the Sultanate and of regions beyond its frontiers.

These earthquakes, tsunamis and volcanos attracted the attention of geologists and engineers, in addition to historians.⁴⁵ The major explanation of this can be, in addition to the craft of the historians, the practical dimensions of these studies. Governments, contractors and operators of quarriers of mineral resources collected geological and seismic data and analysed it. N. N. Ambraseys and others used medieval texts to compose catalogues of earthquakes and to craft in-depth research in geological studies.⁴⁶

Based upon modern scholarly achievements there is no need to provide here a register of seismic events that occurred in Egypt, Syria and Arabia during the years 1250-1517. Hence it seems sufficient to analyze a handful accounts. I will only dwell upon Mamluk sources' accounts of public reactions to tremors and on reports of repairs that were accomplished following these earth tremors and aftershocks. Although it should be stated from the outset that the lists of traumatic events that several pre-modern Arab authors composed mostly tell of damages and rarely of repairs.

Mamluk sources report on a severe earthquake (*al-zalzala al-ʿuzma*). Apparently it was one of the largest seismic events in the Mediterranean area (23 Dhū al-Ḥijja 702/1303 August 8).⁴⁷ Because of its devastating effects, this event is described both in Arabic and European

sources. These sources report on an alarming event that lasted between twenty to forty days. According to several modern estimations, this seismic event hit a vast area at the top of Richter's magnitude scale. The tremors were followed by a tsunami that affected a wide zone.

The earthquake caused damage in the Aegean Sea, the Eastern Mediterranean coast and Lower Egypt. Buildings clattered to the ground as the Earth moved and roofs collapsed. The terrified population, fearing the collapse of buildings, moved to the fringes of Cairo and other towns and sheltered in tents. Panic stricken women exposed themselves on the streets, their faces uncovered.⁴⁸ The shock shattered the lighthouse of Alexandria. The high waves reached the centre of the city and ruined the city's wall, washing through streets and houses. The water carried ships and boats onto the land, throwing Frankish vessels onto the sandy shores. The waves also hit the shores of Rhodes and Crete, on the other side of the sea.

A contemporary Cairene poet wrote a long *qaṣīda* on this earthquake (*ma zahara min al-dalā'il fī al-ḥawādith wal-zalāzil*).⁴⁹ The verses echo the apocalyptic vision that shocked the inhabitants of the sultanate's capital.⁵⁰ A similar tone emerges from an ego document composed by an anonymous reporter who happened to be in the port of Munyat Ibn Khaṣīb when the tremor hit that city. In a sermon he addressed the local people, pointing out that because of their wrong doings the earthquake should be accepted as a punishment; it is only God's mercy that protects them.⁵¹

Al-Yūnīnī's account of this earthquake casts light on the contemporaneous perceptions of this event. It is based on an official letter that reached Damascus from Cairo. Yet it seems that al-Yūnīnī was not satisfied with a mere description of this alarming seismic event, and because of this he inserts a long quotation (*naqalt^u*) from al-Qazwinī's mirabilia book "*Ajā'ib al-makhlūqāt*".⁵² This extract, we must assume he believed, added a deep historical background (*dhakaruh^u al-qudama*) and scientific explanation of natural-physical forces to the eyewitness account that he inserted in his chronology.⁵³

Yet the reaction was not limited to literary reports. There was also a materialistic dimension. Due to the mounting demand, construction prices sharply increased.⁵⁴ The sources highlight members of the military aristocracy volunteering in the rehabilitation and rebuilding initiatives. In most reported cases rebuilding initiatives were recorded in installations that Mamluk authorities regarded as located in strategic locations.⁵⁵ It looks as if, following the tremors, the authorities' repair enterprises focused mainly on military centres and, as in cases of post-fires reconstruction, on public buildings that carried symbolic value, i.e. mosques, schools, etc. Such, for example, is the account of the Sultanate's reaction to the earthquake that shattered many buildings in Palestine and Transjordan. The fortress town of Karak was particularly badly hit, which might indicate that the centre of the shock was the Dead Sea (January 1293). A Damascene historian tells that in February of that year the viceroy of the city received letters from Cairo ordering him to send a military

expedition to repair the Karak. It was accompanied by artisans and civilian engineers who toiled at that place.⁵⁶

Governing authorities searched for resources to finance the reconstruction of cities struck by massive destruction. Pious charities (*awqāf*) were a rich source that provided for reconstructions.⁵⁷ The coffers of the Great Mosque's patrimony paid for the recovery measures that were taken as Syrian cities witnessed devastating earthquakes (551-554/1156-1159).⁵⁸ On such situations, sultans argued that the usufruct of endowed urban properties and agricultural lands aimed at serving the public good.⁵⁹ This claim served well their efforts to invigorate their image as "the good and just ruler", although one should not rule out efforts born from sincere caring. Nevertheless, this policy was legitimized by the religious establishment and hence is more visible than in cases of demolished private assets.

Another case to illuminate the governors' restoration efforts is the long account of the 702/1303 earthquake in Egypt and the Eastern Mediterranean, which was mentioned above.⁶⁰ Observing the collapse of the most ancient mosque of Egypt, the governor of Cairo promised to repair the damages. The sultan paid for the renovation of a third of the old religious buildings. A military commander named Baybars al-Jashangīr restored the mosque that the caliph al-Ḥakīm had founded.⁶¹ Several years later he constructed a mega-complex within the walls of Cairo. The inhabitants of this pious foundation used to pray on Fridays in the reconstructed mosque.⁶² The coffers of the religious endowments paid for the restoration of another mosque in the city of al-Manṣūra. Actually, this policy corroborates the common explanation of earthquakes. In the case mentioned here, the historian explicitly says that failure in observing Islamic regulations and norms caused the terrible experience.⁶³ So, rebuilding was believed to be a step towards strengthening the correct religious conducts.

Floods

Turning to reports on floods⁶⁴ and restoration in their wake we come across accounts resembling those on fires.⁶⁵ The sources provide vivid accounts of rising waters and destruction,⁶⁶ as well as of reconstruction. In several cases the chroniclers based their narrative on official memoranda, which I assume were produced not only to inform the center on damages and losses, but also because previous arable lands allocations were washed away by the water to back demands to exchange *iqṭā'* farms.⁶⁷ As in events of blazes and earthquakes, so also in events of high water torrents, governors focused their urban restoration initiatives on highly esteemed public constructions. It seems that they were mainly concerned with repairing religious buildings.

Since in a past study I have provided an annotated translation of a dozen official reports on flooding waters, I see no need to repeat this. It seems sufficient to provide here a single case that illuminate both the sources and their narrative.⁶⁸ It is a report on destruction caused

by heavy rains that washed through the town of 'Ajlūn in Transjordan. Tankiz, who served for many years as the viceroy of Damascus, ordered the repair of the destroyed mosque.⁶⁹ His initiative is in line with the sultanate's reconstruction and repair policy. Namely, to invest in social and religious construction in order to gain symbolic capital.

Summary

The reports on restoration efforts that the Mamluk elite directed reflect the prevailing political discourse among the contemporary chroniclers. Moreover, a considerable section among the religious establishment benefited from the pious charities that the Mamluk military aristocracy endowed. Undoubtedly, we should assume that the governmental agenda, the self-presentation of the good ruler, the military aristocracy's efforts to cultivate political legitimacy and to disseminate an image of devoted Muslim governors and sultans motivated them to lead restoration efforts and to finance them. The lion's share of the accounts studied here reports mainly on events related to the governing elite or measures concerning the religious establishment.

Hence, readers of this chronicles should not be surprised by the salient place that actions and reactions by the ruling Mamluk elite occupy in accounts of destruction and restoration. They are portrayed as a collective that was busy with Muslims' welfare and devoted energy and resources to achieve this goal. The story of the urban crowds or the villagers who dwelled in hamlets controlled by the military aristocracy concerned them less. This explains the structure and contents of the chronicles' accounts of natural hazards and restoration.

List of fires:

<u>Year</u>	<u>Place</u>	<u>Effects</u>	<u>Sources</u>
663/1265	Cairo	Anti-Christian riots	Yūnīnī, <i>Dhayl</i> , 2: 321. Mufaḍḍal, 1: 475-477.
681/1282	Damascus, Sūq al-labbādīn		Dhahabī, <i>ʿIbr</i> , 3: 347. Şafadī, <i>Aʿyān</i> , 1: 66. Ibn Şaşrā, 117 (Eng. 155).
684/1286	Cairo, Citadel		Maq.sulūk. 1: 730.
687/1288	Cairo, Arsenal. al-Husayn's Shrine		Maqrīzī, <i>sulūk</i> , 1: 741.
691/1292	Cairo, Citadel. Northern Syria		Ibn Jazarī, <i>Ḥawādith</i> , 100, 109.
702/1303	Egypt and Syria; tsunami		Mufaḍḍal, 3: 86-66.
721/1321	Cairo	Anti-Christian riots	Maq.sulūk, 2: 216-28. Nūwayrī, <i>Nihāya</i> , 33: 17.
728/1328	Damascus		Nūwayrī, <i>Nihāya</i> ,
740/1339	Several locations in Syria, Damascus	Anti-Christian riots	Maq.sulūk, 2: 495-97 Ibn Kathīr, 18: 414-5 Ibn Qadi Shuha. 1: 115, 127 Ibn Şaşrā, (Eng.) 157-59
741/1370	Egypt. Cairo		Maq.sulūk, 2: 514.
744/1343	Damascus		Ibn Qadi Shuhaba, 1: 356.
756/1355	Damascus		Ibn Kathīr, 17: 568.
757/1356	Syria Mediterranean coast		Ibn Kathīr, 17: 575 Ibn Qadi Shu. 2: 99
757/1357	Damascus, several fires in various locations		Maqrīzī, <i>sulūk</i> . 3: 27-28
780/1378	Cairo		Maq.sulūk. 3: 328.
788/1386	Cairo		Maq.sulūk, 3: 543.
794/1392	Damascus		Maq.sulūk, 3: 769 Ibn Şaşrā, 127a
800/1398	Damascus, Cairo		Ibn Ḥijjī, 301 Ibn Qadi Shu. 3: 661 Maq.sulūk, 3: 901
801/1398	Cairo		Maq.sulūk, 3: 918
802/1400	Mecca		Maq.sulūk, 3: 1019
828/1425	Dumyat		Maq.sulūk, 4: 683
836/1433	Cairo		Maq.sulūk, 4: 892
884/1479	Damascus		D. Behrens-Abouseif, <i>MSR</i> ⁷⁰
886/1481	Medina		Malaṭī, <i>nayl</i> , 7: 321 Samhūdī, <i>wafa</i> , 2: 413-430 Ibn Ṭūlūn, <i>muf</i> . 1: 46-47

¹ Rudolf Brazdil, Christian Pfister, Heinz Wanner, Hans Von Storch and Jurg Luterbacher, "Historical Climatology in Europe – The State of the Art", *Climatic Change* 70 (2005): 364, 370, 373-74.

² Divine punishment is at the heart of our sources' interpretation of natural hazards. Yet I refrain from dwelling upon this topic and it is sufficient to observe that this approach was not unique to pre-modern

Islamicate societies. Cf. Martin Stuber, "Divine Punishment or Object of Research? The Resonance of Earthquakes, Floods, Epidemics and Famine in the Correspondence Network of Albrecht von Haller." *Environment and History* 9/2 (2003): 171–93.

³ Some of these titles were translated into European languages. The list includes, among others: Taqī al-Dīn Aḥmad b. ‘Alī al-Maqrīzī (766/1364-845/1441), *Ighāthah al-umma bi-kashf al-ghumma* ed. M. M. Ziyada & J. M. Ashur (Cairo, 1940; 2003) [Gaston Wiet, "Le Traité des famines de Maqrīzī", *JESHO* 5/1 (1962): 1-90; Adel Allouche, *Mamluk economics: a study and translation of Al-Maqrizi's Ighathah* (Salt Lake City: University of Utah Press, 1994)]; Jalāl al-Dīn ‘Abd al-Raḥman al-Suyūṭī (849-911/1445-1505), *Kashf al-salsala ‘an wasf al-zalzala* ed. ‘Abd al-Laṭīf al-Sa’dānī (Rabat, 1971) [Saïd Nejjar (trans.), *Traité du tremblement de terre* (Rabat: Institut Universitaire de la Recherche Scientifique, 1975)]; for a pre-Mamluk medical manual cf. Abū al-Ḥasan ‘Alī Ibn Riḍwān al-Miṣrī (388-453/988-1061), *Risālah fī daf’ maḍārr al-abdān bi-arḍ miṣr* [Michael W. Dols (trans.), *Medieval Islamic Medicine: Ibn Riḍwān's Treatise "On the Prevention of Bodily Ills in Egypt"*, Arabic Text edited by Adil S. Gamal (Berkeley: University of California Press, 1984)].

⁴ Badr al-Dīn al-Ḥasan Ibn Ḥabīb al-Ḥalabī (710-779/1311-1377), *Durrat al-aslāk fī dawlat al-atrāk* ed. Amin (Cairo); Taqī al-Dīn Aḥmad b. ‘Alī al-Maqrīzī (766-845/1364-1441), *al-Sulūk li-ma‘rifat duwal al-mulūk* eds. M. M. Ziyada and ‘Ashur (Cairo: Matba‘at Dār al-Kutub, 1934-73; reprinted 1427/2007), 1: 384.

⁵ Amina A. Elbendary, "The Sultan, The Tyrant, and The Hero: Changing Medieval Perceptions of al-Zāhir Baybars", *MSR* 5 (2001): 148.

⁶ Mufaḍḍal b. Abi al-Faḍa‘il [Moufazzal ibn Abi-Fazaïl] (759/1358), *al-Nahj al-sadid wal-durr al-farid fima bada Ta‘rīh ibn al-‘Amīd* [Histoire des sultans Mamelouks 658-716/1259-1317] ed. et trad. Edgar Blochet dans *Patrologia Orientalis* 12 (1919): 476.

⁷ al-Maqrīzī, *al-Sulūk*, 2: 900.

⁸ Muḥammad b. Aḥmad Ibn Iyās al-Ḥanafī (852-930/1448-1524), *Badā‘i‘ al-zuhūr fī waqā‘i‘ al-duhūr* [Die Chronik des Ibn Ijas (The Amazing Flowers about the Events of the Times)] ed. M. Mustafa [Cairo: Dar al-Kutub reprinted 1429/2008] 3: 188.

⁹ Faḍl Allah b. Rūzbahān Khunjī, "Hidāyat al-taṣdīq fī ḥikāyat al-ḥarīq", in M. Minovi and I. Afshar (eds.), *Yad Nama-yi irani-yi Minorsky* (Tehran, 1969), 82; Nūr al-Dīn ‘Alī ibn ‘Abd Allāh al-Samhūdī (844-911/1440-1505), *Wafā‘ al-wafā bi-akhbār dār al-muṣṭafā* ed. Qāsim al-Sāmarrā‘ī (London: al-Furqān, 2001) 2: 420 (886/1481).

¹⁰ Syrinx von Hees, "The Great Fire in Cairo in 1321", in Gerrit J. Schenk (ed.), *Historical Disaster Experiences, Transcultural Research – Heidelberg Studies on Asia and Europe in a Global Context* (Heidelberg: Springer, 2017), 307.

¹¹ Moshe Perlmann, "Notes on Anti-Christian Propaganda in the Mamluk Empire", *Bulletin of the School of Oriental and African Studies* 10/4 (1942): 844.

¹² al-Maqrīzī, *Khitat*, English translation in Abū Ṣāliḥ al-Armanī, *The Churches and Monasteries of Egypt* ed. B.T.A. Evetts (Oxford: Clarendon Press, 1895), 329-340.

¹³ Muḥammad Ibn Ṣaṣrā (d. c. 800/1397), *al-Durra al-muḍī‘a fī al-dawla al-zāhiriyya* (A Chronicle of Damascus 786-799/1389-1397) ed. and trans. W. M. Brinner (University of California Press, 1963), vol. 2 (English): 155-157, 167-68 (the fire of 21 Sha‘bān/ 13 July 1392).

¹⁴ al-Maqrīzī, *Sulūk*, 2: 895.

¹⁵ Hans-Jürgen Bolle (ed.), *Mediterranean Climate: Variability and Trends* (Berlin: Springer, 2003), 47-48.

¹⁶ al-Maqrīzī, *al-Sulūk*, 2: 495-497.

¹⁷ Shams al-Dīn Muḥammad b. Aḥmad al-Dhahabī al-Dimashqī al-Shāfi‘ī (673-748/1274-1348), *al-‘Ibar fī khabar man ghabar* ed. Abū Ḥājar Muḥammad Zaghūl (Beirut: Dār al-Kutub al-‘Ilmiyah, 1985), 4: 6; Ibn Ṣaṣra, *al-Durra al-muḍī‘a fī al-dawla al-zāhiriyya*, vol. 1 (Arabic): 117b.

¹⁸ Zayn al-Dīn Abū Ḥafṣ ‘Umar Ibn al-Wardī al-Shāfi‘ī (691-749/1292-1349), *Dīwān Ibn al-Wardī* ed. ‘Abd al-Ḥamīd Hindāwī (Cairo: Dār al-Āfāq al-‘Arabīyah, 2006), 65-68.

¹⁹ Ṣalāḥ al-Dīn Khalīl b. Aybak al-Ṣafadī (696-764/1296-1363), *Maqāmat rashf al-raḥīq fī wasf al-ḥarīq* ('Ammān: al-Risāla, 2002); *Rashf al-raḥīq* transmitted by Ibn Faḍl Allah al-'Umarī (700-750/1301-1349), *Masālik al-abṣār fī mamālik al-amṣār* (Beirut, 2010), 12: 358-365.

²⁰ On this phenomenon see Jonathan M. Bloom "The 'Qubbat al-Khaḍrā'" and the Iconography of Height in Early Islamic Architecture", *Ars Orientalis* 23 (1993): 135-141.

²¹ On this pseudo-epigraph prediction book, see Ibn Khaldūn (732-808/1332-1406), *The Muqaddimah: an introduction to history* trans. Franz Rosenthal (Princeton University Press, 1967), 2: 224-225; and the study by Ignaz Goldziher, "Ibn Abi-l-'Akb", *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 75 (1921): 57-59; Kristine Chalyan-Daffner, "'Natural' Disasters in the Arabic Astro-meteorological Malḥama Handbooks", in Gerrit Jasper Schenk (ed.), *Historical Disaster Experiences. A Comparative and Transcultural Survey between Asia and Europe* (Heidelberg: Springer, 2017), 207-223, and additional references below.

²² i.e. Tankiz (deniz in modern Turkish). On him see Stephan Conermann, "Tankiz ibn 'Abd Allah al-Ḥuṣāmī al-Nāṣirī (d. 740/1340) as seen by his contemporary al-Ṣafadī (d. 764/1363)", *MSR* 12/2 (2008): 1-24.

²³ Abū al-Fidā Ismā'īl Ibn Kathīr (701-774/1301-1373), *al-Bidāya wal-nihāya* ed. 'Abd Allah al-Turkī (Cairo: Hajar, 1998), 18: 414-15.

²⁴ For a critical review of this genre see Syrinx von Hees, "The Astonishing: A Critique and Re-reading of 'Aḡā'ib Literature", *Middle Eastern Literatures* 8/2 (2005): 101-20; Kristine Chalyan-Daffner, *Natural Disasters in Mamlūk Egypt (1250–1517): Perceptions, Interpretations and Human Responses* (Heidelberg, PhD thesis, 2013), 147-161.

²⁵ al-Maqrīzī, *al-Sulūk*, 3: 694-695 (746/1346).

²⁶ Ibn Kathīr, *al-Bidāya wal-nihāya*, 18: 575 (757/November 1356); Taqī al-Dīn Abū Bakr b. Aḥmad Ibn Qāḍī Shuhba (779-851/1377-1448), *Ta'riḫ* ed. 'Adnān Darwīsh (Damascus Institut Francais de Damas, 1977-97), 2 (751-780AH): 99.

²⁷ Abū Bakr Muḥammad b. al-Walīd al-Ṭurṭūshī al-Mālikī (451-520/1160-1126), *Sirāj al-mulūk* ed. Muḥammad F. Abū Bakr (Cairo, 1414/1994), 186-188; Muḥammad b. Muḥammad b. 'Abd al-Karīm Ibn al-Mawṣilī al-Shāfi'ī (699-774/1300-1372), *Kitāb Ḥusn al-sulūk al-ḥāfiẓ li-dawlat al-mulūk* ed. Fu'ād 'Abd al-Mun'im Aḥmad (Riyad: Dār al-Waṭan, 1416/1995), 64-66 (§ 23-25).

²⁸ Cf. the account of fire and smoke in Aden (652/1254) in Rukn al-Dīn Baybars al-Dawadar al-Mansuri (circa 645-725/1245-1325), *Zubdat al-fikra fī ta'riḫ al-hijra* ed. Donald Sidney Richards (Beirut and Berlin, 1998), 11-12.

²⁹ Ibn Kathīr, *al-Bidāya wal-nihāya*, 19: 28; cf. Abu Bakr b. 'Abd al-Allah b. Aybak Ibn Dawadari (fl. 723-736/1323-1335), *Kanz al-Durar wa-jāmi' al-ghurar* vol. 9 *al-Durr al-fakhir min sirat al-malik al-nāṣir* ed. H. R. Roemer (Cairo: Deutsches Archäologisches Institut, 1960), 108-109 (702/1302-03 transmitting a story told to him by a farmer in his father's *iqta'* farm); Ibn Ḥabīb al-Ḥalabī, *Durrat al-aslāk*, 112.

³⁰ Victor E. Camp, Peter R. Hooper, M. John Roobol and D. L. White, "The Madinah eruption, Saudi Arabia: Magma mixing and simultaneous extrusion of three basaltic chemical types", *Bulletin of Volcanology* 49 (1987): 489-508; N. N. Ambraseys, C. P. Melville, R. D. Adams, *The Seismicity of Egypt, Arabia and the Red Sea: a historical review* (Cambridge University Press, 1994), 40; Clifford Edmund Bosworth (ed.), *Historic Cities of the Islamic World* (Leiden: Brill, 2007), 385; For medieval Muslims vision of this event see Mona Hassan, *Longing for the Lost Caliphate: A Trans-regional History* (Princeton University Press, 2016), 58-64.

³¹ Often named "the Turks". Ibn Ṣaṣrā, *al-Durra al-muḍī'a*, 117 (Arabic), 156 (English).

³² al-Maqrīzī, *al-Sulūk*, 3: 328. For another report of army officers who rushed to extinguish a fire near Cairo see *ibid.*, 3: 543 (788/April 1386), 3: 901 (800/1398), 3: 918 (801/1398).

³³ Saying this I am not arguing that writers failed to express critical remarks about the governors. An example of this attitude is reflected in the saying "do not trust the regime, it is a passing shade and a falling entity". 'Abd al-Raḥmān b. Muḥammad al-Biṣṭāmī al-Ḥanafī (795-858/1392-1454), *Kitāb Manāḥij al-tawassul fī mabāḥij al-tarassul* (Beirut, 2009), 198.

- ³⁴ Badr al-Dīn Maḥmūd b. Aḥmad al-‘Aynī (762-855/1361-1451), *‘Iqd al-jumān fi ta’rīkh ahl al-zammān* [*The Chronicle of Barquq 784-801/1382-1398*] ed. I. U. Shukrī (Cairo, 2002), 195 ("he did not profit from payments by governors").
- ³⁵ Mufaḍḍal b. Abi al-Faḍā’il, *al-Nahj al-sadīd* dans *Patrologia Orientalis* 12 (1919): 476.
- ³⁶ Doris Behrens-Abouseif, "Sultan Qaytbay's Foundation in Medina, the Madrasah, the Ribat and the Dashishah", *Mamluk Studies Review* 2 (1998): 61-71; idem, "Qaytbay's Madrasahs in the Holy Cities and the Evolution of Haram Architecture", *Mamluk Studies Review* 3 (1999): 129-147.
- ³⁷ Shams al-Dīn Muḥammad al-Sakhāwī (831-902/1424-1497), *al-Durra al-maḍī’ah fī al-ma’āthir al-ashrāfiyyah* (Paris Bibliotheque Nationale ms. Arabe 1615 (suppl. 811), fol. 53r-v; Takao Ito, "Al-Suyūṭī and problems of the waqf", in Antonella Gherseti (ed.), *Al-Suyūṭī, a Polymath of the Mamlūk Period* (Leiden: Brill, 2016): 47-63.
- ³⁸ Leslie Peirce, *The Imperial Harem: Women and Sovereignty in the Ottoman Empire* (Oxford University Press, 1993), 206; Lucienne Thys-Şenocak, "The Yeni Valide Mosque Complex at Eminönü", *Muqarnas* 15 (1998): 59-63; Marc Baer, "The Great Fire of 1660 and the Islamization of Christian and Jewish Space in Istanbul", *International Journal of Middle East Studies* 36/2 (2004): 160-161, 167-169.
- ³⁹ Anna Akasoy, "The Man-Made Disaster: Fire in Cities in the Medieval Middle East", *Historical Social Research* 32/3 (2007): 78-84.
- ⁴⁰ Studies of fighting conflagrations in the Ottoman Empire also do not describe standing battalions of urban firefighters. Marc Baer, "The Great Fire of 1660 and the Islamization of Christian and Jewish Space in Istanbul", *International Journal of Middle East Studies* 36/2 (2004): 159.
- ⁴¹ ‘Abd al-Raḥman b. Naşr al-Shayzarī (589/1193), *Nihāyat al-rutba fī ṭalab al-ḥisba* ed. al-Sayed al-Bāz al-‘Arīnī (Cairo, 1946), 11-12 [R. P. Buckley (trans.), *The book of the Islamic Market Inspector* (Oxford, 1999)].
- ⁴² Akel I. Kahera and Omar Benmira, "Damages in Islamic Law: Maghribī Muftīs and the Built Environment (9th-15th Centuries C.E.)", *Islamic Law and Society* 5/2 (1998): 155-156.
- ⁴³ Sergey L. Soloviev (ed.), *Tsunamis in the Mediterranean Sea 2000 B.C.-2000 A.D.* (Springer, 2000).
- ⁴⁴ Shams al-Dīn Abū al-Muzaḥḥar Yūsuf b. Qiz’ughlī Sibṭ Ibn al-Jawzī (582-654/1186-1257), *Mir’āt al-zamān fī tārīkh al-a’yān* (Damasus: 1434/2013), 22: 91-92 (tsunami Shaban 597/May 1201; describes tidal waves that washed the shores of Cyprus); Shihāb al-Dīn Aḥmad al-Nuwayrī (677-733/1278-1333), *Nihāyat al-arab fī funūn al-adab* ed. M. D. al-Rayis (Cairo: al-Hay’a al-misriyya al-‘amma, 1992), 29: 29-30 (mentions that some sources date the event to 598/1202). Abū Bakr b. ‘Abd al-Allah b. Aybak Ibn Dawadārī, (fl. 723-736/1323-1335), *Kanz al-Durar wa-jāmi‘ al-ghurar* vol. 7: *al-Durr al-maṭlūb fī akhbār mulūk banī ayyūb* (Cairo, 1391/1972): 149-150 (compares the event to Qur’an 18: 54-59); Sarah Kate Raphael, *Climate and Political Climate: Environmental Disasters in the Medieval Levant* (Brill, 2013), 137-39 (opts to point out that the seismic event took place in 598/May 1202).
- ⁴⁵ Anna Akasoy, "Interpreting Earthquakes in Medieval Islamic Texts", in Christof Mauch and Christian Pfister (eds.), *Natural Disasters, Cultural Responses Case Studies toward a Global Environmental History* (London: Lexington Books, 2009), 183-196.
- ⁴⁶ N. N. Ambraseys, "The seismic activity in Syria and Palestine during the middle of the 8th century; an amalgamation of historical earthquakes"; idem, "The 12th century seismic paroxysm in the Middle East: a historical perspective"; N. N. Ambraseys and Muawia Barazangi, "The 1759 Earthquake in the Bekaa Valley: Implications for Earthquake Hazard Assessment in the Eastern Mediterranean Region", *Journal of Geophysical Research* 94/4 (1989): 4007-4013; N. N. Ambraseys, C. P. Melville, R. D. Adams, *The Seismicity of Egypt, Arabia and the Red Sea: a historical review* (Cambridge University Press, 1994); Raphael, *Climate and Political Climate*, 124-25.
- ⁴⁷ Emanuela Guidoboni & Alberto Comastri, "The large earthquake of 8 August 1303 in Crete: seismic scenario and tsunami in the Mediterranean area", *Journal of Seismology* 1 (1997): 55-72.
- ⁴⁸ Cf. a report from Egypt in Ibn Iyās, *Badā’i*, 3: 178-179 (886/1481).

⁴⁹ Nāṣir al-Dīn Shāfi' b. Alī b. 'Abbās al-'Asqalāni (649-730/1251-1330). Quoted by Jalāl al-Dīn 'Abd al-Raḥman al-Suyūṭī (849-911/1445-1505), *Kashf al-salsalah 'an wasf al-zalzalāh* ed. Abd al-Raḥman A. al-Fariwanī (al-Medina, 1404/1984), 118-122 [Beirut ed. 1407/1987, p. 202]. See my working paper "Between Sea and Land Shores and Harbours as Mamlūk Liminal Zones" (2014).

http://greece.haifa.ac.il/images/Between_Sea_and_Land-presentation__Frenkel.pdf

⁵⁰ The reference is to Quran Q, 41 and to Israfil, the angel of the trumpet.

⁵¹ Karl Vilhelm Zetterstéen (ed.), *Beiträge zur Geschichte der Mamlukensultane in den Jahren 690-704 der Higra nach Arabischen Handschriften* (Leiden, 1919), 126-128 (702/1303).

⁵² Quṭb al-Dīn Mūsā b. Muḥammad al-Yūnīnī (640-726/1242-1326), *Dhayl mir'at al-zamān* [sequel to the mirror of the time 696-711/1297-1312] ed. Ḥamza Abbās (Abu Dhabi, 2007), 2: 714-721 (702/1303); cf. Ibn Dawadārī, *al-Durr al-fākhīr min sirat al-malik al-nāṣir*, 104-108; Mufaḍḍal b. Abi al-Faḍā'il, *al-Nahj al-sadīd* dans *Patrologia Orientalis* 14 (1920): 86-90 [592-596].

⁵³ Zakariyā b. Muḥammad al-Qazwīnī (605-682/1208-1283), *'Ajā'ib al-makhlūqāt wa-gharā'ib al-mawjūdāt* ed. Ferdinand Wüstenfeld (Göttingen, 1849), p. 149; Mamlūk and Ottoman authors were familiar with this work. See Badr al-Dīn Muḥammad al-'Āmirī al-Ghazzī al-Dimashqī (904-984/1499-1577), *al-Maṭāli' al-Badrīyah fī al-manāzil al-Rūmīyah, 1499-1577* ed. Mahdī 'A. Al-Rawwāḍīyah (Abū Dabī, 2004), 44 (Ḥimṣ).

⁵⁴ Ibn Faḍl Allah al-'Umarī, *Masālik al-absār fī mamālik al-amṣār*, 27: 327; Muḥammad b. al-Qāsim al-Nuwayrī al-Iskandarānī al-Mālikī (775/1372), *al-Ilmām bil-'lām fīmā jart bihi al-aḥkām wal-umūr fī waq'at al-iskandariyyah* ed. A. S. Atiya (1390/1970), 4: 124; Abū al-Fidā' 'Imād al-Dīn al-Malik al-Mu'ayyad Ismā'īl al-Shafī'i (672-732/1273-1331), *al-Mukhtaṣar fī akhbār al-Bashar* (Cairo: Dar al-Maarif), 4: 63; Badr al-Dīn al-Ḥasan Ibn Ḥabīb al-Ḥalabī (710-779/1311-1377), *Tadhkirat al-nabīhī fī ayyām al-Manṣūr wa-banayhi* ed. M. M. Amīn (Cairo: Dar al-Kutub, 1976), 1 253; al-Maqrīzī, *al-Sulūk*, 1: 942-945; Shihāb al-Dīn Aḥmad b. 'Alī Ibn Ḥajar al-'Asqalānī, (773-852/1372-1449), *al-Durar al-kamīna fī a'yān al-mi'ah al-thāmina* (Haidarabad, 1348-50/1929-31), 3: 415 (no. 1204); Ibn Iyās, *Badā'i'*, 1: 416-417.

⁵⁵ al-Nūwayrī, *Nihāyat*, 31: 158.

⁵⁶ Shams al-Dīn Muḥammad b. Ibrāhīm (658-739/1259-1338), *Ḥawādith al-zamān* ed. A. al-Tadmuri (Beirut: al-maktaba al-asriyya, 1419/1998), 1: 155.

⁵⁷ The contribution of pious charities to development policy is a source of heated debate among scholars, as some blame the *awqāf* for negligence and urban decay; yet this issue is beyond the present study's boundaries. See Andre Raymond, "Les Grands Waqf et l'organisation de l'espace urbain a Alep et au Caire", *Bulletin d'Etudes Orientales* 31 (1979): 114; Michael E. Bonine, "Waqf and its Influence on the Built Environment in the Medina of the Islamic Middle Eastern City", in Albrecht Classen (ed.), *Urban Space in the Middle Ages and the Early Modern Age* (Berlin: Walter de Gruyter, 2009), p. 628.

⁵⁸ Stefan Heidemann, "Charity and Piety for the Transformation of the Cities: The New Direction in Taxation and Waqf Policy in Mid-Twelfth-Century Syria and Northern Mesopotamia", in Miriam Frenkel and Yaacov Lev (eds.), *Charity and Giving in Monotheistic Religions* (Berlin: Walter de Gruyter, 2009): 169-172.

⁵⁹ On this term in Islamicate context see Maya Shatzmiller, "Islamic Institutions and Property Rights: The Case of the Public Good Waqf", *JESHO* 44/1 (2001): 46.

⁶⁰ Ibn Dawadārī, *al-Durr al-fākhīr min sirat al-malik al-nāṣir*, 100-103; Ambraseys, Melville, Adams, *The Seismicity of Egypt, Arabia and the Red Sea*, 42-44.

⁶¹ al-Ḥasan ibn 'Abd Allāh al-'Abbāsī al-Ṣafadī (d. c. 717/1317), *Āthār al-uwal fī tartīb al-duwal* ed. 'Abd al-Raḥmān 'Umayrah (Beirut: Dār al-Jīl, 1989), 79-80, 128-129.

⁶² Leonor E. Fernandes, "The Foundation of Baybars al-Jashankir: Its Waqf, History, and architecture", *Muqarnas* 4 (1987): 21-42 (esp. 27, 38).

⁶³ al-Maqrīzī, *al-Sulūk*, 1: 942-945; and see Max van Berchem, "Notes d'Archéologie Arabe: Monuments et inscriptions Fatimites", *Journal Asiatique* 18 (1891): 68.

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- ⁶⁴ Li Guo, *Early Mamluk Syrian Historiography: al-Yūnīnī's Dhayl mir'at al zamān* (Leiden 1998), 87 (no. 17), 126; Amalia Levanoni, *A Turning Point in Mamluk History: The Third Reign of al-Nāṣir Muḥammad Ibn Qalāwūn 1310-1341* (Leiden: E.J. Brill, 1995), 167-168.
- ⁶⁵ Cf. Otfried Weintritt, "The Floods of Baghdad," in Christof Mauch and Christian Pfister (eds.), *Natural Disasters, Cultural Responses Case Studies toward a Global Environmental History* (London: Lexington Books, 2009), 165–182; Chalyan-Daffner, *Natural Disasters in Mamlūk Egypt*, 410 ff., 494-519.
- ⁶⁶ Mufaḍḍal b. Abi al-Faḍā'il, *al-Nahj al-sadīd* dans *Patrologia Orientalis* 12 (1919): 537-538 (669/Spring 1271); al-ʿAynī, *ʿIqd al-jumān*, 163 (an ego document 786/February 1385), 224.
- ⁶⁷ Ibn Iyās, *Badā'i*, 3: 258.
- ⁶⁸ Yehoshua Frenkel, "Mapping the Mamluk Sultanate", Annemarie Schimmel Kolleg for the History and Society during the Mamlūk Era (1250-1517) working paper no. 10 (March 2013) [republished in Stephan Conermann (ed.), *History and Society during the Mamlūk Period (1250-1517)*, *Studies of the Annemarie Schimmel Research College* (Bonn University Press, 2014)].
- ⁶⁹ Ellen Kenney, "Reconstructing Mamluk 'Ajlūn: A 728/1328 Flood Report as a Source on Architectural Patronage", *Studies in the History and Archaeology of Jordan* 10 (2009): 787-793.
- ⁷⁰ Doris Behrens-Abouseif, "The Fire of 884/1479 at the Umayyad Mosque in Damascus and an Account of Its Restoration," *Mamluk Studies Review* 8/1 (2004): 279–297.