Natural Disasters in the Ottoman Empire

Plague, Famine, and Other Misfortunes

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Introduction

In the early afternoon hours of Monday, 20 May 2013, a mighty tornado made landfall in Moore, Oklahoma, a southern suburb of Oklahoma City. Traveling northeast at an estimated 210 miles per hour, the tornado passed just a few miles away from the house my wife and I owned in Norman, ripping through sections of Moore we used to drive by, damaging stores we used to shop at, toppling two schools, and killing more than ninety people, twenty of them children. Entire neighborhoods, one police officer explained, were “just wiped clean.” One couple, hiding in a shelter, returned to their destroyed home and found the body of a three-year-old girl whom the storm had carried with it lying in the rubble. “My neighborhood is gone,” the shocked woman said, “demolished. The street is gone. The next block over, it’s in pieces.”

The 2013 Oklahoma tornado was a grim reminder of humans’ vulnerability to the potent forces of nature. As such, it was another link in a chain of massive disasters occurring in the last decade, such as the 2004 Asian tsunami, Hurricanes Katrina and Rita of 2005, the 2008 Sichuan earthquake, and the one in Tohoku in 2011. These have rekindled interest in natural disasters and their implications among scholars, scientists, and the public. Along with other recent calamities, they spurred a host of academic and other publications that discussed society’s preparedness for natural disasters, its responses to them, and procedures for recovery.  

2 A partial list includes: Ronald Daniels et al., eds., On Risk and Disaster: Lessons from Hurricane Katrina (Philadelphia: University of Pennsylvania Press, 2006); Danielle Hidalgo and Kristen Barber, eds., Narrating the Storm: Sociological Stories of Hurricane
Social scientists examined individual and collective decision-making under life-threatening conditions. They looked into factors that affect people’s resort to protective action, such as racial and ethnic affiliations, financial resources, past experience, and one’s personal sense of imminent danger. These events also inspired a probe into the issue of recovery from disasters as a social process. One finding was that while certain communities rebound fast, others take years to recover, or disintegrate altogether. Another was that governments had a major say in the ability of individuals and groups to resume normalcy.  

Social scientists have been studying disasters for several decades now, inquiring how and why they occur and seeking ways to reduce their impact. There is another important value in studying disasters: They offer the observer a “natural laboratory” for exploring “aspects of social structures and processes that are hidden in everyday affairs.” Evidence gathered during and after disasters, it has been suggested, provides “rich data for addressing basic questions about social organization – its origins, 


Introduction

In assessing human conduct under life-threatening conditions and the role of collective institutions in shaping people’s responses to them, social scientists often rely on data from past calamities. Historical experience is a cornerstone of disaster studies, and scientific insights are frequently based on testimonies from the near and far past, in one’s own as well as other societies. Engaging in this kind of exploration is, thus, equally justified for current and historical cases.

This book explores responses to natural disasters in the Ottoman Empire (see Map 1) from its outset to its fall, with a special focus on one particular segment of this history, the seventeenth and eighteenth centuries. Natural disasters played an important role in the rise and fall of the empire, as well as in shaping the daily routine of individuals and communities living under Ottoman rule. Reactions to disasters on the state-empire, communal, and individual levels, I argue, indicate that religious boundaries – as distinct from religious identity – were less significant in Ottoman society than we used to think. The empire’s Islamic identity was important in stirring resistance to external and internal threats, and in rationalizing territorial expansions; but faith in itself was not “the primary organizing principle of … Ottoman society.”

Historians have long subscribed to an ambivalent view: on one hand, stressing the importance of confessional boundaries in the empire, by pointing to representation and registration of dhimmi (non-Muslims) in the shari’i court, to separation of Muslims from non-Muslims in bathhouses, and even to writing, with

authors and their readers usually professing the same faith; and, on the other, showing how Muslims and non-Muslims enjoyed similar opportunities in certain areas. These included forming and maintaining business partnerships, being members of guilds, pursuing a wide range of professions, choosing where to live, and consuming wine publicly, seemingly in violation of Islamic law. The findings presented here on responses to natural disasters help us see this intricate scene more sharply. On the whole, they seem to underscore the porosity of the boundaries between Muslims and non-Muslims.

In this study I also maintain that the Ottoman Empire accentuated religious divisions out of political considerations as often as religious principles. The emphasis on Islamic values, the pronounced presence of Islamic symbols in the public domain, and periodic discrimination against non-Muslims were measures the state took to enhance its stature and gain political capital. Normally, Ottoman subjects did not ask for such divisions nor see a need for them. This popular view was hard to detect in the sea of historical records, which were mostly written by state agents, such as shar‘i court registers and other Ottoman archival documents. State officials, who authored the greater share of materials we now have for the empire, did assume differences between Muslims and non-Muslims in decisions and nomenclature, and used Islam as a tool for enhancing public loyalty to the state. But (with few exceptions) only when there was a clear need for it did they stress the dominance of Islam over other traditions. Thus, for example, in rebuilding a city after an earthquake, the state would invariably give the highest priority to restoring the symbols of Islam, such as mosque complexes; but in dispensing help to victims another interest would prevail: demonstrating the sultan’s paramount patronage by caring for all of his subjects equally and offering Muslims and non-Muslims identical treatment.

Ottoman officials were not the only ones to ascribe importance to the religious, and hence also social and economic, boundaries between Muslims and non-Muslims. Priests and rabbis sought to maintain them too. A recent study has shown that in the early centuries of Islam, Christian and Jewish communal leaders were more keen on their communities’

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segregation than the Muslim authorities because their followers’ reliance on the community for most needs increased their dependence on them. In the Ottoman period, so the reactions to disasters reveal, minority leaders still adhered to a segregated-autonomous approach, while for the majority of Ottoman Christian and Jewish subjects – who were mostly concerned with making a living – such a division made little sense. For most members of the non-Muslim communities, integrating into Ottoman society patently outweighed the tendency for seclusion. That was so despite the near-monopoly that the faith-based community had in certain important matters, such issues as the collection and dispensation of charity, and education.

In exploring these questions, I relied on a wide range of sources. In the Ottoman Prime Minister’s Archives in Istanbul (Başbakanlık Osmanlı Arsivleri), I consulted documents and registries covering financial, health, and internal matters. In the National Archives in London and the Chambre de Commerce archive in Marseille I examined consular and commercial correspondence from the Levant. Other, mostly published sources included Arab and Turkish chronicles and treatises, European travel accounts, and studies in various branches of the social sciences – most of which have been published. Parts of this study focus on greater bilad al-sham, or present-day Syria, Lebanon, and Palestine, as a case study, but the probe addresses itself to other areas of the empire as well.

OTTOMAN HISTORY AND HISTORIOGRAPHY

A detailed account of the history of the Ottoman Empire is beyond the scope of this study and quite unnecessary, given the wealth of existing scholarship. But a quick survey of the events that formed the historic framework for the discussion here seems in order. The Ottoman state started as a principality in western Anatolia in the late thirteenth century. Under its first two rulers, Osman I (r. ca. 1299–1326) and Orhan (r. 1326–62), it conquered lands from neighboring principalities and the Byzantines.


In 1326, the Ottomans took Bursa and made it their first capital; in 1365, having crossed into Thrace, they captured Adrianopole (Edirne). The Ottomans continued to invade lands in southeastern Europe and Anatolia throughout the fourteenth century. In 1453 the Byzantine state finally fell, when Ottoman forces under Sultan Mehmet II (r. 1451–81) conquered Constantinople and made it their third and final capital, Istanbul.

During the second half of the fifteenth century, the empire continued to expand into Europe and Anatolia. In 1514, under Selim I (r. 1512–20), Ottoman forces made advances into Safavid (Persian) territories and temporarily captured Tabriz. In 1516, Selim’s army turned against the Mamluk sultanate, which governed Syria and Egypt from its capital in Cairo. By January 1517, the Ottomans had put an end to Mamluk rule. Ottoman territorial expansion into Europe, Asia, and North Africa continued under Selim’s son, Süleyman I (“the Magnificent,” r. 1520–66), including the conquests of Rhodes (1522), Tunis and Baghdad (1534), and Tripoli and the Libyan coast (1551). In 1529, Süleyman’s forces captured Buda and went on to lay an unsuccessful siege to Vienna.

Süleyman’s reign had once been viewed as the apogee of Ottoman power, the devastation of its fleet in the Battle of Lepanto (1571) as the beginning of a long decline that lasted until the empire’s collapse in World War I. By now, however, most historians have abandoned this “decline” theory and adopted a different reading of Ottoman history. Accordingly, from the early seventeenth century onward, the empire entered a “period of reorientation and consolidation” rather than decline — a time of introversion in lieu of imperial expansion. This was reflected, among other ways, in architectural style’s becoming more local than imperial, and establishing of pious foundations in the seventeenth century to address social and economic uncertainties of the period, when great conquests came to be regarded as a matter of the past.

One historian has suggested that the seventeenth century launched the “Second Ottoman Empire,” characterized by weak sultans and governed de facto by bureaucrats,

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the Janissaries, and the ‘ulama. In the Arab lands, the seventeenth and eighteenth centuries saw the rising power of local urban forces that periodically challenged the central government. The era of Ottoman “reorientation” or “Second Empire” ended with the reforms of the nineteenth century. These started with the unsuccessful attempts of Sultan Selim III (r. 1789–1807) to reform the army. His cousin, Mahmud II (r. 1808–39), continued them more vigorously, introducing innovations in education and the military and destroying the Janissaries in 1826. A period of reorganization, or Tanzimat, followed from 1839 to 1876, during which the empire underwent extensive changes, in administration and the army, communications, education and literacy, treatment of minorities, and more. Additional reforms took place under Abdülhamid II (r. 1876–1909) including, among others, the adoption by the empire of methods for disaster prevention, containment, and relief common in Europe and the United States since midcentury.

Most historians of the Ottoman Empire have primarily focused on political and economic factors when studying its rise, centuries of rule, and fall. In the last two decades, social historians have drawn our attention to other facets of Ottoman realities, exploring issues such as the family and women, food and drink, architecture, literacy, and poverty and charity, to name but a few. Some studies have touched on natural disasters, notably plague epidemics and subsistence crises, to shed light on broader social and economic questions. Few have closely examined natural disasters as such, or used them to penetrate a society that, compared to other civilizations such as Europe and China, left us less written evidence.

The classic work addressing disasters in a Middle Eastern context is, still, Michael Dols’s The Black Death in the Middle East, published in
1977. It provides a solid framework for studying plagues and famines, but it does not cover the Ottoman period. The same is true of Stuart Borsch’s comparative study of Black Death effects in Egypt and England, and of Justin Stearns’s analysis of plague treatises in medieval Islam. Nancy Gallagher’s work on Tunisia, published in 1984, was the first to examine epidemics in an Ottoman context. It was followed by Daniel Panzac’s ambitious study of plague in the Ottoman Empire, covering a century and a half of the state’s battle with epidemics and other calamities, and looking into demographic, economic, and social implications. More recently, two works by Alan Mikhail and Sam White have incorporated evidence on natural disasters into a wider discussion of the forces of nature and the role they played in Ottoman history. In what follows, I challenge some of the precepts of the existing literature on disasters and Ottoman social history and suggest correctives to our understanding of Ottoman realities.

The reader familiar with recent trends in Ottoman historiography would perhaps wonder about the little sense of change over time this book conveys. Historians have long noted dramatic developments that took place in the empire between the sixteenth and the nineteenth centuries. Examples include adoption of different architectural styles; the transition from the “first” to the “second” empire; the rise of local families of notables to provincial leadership positions, replacing officials sent from Istanbul; the increasing involvement of the state in the internal affairs of guilds; the emergence of popular writing not grounded in the strict rules of the Muslim tradition, and of a new class of writers who were not trained as ‘alims (religious scholars). Accordingly, one might

expect to find shifts in the empire’s dealing with natural disasters over the period discussed in this book. Indeed, as I show in several places, change occurred. This was evident, for instance, in the gradual transition from shipping grain and other commodities to disaster-afflicted areas, to preferring a more passive approach such as issuing tax breaks. Change was also noticeable in the seventeenth century, when the empire stopped trying to prevent population flight and accepted it instead as a normal outcome of natural disasters. Overall, however, I found no evidence for meaningful transformations in the state’s approach to disaster curtailment and relief before the second half of the nineteenth century. If such changes took place, they left no trace in the Ottoman official records I examined, in Arab or Turkish chronicles, or in European sources.

Natural Disasters in Human Record

There was nothing inherently Islamic or Middle Eastern in the responses to calamities considered in this book. Rather, they matched universal human reactions, whose roots go back to antiquity. Natural disasters, such as epidemics, famines, and earthquakes, appear in the Bible and are documented fairly reliably for the ancient Greek and Roman periods. From the late Roman and Byzantine eras, one finds more substantial historical evidence on the reactions of governments and individuals to natural disasters. Rulers dealt with subsistence crises by shipping grain to areas suffering from famine, reducing taxes in those regions, and granting other forms of relief. When famine in 333 CE left the people in Antioch and its vicinity in a state of starvation, Emperor Constantine donated large amounts of grain to churches in the region, which distributed it to the needy. Emperor Julian shipped grain to Rome during a famine in 361 and to Antioch a year later, for similar reasons. Julian also remitted taxes, distributed land to the populace to alleviate suffering, and reduced the number of his court members who received food rations. When famine again hit Rome in 575–9, Justin II shipped grain there from Egypt. His successor, Tiberius II, imported bread from Egypt to famine-stricken

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23 For example: Genesis, 12:10; Ruth, 1:1; 1 Samuel, 4:17.
24 Thucydides provided one of the earliest detailed descriptions of a natural disaster in his account of plague in Athens around 429 BCE during the Peloponnesian War (Thucydides, The History of the Peloponnesian War [New York: Oxford University Press, 1960], 117–23). For earthquakes, see Nicholas Ambraseys, Earthquakes in the Mediterranean and Middle East: A Multidisciplinary Study of Seismicity up to 1900 (Cambridge: Cambridge University Press, 2009), 91–2 (Rhodes, c. 227 CE), 151–6 (Crete, 365), and 184–9 (Antioch, 526).
Constantinople in 581–2.\textsuperscript{25} Centuries later the Ottomans would use similar methods to alleviate famine suffering.

The epidemic known as the Plague of Justinian deserves a little more attention. Starting in 541, it developed into a pandemic that continued intermittently for two centuries, into the 740s. This is the first plague epidemic for which we have substantial evidence. During the 540s and 550s, the plague hit regions from Egypt to Constantinople to Rome and was coupled by local incidents of famine. The sources suggest that the authorities, religious communities, and individuals responded in ways similar to those observed during earlier and later subsistence crises and epidemics. People with means fled the plague-infected areas, a practice clerics condoned. Others stayed, either because they could not afford to leave or because they had to take care of other people. Farmers, fearing infection, reportedly refused to enter cities to sell their merchandise. Religious communities organized prayers and processions and collected and distributed items, food, and money as charity, at least during the early stages of epidemic when they were still functioning. Byzantine rulers, for their part, managed the situation as best they could. Since the existing medical wisdom assumed a connection between the stench emitted by decaying bodies and the spread of the disease, the authorities mostly concentrated on proper daily burial of the dead. Justinian commanded a swift and orderly interment of plague victims shortly after the plague had reached Constantinople. Subsequent rulers did the same.\textsuperscript{26}

Responses on the communal and personal levels took on different forms. Eusebius of Caesarea (d. 339) witnessed a famine that entailed food scarcity, high prices, and multiple deaths of starvation. Epidemic followed famine, and even those who stocked up food could no longer be saved. Eusebius depicted a graphic scene of a dying city, as the moans of the sick mixed with the cries of the marching in funeral processions. The city filled with beggars, and bodies of the dead piled up in the streets, left for the dogs to eat.\textsuperscript{27} Gregory of Tours offered an equally gruesome description of a plague in Clermont, France, in 563, which wreaked enormous devastation. More than three hundred bodies were taken to one church on a Sunday, and as many as ten bodies were interred in one grave.

\textsuperscript{27} Paul Maier, \textit{Eusebius: The Church History} (Grand Rapids, MI: Kregel, 2007), 292–3.
Many, among them church people, fled the town. The plague of Clermont spread quickly to other cities, such as Lyons, Bourges, and Dijon, whose populations were likewise depleted. Gregory found similar responses to plague in Marseille in 588: There, too, many left their homes and others, including the bishop of the city, shut themselves up in a church and engaged in praying while watching people on the outside dying.

Migration, or temporary flight, was a common response to plagues and other disasters in the Byzantine period, as it would become in Ottoman times. Exodus was from rural to urban areas where food was presumably more abundant (in times of famine), or from one city to another and to open areas (during plague epidemics and disasters that rendered people’s houses uninhabitable: earthquakes, fires, floods). Not everyone had the means, physical ability, or desire to flee. For those who stayed there were other forms of reaction, mostly of a religious nature, such as mass public prayers and organized processions. The scarcity and rising prices of food also led to the selling of property, primarily farm animals: horses, sheep, pigs, and cattle. In some severe cases, people sold themselves or their children into slavery. Under especially harsh circumstances, people consumed what would in normal times be considered inedible, such as plants, wood, leather, earth, stones, and even human flesh.

Overall, Byzantine sources make it clear that natural disasters occasioned much confusion. Earthquakes and plague sent many to the churches to pray for divine help, including people who had not visited them before. Hiding in a church was no guarantee against death, but it helped in uniting communities and getting people closer to the faith. From the Antonine plague (165–85) on, nature was even said to have played a key role in the downfall of the Roman Empire and the rise of Christianity: As the state offered no solution to the displaced, especially the urban poor, the church moved to provide psychological relief that helped heal miseries and drew many within its fold. The rising attractiveness of the church was but one mark of the confusion typical of disaster times.

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29 Ibid., 218–19.
30 Stathakopoulos, Famine and Pestilence, 70–87.
Along with piousness, Byzantine authors noted that earthquakes “opened the market for apocalyptic scenarios, charlatans, and other prophets.”

Sometimes, rather than drawing people closer to the faith disasters did just the opposite. In sixth-century Constantinople, people often accused priests and monks of spreading the plague; in Thessaloniki (Salonica) some people distanced themselves from the church, as members of their household died while their pagan neighbors were not affected. The inability to explain plague and other catastrophes beyond a simple attribution to God prompted wide-ranging reactions, often unrelated to religious beliefs. Disasters thus cannot be assumed to have attracted society to one movement or religious idea.

Human reactions to natural disasters in late antiquity reflected the intricacies of people’s expectations from the state, their community, and each other in times of crisis, and perhaps in other times as well. It is into this reality that the Muslim polity emerged in the early seventh century. The ideals of conduct under life-threatening conditions that were molded during and after the Prophet Muhammad’s lifetime reflected a dialogue with existing traditions and practices. Muslims adopted some of them, while changing or reinventing others. Yet over time, as this book will show, responses to natural disasters depended little on religious injunctions or communal expectations.

THE HARSHNESS OF PLAGUE AND FAMINE

In the Ottoman period, the eastern Mediterranean continued to suffer from repeated natural disasters, such as epidemics, famines, droughts, earthquakes, floods, fires, and inclement weather in general. For much of the empire’s history there was hardly a decade without a natural calamity of some sort. Certain areas were especially susceptible and suffered from epidemics or food shortages in two to five year cycles. In the Ottoman Empire, as in India, China, and Japan, natural disasters formed an integral part of people’s lifetime experience. They occurred so frequently that one could not pass more than a few years without enduring a disaster of

34 Ibid., 18–19.
one kind or another. Most people lived through several grave disasters and saw great loss of life, property, and long-term income.\textsuperscript{16}

For the larger share of documented natural disasters in the Ottoman period we have little information beyond the fact that they occurred. By far the most recorded events — and hence those most discussed in this book — were epidemics, famines, earthquakes, and fires. One would perhaps assume a correlation between the severity of a disaster and the amount of documentation it elicited. As recent research has shown, however, such an assumption is problematic, because of a perceptive gap regarding the gravity of disasters: Sometimes the high frequency of calamitous events, including those that would nowadays appear as horrendous catastrophes, rendered them so routine to contemporaries that they did not merit particular attention or extensive documentation.\textsuperscript{37}

Natural disasters were hardly ever entirely natural. A human factor played at least a nominal, and sometimes significant, part in the outcome of almost every disaster. Fires were often the result of inadvertent or intentional human action; the corruption of government officials, merchants, and city notables, as well as piracy and looting of supply caravans, led to famines; and even the effects of epidemics and earthquakes could be exacerbated or attenuated by people’s acts. Sociologists and psychologists often employ the same terminology and methodology in discussing the behavioral results of man-made and natural calamities.\textsuperscript{38} Why, then, isolate disasters that had a natural cause? Why not discuss wars as well?

Natural events such as epidemics and earthquakes were phenomena that


\textsuperscript{37} See, for example, Mikhail, \textit{Nature and Empire}, 214–21.

Ottoman subjects could not explain. They therefore intrigued Ottoman urbanites far more than wars, dominated their marketplace and coffeehouse talks, and were reflected in numerous treatises and tracts that were written about them as a category in itself, and repeatedly reproduced. As with other matters beyond human comprehension, religious rationalization served as a default explanation for natural disasters. And, although they are hard to pinpoint, popular religious notions on how one should prepare for or respond to such acts of nature were certainly current in Ottoman cities. Since one objective of this study is to scrutinize the strength of religion and of communal expectations in Ottoman urban society, concentrating on this type of event seems worthwhile.

PLAGUE, FAMINE, AND OTHER DEVASTATIONS

Epidemics were the most documented natural disaster affecting Ottoman society. Smallpox, typhus, syphilis, and cholera were among the infectious diseases endemic to the eastern Mediterranean, but by far the most common before the 1830s was plague (\textit{ta’\textsuperscript{u}n}).\textsuperscript{39} In its three forms – bubonic, pneumonic, and septicemic (of the blood system) – plague is believed to have been responsible for major epidemics throughout human history, including the plague of Justinian (541–2). It is now well established that it was the disease associated with the Black Death of 1347–51.\textsuperscript{40}

\textsuperscript{39} A confusion in terms makes identifying epidemics as plague somewhat challenging: Two terms were used interchangeably in pre-Ottoman and Ottoman works: \textit{veba} (from the Arabic \textit{waba’}, or “epidemic”) and \textit{\textit{ta’\textsuperscript{u}n}} (“plague”). See Dols, \textit{Black Death}, 35; White, \textit{Climate}, 85–6.

To understand the occurrence and impact of plague in human history, a brief explanation of its biological background is necessary. Plague is caused by the bacterium *Yersinia pestis*. Its natural habitat is two types of rats: the house or black rat (*Rattus rattus*) and the Norwegian or brown rat (*Rattus norvegicus*). The disease is transmitted from rats to humans with the help of the rat flea (*Xenopsylla cheopis*). Ordinarily, rats live in symbiosis with fleas and other parasites, and a rat may host hundreds of them at any given time. The plague is initially spread within rat colonies, when rat fleas transmit it from one rat to another. Once rats begin to die, the fleas are forced to look for other hosts. Prior to the rapid industrialization of the nineteenth century – the paving of roads, banning of farm animals and businesses depending on them from city limits, and development of modern sewage systems – humans were in constant proximity to rats and an easy target for rat fleas. The latter would seek human hosts when rats began to die of the plague. *Yersinia pestis* enters the human lymphatic tract system when rat fleas carrying the bacteria bite. It is eventually drained to one of the lymph nodes, where the bacteria multiply and the area swells (hence the name *bubonic*, from *buboes* that form on the skin). Left untreated, plague in its bubonic form kills about 80 percent of the sick within three to five days of infection. The spread of bubonic plague was dependent on climate changes, as rat fleas reproduced effectively only within a range of temperatures (12 to 36.5°C) and as a critical mass of infected fleas was required to cause an epidemic among humans. Such data help explain why historically plague epidemics subsided at times, only to reemerge several months later. For example, average temperatures in mid-eighteenth century Aleppo dropped to about 3–4°C in December–January and reached 38°C in June–August, with the result that there were few plague cases in the city in the winters and summers. Moreover, recent work has shown that plague bacteria could survive for months in hydrated soil and then be transmitted to bur-

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rowing rodents, thus facilitating a new outbreak after an epidemic had already receded.\textsuperscript{46} For reasons that are not entirely clear, plague disappeared from Europe and most of the Ottoman Empire by the 1850s. Scientists and historians have suggested two possible explanations for this. First, in earlier times rats (like many other farm and domestic animals) were everywhere. Straw (used for roofing), grain, the backyards of public baths (where excrement and garbage were burned for heating water), and filthy places such as butcher’s shops and tanneries were especially appealing to them. They would thus frequent streets, courtyards, homes, carriages, and ships. Their presence on vessels and within cargo was the key to the spread of plague from one region to another. The second explanation is that plague did not need rats to infect humans. Rat fleas could survive for long periods without a host. They would cling to people’s woolen clothes, and since these were not washed often, fleas survived within the fibers of the wool for weeks, and traveled over great distances – a process known as metastatic leaps.\textsuperscript{47} These two facts – the proximity of rats to humans and the use of wool as the primary material for clothes – seem to explain why past societies saw so many plague epidemics. Once farm animals were banned from residential neighborhoods, concrete and asphalt were used to pave streets and keep rats underground, cotton replaced wool as the chief component of clothes, and waste and excrement were disposed of in orderly fashion, the occurrence of plague decreased considerably.\textsuperscript{48}

Famine was another misfortune that frequently hit Ottoman society. Not all sharp price rises or food shortages resulted in famine; quite possibly, some of the events Ottoman subjects or foreign observers described as famine were merely short-lived subsistence crises that did not entail widespread starvation, mortality, and the behaviors psychologists often associate with famine.\textsuperscript{49} It is nonetheless safe to assume that famine,

\textsuperscript{46} Michael Drancourt et al., “\textit{Yersinia pestis} as a telluric, human ectoparasite-borne organism,” \textit{Lancet Infectious Diseases} \textbf{6} (2006), 4:234–41.


\textsuperscript{49} These include consuming inedible materials, expressing violence, and denying food and assistance to relatives and friends (Derrick Jelliffe and Patrice Jelliffe, “The effects of
whether local and brief or large-scale and prolonged, was experienced by many Ottoman urbanites more than once in a lifetime.

Several factors contributed to the eruption of famine. The most obvious was the occurrence of another disaster, natural or man-made, that damaged crops, their ability to grow, or their normal flow to cities. Among these were extreme weather conditions (hot or cold), droughts, floods, plant diseases, military operations, and raids on caravans carrying grain or other supplies. Famine could also result from the corrupt tactics of wealthy individuals or state officials, who drove prices up artificially and thus impaired people’s ability to purchase food. Problems caused by such misfortunes were likely to be exacerbated by the underdevelopment of irrigation technology in the Ottoman Empire. Most of these factors characterized early or premodern societies in general, and today they remain typical of some developing regions of the world, where famine is still not a rare event.

Beyond local causes for epidemic or famine outbreaks in a given region, one should consider global factors that engendered simultaneous disasters in areas remote from each other. For example, during the decade of the 1640s, temperatures declined all across the Northern Hemisphere, as a result of decreased energy emission by the sun and some major volcanic eruptions in the Pacific, whose emitted substance deflected the sun’s rays back into space. There was abundant rainfall and snow in some areas, and drought in others, where cold temperatures and dry air stunted the growth of crops. Between 1640 and 1643, regions in Indonesia,
China, Egypt, North Africa, and Spain experienced the driest years ever recorded. In China and in France these harsh weather conditions coincided with a series of famines and epidemics that had started in 1635 and were aggravated by the drop in temperatures and droughts.\textsuperscript{53} The last decade of the seventeenth century was, again, a period of extremely cold weather throughout northern Europe, resulting in severe famine and epidemics.\textsuperscript{54} China experienced a similar hardship and so did most of the Ottoman Empire.\textsuperscript{55} In 1740–5, when the entire Fertile Crescent witnessed unusually cold weather, famine, and plague, parts of Europe and East Asia experienced similar misfortunes.\textsuperscript{56}

The lack of knowledge and technology for preventing or curtailing natural disasters contributed to the great toll they claimed prior to the twentieth century. People’s economic and physical ability to withstand hardships also determined the outcome of outbreaks. With epidemics, famines, earthquakes, or fires occurring so frequently, the number of victims often increased from one event to the next. Hit by one disaster, families lost their source of livelihood or homes, or succumbed to prolonged diseases. When another catastrophe struck shortly thereafter, the already enfeebled victims were less able to endure it. In his study of the Great Famine that devastated Europe in 1315–22, William Jordan has suggested that the high mortality rate of the Black Death at midcentury “did owe something to the famine.” He noted that if food intake is severely inhibited at a young age, the immune system does not develop properly, and recovery from prolonged starvation can never be complete. Thus, those who survived the Great Famine as children were particularly disposed to contracting the plague three decades later, as adults.\textsuperscript{57} Similarly, children born during the 1958–62 Great Leap Forward famine in China and suffering from prebirth or infant malnutrition experienced increased mortality rates from various diseases at about forty years of age.\textsuperscript{58}


\textsuperscript{55} Li, \textit{Fighting Famine}, 31; White, \textit{Climate}, 220–2.


Introduction

can be little doubt that disasters had such enduring consequences for Ottoman societies as well.

BOOK STRUCTURE

The book is divided into five chapters. In Chapter 1 I ask why the Black Death (1346–53), a watershed in Europe’s history (marking the end of the Middle Ages, according to some historians), was not followed by significant upheavals in the Middle East, at least not until the sixteenth century; this, despite the pandemic’s hitting both regions, and the eastern Mediterranean basin’s suffering as much as Western Europe. I attribute the difference to two main factors: an identity and leadership crisis in the church, and the many wars that ravaged Europe throughout the thirteenth and fourteenth centuries, which produced more epidemics and famines. Anatolia was the one scene in the Middle East of a major transformation, however, as the Black Death facilitated the rise of the Ottomans and hastened the fall of Byzantium. Tracing early Ottoman advances shows that they made most of their gains and posed a serious challenge to the Byzantine state only after the Black Death. The rise of the Ottomans was of essential import for the region, as it introduced a new social and political order, one of tolerance and acceptance, which would affect the way the Ottomans governed their subjects, Muslims and non-Muslims.

Chapter 2 looks at the Ottoman state’s reactions to natural disasters. I first trace some changes that had taken place in the responses from the sixteenth to the eighteenth centuries. I then examine evidence relating to one specific case study of postearthquake reconstruction from mid-eighteenth century Damascus. I argue that state resources were not allocated along religious parameters and that there was no prioritizing of Muslims over non-Muslims. Rather, other factors dictated Ottoman priorities, including a concern for privacy and the prestige of Ottoman sultans. This would suggest, more broadly, that the role of religion in defining the status of Ottoman subjects was more limited than we have usually assumed. Not quite the primary divider in Ottoman society, religious faith was one of many factors that shaped people’s socioeconomic status and day-to-day realities.

In Chapter 3, I explore communal responses to disasters, relying mostly on the example of Jewish and Christian communities in Syria. I first discuss the role of the religious community in the lives of Ottoman urbanites, showing that there were alternative forums to it and arguing that the model of religious autonomy should be applied cautiously. In one
area, however, the religious community had a near-complete monopoly: the collection and dispensation of charity. Giving rarely crossed confessional lines, and this had major implications for communal disaster relief, which relied mostly on charity money. When funds ran out, communities stopped serving as relief agencies, and people were on their own.

Chapter 4 reconstructs personal experiences of and reactions to disasters. It examines a variety of evidence from the pre-Ottoman and Ottoman periods to challenge the still-prevalent assumption that people responded to life-threatening situations according to their religious identity. Instead, one should consider a number of factors that affected their conduct, such as economic considerations, subjective perception of information, and sociological and biological factors. Research in the interdisciplinary field of disaster studies conducted in the last fifty years has pointed to a weak link between religious and group expectations, on one hand, and people’s behaviors, on the other, under life-threatening circumstances. Studies have shown that interpersonal ties better explain responses to disasters. Through combining the findings of social scientists with historical evidence, I show that such psychological explanations are valid for Ottoman society as well.

Finally, in Chapter 5, I look at the period from the early nineteenth century to the fall of the empire, and examine developments that took place in the realm of disaster prevention and relief and their place in the greater picture of Ottoman reforms. Focusing primarily on several case studies, such as the 1855 Bursa earthquake and the 1890s cholera epidemic in Istanbul and its environs, I maintain that the empire’s refusal to embrace new methods of disaster prevention and control that had once proven effective in Europe, and the belated adoption of bacteriology and modern ideas of city planning, largely contributed to the collapse of the empire – a factor historians have hitherto overlooked.