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PhD Candidate
Mohammad HOSSAIN
Ibn Haldun University, School of Graduate Studies, Department of History.
mohammad.hossain@stu.ihu.edu.tr
ORCID: https://orcid.org/0000-0001-7529-3387

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Understanding Disease and Health in a Eurasian Context: Early Cholera Pandemics in the Ottoman Empire (1817-1860)

Avrasya Bağlamında Hastalık ve Sağlığı Anlamak: Osmanlı İmparatorluğu'nda Erken Kolera Pandemileri (1817–1860)

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Abstract

Environmental history is an emerging field within the history discipline that helps in looking at historical change and continuity of human societies in relation with nature. As a tool of enquiry that is able to transcend nation-state borders, national histories and politically framed historical timelines, it is also helpful in the study of vast expanses of land, both temporally and spatially. Throughout various periods, epidemics have significantly impacted human populations, altering demographic patterns and contributing to the rise and fall of civilizations, among them the bubonic plague, better known as the Black Death, in the 14th century, and the six cholera pandemics of the 19th century. With this backdrop in mind, this paper will focus on two aspects, how to imagine disease as an important aspect of Ottoman history, as well as look at the case study of early cholera pandemics, especially the first cholera pandemic (1817-24), second cholera pandemic (1826-1837), and third cholera pandemic (1846-1860). Through this paper, aspects of the interplay between diseases, human populations, and societal structures of the early nineteenth century will be explored in order to understand the role that geography and communication networks determined how Eurasian societies like in the Ottoman empire dealt with public health challenges amidst a global pandemic.

Keywords: Environmental history, cholera, Eurasia, nineteenth century

Öz

Çevre tarihi, tarih disiplininin içinde gelişmekte olan bir alandır; insan toplumlarının doğayla ilişkisi bağlamında tarihsel değişim ve sürekliliği incelemeye yardımcı olur. Ulus-devlet sınırlarını, millî tarih anlatılarını ve siyasî olarak çerçevelenmiş tarihsel zaman çizelgelerini aşabilen bir araştırma aracı olarak, hem zamansal hem de mekânsal açıdan geniş toprak alanlarının incelenmesinde de yararlıdır. Tarih boyunca salgın hastalıklar insan nüfuslarını derinden etkilemiş, demografik yapıları değiştirmiş ve medeniyetlerin yükselişine ve çöküşüne katkıda bulunmuştur. Bunlar arasında, 14. yüzyıldaki Kara Ölüm olarak da bilinen hıyarcıklı veba ile 19. yüzyılda yaşanan altı kolera pandemisi sayılabilir. Bu arka plan çerçevesinde, bu makale iki noktaya odaklanacaktır: Hastalığı Osmanlı tarihinin önemli bir unsuru olarak nasıl hayal edebileceğimiz ve erken kolera pandemileri —özellikle birinci (1817–1824), ikinci (1826–1837) ve üçüncü (1846–1860) kolera pandemileri— üzerine bir vaka incelemesi sunmak. Bu makale aracılığıyla, 19. yüzyılın başlarında hastalıklar, insan toplulukları ve toplumsal yapılar arasındaki etkileşim incelenecek; böylece coğrafyanın ve iletişim ağlarının Avrasya toplumlarının —özellikle Osmanlı İmparatorluğu'nun— küresel bir salgın karşısında halk sağlığı sorunlarıyla nasıl başa çıktığını belirlemedeki rolü anlaşılmaya çalışılacaktır.

Anahtar Kelimeler: Çevre tarihi, kolera, Avrasya, on dokuzuncu yüzyıl

1. Introduction

The Ottoman empire can be identified as among the major empires of Eurasia in the 19th century, alongside the Russian, Persian and Chinese empires. While Eurasia is a large single super-landmass within the Eurasian geological belt, the commonality amongst the vastly divergent peoples, cultures, and climes ends there. Eurasian geography has every kind of climate under the Köppen classification, including the harshest types of hot and cold temperatures, high and low precipitation, and various types of ecosystems, courtesy of its vast size and differences in latitude.[1] While this difference would suggest that it is rather unwise to study the Ottoman empire as an Eurasian entity, one can argue that geographical connectivity and spread of networks of trade and migrations across this vast land belt in fact makes the idea of the Ottoman empire as an Eurasian empire very appealing to study in disease history, which depends on a mix of global and environmental history, among others.

1.1. Eurasia in global and environmental history

Global history is a way of the study of the past that looks at both comparative and connected history – understanding and comparing events in one place through examining their similarities with events elsewhere, as well as seeking out narratives through connecting temporally and geographically separate communities. For long, global historians have been struggling to get out of historic narratives that are Europe-centred or Eurocentric, focusing instead on narratives of interdependence and global connections. Thus new directions in the global history of empire have focused on wider comparative perspectives and a longer chronology that decentres Europe. However, in a way, as one scholar argues, this only seems to have changed earlier 'Eurocentric' narratives of a dynamic Europe and stagnant Asia into some form of 'Eurasian-centric' narratives that document how this rise of Europe from the early modern era 1500s came at the expense of Asian societies and states which were exploited by European colonial powers, better known as the 'divergence' debate.[2] Such narratives, while welcome, seem to have only entrenched the earlier ideas of European superiority.

On the other hand, there is environmental history, the study of changes in human societies over time in relation to the environment, whether it be through the study of how human actions affect nature, how the environment impacts human societies, or how human beings think and conceptualize about nature and the environment.[3] The highly varied geography of Eurasia, ranging from deltaic river systems, large water bodies such as the Caspian Sea and Black Sea, rocky terrain and mountain ranges, deserts, the steppe plains, and forests to low-lying fertile plains are all sure to make for interesting points of study for ecologists and environmental historians. McNeill notes that the Eurasian steppe belt from Southern Ukraine to Mongolia is among the most striking features in the region, providing a home for mobile pastoralists living off herds of cattle, sheep, goats and horses for several millennia. This, combined with the fact that urban centres with farming populations literally lived side-by-side with the herders and pastoralists for millennia, makes the

1 *Wikipedia*, 'Eurasia', 10 April 2024, https://en.wikipedia.org/w/index.php?title=Eurasia&oldid=1218216024.

2 Maxine Berg, ed., *Writing the History of the Global: Challenges for the Twenty-First Century*, 1st edn (British Academy, 2013), 5, https://doi.org/10.5871/bacad/9780197265321.001.0001.

3 J. Donald Hughes, *What Is Environmental History?* (Polity, 2006), 3.

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region unique and different from other regions in history – one does not witness the huge steppe empires, or large scale Turkic nomadic migrations on such an expansive latitudinal basis elsewhere in history.[4]

While one obvious side effect to doing environmental history research is the sure-fire discovery of environmental declensionism, or the idea that human actions have led and will continue to lead to the degradation of the immediate environment, environmental history today has come a long way from being limited to just studies of environmentalism, instead helping historians look at various ways in which the environment shapes human history, as well as vice-versa.[5] This shift in scholarship has been more pronounced in studies in nineteenth century societies in the US and Europe, where deforestation and mining have been more pronounced in light of the Industrial Revolution. The geographies of Eurasia, on the other hand, including vast expanses of Russia and parts of the MENA region, have been lesser studied by environmental historians, more as a result of lack of access to archives in local languages, and thus hold promise for future forays.[6] In light of the above discussion, a more comparative regional focus could make matters more interesting for both global history, and environmental history as a corollary of that global history. Going beyond the grand narratives of the 'divergence' theory, if one were to look at varying economic and ecological contexts in Eurasia, such as the various regions within the Ottoman empire, Safavid Iran, or Ming China, instead of the old notion of a dynamic Europe and stagnant Asia, the narratives could spell out different paths of economic, technological or ecological change.[7]

While the Ottoman empire was not the sole victim of the various plague and cholera visitations during the nineteenth century, which saw Eurasian societies hit hard by the various epidemics, the author's area of historical focus and linguistic limitations in accessing data means that only the Ottoman empire will be focused in greater detail through the rest of the paper, although focus will also be given to other regions/empires of Eurasia while discussing the case study of the three cholera epidemics in the early nineteenth century. In line with the above, the next section of the paper will focus on understanding disease as an aspect of the environment that impacted the Ottoman empire as part of Eurasia. It will focus on how to see global phenomena such as disease in the local setting, and measure responses to disease – a local response to a global phenomenon.

2. Ottoman Disease history in nineteenth century as both Environmental and Global History

In general, the history of disease today is associated with a number of fields – among them the history of medicine as a branch of the history of science, social history, and environmental history. This is more or less the case regarding the study of disease in the Ottoman empire and the Republican era as well. Till recently, disease history was exclusively the focus of history of medicine specialists, most of whom were medical doctors or medical historians. The focus was generally on the modernization and scientific progress which enabled modernizing nations to

4 J.R. McNeill, 'The Eccentricity of the Middle East and North Africa's Environmental History', in *Water on Sand: Environmental Histories of the Middle East and North Africa*, ed. Alan Mikhail (Oxford University Press, 2012), 33–37.

5 Hughes, *What Is Environmental History?*, 97–100.

6 J.R. McNeill, 'The State of the Field of Environmental History', *Annual Review of Environment and Resources* 35, no. 1 (2010): 22, https://doi.org/10.1146/annurev-environ-040609-105431.

7 Berg, *Writing the History of the Global*, 15.

gradually conquer disease. In Republican era Turkey, this took the form of establishing the Turkish legacy in medical history, including the development of a seemingly continuous chronology distinct from both medieval Arab Islamic and Western medicine, as seen in the works of founders of Turkish medical history. This, as indicated by Rüya Kılıç, must also be understood in the context of a response to Western Orientalist framings of the 'barbaric Turk' who did not contribute to the furthering of Islamic civilization.[8] Examples of such works include - Süheyl Ünver's (1898-1986) *Türk Tıp Tarihi Kronolojisi* (1937), which sought to establish an unbroken Islamo-Turkish chronolgy of medicine from the 8th century till the 20th century, and Osman Şevki's (1889-1964) *Beşbuçuk Asırlık Türk Tabâbeti Tarihi* (1925), which sought to establish Turk medicine as being the successor of Arab, Persian and Greek medicine, distinguish it as secular alternative to Byzantine religious medicine, and separate it from shamanic or magic ritualistic practices.

In terms of content, these works, and works by their successors such as Bedi Şehsuvaroğlu, and later scholars such as Arslan Terzioğlu, have tended to focus on biographies of Ottoman physicians, diseases histories, and development of health institutions in a West-centric progressive and positivist manner, which largely focuses on stories of scientific- medical successes and achievements of great medical personalities such as *hekims* or doctors. According to Rhoads Murphey, such studies often suffer from two drawbacks – anachronistically placing the arrival of modern medical practices to the last decade of the nineteenth century, and the belief in a false dichotomy between modern progressive medicine versus folk medicine and superstition.[9] Moreover, many of the scholars of this camp uphold the notion of Ottoman decline, which is necessary in order to make way for the narrative of Ottoman acceptance of European superiority and progress in science and medicine through the long nineteenth century. A sustained refutance of the Ottoman decline thesis by many respected Ottoman historians over the past several decades, particularly in the realms of history of science and military history, has enabled a new generation of scholars, mainly historians, to bring forward more balanced narratives. In this regard, they have benefited from emerging concepts in disciplines such as sociology, anthropology, ecology and history, making them interested in new research topics, namely the social, material, political, environmental and cultural factors affecting medicine and understandings of disease.

As an example, Miri Shefer-Mossensohn is well known for her work on early modern Ottoman social medicine, in which she attempts to deal with how people in the early modern Ottoman Middle East struggled with disease as patients, physicians, and health administrators. The author's approach to the subject is that medicine is a human experience and therefore has a deep place in society and culture. Here, medicine is presented as socially and culturally constructed and organized responses of individuals, social networks, and professional communities to illness and health, instead of just an ahistorical clinical practice.[10] Other recent examples of work on the social history of medicine include Fatih Artvinli on madness, and Gulhan Balsoy on women's health, and

8 Rüya Kiliç, 'Türk Tip Tarih Yazimi Üzerine: (Literatür-Problem-Yaklaşim)', n.d., https://www.academia.edu/29779636/T%C3%9CRK_TIP_TAR%C4%B0H_YAZIMI_%C3%9CZER%C4%B0NE_L%C4%B0TERAT%C3%9CR_PROBLEM_YAKLA%C5%9EIM.

9 Rhoads Murphey, 'Ottoman Medicine and Transculturalism from the Sixteenth Through the Eighteenth Century', *Bulletin of the History of Medicine* 66, no. 3 (1992): 378–79.

10 Miri Shefer-Mossensohn, *Ottoman Medicine: Healing and Medical Institutions, 1500 - 1700*, Middle Eastern Studies History (SUNY Press, 2009).

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Ilikan Rasimoglu on the workings of charity organizations, all in the late Ottoman empire.[11]

In connection with the above, the topic of disease in history has also gained importance in studies on the environmental history of the region, since the impact of disease is considered an example of environmental influence in human societies. Conversely, human activities are also thought to impact the environment in ways that might increase the incidence of that disease, or cause its rapid transmission.[12] Ottoman historians have also been grappling with the incidence of disease and epidemics as an environmental influence, focusing on both the incidence of disease, and responses to the incidence of disease from the side of the state and society.[13]

A lot of the disease history pertaining to the Ottoman empire is about bubonic plague, generally referred to in Ottoman documents as *taun* or *veba*. Bubonic plague, the disease associated with the 14th century "Black Death," is a highly infectious and often fatal bacterial infection caused by the bacterium *Yersinia pestis*. It is primarily transmitted through the bite of infected fleas, which commonly infest rodents such as rats. Humans can also contract the disease through direct contact with infected tissues or bodily fluids. Having prevailed in the region long before the establishment of Ottoman empire, it was responsible for mass deaths from Byzantium times to the *Tanzimat* era, and had a major impact on trade, commerce and demographics in the region throughout the early modern era.[14] Plague is also the reason behind how quarantine measures came about to be the staple response by Ottoman authorities to all manner of epidemics, even into much of the nineteenth century.[15] An interesting corollary in this regard is how historiography of the Ottoman Middle East from the late 1970s until the early 1990s envisioned a steady mortality from inevitable cycles of bubonic plague supposedly accepted with pious resignation by Ottoman Muslims. Sam White, while trying to problematize such claims, employs environmental history methodology and attempts to factor in changing political, social, and environmental conditions—particularly Little Ice Age temperature changes and population movements in the 17th century as having had a significant impact on disease mortality and Ottoman demography.[16]

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11 Fatih Artvinli, *Delilik, Siyaset ve Toplum: Toptaşı Bimarhanesi (1873-1927)* (Boğaziçi Üniversitesi Yayınevi, 2013); Gülhan Balsoy, 'Haseki Women's Hospital and the Female Destitute of Nineteenth-Century Istanbul', *Middle Eastern Studies* 55, no. 3 (2019): 289–300, https://doi.org/10.1080/00263206.2018.1520099; Ceren Gülser Ilikan Rasimoğlu, 'Filles de La Charité, on Dokuzuncu Yüzyıl Osmanlı İmparatorluğu'nda Hayırseverlik ve Sağlık' (PhD, Istanbul University, 2019).

12 Hughes, *What Is Environmental History?*, 5.

13 Nukhet Varlik, *Plague and Empire in the Early Modern Mediterranean World: The Ottoman Experience, 1347-1600*, First paperback edition (Cambridge University Press, 2017); Birsen Bulmuş, *Plague, Quarantines, and Geopolitics in the Ottoman Empire* (Edinburgh University Press, 2012).

14 Varlik, *Plague and Empire in the Early Modern Mediterranean World*.

15 Daniel Panzac, *La peste dans l'Empire ottoman: 1700 - 1850*, Collection Turcica 5 (Éd. Peeters, 1985); Bulmuş, *Plague, Quarantines, and Geopolitics in the Ottoman Empire*.

16 Sam White, 'Rethinking Disease in Ottoman History', *International Journal of Middle East Studies* 42, no. 4 (2010): 549–67.this article calls for a revision of the usual paradigm of disease in Ottoman history by applying a more interdisciplinary approach and new insights from environmental history. The historiography of disease in the Middle East developed from the late 1970s to the early 1990s envisioned a steady mortality from inevitable cycles of bubonic plague supposedly accepted with pious resignation by Ottoman Muslims. Focusing on the period from circa 1500 to 1800, the article advances three arguments. First, Ottoman Muslims sometimes did take action to escape or contain epidemics. Second, the region actually suffered from a variety of other infections that together had an equal or greater impact than bubonic plague. Third, shifting political, social, and environmental conditions—especially Little Ice

Among other major epidemic diseases affecting the Ottoman lands during the nineteenth century, tuberculosis (*verem* or *ince hastalık*) deserves some discussion. A contagious bacterial disease that spreads through air and affects the lungs, the disease was responsible for a high rate of mortality among young and middle-aged adults throughout the nineteenth century. As such, it was a major public health concern in the 18th and 19th centuries in Europe and North America, attaining labels like the *Great White Plague* and *White Death*, due to extreme anemic palor of affected patients. If cholera was the poor man's disease, tuberculosis had a penchant of affecting more well-to-do members of the society. In the Ottoman empire, alongside the general populace, many members of the royal household were also inflicted with the disease; in fact it is reported that Sultan Abdülmecid died of tuberculosis, and that nine of the eighteen women of his household had the disease, which included the mothers of successive sultans such as Abdülhamid II and Vahideddin.[17] This is perhaps why a sultan such as Abdülhamid II, whose father and mother had both died from tuberculosis, tried to closely follow developments surrounding European efforts to tackle disease through his head physician, helping to usher in the building of sanatoriums during his rule.[18]

A defining feature of the long nineteenth century was increasing global connection, ushering in a global modernity where developments in one part of the globe often spread very quickly to others through faster means of travel and communication. While this meant a faster flow of goods, men, and ideas, it also meant the quick spread of communicable diseases, mainly cholera. The nineteenth century, which saw rapid and unplanned urbanization, often accompanied by a lack of sanitization, witnessed the unprecedented spread of cholera in the form of a protracted global pandemic, resulting in the deaths of hundreds of thousands of people worldwide. The global spread of the disease would not have been possible without the advent of steamships in the early part of the nineteenth century, which enabled the disease to quickly spread through Indian Ocean trade and pilgrimage routes, and eventually hit cities and their populations ranging from the easternmost stretches of Asia to all over Europe, and the Americas. The impact of cholera in the Ottoman empire has been the subject of many studies, from several angles, and will be discussed in brief below, keeping in mind the previous body of literature on disease in general.

There are very few general studies focused on the disease of cholera by historians in the Ottoman empire. Mesut Ayar's book length treatment of the incidence of cholera in the Ottoman

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Age climate fluctuations and population movements during the 17th century—played a major role in disease mortality and Ottoman demography.","container-title":"International Journal of Middle East Studies","ISSN":"0020-7438, 1471-6380","issue":"4","journalAbbreviation":"Int. J. Middle East Stud.","language":"en","page":"549-567","source":"DOI.org (Crossref Sam White's idea there is still some truth to the claim of pious resignation amongst the Ottoman populace in turn is criticised by Nukhet Varlik, who in her work on the Ottoman experience of the plague, combats this notion by contending that notions such as "blessed plague (*mübarek ta'un*)" are more allegorical than religious, and are indicative of the Persianate literary expressions that aim to convey the terrible effects of the plague on the lives of the people, and not fatalistic religious dogma. See Varlik, *Plague and Empire in the Early Modern Mediterranean World*, 221.

17 Nuran Yildirim, *A History of Healthcare in Istanbul: Health Organizations, Epidemics, Infections and Disease Control, Preventive Health Institutions, Hospitals, Medical Education*, 1st ed, Istanbul 2010 European Capital of Culture Agency and Istanbul University Project, no. 55-10 (İstanbul Üniversitesi : Istanbul 2010 European Capital of Culture, 2010), 98.

18 Yildirim, *A History of Healthcare in Istanbul*, 99.

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empire mainly focuses on the cholera pandemic in Istanbul in 1892-95, although it also provides relevant statistics for different provinces of the empire at the time, alongside a general view of government measures taken to combat the disease.[19] A more concise entry on cholera can be found in historian Nuran Yıldırım's highly engaging medical history compilation *İstanbul'un Sağlık Tarihi* (2010), which deals with a general history of cholera in the Ottoman empire up to the El-Tor cholera outbreak in modern Turkey, as well as details the government institutions and policies in dealing with the disease.[20] While Ayar's study is more focused on the fifth cholera epidemic, especially between 1892-5, another study deals specifically with a cholera outbreak in Istanbul in 1848.[21]

In the absence of cholera vaccines or effective treatments, preventive measures were the main choice of action for successive Ottoman governments, mainly through the setting up of quarantine centres in large cities, and focusing on quarantine of pilgrims coming for the Haj pilgrimage. The most well-known study in this regard is by Gülden Sarıyıldız, whose thorough and well-researched work on the Hejaz Quarantine Organization and its activities serves as a primary source for many a thesis done on quarantines in the Ottoman Hejaz.[22] A taste of the geopolitics surrounding Ottoman quarantine measures can be viewed in Birsen Bulmuş's work, which sets the ground for understanding how Ottomans constructed their anti-plague administration from the beginning of the nineteenth century, including a more down-to-earth analysis of how sometimes they were also far from effective in containing outbreaks. Her work also deals with the internationalization of quarantine measures in the Hejaz due to the keen interest of Europeans to prevent the spread of the disease into Europe, and the power struggles that this interest generated between the Ottomans and the various European powers. The fact that the author also focuses a lot on the late nineteenth century makes it very relevant to studies on cholera epidemics and Ottoman responses to it as well.[23] Additionally, in connection with Ottoman quarantine measures, many scholars have also focused on the 1866 sanitary conference held in Istanbul, which detailed international efforts to strengthen quarantine measures in the Ottoman empire in line with similar colonial era British efforts in India.[24]

Another corollary in the study of epidemic disease is to focus on the health institutions that were built in the nineteenth century, largely as a response to the threat of cholera. Notable health institutions peculiar to the nineteenth century included the gureba hospitals[25] in various

19 Mesut Ayar, *Osmanlı Devletinde Kolera: İstanbul Örneği (1892-1895)*, Kitabevi 326 (Kitabevi, 2007).

20 Nuran Yildirim, *İstanbul'un Sağlık Tarihi* (Istanbul University Press, 2010), 73–93, https://doi.org/10.26650/AB/AA8.2022.141.

21 Marie Pierre Verrollot, *İstanbul'da Kolera: 1848 salgını üzerine bir inceleme*, 1. basım, trans. Özgür Yilmaz, Libra kitap Kültür incelemeleri, 324 303 (Libra Kitab, 2019).

22 Gülden Sarıyıldız, *Hicaz Karantina Teşkilâtı, 1865-1914*, Türk Tarih Kurumu Yayınları. VII. Dizi, sa. 145 (Türk Tarih Kurumu Basımevi, 1996).

23 Bulmuş, *Plague, Quarantines, and Geopolitics in the Ottoman Empire*.

24 Valeska Huber, 'THE UNIFICATION OF THE GLOBE BY DISEASE? THE INTERNATIONAL SANITARY CONFERENCES ON CHOLERA, 1851–1894', *The Historical Journal* 49, no. 2 (2006): 453–76, https://doi.org/10.1017/S0018246X06005280; Orhan Koloğlu, 'Osmanlı Basınında 1865 Kolera Salgını İstanbul Sağlık Konferansı ve Mirza Malkom Han', *Osmanlı Bilimi Araştırmaları* 6, no. 2 (2005): 2.

25 Miri Shefer-Mossensohn, 'Old Patterns, New Meaning: The 1845 Hospital of Bezm-i Alem in Istanbul', *DYNAMIS. Acta Hisp. Med. Sci. Hist. Illus.* 25 (2005): 329–50; Miri Shefer-Mossensohn, 'Charity and Hospitality: Hospitals in the Ottoman Empire in the Early Modern Period', in *Poverty and Charity in*

parts of the Ottoman empire, which were similar to the municipal hospitals[26] run by the Indian Medical service in British India, both having emerged roughly at the same time in the 1850's at the cusp of the fourth cholera pandemic. The Bezm-i-Alem Valide Sultan Vakif Gureba hospital in Istanbul, constructed in 1845, was followed by the construction of several similar institutions in Mecca, Izmir, and other cities. While there are general entries on some of these institutions in Nuran Yildirim's *İstanbul'un Sağlık Tarihi*, there are several works dedicated to single institutions, usually focusing on their growth and expansion over time, in tandem with scientific progress and development in the transition from empire to nation.[27]

On the question of how cholera impacted notions of empire in the nineteenth century, there have been just a handful of studies that meaningfully examine how a global disease such as cholera impacted geopolitics on the one hand, and identity formation within a state/region on the other. In terms of geopolitics, several studies revolving round the geopolitics of the Haj pilgrimage and the Indian Ocean World have attempted to capture the interplay of power politics between the great powers in the nineteenth century.[28] Within the Ottoman empire, there are also studies looking at how the Ottomans attempted to exert their authority and control through preventive and remedial measures, especially in the periphery regions of the Ottoman empire.[29] In this light, it is possible to flesh out how rivalries between the Ottomans and the Safavids played out in the context of spread of disease. The emergence of cholera was a major factor in influencing Ottoman responses to Iranians bringing corpses for burial in holy Shi`i sites in Ottoman Iraq, bringing to the fore questions of sovereignty, frontiers, commerce, and sanitation, and becoming a point of major contention between the Ottomans and the Safavid empire.[30]

3. Cholera epidemics in the early nineteenth century (1817-1860)

Cholera is among a group of water-borne communicable diseases, caused by *Vibrio cholerae* bacteria, and is often characterized by sudden onset of watery diarrhea, which can lead to

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Middle Eastern Contexts, ed. Micheal Bonner et al., SUNY Series in the Social and Economic History of the Middle East (State University of New York Press, 2003), https://cris.tau.ac.il/en/publications/charity-and-hospitality-hospitals-in-the-ottoman-empire-in-the-ea.

26 Sharif Uddin Ahmed, *Mitford Hospital and Dhaka Medical School – History and Heritage, 1858-1947 (in Bengali)* (Academic Press and Publishers Limited, 2007); W.R. Edwards, 'Report on the Working of Hospitals and Dispensaries under the Government of Bengal for the Year 1914', Bengal Secretariat Book Depot, Calcutta, 1915, Internet Archive, https://archive.org/details/b31831667/mode/2up.

27 Nuran Yildirim, *Bezmiâlem Vakıf Gureba Hastanesi'nden İlk Sağlık Üniversitesi'ne*, 11 May 2018, https://hdl.handle.net/20.500.12645/1761; Kenan Göçer, *Bezmialem Vakıf Gureba Hastanesi*, 1st edition (Okur Akademi, 2018); Kazım Gürkan, *Gureba Hastanesi Tarihçesi* (Istanbul University Press, 1944), https://doi.org/10.26650/AB/AA8.2022.104.

28 Michael Christopher Low, 'Empire and the Hajj: Pilgrims, Plagues, and Pan-Islam under British Surveillance, 1865-1908', *International Journal of Middle East Studies* 40, no. 2 (2008): 269–90, JSTOR; Bulmuş, *Plague, Quarantines, and Geopolitics in the Ottoman Empire*; Sarıyıldız, *Hicaz Karantina Teşkilâtı, 1865-1914*.

29 Isacar A. Bolaños, 'The Ottomans during the Global Crises of Cholera and Plague: The View From Iraq and the Gulf', *International Journal of Middle East Studies* 51, no. 4 (2019): 603–20, https://doi.org/10.1017/S0020743819000667.

30 Sabri Ateş, 'Bones of Contention: Corpse Traffic and Ottoman-Iranian Rivalry in Nineteenth-Century Iraq', *Comparative Studies of South Asia, Africa and the Middle East* 30, no. 3 (2010): 512–32, https://doi.org/10.1215/1089201U-2010-031.

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dehydration and, if not promptly treated, can be fatal. While today it is a highly treatable disease, in the nineteenth century the disease was associated with a quick and seemingly painful death, often within hours to a few days after symptoms first showed up – passing of rice-water stool, severe vomiting and ensuing dehydration, shock and organ failure, and finally cardiac arrest. Cholera is typically spread through the fecal-oral route, often due to the consumption of contaminated water or food. Contaminated water sources and poor sanitation act as significant contributors to the spread of this disease.

A quintessential epidemic disease of the nineteenth century, cholera is associated with seven known pandemics in the nineteenth and twentieth centuries. Five of these pandemics occurred in the nineteenth century (First cholera pandemic between 1817-1824, Second cholera pandemic between 1829-1851, Third cholera pandemic between 1852-1860, Fourth cholera pandemic between 1863-1875, Fifth cholera pandemic between 1881-1896), and two in the twentieth century (Sixth cholera pandemic between 1899-1923, and seventh cholera pandemic ongoing since 1961).[31] The origin point of the earlier waves of cholera pandemics is thought to be the Ganges Delta in India, where the environment is a natural habitat for the *Vibrio cholerae* bacteria. With the onset of rapid urbanization and faster modes of transport such as the steamship, transit times through the Indian Ocean were cut from months to weeks, which allowed the disease to rapidly spread through both land and sea-based trade and pilgrimage routes in the nineteenth century. The first couple of epidemics created new origin points and environmental 'reservoirs' of cholera in Asia, Europe and the Americas, from where the disease would start spreading at the head of every decade or so, triggering consecutive pandemic waves.

The first pandemic, with origins in the Ganges Delta from Bengal in 1817, was a truly Eurasian pandemic. It affected parts of the Ottoman lands in Basra and Baghdad in 1822 and 1823, and extended upto Astrakhan in Russia, where the cholera epidemic caused 200 deaths. It also spread eastwards, severely affecting Java in the Malay peninsula and coastal China in 1821, and reaching as far as Japan in 1822.[32] This first pandemic is the least studied among all the cholera pandemics, mainly since it so few contemporary observers were able to identify or diagnose it. Another aspect to this pandemic was the high exaggeration of the death toll by contemporary observers, Moreau de Jonnès (1831) put the death toll at about 18 million, while others claimed it was as high as 50 million, although there is a lack of evidence in this regard.[33]

The second pandemic began in 1827 from Bengal, and began to spread quickly, affecting Moscow in Russia by 1830, and major European cities such as Berlin, Vienna and the British Isles by 1831. Oceanic traffic across the Atlantic spread cholera into major cities such as New York in North America by 1832, and by 1833, the epidemic spread into parts of Latin America, as well as the previously unaffected Iberian Peninsula.[34] Surprisingly, although Java in South-east Asia was affected in 1834-35, East Asia was spared the onset of cholera epidemics in the 1830's - 40's,

31 Tom Koch, *Disease Maps: Epidemics on the Ground* (The University of Chicago Press, 2011); Tom Koch, *Cartographies of Disease: Maps, Mapping, and Medicine*, New expanded edition (Esri Press, 2017).

32 Joseph P. Byrne and J. N. Hays, 'First Cholera Pandemic, 1817-1824', in *Epidemics and Pandemics: From Ancient Plagues to Modern-Day Threats* (ABC-CLIO, LLC, 2021), 2:151–52.

33 Byrne and Hays, 'First Cholera Pandemic, 1817-1824', 155.

34 Joseph P. Byrne and J. N. Hays, 'Second Cholera Pandemic, 1827-1835', in *Epidemics and Pandemics: From Ancient Plagues to Modern-Day Threats* (ABC-CLIO, LLC, 2021), 2:157–58.

mainly due to Japanese restrictions placed on European maritime trade.[35]

The second pandemic severely affected parts of Eurasian empires such as the Russian and the Ottoman empires. This was the first time cholera spread beyond Russia's borders, beginning in Astrakhan in 1830 and following human traffic across the Volga river and its tributaries, Tsaritzin and Saratov in August, Kazan and Moscow in September, and all the way to Archangel (on the White Sea) by November. Cholera outbreaks initially appeared on the Russian Empire's western borders in early 1831 (Brest-Litovsk in January, Grodno in March, and Warsaw in April), and by June, they had spread to St. Petersburg.[36] The second pandemic was also in practice the first epidemic wave of cholera to sweep throughout various parts of the Ottoman empire. The first cases of cholera in the Ottoman capital Istanbul were witnessed in 1831, leaving 6000 dead. In the same year it had also struck Hijaz, leaving 20,000 dead, from where it had also spread on to Anatolia, Tunis and Egypt.[37]

Among measures taken to deal with the spread of the pandemic were quarantine and isolation of cholera patients, as well as a system of rudimentary surveillance to keep records of deaths from this new yet fearful and fatal disease. It was not, however, successful in many places, due to the vitriolic public reactions to the cholera control measures imposed by the state – there were deadly riots to official actions to deal with cholera in St, Petersburg, Russia, where police were given the task of "suppressing" cholera and treat it like a crime wave, pulling away sick and poor people onto cholera carts and hauling them to isolation hospitals known as lazzarettes; troops had to be used to dispel these crowds. There were also riots in various cities of France and Great Britain, although Moscow was spared such riots due to its employment of a fairly effective public health bureaucracy.[38] Thus while the third cholera pandemic was demographically significant in terms of impact than the second pandemic, the psychological impact of the second pandemic was way more pronounced, particularly due to the newness of the disease, the rapidness of its onset, and fatal nature of its impact.

The third cholera pandemic, which spanned from 1839-1856, was the first time the disease affected deeper into Latin and South America, and returned to Europe and North America. The third pandemic first reached southeast and eastern Asia by 1840, followed by central Asia, Afghanistan and Persia by 1844-45. Another path of the pandemic spread through the sea routes westward of Bombay, to Iraq and Yemen by 1846, advancing towards Persia, and from there to Moscow, Russia in 1847, and northern and Western Europe in 1848. An important node was Mecca, from where cholera spread through pilgrimage routes, especially to North Africa through 1848-1850. Despite a lack of complete statistics, the third cholera pandemic is thought to have led to the highest mortality among all the cholera pandemics worldwide, mostly in North Africa, Europe, and Central and South America, with death tolls varying between 5-10 percent of local populations. The third pandemic was also a time which saw the spread of cholera through war – the Crimean War, which saw large numbers of French and British troops sailing from southern France into the Black Sea in 1854 against Russian forces eventually led to the flow of the disease into Greece and the Ottoman

35 J. N. Hays, *The Burdens of Disease: Epidemics and Human Response in Western History*, Revised edition (Rutgers University Press, 2009), 185.

36 Byrne and Hays, 'Second Cholera Pandemic, 1827-1835', 157.

37 Ayar, *Osmanlı Devletinde Kolera*, 8–10.

38 Byrne and Hays, 'Second Cholera Pandemic, 1827-1835', 164–65.

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empire. Interestingly, however, while the third pandemic coincided with the European revolutions of 1848, it did not cause riots or disturbances as seen during the second pandemic in 1832.[39]

Although scholars today concur that cholera outbreaks after the second pandemic also emerged from local contaminated water sources, and did not have to wait to originate from the Ganges Delta to be brought through trade routes, European authorities at the time had no such knowledge, and continued to trace outbreaks back to India until scientific knowledge in the 1860s showed otherwise. Major developments during this time include the discovery of connection between cholera cases and contaminated water, as stipulated by physician John Snow in London; while this should have strengthened the idea of cholera as a contagion carried in water, due to the lack of a bacteriological theory and the prevalence of the miasma theory, the idea that it was a product of the immediate environment gained ground instead, which encouraged ideas of sanitation. It also weakened arguments for lazzarettes and quarantine practices, although that did not yet lead to reductions in quarantine practices in Eurasian societies. On the other hand, cholera began to identified as a poor man's disease, and from the 1840's and 1850's governments began to unite in establishing public hospitals to treat inflicted poor patients who could not otherwise have attained medical care – in India they were known as native hospitals, while in the Ottoman empire they were called *gureba hastaneler*.

4. Conclusion

This paper focused on the importance of environment as an essential aspect of Eurasian history. It looked as how disease impacted Eurasian societies, with a special focus on the Ottoman empire, by looking at the case study of early cholera pandemics, especially the first cholera pandemic (1817-24), second cholera pandemic (1826-1837), and third cholera pandemic (1846-1860). Through this paper, aspects of the interplay between diseases, human populations, and societal structures of the early nineteenth century were explored in order to understand the complexities of Eurasian history and how these societies dealt with public health challenges amidst a global pandemic. It can be concluded that both global and environmental history can be very useful in framing alternative histories of Eurasian societies in the early nineteenth century in a manner that allows one to examine the history of the region beyond the much narrower confines of nationalist or political history.

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39 Joseph P. Byrne and J. N. Hays, 'Third Cholera Pandemic, 1839-1856', in *Epidemics and Pandemics: From Ancient Plagues to Modern-Day Threats* (ABC-CLIO, LLC, 2021), 2:169–75.

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